

MGM 7120.3
BASELINE-2

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MARSHALL GUIDANCE MANUAL

ED01

MSFC DATA MANAGEMENT GUIDANCE

With Change 2 (11/18/20)

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DOCUMENT HISTORY LOG

Status (Baseline/ Revision/ Change Canceled)	Document Revision/ Change	Effective Date	Description
Baseline		8/14/2013	<p>This document replaces content from MWI 7120.2, Data Requirements Identification/Definition including Data Requirements Documents, Data Requirements List and Data Procurement Document preparation; MPR 7120.3, Data Management Program/Projects including DM guidance, and MWI 7120.4, Documentation Preparation Programs/Projects including document preparation guidance.</p> <p>On 7/29/2013, Administrative Changes were made to remove references to Cancelled directives: References to MPD 2210.1 replaced by MPR 2800.2. References to MPR 2800.4 replaced by MPR 2800.2. References to MWI 7120.1 replaced by QD-QE-017. In Section H.1, after MSFC-STD-555, deleted the qualifier text "for Windchill release" (MSFC-STD-555 applies to ICMS and Windchill; qualifier not required).</p>
Change	1	4/7/2014	<p>On 4/7/14, at the request of the OPRD, Administrative Changes were made on the Table of Contents and throughout the document to correct and consistently use the acronyms "DRD and DRL" (DRD should be referenced as Data Requirements Description and DRL Data Requirements List). Updated Appendix A-Applicable Document and Reference Document definitions for clarity and corrected alphabetic order. Updated Appendix B-to include IFB and RFQ and remove DR. Removed redundant word "available" in Appendix F.2.3. Deleted canceled MPR 7123.2 reference in Appendix I.5.1. Correct reference in Appendix J.1.1.2 to call out Appendix H.4.2.2. Update Appendix H.3 to include example footer content. Updated Appendix H.5 for clarity; removed redundant wording. Updated H.10.1, to call out MSFC-STD-555, Appendix E for document numbering information. Update Appendix L references (to reflect numbers rather than alphabet) and minor format edits throughout document, including page numbering. Updated Appendix O, to correct titles.</p>
Change	2	11/18/2020	<p>On 11/18/20, at the request of the OPRD, administrative changes were made to remove references to NPR 1600.1 and MPR 1600.1 from the text and Reference documents since SBU data no longer resides in NPR 1600.1 and MPR1600.1. Transition the Reference Document and references to NPR 1441.1, NPR 1441.1, NASA Record Retention Schedules to address the split of information into NPR 1441.1, NASA Record Management Program Requirements, and NRRS 1441.1, NASA Record Retention Schedules. Change "Data Manager" to "Data Management Lead" (terminology used in MSFC-HDBK-3173) in the definitions and the text. Removed form MSFC Form 3461 and 3461-1 reference, form does not exist, pointed to the STD/DM-DRD. Changed MPD 2190.1 to MPR 2190.1. Added Center Export Administrator, clarifies Center overall authority for Export Control Program. Updated Figure 5 to remove reference to MSFC Form 4312. Updated Figures 2 and 3 to change Data Manger to Data Management Lead. Updated acronym and reference appendices. Changes made to replace MPR 2220.1 to NPR 2200.2. Indented and italicized NOTES per NPR 1400.1, 3.5.1(a) 3.</p>

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1. PURPOSE

This Marshall Guidance Manual (MGM) provides guidance for Data Management (DM) activities conducted by Center personnel, programs, projects, and activities, including contractors and resident agencies to the extent specified in their respective contracts or agreements. (“Contractors,” for purposes of this paragraph, include contractors, grantees, Cooperative Agreement recipients, Space Act Agreement Partners, or other agreement parties.)

2. APPLICABILITY

2.1. This MGM applies to Center personnel, programs, projects, and activities, including contractors and resident agencies to the extent specified in their respective contracts or agreements. (“Contractors,” for purposes of this paragraph, include contractors, grantees, Cooperative Agreement recipients, Space Act Agreement partners, or other agreement parties.)

2.2. This MGM applies to the Michoud Assembly Facility.

2.3. This MGM applies the following: all mandatory actions (i.e., requirements) are denoted by statements containing the term “shall.” The terms “may” or “can” denote discretionary privilege or permission; “should” denotes a good practice and is recommended, but not required; “will” denotes expected outcome; and “are/is” denotes descriptive material.

2.4. This MGM applies the following: all document citations are assumed to be the latest version unless otherwise noted.

2.5. This MGM extends to all proposed and established MSFC-managed Programs, Projects, and Activities (PPA) as identified by NASA Procedural Requirements (NPR) 7120.5, NPR 7120.8, MSFC Procedural Requirements (MPR) 7120.1 and this document. National Aeronautics and Space Administration (NASA) Programs and Projects are classified into three investment areas or product lines: Research and Technology, Space Flight, and Information Technology (IT) and institutional infrastructure.

2.6. This MGM extends to data that may be generated by and/or acquired from contractors, principal investigators, in-house MSFC organizations, other NASA centers, or other Government organizations.

3. GUIDANCE

3.1 **Data Management, Programs/Projects Detailed Development**. The typical DM roles and responsibilities for MSFC are identified in Appendix E and functions are identified in Appendix F.

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3.2 **Data Requirements List (DRL) and Data Procurement Document (DPD) Development** functions are identified in Appendix G.

3.3 **Document Preparation, Programs/Projects Detailed Development** guidance is identified in Appendices H, I, J, K, L, M, N, and O.

4. CANCELLATION

MGM 7120.3Baseline-1, MSFC Data Management Guidance, dated August 14, 2013.

Original signed by

Patrick E. Scheuermann
Director

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APPENDIX A. DEFINITIONS

Activity. Efforts that support MPR 7120.1, defined programs or projects that meet any one of the following conditions: multi-directorate collaborative efforts, greater than \$1 million budget in any one year, greater than \$10 million life-cycle cost, or high priority to the Agency or to the Center.

Applicable Documents. A document cited in the text of another document that contains provisions or other pertinent requirements that are directly related to and necessary for the performance of the activities specified by the citing document. Adherence is required. Introduce applicable documents with statements that identify the intended usage (e.g., as required by, in accordance with, according to, per, in compliance with, as defined in).

Approval Authority. Designated entity with the authority to disposition a document change and direct its implementation.

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.

Contract. Under FAR 2.101, a contract is a mutually binding legal relationship obligating the seller to furnish the supplies or services (including construction) and the buyer to pay for them. Procurement contracts include all types of commitments that obligate the Government to an expenditure of appropriated funds and that, except as 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. Procurement contracts do not include grants and cooperative agreements covered by 31 U.S.C. 6301, et seq.

Contractor. A business vendor that provides a product or service to MSFC through a contractual instrument.

Control Process. Method for receiving, reviewing, approving, revising, canceling, dispositioning, tracking, and maintaining the status of program/project/activity data.

Control Process for NASA-Produced or External Agreement Data Deliverables. Indicates the level of control that the requiring organization has assigned to the data.

Controlled Electronic File. The electronic data file, secured under authority of the controlling organization, that is the original full-text file that was authorized through an electronic approval/release system, or the electronic file that has been verified to be identical to the approved original when data was authorized through a hardcopy approval/release process. The controlled

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electronic file represents the content of the official record, though it may or may not be designated as the official record copy.

Correct Version. The version that is approved/released by the controlling organization for use. In the case of external documents (e.g., applicable documents), the correct version is the one authorized for use by the organization that invokes the external document.

Customer and/or External Documents. Documents, including standards and specifications, that come from an external source and are included as part of the Quality Management System. Examples include military specifications and industry standards.

Data Management (DM). The timely and economical identification/definition, preparation, control, and disposition of documents and data required by a program, project, or activity.

DM Plan. The document that describes the manner in which requirements for DM is implemented for a particular program, project, or activity.

Data Management Lead. An individual who establishes and administers the DM activities for a specific program, project, activity, or contract.

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

Data Requirements. Required data items applicable to a specific NASA activity or contract.

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

Data Requirements List (DRL). A list of required data items applicable to a specific NASA activity or contract. DRLs may be in the form of a NASA activity DRL which is developed to list all data requirements for a particular NASA activity that contains both NASA-produced data and contracted data, or a DPD/DRL.

Data Types for Contractual Efforts. The level of availability, review, approval, and control the Government exercises over the contractor-produced data.

External Agreement. An agreement with another NASA Center, Government agency, or international agency (e.g., Task Agreement, Memorandum of Understanding [MOU]).

Functional Data Category. A category of data that has a defined scope based on the functional use of the data. Broad functional management categories which are to be used for classification of data requirements and apply to contractual and NASA activities are defined in MPR 8070.1.

Gender-Neutral Language. Terminology that eliminates sex discrimination in the

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language of regulations, guidelines, and policies.

Handbook (HDBK). A guidance document that enhances user awareness by providing engineering information; lessons learned; possible options to address technical issues; classification of similar items, materials, or processes; interpretative direction and techniques; and any other type of guidance information that may help the Government or its contractors in the design, construction, selection, management, support, or operation of systems, products, processes, or services. “(Source: MIL-STD-967, Defense Handbooks, Format and Content.)”

Historical Data. Any obsolete or canceled data retained for historical reference.

Interface Control Drawing/Document (ICD). A process control end item depicting detailed quantitative physical and functional interfacing data of an item. These drawings or documents are used as design control documents, delineating interface engineering data coordinated for the purposes of establishing and maintaining compatibility between interfacing items; controlling interface designs, thereby preventing changes to item requirements that would affect compatibility with interfacing subsystems; and communicating design decisions and changes to participating activities.

Integrated Collaborative Environment (ICE). The name for a MSFC Web-based product lifecycle management system which provides a secure electronic environment for programs/projects and engineering to store and manage documents, drawings, computer-aided drafting models, parts data, product structure, associated meta-data, and the relationships between data objects; to apply DM and configuration management (CM) control process to the stored data.

Limited Applicability. Applies to marking/using superseded or obsolete documents; documented authority is required for use of superseded/obsolete documents.

Manual (MNL). A reference book or guidebook providing instructions.

Master List(s). Controlled list(s) of data/documents that identify the correct version authorized for use.

NASA Activity. A NASA activity is a program/project or activity that is funded through NASA, conducted onsite or in the immediate vicinity of a NASA Center, and that includes business, management, or technical tasks.

Office of Primary Responsibility (OPR). The NASA organization with primary responsibility for the content of specific data items or the organization responsible for the process represented by the document. For Standard DRDs the OPR is a unique engineering/management discipline designated responsibility for defining particular data requirements, i.e., safety, logistics, configuration management, manufacturing, test.

OPR Designee (OPRD). Individual(s) appointed by the OPR who is responsible for a

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specific data item within his or her area.

Plan (PLAN). A detailed scheme, program, criteria, or method worked out prior to the accomplishment of a process, test, practice, etc.

Procedure (PROC). A set of established methods for performing or effecting a process, test, etc.

Project. A specific investment identified in a *program plan* having defined requirements, a life-cycle cost, a beginning, and an end. A project yields new or revised products that directly address NASA's strategic needs.

Program. A strategic investment by a Mission Directorate or Mission Support Office that has a defined architecture and/or technical approach, requirements, funding level, and a management structure that initiates and directs one or more projects. A program defines a strategic direction that the Agency has identified as critical.

Program/Project/Activity Data. Program/project/activity data includes all data required for the definition of the product and the management of the Program/Project.

Reference Document. A document listed in another document that provides useful information, but does not constitute adherence of the referencing document. Introduce reference documents with statements that identify the intended usage (e.g., guidance is provided in, additional information is available in).

Report. An account or summation of the results of an activity, test, research, etc.

Repository. A central, accessible location in an organization for storing and controlling documents and data.

Requirements Document. Documentation defining essential needs or preferences for the development of an item, system, etc. A RQMT document is not the same as a specification or ICD.

Revision. Any change, modification, or newly-edited version of a document.

Sensitive But Unclassified (SBU). Unclassified information regardless of its form (digital, hard-copy, magnetic tape) or material determined to have special protection requirements to preclude unauthorized disclosure to avoid compromises, risks to facilities, projects or programs, threat to the security and/or safety of the source of information, or to meet access restrictions established by laws, directives, policies, or regulations.

Small Business Innovation Research (SBIR) Data. Data first produced by a contractor that is a small business firm in performance of a small business innovation research contract.

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Software Version Description (SVD). A document unique to software that accompanies and identifies a given version of a system component. Typical content includes an inventory of system or component parts, identification of changes incorporated into the version, and installation and operating information unique to the version described.

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

Specification (SPEC). A document that prescribes, in a complete, precise, verifiable manner, the requirements, design, behavior, or characteristics of a system or system component. (Source: NPR 7123.1, NASA Systems Engineering Processes and Requirements.)

Standard (STD). Common and repeated use of rules, conditions, guidelines, or characteristics for products or related processes and production methods and related management systems practices; the definition of terms, classification of components; delineation of procedures; specification of dimensions, materials, performance, designs, or operations; measurement of quality and quantity in describing materials, processes, products, systems, services, or practices; test methods and sampling procedures; or descriptions of fit and measurements of size or strength. (Source: OMB Circular No. A-119, Federal Participation in the Development and Use of Voluntary Consensus Standards and in Conformity Assessment Activities.)

Standard Data Requirements Description. A data requirement that has been identified for repetitive use.

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

Technical Data. Scientific or technical information recorded in any form or presented in any manner, but excluding financial and management data. Examples of Technical Data are computer software documentation or any representation of facts, numbers or data of any nature that can be communicated, stored, and processed to form information required by a contract or agreement to be delivered to, or accessed by, the Program/Project. Technical data does not include data related to general workforce operations, communications information, financial transactions, personal data, transactional data, and other data of a purely business nature.

Technical DM. Contains the key DM functions but also includes strategy and architecture development, process and infrastructure design and infrastructure maintenance which ensures interoperability across teaming organizations and contractors.

Uncontrolled Copies. Copies printed from the Master List system or copies of the signed original document.

User. Any person who uses or refers to any document during the performance of a specific task.

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APPENDIX B. ACRONYMS

CASI	Center for Aerospace Information
CCB	Configuration Control Board
CDRM	Center Data Requirements Manager
CEA	Center Export Administrator
CER	Center Export Representative
CFR	Code of Federal Regulations
CI	Configuration Item
CM	Configuration Management
CO	Contracting Officer
COR	Contracting Officer Representative
CRADA	Cooperative Research and Development Agreement
DAA	Document Availability Authorization
DCB	Directives Control Board
DCL	Document Change Log
DE	Design and Development Engineering
DM	Data Management
DMP	Data Management Plan
DPE	Data Package Engineer
DRD	Data Requirements Description
DRL	Data Requirements List
DRMS	Data Requirements Management System
DPD	Data Procurement Document
EAR	Export Administration Regulations
EIA	Electronic Industries Association
FAR	Federal Acquisition Regulation
FOIA	Freedom of Information Act
HDBK	Handbook
HTTP	HyperText Transfer Protocol
ICD	Interface Control Drawing/Document
ICE	Integrated Collaborative Environment
IEC	International Electrotechnical Commission
IEEE	The Institute of Electrical and Electronics Engineers, Inc.
IFB	Invitation for Bid
IRD	Interface Requirements Document
ISO	International Organization for Standardization
IT	Information Technology
ITAR	International Traffic in Arms Regulations
LS	Logistics Support
LSE	Lead System Engineer
MA	Management
MGM	Marshall Guidance Manual
MIDL	MSFC Integrated Document Library

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MIL	Military
MLC	Master List Custodian
MNL	Manual
MOU	Memorandum of Understanding
MPD	MSFC Policy Directive
MPR	MSFC Procedural Requirements
NASA	National Aeronautics and Space Administration
NF	NASA Form
NFS	NASA FAR Supplement
NID	NASA Interim Directive
NPD	NASA Policy Directive
NPR	NASA Procedural Requirements
NRRS	NASA Records Retention Schedules
OMB	Office of Management and Budget
OPR	Office of Primary Responsibility
OPRD	Office of Primary Responsibility Designee
PCB	Program/Project Control Board
PDF	Portable Document Format
PII	Personally Identifiable Information
PLAN	Plan
PM	Project Manager
PPA	Program, Projects and Activities
PROC	Procedure
PWS	Performance Work Statement
RFO	Request for Offer
RFP	Request for Proposal
RFQ	Request for Quotation
RIDs	Review Item Discrepancies
RQMT	Requirement
SA	Safety
SBIR	Small Business Innovation Research Data
SBU	Sensitive But Unclassified
SGR	Statement of General Requirements
SOW	Statement of Work
SPEC	Specification
STI	Scientific and Technical Information
STD	Standard
SVD	Software Version Description
TTCP	Technology Transfer Control Plan
URL	Universal Resource Locator
U.S.C.	United States Code
USML	U.S. Munitions List

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APPENDIX C. VERIFICATION MATRIX

None.

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APPENDIX D. RECORDS

D. 1 Guidance-Section 3.1 Records

D.1.1 Records are identified and maintained in accordance with NPR 1441.1 and MPR 1440.2; and retained and dispositioned in accordance with NRRS 1441.1, Schedules 7 and 8.

D.1.2 The program/project/activity-specific Data Management Plan (DMP) establishes records planning in accordance with Appendix F.5.

D.1.3 In accordance with MPR 1440.2, all record custodians are required to have approved record plans with copies submitted to the applicable Records Liaison Officer.

D.1.4 The CDRM maintains standard DRDs and logs in accordance with Appendix D.2.1.

D. 2 Guidance-Section 3.2 Records

D.2.1 The CDRM maintains records of the MSFC Standard DRDs, MSFC Standard DPD/DRL Number Tracking Log and MSFC Standard DRDs – Results of Annual Reviews in accordance with the following schedules:

D.2.2 MSFC Standard DRDs – NASA Records Retention Schedules (NRRS) 8/116; Temporary. Destroy/delete 1 year after termination of last applicable program/project.

D.2.3 MSFC Standard DPD/DRL Number Tracking Log -- NRRS 8/116; Temporary. Destroy or delete 1 year after termination of last applicable program/project.

D.2.4 MSFC Standard DRDs – Results of Annual Reviews -- NRRS 1/26.5/B; Temporary. Destroy when 5 years old.

D.2.5 DPDs and DRLs are maintained by the NASA procuring activities as part of the:

D.2.6 Project specific case files per NRRS Schedule 8.

D.2.7 Procurement records per NRRS Schedule 5.

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APPENDIX E. DATA MANAGEMENT (DM) TYPICAL ROLES AND RESPONSIBILITIES

The Program/Project or Activity Manager appoints technical DM responsibilities and authorities during the formulation phase of the program/project or activity to develop and implement program/project/activity regarding generation, capture, archiving, security, privacy and disposal of technical data work products. (See Figure 1, DM Flow, Appendix F.)

Typical program/project or activity roles and responsibilities related to the DM processes follow.

NOTE: Not all are used by every program/project or activity.

E.1 The Approval Authority assigns responsibility to authorize data.

E.2 The Center Data Requirements Manager (CDRM) carries 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.

E.3 Center Export Control:

E.3.1 The Center Export Administrator (CEA) is appointed by the Center Director and is responsible for assessing and ensuring compliance of MSFC activities with U.S. export control laws and regulations.

E.3.2 The Center Export Representative (CER) is appointed annually by each Center organization to serve as the point of contact for exports of MSFC hardware, software, technology, technical data and defense services.

E.4 The Contracting Officer (CO):

E.4.1 ensures that data requirements are properly invoked as contractual documents;

E.4.2 receives official contract submittal(s) or notification of submittal from contractor(s); and

E.4.3 ensures with the assistance of program/project/activity personnel, that all deliverables are received and accepted in accordance with contract terms and conditions.

E.5 The Contracting Officer's Representative (COR) is responsible for technical management of a specific contract.

E.6 The Data Management (DM) Lead:

E.6.1 establishes and administers the DM activities for a specific program, project, activity, or contract; and

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E.6.2 develops a DMP during the NASA Policy Directive (NPD) 7120.4-defined formulation phase of the Program/Project/Activity that describes the implementation of the DM requirements in compliance with the overall program's policies and procedures.

E.7 The Data Package Engineer (DPE):

E.7.1 consolidates evaluations;

E.7.2 obtains resolution of comments and issues; and

E.7.3 recommends a disposition to the Approval Authority for proposed data.

E.8 The DM Administrator:

E.8.1 makes sure a DPE and evaluators are assigned to review data;

E.8.2 schedules and monitors the control process;

E.8.3 ensures that tasks are completed in a correct and timely manner; and

E.8.4 documents the Approval Authority's decision when there is no control board.

NOTE: When a control board exists, the board Secretariat documents the board/board chairperson's decision. The DM Administrator functions may be performed by one person or distributed among several people, depending on the size of the project or activity.

E.9 The Evaluator is responsible for providing comments as follows:

E.9.1 Mandatory evaluators provide comments related to the acceptability or unacceptability of proposed data during the evaluation process; and

E.9.2 Optional evaluators may submit comments but are not required to submit comments.

E.10 The Lead System Engineer (LSE) or an assigned Project Representative performs a preliminary review of data content and assign the DPE and evaluators for the data review.

E.11 The Master List Custodian (MLC):

E.11.1 ensures creation of the Project/Activity Master List(s) in accordance with the requirements in F.4.13, F.4.14 and F.4.15;

E.11.2 ensures the Master List(s) is updated each time a document is added, revised, or canceled;

E.11.3 ensures availability of the data on the Master List; and

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E.11.4 ensures Master List information is provided to the MSFC Integrated Document Library (MIDL) in accordance with section F.4.13.4.

E.12 The Office of Primary Responsibility (OPR) or Designee (OPRD):

E.12.1 identifies, prepares, controls, and dispositions all program/project/activity data in accordance with this MGM and the program/project-specific DMP. Where feasible, the nature of a change or revision is identified in the data, the document, or in an attachment;

E.12.2 ensure pertinent background information is provided for the review and approval of data; and

E.12.3 creates and maintains distribution list(s) or documented records of distribution, updating as required for non-electronic documents.

NOTE: OPR responsibilities may include preparing a document, controlling a document, and/or reviewing the technical content of a document submitted by a contractor or external organization.

E.13 The Program/ Project or Activity Manager:

E.13.1 ensures all guidance in this MGM is reviewed and applied as necessary for their program/project;

E.13.2 assigns the Data Management Lead; and

E.13.3 assigns the Master List Custodian(s).

E.14 The Receipt Personnel:

E.14.1 receive data submittals;

E.14.2 perform a format and quality check;

E.14.3 ensure that appropriate identification information has been submitted with the data;

E.14.4 enter the identification information into the tracking and status system; and

E.14.5 ensure the data is routed to the appropriate control process.

NOTE: The Receipt functions may be performed by one person or distributed between several people, depending on the size of the project or activity.

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E.15 The Secretariat:

E.15.1 administers the control board process;

E.15.2 acts as Secretariat at control board meetings;

E.15.3 creates control board agendas;

E.15.4 documents the control board disposition and implementation actions;

E.15.5 obtains appropriate board concurrence and board chairperson authorization;

E.15.6 creates board minutes; and

E.15.7 tracks board actions to closure.

NOTE: The Secretariat functions may be performed by one person or distributed between several people, depending on the size of the project or activity.

E.16 The Center Personnel (Users) of program/project/activity data ensure against unintended use of any previous/obsolete versions in accordance with this MGM and the program/project or activity specific DMP.

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APPENDIX F. DATA MANAGEMENT DETAILED DEVELOPMENT

F.1 Data Management Planning. DM establishes the responsibilities and procedures for identifying/defining, preparing, controlling, and dispositioning all program and project data. Effective DM planning is essential to satisfying the required DM functions. The DM functions at MSFC are identified in the following paragraphs. Departures from the documentation preparation and revision guidance specified herein are allowable to meet a unique Program/Project special need, unless such departures conflict with other NASA or MSFC guidance specified in this Appendix. The Program/Project should document such departures in the Program Plan, Project Plan, or DMP.

F.1.1 The Program/Project/Activity Manager appoints a DM Lead during the formulation phase of the Program/Project to develop and implement program/project/activity DM.

F.1.2 The implementation of DM requirements is established, baselined and maintained in a DMP in accordance with STD/DM-DMP and DMP content guidance, in accordance with paragraph F.1.2.1 and Appendix I.

F.1.2.1 DMP. The DM Lead develops a DMP during the NPD 7120.4-defined formulation phase of the Program/Project that describes the implementation of the DM requirements in compliance with the overall program's policies and procedures. The DMP should:

- (1) be prepared in accordance with the format provided in STD/DM-DMP;
- (2) be approved and controlled in a documented control system;
- (3) identify/define data requirements; and
- (4) establish preparation, control, and disposition requirements and processes (see Appendix D for additional guidance on records and Appendix I for overall DMP content guidance.)

F.1.3 Data Sensitivity Determination. NPR 1600.2, paragraph 2.40.1 requires the Project Manager to complete NASA Form (NF) 1733, "Information and Technology Classification and/or Sensitivity Level Determination Checklist," to characterize the type of data restriction associated with project data (classified or SBU). The DM Lead ensures that the Project Manager is aware of this requirement, and that a copy of the completed NF 1733 is provided to the MSFC Protective Services Office and the MSFC Export Control Office. The program, project, or activity identifies the information and technology classification and sensitivity levels for technical data produced for the program, project, or activity including technical data restrictions and access.

F.1.3.1 The DM Lead ensures the NF 1733 is assigned to a record custodian and maintained as a program/project/activity documentation record.

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F.1.4 DM Tools Selection. Because data is created and delivered electronically, electronic DM tools are a key element of the DM planning. The management of program/project/activity records (electronic or hardcopy) is required by NPR 1440.6 and NPR 1441.1. NRRS 1441.1 requires that records be maintained for a specified time period beyond the termination of the program/project/activity (Reference NPR 1441.1 for the specific retention period); therefore, records management requirements are included in the decision process for choosing and/or changing electronic tools to ensure that records can be maintained for their full retention period.

F.1.4.1 The program/project/activity selects appropriate tools and methodologies to implement DM processes. The program, project, or activity identifies requirements and selects the DM Tool for creating and delivery of technical data (electronic and or hardcopy), establishing the rights, obligations and commitments for the retention of, transmission of, and access to technical data work products.

F.1.4.2 The program/project or activity establishes technical data storage, transformation, transmission, presentation standards and conventions to be used providing a secure Web-based environment for programs/projects and engineering to store and manage electronic data and products, apply DM, Configuration Management (CM) and release processes to those products; maintain historical data traceability and configuration accounting; and maintain records of the data and change history.

NOTE: Although data managed in electronic tools such as ICE Windchill or SharePoint may be identified as records, it is recommended that permanent records be transferred to the records management tool identified by the Center Records Manager for records disposition and storage.

F.2 Identification/Definition.

F.2.1 The Program/Project/Activity Manager, supported by DM Lead, identifies overall technical data requirements during the formulation phase by reviewing the program/project/activity life cycle to determine needs.

F.2.1.1 Data requirements for NASA program/project/activity activities are defined in a DRL in accordance with STD/DM- DRL (see Appendix G also Figures 2 and 3).

F.2.1.2 For acquisitions, data requirements are defined in a DPD in accordance with MPR 5000.1 and STD/DM- DRD (also see Appendix G also Figures 2 and 3).

F.2.1.3 Programs/projects/activities request DRL and DPD control numbers from the CDRM. A program/project identifier (document number) can also be used to identify the DRL.

F.2.1.4 The Program/Project assigns a document custodian and a control process for each DRL and DPD.

F.2.1.5 Each DRD has an OPR and submission/frequency established.

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F.2.1.6 For acquisitions, a Data Type is assigned to each DRD to indicate the level of NASA control to be applied (See Standard/Data Management-DRD (STD/DM-DRD)).

F.2.1.7 For NASA-produced data, it is recommended that a control process be assigned to each DRD and identified in the DRL (See Appendix I.2).

F.2.2 The CDRM:

F.2.2.1 develops and maintains standard DRDs;

F.2.2.2 develops DRD work instructions; and

F.2.2.3 provides support to the Program/Project/Activity Managers and DM Leads in the application of data requirements.

F.2.3 Standard DRDs are provided at MSFC to ensure that mandatory data requirements (e.g., safety, financial reporting, Federal Acquisition Regulation (FAR)/NASA FAR supplement reporting requirements) are applied consistently to MSFC contracts and solicitation packages, and that the latest technical specifications and standards are applied to MSFC contracts. Standard DRDs are available on the MSFC DRMS Web site on the MIDL.

F.2.4 The Standard DRDs are tailored to meet the program/project or activities needs and coordinate DRD tailoring with the Standard DRD OPRs.

F.3 Preparation.

F.3.1 The program/project or activity office of primary responsibility designee obtains an identification number and prepares data internal to MSFC in accordance with the project-specific DMP and Appendix H; and

F.3.2 Assesses and marks data with the appropriate SBU category in accordance with NASA Interim Directive (NID) 1600.55.

F.3.2.1 In accordance with NID 1600.55, paragraph 5.24.3, information designated as SBU will be sufficiently marked so that persons having access to it are aware of its sensitivity and protection requirements. The OPRD may confer with a Center Export Representative (CER) to assess whether data is export controlled (International Traffic in Arms Regulations (ITAR), Export Administration Regulations (EAR)).

F.3.3 Contractor-prepared data is prepared in accordance with the DRD of the specific DPD.

F.3.4 The Program/Project imposes appropriate data restriction assessment and marking requirements on all agreements (i.e., contracts, external task agreements) to ensure that data restriction is identified as part of data preparation.

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F.4 Control. The DM Lead ensures that Program/Project/Activity control processes are established, which address the control requirements in this section. (See Appendix I.4 guidance.)

NOTE: Control processes for individual documents are not the same as the Design Review process. However, there may be hand-off or overlap between the two processes because data is often delivered at Design Review milestones. (See Appendix I.5 for guidance.)

F.4.1 Control Process General Guidance.

F.4.1.1 Control Process Elements. Each control process includes receipt, evaluation, authorization, dissemination (distribution/availability), and storage of the resulting record.

- a. For a simple control process, the same person may perform all elements.
- b. For a complex control process, several personnel are involved and each element may involve multiple steps.

F.4.1.2 OPRD Responsibilities. The OPRD:

- a. creates proposed data revisions by modifying a copy of the controlled electronic file of the latest authorized data version; and
- b. provides pertinent background information for review and approval of the data.

F.4.1.3 Data Review. The program/project or activity establishes technical data review and approval processes for both MSFC-produced data and contractual data deliverables for adequacy prior to issue to perform work.

F.4.1.4 Consistent Control Process. The same control process applied for the original review and approval of data is used to review changes or revisions to, and cancellations of, data unless specifically designated otherwise.

F.4.1.5 Approval Authority. The Program/Project or Activity Manager acts as the Approval Authority or designate the control board or other personnel to act as the Approval Authority for initial approval, subsequent changes or revisions, and cancellations of data prior to issue to perform work.

F.4.1.6 Data Authorization and Data Capture. Data authorization is captured: by hardcopy or electronically, on the document itself (e.g., hardcopy signature on document, Public Key Infrastructure/electronic signature applied to document), or external to the document (e.g., approval in an electronic system, email, memorandum, faxed signature page, concurrence sheet, control board directive).

- a. A record of the approvals which is traceable to the approved document version is maintained.

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b. The control process includes finalization and verification steps that ensure data meets the data preparation requirements, and that the authorization was implemented correctly in the document.

c. The Effective Date (i.e., approved date) and/or Release Date (if applicable) is recorded in the document (e.g., date on coversheet, date in document headers, document history log). See Appendix H.3.d for document date requirements. (See Appendix I.7 for guidance.)

F.4.1.7 Contractor Produced Data. The control processes that manage contractor-produced data (provided to NASA in accordance with contract requirements) ensure that the Contracting Officer (CO) or Contracting Officer's Technical Representative (COR) transmits the official direction to the contractor related to the disposition of data.

F.4.2 CM Control Process. The CM control process is the systematic definition, evaluation, coordination, and disposition of each proposed change, deviation, or waiver to the Configuration Item (CI) baseline and the implementation of each approved change in the configuration of the CI; and is implemented in accordance with MGM 8040.1 and the Program/Project or Activity CM Plan.

F.4.2.1 The CM control process may be utilized for NASA, external agreement, or contractor data (Contractor Type 1 or 2 data deliverables may be placed under NASA CM control if designated by the Project).

F.4.2.2 The CM process may also be utilized for non-configuration documentation if designated by the Project.

F.4.2.3 The approval authority associated with the CM control process is a CCB or a PCB that includes CCB authority.

F.4.3 Program/Project/Activity Approval Processes. Program/project/activity approval processes are established to approve NASA or external agreement non-configuration data (e.g., plans, reports, procedures, and task agreements) and contractor Types 1 and 2 data deliverables. The approval authority associated with an approval process may be an individual (e.g., Project Manager or COR) or a board (e.g., PCB, Document Control Board). Multiple data approval processes may be defined for a project or activity to accommodate different kinds of data (i.e., NASA data, external agreement data, and contractor data) and different levels of formality. (See Appendix I.6 for a sample Program/Project approval process.)

F.4.4 Program/Project/Activity Data Acceptance-Review Processes for OPR Controlled Data. Program/project/activity data acceptance-review processes are implemented for review of NASA or external agreement OPR-controlled data deliverables, contractor Type 3 data, or other project data that does not require approval. The Project may designate that the OPR organization may approve data not under configuration control through their organization's control procedure. The OPR then submits the data to the Project as scheduled in the DRL. The Project reviews the

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submitted data for adequacy and accepts the data or provides comments back to the OPR organization.

F.4.5 Scientific Technical Information (STI) Publications. STI publications (e.g., abstracts, conference presentations/paper, journal articles, Technical Memorandum) are documented, numbered, and authorized for publication in accordance with NPR 2200.2. Before STI publication or submission for possible publication, NPR 2200.2 requires that a NF 1676, “Document Availability Authorization (DAA)” and Standard Form 298 be completed and fully approved.

F.4.6 Forms Control.

F.4.6.1 The program/project or activity establishes a process for utilizing project-specific forms. Utilization of prescribed forms and authorization of requests for new or revised MSFC forms is in accordance with MPR 1420.1.

F.4.6.2 Control and use of project-specific forms is documented in the DMP.

F.4.7 Correspondence Control. Requirements for NASA correspondence are established in NPR 1450.10. Each Program/Project/Activity Manager:

F.4.7.1 establishes correspondence numbering and control processes or;

F.4.7.2 utilizes the processes of the program/project managing office; and

F.4.7.3 ensures that correspondence which captures significant program/project/activity activities, (e.g., decisions, technical direction, program/project/activity documents) are filed as program/project/activity correspondence records versus administrative correspondence records in accordance with NRRS 1441.1 because program/project/activity correspondence records have longer retention and archival requirements.

F.4.8 Data Tracking and Accounting. The program/project or activity establishes a process for technical deliverable tracking and accounting from receipt, through implementation, verification and revision.

F.4.8.1 Configuration status accounting for configuration documentation is performed in accordance with MGM 8040.1.

F.4.8.2 Data requirements defined in a DRL or DPD are tracked to ensure receipt and to provide status of data (e.g. expected, received, overdue).

a. For a DRL, data tracking is typically performed by DM personnel.

b. For a DPD, this tracking may be performed by DM personnel or by the CO/COR.

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c. Tracking data against the DPD requires that the accounting personnel obtain a copy of the DPD from the CO/COR and receive copies of all contract modifications to ensure tracking against the latest DPD information.

F.4.8.3 Controlled data is accounted for from receipt through implementation, verification, and revision.

F.4.8.4 The personnel administering the control process, the electronic control system, or both together captures this accounting. (See Appendix I.7 for guidance.)

F.4.9 SBU Identification, Marking, and Safeguarding. Processes and procedures for the identification, marking, and safeguarding of SBU are:

F.4.9.1 established in accordance with NID 1600.55.

F.4.9.2 integrated as part of the program/project/activity data control processes.

a. Identification and Marking. NID 1600.55, paragraph 5.24.2.1.a states “only a Designating Official may designate information as SBU.”

(1) In accordance with NID 1600.55, paragraph 5.24.2.1.b states that “Originators and Custodians shall review information that may qualify as SBU under the guidelines described in paragraph 5.24.2.2 of this NPR for possible designation as SBU and provide a recommendation to the Designating Official prior to its dissemination.”

(2) The data OPRD applies the appropriate SBU marking as data is prepared in accordance with paragraph F.3 for preparation).

(3) Project data control processes contain SBU review steps to ensure data has been appropriately marked prior to dissemination. A NASA SBU assessment is especially important (after receipt of external or contractor data) where the initial SBU assessment and marking occurred externally to NASA. (See Appendix I.9 guidance.)

b. Safeguarding. NID 1600.55, paragraph 5.24.1.6.a, states that “Originators of information (hereinafter, “Originator”), individuals controlling information or recommending its dissemination (hereinafter, “Custodian”), officials authorized to designate information as SBU (hereinafter, “Designating Official”), and individuals handling or possessing information designated SBU or that is known or reasonably assumed to be SBU (hereinafter, “Holder”) is responsible for properly safeguarding SBU information.”

(1) SBU data is safeguarded in accordance with the following requirements: (See Appendix I.9 for guidance.)

(a) Keep the number of copies to a minimum;

(b) Store in locked cabinets, desks, or other containers, or within a locked office or office suite

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when unattended (NID 1600.55, paragraph 5.24.4.3.a.(1). Store and protect laptop computers and other media containing SBU information to prevent loss, theft, unauthorized access and unauthorized disclosure in accordance with NPR 2810.1 (NID 1600.55, paragraph 5.24.4.3.b.(2);

(c) Limit access to Federal Government employees or contractors who have a demonstrated “need-to-know” in connection with official duties (NID 1600.55, paragraph 5.24.4.4.1);

(d) Attach the SBU coversheet, NF 1686, “Sensitive But Unclassified (SBU)” with appropriate category checked and the Designating Official’s name and organization and the date of the designation is entered where indicated at the bottom of the form when data is printed or transmitted by hardcopy or electronically (NID 1600.55, paragraph 5.24.4.3.4);

(e) Mark computer storage media, i.e., disks, tapes, removable drives, memory sticks, containing SBU information with “SENSITIVE BUT UNCLASSIFIED.” (NID 1600.55, paragraph 5.24.3.2.e). Marking of computer storage media is in addition to, not as a substitute for, SBU marking requirements for individual document stored therein.

(f) Transmit SBU hardcopy by the following methods: first class mail, Federal Express, United Parcel Service, or interoffice mail in a sealed, opaque envelope labeled with the complete name and address of the sender and addressee, (NID 1600.55, paragraph 5.24.4.5.a);

(g) Transmit SBU electronically by the following methods: secure fax, fax with person-to-person tracking, encrypted e-mail, encrypted File Transfer Protocol, encrypted HyperText Transfer Protocol (HTTP), or email of password-protected file with password transmitted separately, (NID 1600.55, paragraph 5.24.4.5.c);

(h) “May post SBU information on the NASA Intranet or other government controlled or sponsored protected encrypted data networks.” However, the official authorized to post the information needs to be aware that access to the information is open to all personnel who have been granted access to that particular Intranet site.

(i) The official determines if the nature of the information is such that need-to-know applies to all such personnel; the benefits of posting the information outweigh the risk of potential compromise; the information posted is prominently marked as “SENSITIVE BUT UNCLASSIFIED”; and information posted does not violate any provisions of the Privacy Act or other applicable laws.” (NID 1600.55, paragraph 5.24.4.5.c.(3).(b)).

(j) Destroy SBU materials when no longer needed to preclude unauthorized disclosure. Destroy hardcopy by shredding, burning, pulping, or pulverizing to assure destruction beyond recognition and reconstruction; electronic data by deleting from systems; electronic storage media by overwriting, degaussing, or non-recoverable encrypted deletion.

F.4.10 Export Control of Data. Export controls are established in accordance with MPR 2190.1. Regardless of whether or not the data is marked as export controlled, MPR 2190.1 specifies that all data exports require authorization and documentation by a CEA.

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F.4.11 Control of Limited Rights Data. Controls are implemented for proprietary information/property established by the program/project/activity plan and contracts.

F.4.12 Accessibility to Correct Version of Data. Pertinent versions of technical data are accessible with approved access at all locations where operations essential to the effective functioning of the Program/Project or activities are performed.

F.4.12.1 Where previous/obsolete versions or multiple versions have applicability, the intended use of each version (e.g., on the Master List(s), on the document, in a memorandum, task agreement, contracts) is clearly identified.

F.4.13 Master List(s).

F.4.13.1 The Project's Master List contains the correct version of Project-controlled documents.

F.4.13.2 The Project's Master List includes CCB-controlled documentation, project-approved documentation, and all project/product planning and requirements definition documentation as a minimum.

F.4.13.3 The Master List(s) provides, as a minimum, the following five items of information for each item of data listed: (1) unique document number; (2) revision level of the correct version; (3) document title/subject; (4) effective date; and (5) OPR organizational code or proper identification. Identification of access restrictions (e.g., specific SBU category) is highly recommended. The document location, either physical or electronic, at which users retrieve the correct version of the data may be included on the Master List(s). In electronic Master Lists, a direct electronic (hypertext) link to the correct data or its controlling Master List is preferred.

F.4.13.4 Information about each Project/Activity's Master List is provided to the MSFC MIDL "Program & Project Documentation/Master List" page unless the Project falls under the exception in item F.4.13.4.d.

NOTE: The guidance in this section is in support of MPR 1280.10, 2.1.4.2.d. that requires that Master Lists are accessible from a central location. The guidance related to what Master List data should be provided to the MIDL and the project exceptions was generated by a committee formed to resolve MSFC Directives Control Board (DCB) action item DCB08-0007.

a. Project/Activity Master List information:

(1) is placed directly on the MIDL "Program/Project Specific Documents" page, or

(2) is provided through a link placed on the MIDL "Program/Project Specific Documents" page to another Web page containing the Master List information.

b. The following Project/Activity Master List information is provided to the MIDL:

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(1) Project/Activity Org Code and Name

(2) Project Manager's Name

(3) Master List Custodian or Point of Contact's name and phone number

(4) Master List Location (Web Universal Resource Locator (URL) and system name, server name, or physical location)

c. If the Master List(s) is on a restricted access site, (e.g., ITAR/Export Controlled information), the following additional information is provided:

(1) a description of who can access the site and a link to a registration site with instructions on how to apply for access; or

(2) the point of contact information of the individual who assists users in applying for and obtaining access to the restricted site.

d. Projects that meet all three criteria below are not required to post Master List information to the MIDL:

(1) MPR 7120.1 Category 3, Low Priority Projects or NPR 7120.8 Research and Technology Projects/Activities;

(2) Budget less than \$1M per year or \$10M lifecycle cost; and

(3) Quality coverage is not required, such as receiving/inspection of procured hardware or monitoring of manufacturing and testing operations.

F.4.14 Applicable Documents. The Program/Project ensures availability of the correct version of the applicable documents invoked by documents on the Master List.

F.4.14.1 If applicable documents are not available through a common-access Web site/physical location to the document users, the Program/Project provides users access to those applicable documents.

F.4.14.2 The following information is provided for each applicable document which is not commonly available to the document users: (1) unique document number, (2) document title, and (3) electronic link or physical location where the correct version may be retrieved.

F.4.15 Draft Data. Draft data is not included on the Master List(s). It is recommended a list(s) for draft data be maintained and accessible through the control system.

F.4.16 User Responsibility for Utilization of Correct Version/Assurance Against Unintended Use of Obsolete Documents.

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F.4.16.1 Users verify that the correct version of a document is used in the work being performed by checking the revision status on the Master List.

F.4.16.2 To ensure against unintended use of any previous/obsolete version of a document, all users comply with the following provisions: (1) destroy the document; or (2) mark if retained, e.g., “FOR HISTORICAL PURPOSES ONLY,” “FOR LIMITED APPLICABILITY,” “REFERENCE,” (Marking may be made on the face of the document, a file cabinet or drawer, a bookcase or shelf); or (3) other suitable identification (e.g., via explanation).

F.4.16.3 Users ensure that authority to use versions other than the current version is documented by contractual arrangement, customer agreement, or other authority.

F.5 Disposition. Program/Project or Activity Managers:

F.5.1 establish and document in the DMP the list of Program/Project/Activity records and retention schedules per NRRS 1441.1, records custodians, locations, and any project-unique records management requirements. If a separate project document other than the DMP is utilized to define records planning, the DMP references this document;

F.5.2 manage all records and maintain a records list in accordance with MPR 1440.2, including NRRS 1441.1 retention schedules, records custodians, record locations, and any program/project or activity-unique records management requirements.

F.5.3 ensure records are maintained in locations designated by the records list, and that records are archived in accordance with NRRS 1441.1 retention schedules prior to activity close-out by establishing a plan for use of the MSFC Repository in accordance with MPR 2800.2/MWI 2210.1, and ensuring a copy of all technical data (e.g., interface control documents, standards, plans) and Class I Engineering Data (e.g., specifications, drawings, documents, and engineering parts lists) are provided to the MSFC Repository. It is recommended that all Program/Project/Activity permanent records and long-term temporary records, as defined in NPR 1441.1, be provided to the Repository as the records are received or authorized, and agreement made between the program/project/activity and the MSFC Repository that the MSFC Repository serve as the records custodian for those records; and

F.5.4 publish or make available documents containing scientific and technical information produced under MSFC sponsorship in accordance with NPR 2200.2. This includes contractor final reports that are required by the FAR to be submitted to the Center for Aerospace Information (CASI). Though much program/project/activity data is technical in nature, all program/project/activity data are not required to be published as STI or submitted to CASI.

F.6 Reporting Program/Project/Activity DM Deficiencies. Any person may report a deficiency in accordance with MPR 1280.4 and MWI 1280.4.

F.7 Records. See Appendix D.

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F.1 Data Management
Planning



F.2 Identification/
Definition



F.3 Preparation



F.4 Control



See Figure 4 for
a Control
process flow



F.5 Disposition

Figure 1. Data Management Flow

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APPENDIX G. DATA REQUIREMENTS DETAILED DEVELOPMENT

G.1 Identification/Definition of Data Requirements. The requiring organization:

G.1.1 Identifies the data requirements for each task or project in the formulation phase.

G.1.2 Develops a DRL to define the data requirements for each NASA activity per Standard/Data Management-DRL (STD/DM-DRL) and G.2.

G.1.3 Develops a DPD to define the data requirements for each procurement per Standard/Data Management-DPD (STD/DM-DPD) and G.3.

G.1.4 Develops DRDs as part of a DRL or DPD as needed to define technical data content, data type, format, and submission requirements per STD/DM-DRD and G.2.3.2 and G.3.2.2.e.

NOTE: Data Types of Category 1, Category 2, Type 1, Type 2, Type 3, Type 4, and Type 5 are defined in STD/DM-DRD.

G.1.5 The DRL or DPD developer requests an identification number from the CDRM for each DRL and DPD. CDRM functions are described in G.4. A program/project identifier (document number) can also be used to identify the DRL.

G.2 Development of a Data Requirements List (DRL) for all NASA Activities. The DRL provides the data requirements for a particular NASA activity and may include NASA-produced data and contracted data. At the start of an activity, the strategy and planning is reviewed to determine the anticipated needs for data throughout the activity life cycle.

G.2.1 Because specific data requirements may not yet be known, it is recommended the data requirements of recent, similar activities be examined. This review considers data needed to support design, business, manufacturing, testing, operation and maintenance; and documentation needed for legal, historical, internal audit, or other valid purposes.

G.2.2 Related data that is needed to meet broader enterprise or external requirements is also to be included.

G.2.3 The data identified as a result of this review is documented in the DRL.

G.2.3.1 DRL Preparation Instructions.

a. The DRL developer documents the activity DRL in the activity's DM Plan, or in a separate DRL document that can be referenced from the DMP.

b. The DRL includes the data requirement number, title, OPR, and submission dates or milestones for each data requirement.

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- c. OPRD, Control Process, Approval Authority, Content Requirements or a link to that information, and any information deemed necessary by the Data Management Lead is recommended to be included in the DRL.
- d. The DRL data item numbers are assigned in the same format as DRD identifiers described in G.3.2.2e.(3)(b)(i).
- e. The DRL also references any DPDs (by DPD and contract number) for contracts that are part of the activity. DRDs may be attached to the DRL as described in G.2.3.2. See Appendix M for a NASA activity DRL completion guidance.

G.2.3.2 DRD for NASA Activity DRL.

- a. DRDs may be attached to the NASA activity DRL if deemed necessary to describe the data requirement more fully than the DRL format allows. If DRDs are used in conjunction with the NASA activity DRL, the DRDs are prepared and identified in a manner similar to the DRD format described in G.3.2.2e.(3)(a) for contracts.
- b. When DRDs are used in conjunction with the NASA activity DRL, “DPD NO.” is replaced with “DRL NO.” in DRD Item 1.
- c. When DRDs are used in conjunction with the NASA activity DRL, “Data Type” is replaced with category level in DRD Item 2.

NOTE: Due to the nature of the program or project structure, category levels are determined on a project-by-project basis by the DM Lead and CDRM. The category levels are documented in the DMP.

- d. Formats for MSFC DRDs are controlled by the CDRM. Deviation from these formats are approved by the CDRM.
- e. Originators of data requirements management forms adhere to the guidelines and format requirements presented herein.

G.3 Data Procurement Document (DPD) Development. Each DPD meets the format and content requirements specified in STD/DM-DPD; the following paragraphs to ensure a quality and consistent product is provided to Procurement for incorporation into the contract. See the MSFC DRM Web site for a sample DPD at <https://masterlist.msfc.nasa.gov/drm/>.

G.3.1 DPD Development Process.

G.3.1.1 DPD development commences with a “Draft” DPD and continues until formal “Basic” DPD is prepared for the negotiated contract. Figures 1 and 2 contain a flow diagram of the DPD development process (Contract and NASA Activity).

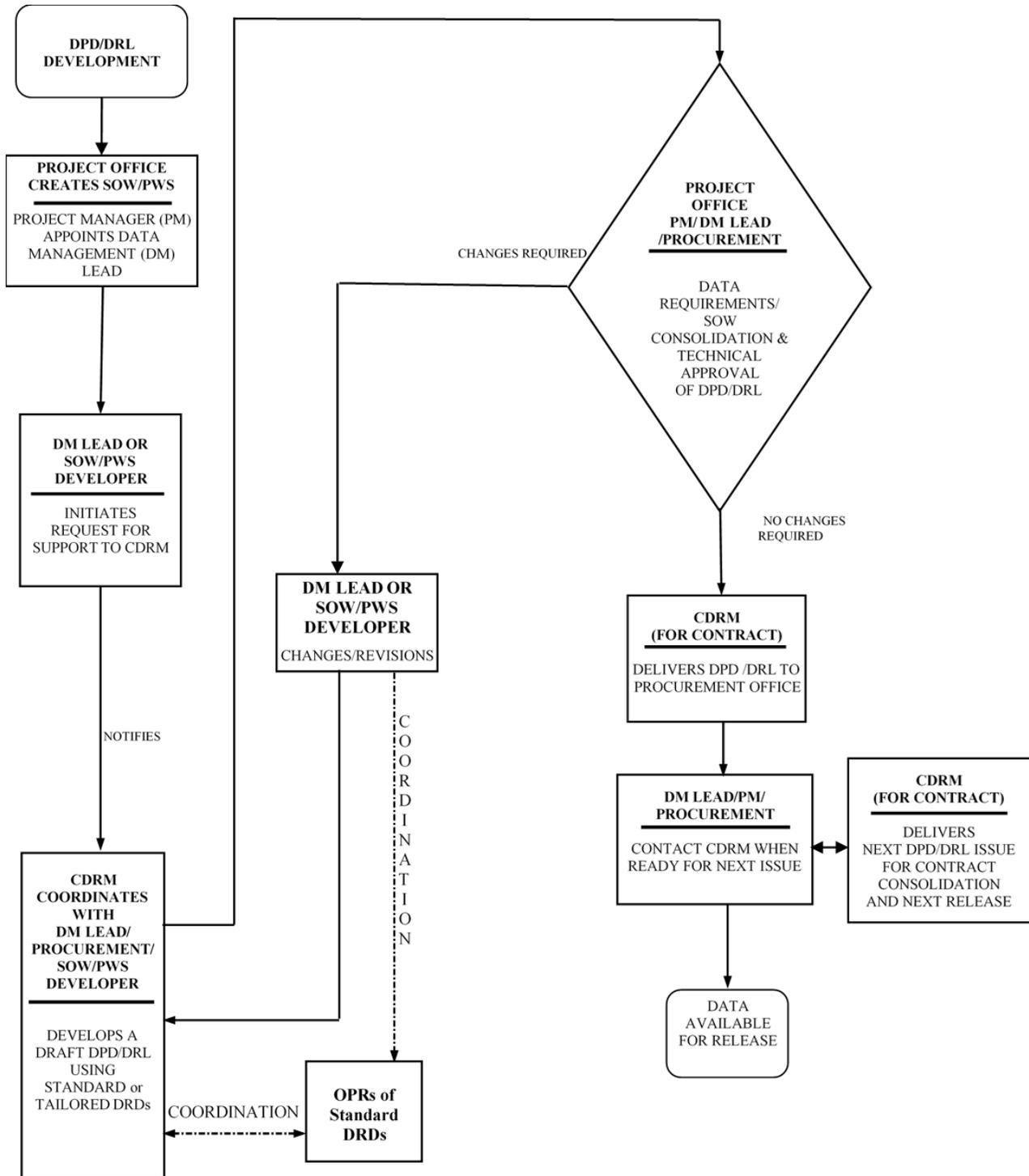


Figure 2. DPD/DRL Development Flowchart for Contracts

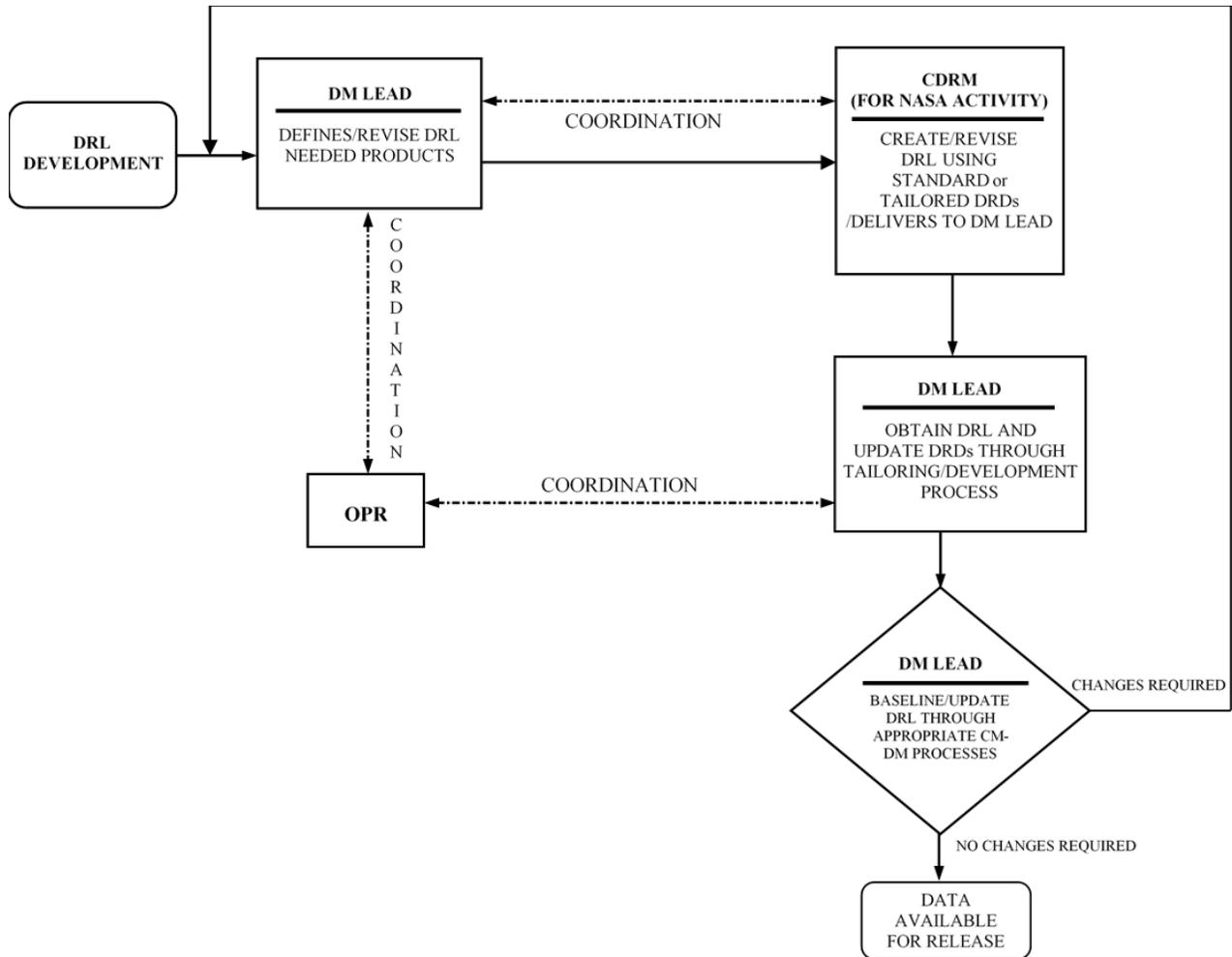


Figure 3. DRL Development Flowchart for NASA Activity

G.3.1.2 The “Draft” DPD is developed to match the data requirements referenced in the Statement of Work/Performance Work Statement (SOW/PWS) for a solicitation package.

G.3.1.3 DPD development begins early in the development of a solicitation package.

G.3.1.4 The DPD evolves as the SOW/PWS evolves.

G.3.2 DPD Preparation Instructions. The procuring organization assigns a DPD developer.

G.3.2.1 The DPD developer:

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- a. Maintains the master version of the DPD.
- b. Ensures the DPD master file is maintained secure while the DPD is procurement sensitive (prior to contract award), disseminate per secure means (disk, encrypted email, etc.), and ensures reviewers are aware of the DPD sensitivity and their security responsibilities.
- c. Ensures the DPD elements specified below are prepared in accordance with STD/DM-DPD and assembled in the order specified below:
 - (1) DPD Cover Sheet
 - (2) Document Change Log (DCL)
 - (3) Introduction and Statement of General Requirements (SGR)
 - (4) DRL
 - (5) DRDs
- d. Assembles the DRDs in alphanumeric order by the DRD identification number DRD numbers assigned in accordance with G.3.2.2.e.(3)(a).
- e. Enters the DPD identification number and issue symbol on each form and DRD in the appropriate blanks. (The three to four digit DPD identification number is assigned sequentially by the CDRM.)
- f. Applies the DPD issue to denote the revision status of the entire DPD, (e.g., Draft, RFP, Basic, Revision A, Revision B) and coordinates issue designation with the procurement office. The issue designation denotes the revision status of the entire DPD. The DPD remains a “Draft” issue until formal acceptance by the Contracting Officer. The issue which accompanies the RFP bears a “Basic” issue designation.
- g. Obtains the RFP/Contract Attachment number assigned to the DPD by the Procurement Office and assigns DPD page numbers to be consistent with the RFP/Contract Attachment number assigned to the DPD.
- h. Delivers the applicable version of the DPD to Procurement to be incorporated in the contract package.
- i. Specifies the required distribution for each DRD.
- j. The distribution is specified in Block 10 on each individual DRD or defined in a separate distribution matrix addressing all DRDs which is transmitted to the contractor by Contracting Officer’s letter. A sample Contracting Officer’s letter with distribution matrix is provided in Appendix N. The CDRM may provide assistance in the preparation of this distribution matrix, if requested. A separate distribution matrix is recommended. Providing the distribution requirements in this manner (rather than on the individual DRDs) reduces the need for contract modifications to change the distribution requirements for a DRD. The Contracting Officer may transmit new distribution requirements to the contractor via a letter instead of issuing a contract modification.

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G.3.2.2 Elements of the DPD.

- a. **DPD Cover Sheet.** The cover sheet identifies the DPD as an official MSFC document, and is prepared in accordance with STD/DM-DPD.
- b. **DCL.** The DCL is prepared in accordance with STD/DM-DPD to provide the current revision status of the DPD.

(1) The DCL is issued with the formal DPD and updated and issued with each DPD revision or re-issue resulting from contract modifications.

- c. **Introduction and SGR.** The procuring organization utilizes the DPD Introduction and SGR template located on the CDRMs DRMS Web site.

(1) The procuring organization tailors the Introduction and SGR template in specific marked areas and consults with the CDRM and the organization's Data Management Lead about tailoring other areas of the SGR.

NOTE: The DPD Introduction prescribes the DPDs applicability and maintenance requirements and describes the DPDs component parts and specifies their interrelationship. 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 DRDs. The SGR also defines the maintenance of the DPD after it is incorporated in the contract.

- d. **DRL.** The DRL presents a complete list of the data requirements applicable to a specific contract.

(1) The DRL lists the number, title, data type, and OPR for each DRD. Additional information (e.g. submittal requirements) may be added to the DRL.

- e. **DRD.** DRDs:

(1) Utilize the same format as the Standard DRD example shown on the DRM Web site.

(2) Utilize Item 15.1, Contents, identified on Standard DM-DRD for instructions for elements of a DRD.

(3) Present a complete description of a data requirement and prescribe content, format, maintenance, approval, and submittal requirements of the data product.

(a) **DRD Preparation.** Standard DRDs are used as the basis for preparation of DPDs for MSFC-contracted projects. The content of standard DRDs may be tailored to meet the needs of a project, as specified in the following tailoring paragraphs.

- i. DRDs adhere to the format requirements established in this manual and are controlled by the

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CDRM.

ii. The DRD Continuation Sheet is used for additional preparation instructions that do 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).

iii. Documents required to supplement the DRD are entitled “Attachments” and identified with the same DPD number and issue, and DRD identification number and title.

iv. Pages of the attachment are numbered sequentially.

v. Each page states the total number of DRD pages.

(b) DRD Identification Requirements. DRDs are identified by unique alphanumeric identifiers.

i. The initial numbers of the DRD identifier are the three- to four-digit DPD number (assigned by the CDRM) followed by two alpha characters representing the appropriate functional data category (e.g., Management (MA), Safety (SA), Logistics Support (LS)) and ending with three digits assigned sequentially within the functional data category (e.g., 9999CM-001, 9999CM-002). The CDRM is responsible for assigning the DRD identifiers.

(c) Tailoring of Standard DRDs for the Specific Procurement. After the procuring activity identifies the need for specific DRDs, the content of the chosen standard DRDs can be tailored by the requiring organization to meet the needs of the procurement. Common areas of tailoring are the submission requirements and data type. It is recommended that the requiring organization provide tailored DRDs to the standard DRD OPR organizations for review to ensure appropriate tailoring.

i. A unique DRD is prepared by the OPR when a standard DRD does not exist which can be tailored to meet project requirements. Although standard DRDs are tailorable for use in specific DPDs, there may be limitations to this tailoring set by the standard DRD OPR.

ii. If the OPR has specified that tailoring the standard DRD requires OPR approval, the requiring organization consults the standard OPR designee before a standard DRD is tailored for a particular contract. The notes attached to the standard DRD indicate this requirement in the tailoring instructions. The CDRM may facilitate this coordination, if requested.

(d) Determination of Data Types. The procuring activity assigns a Data Type to each data requirement to indicate the level of NASA control to be applied.

i. The philosophy of Government control is based on such factors as the planned insight level and product lifecycle. If the level of NASA control needs to increase as the data product matures, the procuring activity can assign one Data Type to a data deliverable at an early delivery milestone (e.g., Type 3) and assign a different Data Type requiring a higher level of Government approval (e.g., Type 1) at a later delivery milestone. If multiple control processes apply to a

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specific Data Type, a suffix may be added to the Type to indicate the control process applied by the Government (e.g., Type 1A could indicate that the Government plans to apply configuration management control, Type 1B could indicate project manager control). The types of data for approval and delivery are documented in STD/DM-DRD.

G.4 Center Data Requirements Management.

G.4.1 Standard DRD Development and Maintenance. The CDRM maintains a set of standard DRDs based on an examination of data requirements used throughout the Center's history and new requirements identified since the establishment of the original standard DRD set. Issuance of new management directives or regulations, the identification of new requirements, or maturity in functional disciplines may necessitate the creation of new standard DRDs.

NOTE: See MPR 8070.1 for the process of developing a new or revising an existing standard DRD. See STD/DM-DRD, Item 15, Content, for detailed instructions for each line item in a DRD.

G.4.2 Introduction/ SGR. The CDRM maintains and updates a generic DPD Introduction/SGR.

G.4.2.1 The CDRM coordinates any changes with organizations responsible for requirements defined in the SGR, such as Procurement, Repository and Legal.

G.4.3 MSFC DRMS Web Site. The DRMS Web site, available via a link from the MSFC Integrated Document Library, includes the standard DRDs in portable document format (PDF), additional data about each standard DRD, the current approved SGR, a matrix of standard DRDs (which provides DRD number, title, OPR, OPR designees, version date and OPR DRD review date), and a link to DM procedures and work instructions. For Microsoft Word® versions of any formats, see the CDRM.

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APPENDIX H. DOCUMENT PREPARATION DETAILED DEVELOPMENT

H.1 General. Program/Project Documentation:

H.1.1 Is prepared in accordance with the format requirements of this document and the content requirements specified by the Program/Project, unless other Center procedures apply (e.g., Program/Project Plan see MPR 7120.1, Quality Plan see QD-QE-017, Configuration Management Plan (CMP) see STD/CM-CMP and MGM 8040.1, DMP see STD/DM-DMP and Appendix I, Scientific and Technical Publications see NPR 2200.2, drawings and parts lists see MSFC–STD–555).

H.1.2 Includes configuration documentation, MSFC Technical Standards (see MPR 8070.1), and Program/Project-specific procedures, plans, requirements, manuals, reports, and other types of documentation as specified and defined in the Program’s/Project DMP.

H.2 The Office of Primary Responsibility Designee:

H.2.1 Uses gender-neutral language.

H.2.2 Identifies mandatory requirements by using the word “shall.”

H.2.3 Draft Document Preparation and Identification of Changes.

H.2.3.1 Prepares a new draft document for review, or a revised draft document identifying proposed changes in the currently approved document (e.g., use the Revision [Track Changes] tool in Microsoft Word® and record changes in the Document History Log).

H.2.3.2 Clearly indicates that the document is a “DRAFT” and consecutively numbers and dates each version of the draft document. For a document controlled through the configuration control process, the draft document may incorporate multiple changes that have been authorized by the Configuration Control Board.

H.2.3.3 For Configuration Management controlled documents, records the change request and changes directive numbers for the authorized changes being incorporated in Document History Log.

H.2.3.4 Draft Document Coordination. Coordinates proposed draft document or document changes with affected parties, and Drawing/Document Checking if applicable, to the extent determined necessary prior to issuing the draft.

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H.3 Minimum Header/Footer Requirements for Each Page:

H.3.1 Unique document number.

H.3.2 Revision level: Enters “Baseline” for initial release, the revision level for each change per H.10.1 and “Cancelled” for cancellations.

H.3.3 Document title/subject.

H.3.4 Document Date. Enters a consistent date on each page of the document with a date label preceding the date which defines the date type. Refers to the Program/Project DMP or DM procedures for the appropriate date label. “Effective Date:” is considered as the default date type/label if the Program/Project does not specify a date type/label.

NOTE: The Effective Date is recorded on the Master List in all cases.

H.3.4.1 Effective Date: “Effective Date:” is the preferred date type/label to be utilized. Effective Date is equal to the date the approval authority approves the document. Add the Effective Date to the document after approval.

H.3.4.2 Release Date: “Release Date:” is an acceptable date type/label. Release Date is equal to the date on which the document is released by the MSFC Release Desk or Program/Project Release function. Add the Release Date to the document after release.

H.3.4.3 Date: “Date:” is an acceptable date type/label. Date equals the date the document was submitted for approval. Enter the Date in the document before submittal for approval.

H.3.5 Office of Primary Responsibility Code: Specifies the organization code of the office that has responsibility for the document content. Typically, the Office of Primary Responsibility (OPR) is the preparing organization; but for Program/Project documentation controlled by the Program/Project, utilize the Program/Project organization code.

H.3.6 Document Type: Designates each document as a MSFC Technical Standard or a Program/Project Specific Document. Uses the name of the specific Program/Project (e.g., Advanced Space Transportation Program or Common Object Request Broker Architecture Main Engine Project) to designate the document as Program/Project Specific.

H.3.7 Page numbering. Enters the page number and total number of pages. (The title page may be numbered or unnumbered page 1.)

H.3.8 Master List Statement in Footer. Uses the following statement in the document footer:
CHECK THE MASTER LIST—VERIFY THAT THIS IS THE CORRECT VERSION BEFORE USE
(Specific location of Master List may be entered)

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H.4 Sensitive But Unclassified (SBU) Markings and Notice of Availability Limitations

H.4.1 Front cover or first page of draft and approved unclassified Program/Project documentation includes the SBU notice or the applicable notice of availability limitation defined in Appendices K and L of this document to prescribe the availability and distribution of Program/Project documentation.

H.4.2 Individual pages are marked in a minimum of 10-point font at the top and bottom of each page containing SBU information in accordance with H.c and H.d for the types of SBU specified in Appendix K (i.e., SBU types that do not have existing marking criteria established by other statutes, regulations, contractual provisions, NASA directives).

H.4.2.1 Mark the top of each individual page containing SBU information with the caveat “SENSITIVE BUT UNCLASSIFIED (SBU) – [insert specific SBU type].” Inserting the specific SBU type ensures users are aware of the type of information conveyed so they can protect the information appropriately (e.g., “SENSITIVE BUT UNCLASSIFIED – Systems Security Data Information,” “SENSITIVE BUT UNCLASSIFIED – NASA Sensitive,” etc.).

H.4.2.2 Mark the bottom of the front cover or first page and each individual page containing SBU information with a notice that includes the caveat “SENSITIVE BUT UNCLASSIFIED (SBU) – [insert specific SBU type];” the Designation Official (by name and/or position); the Designating Official’s organization, project or program; and the date of SBU designation. See Appendix L for an example and the recommended placement of these markings.

NOTE: If applicable, identify any automatic decontrol provisions on the front cover or first page, e.g., “Contents may be decontrolled (date),” or “Content may be decontrolled upon (specific occurrence such as publication of embargoed materials),” or “Content may be decontrolled only by the Designating Official or successor.”

H.5 Identification of Approval Authority contains identification of the approval authority. The approval authority may be identified by listing the approval authority’s name, the control board name, the control board directive number, or recording the approval authority on a signature page.

H.6 Document History Log is contained in each document. Beginning at the baseline, provide a chronological listing of document changes to record the document’s history through all revisions and, if applicable, the cancellation of the document. The Document History Log replaces the Specification Change Instruction/Document Change Instruction, MSFC Form 4140.

H.6.1 The OPRD identifies the following:

H.6.1.1 Status.

- a. Baseline (enter at the initial release of the document).
- b. Revision (enter for each revision to the document).

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H.6.1.2 Document Revision. Enter the revision letter(s) which apply.

H.6.1.3 Effective Date. Enters the date the baselined or revised document is approved. Also enters the control board and control board directive number(s) if the document incorporates changes which were authorized by a control board.

H.6.1.4 Description.

- a. For baseline, indicates this is the baseline release (e.g., “Baseline Release”).
- b. Enters an identifier (e.g., the section or paragraph number, the page number, etc.) and the description of the revision(s) made to the document with reasons for the revision(s) if applicable; or
- c. Enters “General Revision” if revisions are too extensive to list.
- d. For canceled documents, supersession information may be entered.

H.7 Numbered Document Sections contains:

H.7.1 Numbered document sections for scope or purpose, applicable documents, definitions/acronyms, and specific content sections.

H.7.2 Records (identify records as specified in MPR 1440.2 and NPR 1441.1).

H.7.2.1 Records are the last numbered section after specific content sections but before appendices. The records section requirement is not applicable to standards, specifications, handbooks, ICDs, nor those documents for which specific format and instructions are provided in other MSFC or applicable documents.

H.8 Document Templates created to assist in the preparation of documentation are optional for Program/Project-specific documents but are mandatory for MSFC Technical Standards. These templates are electronically accessible from Inside MSFC, MSFC Integrated Document Library, MSFC Technical Standards (formerly known as Multiprogram/Project Common-Use Documentation), Program/Project Specific Documentation, Templates.

H.9 Specific Document Preparation

H.9.1 Specification Preparation. A specification is prepared:

H.9.1.1 to define the requirements and the interfaces for a product. The product may be materials, parts, or software products of the configuration item to be developed.

H.9.1.2 in accordance with the six major sections defined in Military-Standard (MIL-STD)-961, with specific paragraph titles used as appropriate for hardware.

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NOTE: Rules regarding format and style in Military (MIL) MIL-STD-961 should not be used.

H.9.1.3 in accordance with The Institute of Electrical and Electronics Engineers, Inc./Electronic Industries Association (IEEE/EIA) 12207.1, for software.

H.9.1.4 at the program/project/configuration item levels as necessary to define the development requirements for each configuration item.

H.9.1.5 to define the hardware, software, and external and internal interface requirements.

H.9.2 Standard Preparation. A standard is prepared in accordance with MIL-STD-962, Appendix A, and as specified in this appendix. Standards are not to be used to define products. Standards are usually implemented through callouts in specifications or engineering drawings.

H.9.3 Handbook Preparation. A handbook is prepared in accordance with MIL-STD-962, Appendix B, and as specified in this document. The handbook provides guidance and does not establish requirements or define a product.

H.9.4 ICD is: an interface control document. Prepared in accordance with Standard/Systems Engineering-Interface Control Document (STD/SE-ICD).

H.9.4.1 Interface verification requirements are specified in Section 4 of the configuration item specification.

H.9.5 Drawing and Parts List Preparation. Drawing and parts lists are prepared in accordance with MSFC-STD-555 for ICE Windchill release.

H.9.6 Software Version Description (SVD) Document Preparation. The SVD is prepared in accordance with the content prescribed in IEEE/EIA 12207.1.

H.9.7 IRD is: an interface requirements document. Prepared in accordance with Standard/Systems Engineering-Interface Requirements Document (STD/SE-IRD).

H.10 Documentation Numbering.

H.10.1 See MSFC-STD-555, Appendix E for Documentation Numbering Requirements.

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APPENDIX I. DATA MANAGEMENT PLAN (DMP) AND DATA MANAGEMENT GUIDANCE

I.1 DMP (Content Guidance).

I.1.1 DM Planning. The DMP is prepared to include the contents defined below. For a small project or activity, the DMP may be combined with the project plan as long as the elements identified below are met. While maintaining compliance with MSFC policies, the plan is tailored to define the unique elements of the Program/Project. It is recommended to address DM elements that are not applicable to the specific Program or Project in the DMP.

I.1.1.1 In the plan, define the scope and depth of the Project efforts including management, organization, planning, responsibilities, and the relationship of the DM program to the other administrative and technical organizations. It is recommended to include organizational charts.

I.1.2 Identification/Definition of Data Requirements. As a minimum, this section includes a list of data that is needed for the management and execution of the Program/Project. The data requirements for each task or project are documented in either a DRL or a DPD. The DRL and DPD are prepared in accordance with STD/DM-DRL and STD/DM-DPD and also Appendix G. The DMP includes the DRL and/or the DPD number/title/location or provide a link thereto.

I.1.3 Preparation. This section describes the formatting and numbering requirements for internal and external data. It defines the program/project/activity unique numbering system. It also describes the OPRD responsibilities for designating and marking the appropriate SBU data restriction category on the document and obtaining review of that category by the appropriate CER or contractual representative.

I.1.4 Control Procedures. This section includes:

I.1.4.1 Review and approval processes of internal and external data (define the level of control and data types). The Master List location and custodian are included in this process. The control processes address all the elements in Appendix F.4. The steps of the control processes, including the roles and responsibilities associated with each step, are described in the plan.

I.1.4.2 Processes to track, deliver, and maintain schedules for external (i.e., contractor, other Centers/Agencies, and Universities) and internal (MSFC-prepared) data.

I.1.4.3 The process used for the definition and control of classified material, if applicable.

I.1.4.4 Control process for program/project/activity-specific forms and data.

I.1.4.5 Control procedures for informal correspondence (e.g., memos, letters).

I.1.4.6 Configuration control, in accordance with the project-specific Configuration Management Plan.

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I.1.4.7 The process used for the definition and control of SBU as defined in NID 1600.55.

I.1.4.8 Export procedures are defined in accordance with MPR 2190.1. The program/project specific actions necessary to carry out the program/project/activity responsibilities in MPR 2190.1 are detailed in this section. If a separate Technology Transfer Control Plan (TTCP) is prepared for an activity having international involvement , it is referenced in this section.

I.1.4.9 Consistent with the objectives of the Program/Project, the plan includes a determination of the minimum needs of the U.S. Government pertaining to the use and disclosure of (1) existing proprietary information/property (including software) owned by non-government parties, and (2) data or software that is to be generated under the Program/Project.

I.1.5 Disposition. This section describes the program/project/activity implementation of the following elements:

I.1.5.1 Identification of records, location of records, record custodians, and any project-unique directions to those custodians.

I.1.5.2 Master list of documents.

I.1.5.3 Records retention and schedule.

I.1.5.4 Records archival.

I.1.5.5 Storage/repository and access.

a. Document filing procedures in accordance with MPR 1440.2.

b. A plan for use of the MSFC Repository in accordance with MPR 2800.2 and MWI 2210.1.

c. The description of the document reference libraries (i.e., electronic, Web-based, drawings, technical).

d. Process for dissemination of scientific and technical information produced under MSFC sponsorship in accordance with NPR 2200.2.

I.1.5.6 Record retirement procedures.

I.2 Maintenance and Control of DRLs and DPDS (Guidance for Appendix F.2, Identification-Definition).

I.2.1 Data Requirements are either controlled as part of the DM Plan or as a separate document. Therefore, the document custodian of the DRL is either the DM Plan OPRD or, if the DRL is a separate document, an OPRD, and control process is assigned (just like other project documents).

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I.2.2 DPDs are incorporated into the contract as an attachment along with the SOW/PWS. Therefore, the contract modification process is required to change the DPD after contract award. The official DPD is the version in the contract and the CO is the official keeper of the contract. It is recommended that the Program/Project, with agreement and knowledge of the CO and COR, assign a document custodian for the DPD who ensures that the DPD electronic file is maintained current. The DPD document custodian would obtain the contract award version of the DPD, work with the CO and COR to prepare any future updates, receive copies of the official contract modifications, and ensure that any contract modifications related to the DPD are incorporated into the electronic DPD file with appropriate contract modification number references, etc. The document custodian responsibility is determined and assigned immediately after the contract is awarded.

I.3 Assignment of Control Processes to Data Requirements (Guidance for Appendix F.2, Identification-Definition).

I.3.1 As program/project/activity data are identified and defined, it is recommended that the control process for each DRD also be identified in the DRL.

I.3.1.1 For contractor-produced data, STD/DM-DRD defines Types 1–5 that dictate the control process and authorization that is required by NASA.

I.3.1.2 For NASA-produced data, Appendix M also contains recommended data control definitions for NASA-produced data that are consistent with the CM, Approval, and Acceptance-Receipt (for OPR-controlled data) control processes described in Appendix F.4.2- F.4.4.

I.3.1.3 The planned control process is added as a column in the DRL that is completed for each DRD.

I.4 Control Process Planning (Guidance for Appendix F.4, Control).

I.4.1 Prior to implementing a control process, the following items are identified or established:

I.4.1.1 Data requirements per MPR 7123.1.

I.4.1.2 Data preparation guidance.

I.4.1.3 Document numbering system(s).

I.4.1.4 Numbering logs and responsibility for number assignment.

I.4.1.5 Document format(s) required for submittal and archival (e.g., Word and/or Adobe PDF).

I.4.1.6 Control processes for each data/document requirement.

I.4.1.7 Approval authorities for each document or document type.

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I.4.1.8 Control Board(s) and board membership.

I.4.1.9 Personnel assignments for all the roles in the control process (e.g., receipt, CO, CER, LSE, DM Administrator, Secretariat).

I.4.1.10 Time period for reviewing documentation.

I.4.1.11 Master List Custodian(s) and Master List implementation methodology that address accessibility requirements and location.

I.4.1.12 Repository/storage, filing, access, disposition, retention schedules, and records custodian(s) for each data/document requirement/record per MPR 1440.2.

I.4.1.13 If an electronic system is used for the control process, the following items are addressed:

- a. Ensure the selected electronic system has an approved Information Technology (IT) Security Plan per NPR 2810.1 and has successfully completed the MSFC Operational Readiness Review process per MPR 2800.2.
- b. Establish the Program/Project Control Boards/Approval Authorities and associated roles in the system.
- c. Grant appropriate access privileges to personnel who have been assigned roles in the control process.

I.5 Data Control Processes Versus Design Review Process (Guidance for Appendix F.4, Control).

I.5.1 Data control processes are applied per document to apply version control and authorize data for use. Review of contractor data deliverables per document provides an assessment of whether or not the document met contract requirements. In contrast, the design review process (described in MSFC–HDBK–3173) is intended to provide a review of the complete data package that represents the requirements, preliminary design, or critical design, with reviewers examining documents in the data package for requirements flow down, consistency, and adequacy of the technical approach. Reviewing individual documents through a document control process does not achieve the same objective as a design review. Since most data deliverables are due at Design Review milestones, there is a concern on how to mesh the contractual review process for Types 1, 2, and 3 data deliverables and the Design Review process of writing Review Item Discrepancies (RIDs) (or equivalent) without overloading personnel and requiring duplication of work. Therefore, the following process is recommended:

I.5.1.1 Use the design review process for the general review of the data deliverables.

- a. Develop standardized queries based on known data structures, metadata, locations, access controls, and tools;

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b. Develop evaluation factors that quantify the resultant views in terms of format, data completeness, accuracy, tool applications, and other management factors deemed appropriate to measure the data validity and status;

c. Develop the methodology to introduce program/project or activities data assessments; define the specific activities to be performed; identify who performs the assessment; establish the checklists, queries, processes, and procedures that quantify an entity's DM efficiencies, accuracy, and validity; and formalize the out brief to the entity management with a set closure process that confirms the implementation of actions that improve data quality and integrity.

I.5.1.2 Notify the contractor that NASA requires an extension on the Type 2 review period to match the Design Review time period.

I.5.1.3 In parallel to the Design Review process, send Types 1 and 2 data only to the OPRD to ensure that the contractual review is met.

I.5.1.4 When Types 1 and 2 data dispositions are made, reference and/or include any RIDs written during the Design Review that affect those documents to ensure a consolidated review.

I.5.1.5 For submittal of updated documents and RID closures, the Program/Project determines whether RID closures need to be submitted and approved before the updated document is returned as a Type 1, 2, or 3 data deliverable, or if the RID closures need to be included in the next submittal of the data deliverable. If the RID closures are included in the data deliverable, it is recommended that the transmittal memorandum from the contractor clearly state that the document addresses RID closures so that NASA knows to attach the document as a RID closure and route through the RID closure process in addition to the normal data deliverable review process.

I.6 Description of a Program/Project/Activity Approval Process (Guidance for Appendix F.4.1 Control Process and Appendix F.4.3, Approval Processes).

I.6.1 This section describes a control process for program/project/activity approval of NASA data, external agreement data, or contractor Type 1 or 2 data deliverables. (See Figure 4 for an example of a control process flow.)

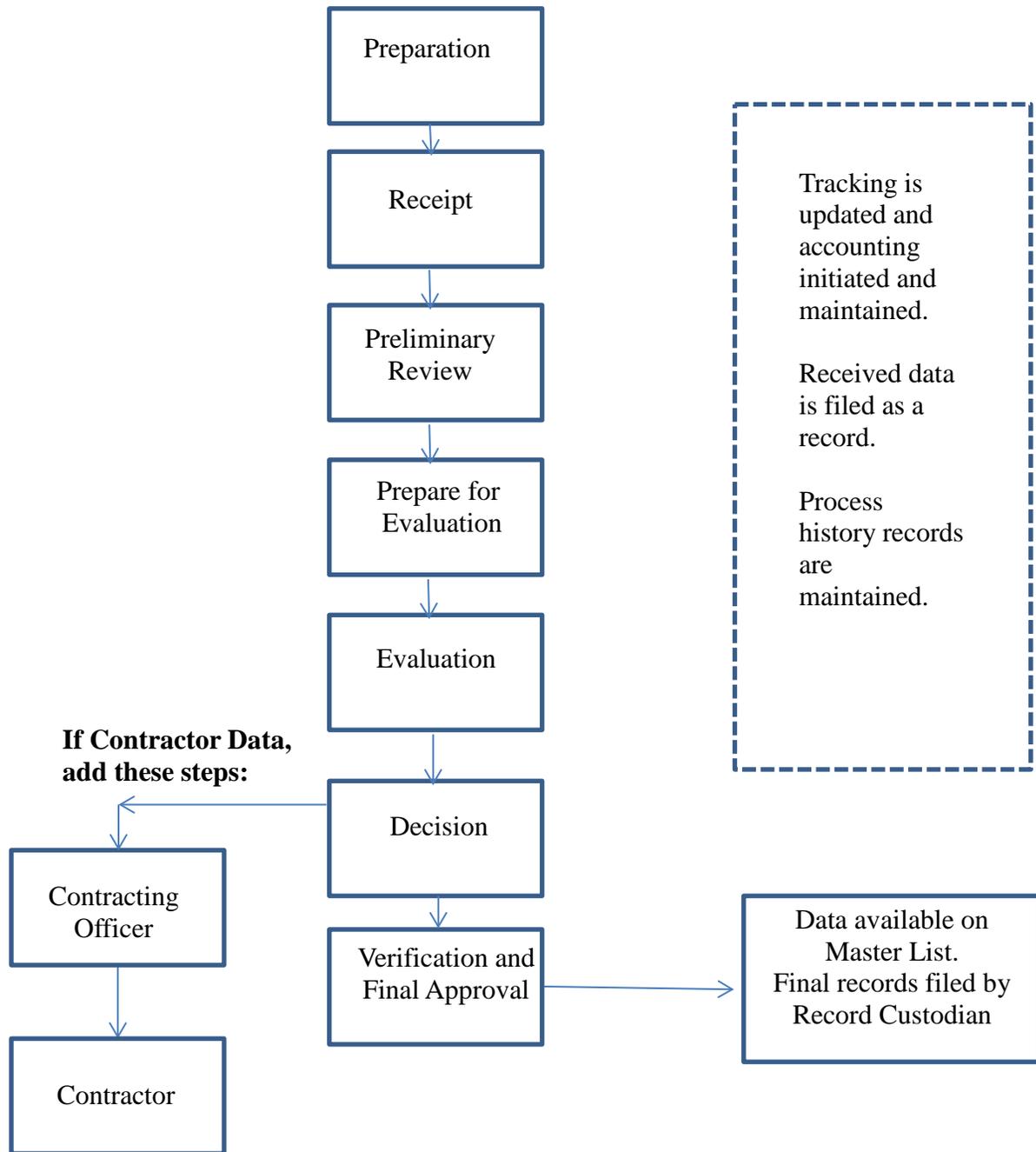


Figure 4. Example of Control Process Flow

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I.6.1.1 Receipt. Upon receipt of the data, the receipt personnel record identifying information about the data for tracking and accounting purposes, perform a quality and format check, ensure the data is identified/filed as a program/project/activity record and determine routing options. If the quality and format check identifies that the data does not meet NASA or contractual requirements, notification is provided to the originator for NASA data, or to the MSFC CO for contractual data (for transmittal to the Contractor). The process history record begins with receipt of the data.

NOTE: Tracking and accounting records are updated and maintained throughout the approval process.

I.6.1.2 Preliminary Review. During Preliminary Review, the data may be transmitted to a Center Export Representative (CER) to review the originator’s recommended Export and Distribution Restrictions and confirm or change, as appropriate. For contractual data, the data may be transmitted to the CO/COR for contractual review prior to distribution for evaluation. If the data is rejected, notification is provided to the originator for NASA data, or to the MSFC CO for contractual data (for transmittal to the Contractor).

I.6.1.3 Prepare for Evaluation. The LSE and DM Administrator determine the DPE, evaluators (mandatory and optional), and distribution list. The DM Administrator distributes the data for evaluation.

I.6.1.4 Evaluation. Each evaluator reviews the data and records comments. The DPE consolidates comments from other evaluators, and then formulates a recommended disposition for the Approval Authority. The Approval Authority may range from a formally-constituted control board to a project-designated individual (e.g., Project Manager, COR).

I.6.1.5 Decision. The Secretariat/DM Administrator captures the final decision and actions for the Approval Authority. If the Approval Authority is a formally-constituted board, the members concur or nonconcur and the Approval Authority makes the final decision of: “Approved,” “Approved with Changes,” “Disapproved-Resubmit,” “Disapproved,” or “Cancelled.”

a. Approved. The data content is approved as written. Actions: For NASA-produced data, the originator is directed to update the approval date and submit for final approval. For contractor data, the contractor is directed by the CO/COR to finalize and release the document and provide a copy of the released document to MSFC. When the updated document is received and verified, the data is posted to the appropriate Program/Project Master List.

b. Approved with Changes. The data is approved with the specific changes detailed in the disposition documentation. Actions: For NASA-produced data, the originator is directed to update the document with the authorized changes and submit for final approval. The contractor is directed by the CO/COR to incorporate the approved changes, finalize and release the document, and provide a copy of the released document to MSFC. When the updated document is received and verified, the data is posted to the appropriate Program/Project Master List.

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c. Disapproved-Resubmit. The data is unacceptable and is disapproved with resubmittal required. Actions: The originator or contractor updates/resubmits a new version that corrects the reasons for disapproval. For contractor data, a resubmittal timeframe is specified in the CO’s letter. When received, the updated submittal is put back through the review process.

d. Disapproved. The data is unacceptable and is disapproved. Actions: None.

e. Cancelled. The data is cancelled and is no longer utilized. Actions: The data status is changed to Cancelled and it is removed from the Master List.

I.6.1.6 Verification and Final Approval. For NASA-produced data, following an approved or approved with changes disposition, the originator implements the direction of the Approval Authority and submits the finalized document for the following final approval steps: (1) verification that Approval Authority direction was implemented correctly; (2) format and quality check; (3) final approval signatures (if required); and (4) reflection of signatures in controlled electronic file (optional), and availability/posting of the controlled electronic file to the appropriate Program/Project Master List.

a. For contractor or external agreement data, the contractor resubmits data that was Approved or Approved with Changes after implementing the NASA direction. Upon receipt, receiving personnel verify that the direction was implemented correctly in the document. If correct, the data is made available to the Program/Project Master List. If not correct, the data is returned to the originator for correction.

b. For all data processed through the approval process, the final record of the dispositioned data and the process records are filed by the Records Custodian.

I.7 Recording Data Authorization and Effective-Release Dates in Document (Guidance for Appendix F.4.1.6).

I.7.1 Recording Authorization in Document. The Approval Authority should be identified in the document as identified in Appendix H.5. At a minimum, this requires that the approval authority’s name/role (e.g., person or control board) be listed in the document. When data is authorized on the document itself or external to the document, it is recommended that the authorizing names/dates be recorded back into the electronic file after approval so that the electronic file contains authorization information or replicate the hardcopy version if signatures were applied directly to the document. Recording authorization in the document may be done by having an “Approved” block and filling in the name/date or by recording the name with a “/s/ name” format representing a signature, or by scanning the signature page (if hardcopy) and integrating the scanned page into the electronic file. For data authorized in an electronic system where the data is not updated after approval, the Approval Authority’s name may be listed in the document prior to approval. For data approved by control board, at a minimum the control board/control board directive numbers are recorded in the document history log.

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I.7.2 Recording Effective/Release Date in Document. Because the effective date has to equal the approval date, and the release date has to equal the date of release, these dates have to be added to the document after approval/release occurs. Therefore, this requirement drives the control process to include at least one follow-on step after approval/release in which personnel are designated to add the effective/release date to the document (coversheet, header, document history log). If a control board or external authorization process is used, this also requires steps after the authorization for document finalization, verification, and adding effective/release dates and control board directive numbers.

I.8 Data Tracking and Accounting (Guidance for Appendix F.4.8, Data Tracking and Accounting).

I.8.1 A DRL is the start for the DRD tracking process for both NASA and contractor-produced data. The DRL matrix format may be extended to include additional fields for status accounting as data is received, or a separate matrix maybe developed. The recommended fields for the DRL are addressed in Appendix G and also in STD/DM-DRL. For accounting of received data, it is recommended that the following data be captured: data review status (i.e., open, closed, or closed with action), document identification number, revision, title, DRD number, receipt date, transmittal memorandum number and date, DPE, evaluation due date, disposition, disposition date, and disposition transmittal number and date (sent by CO/COR for contract data).

I.9 SBU Data Restriction Assessment (Guidance for Appendix F.4.9, SBU Identification, Marking, and Safeguarding).

I.9.1 Appendix F.4.9 requires that project data control processes contain SBU review steps to ensure data has been appropriately assessed and marked prior to dissemination. This assessment is done upon data receipt to ensure that data is stored securely and disseminated appropriately.

I.9.1.1 For both NASA-produced and Contractor-produced data, the recommended implementation is for the Program/Project to designate a Program/Project representative to assess the data restriction assigned by the data preparer upon receipt and prior to distribution. If the data is marked incorrectly, or the data is not marked but the recommended data restriction is incorrect, return the data to the originator with instructions to correct the marking.

NOTE: The electronic file submitted by the originator is a record and is not altered by NASA. It is highly preferred that the data be returned to the originator to change the data restriction instead of NASA applying a restriction/markings to the document. If there is disagreement with the originator about the correct SBU category, this needs to be negotiated with the originator so that both parties implement consistent controls to safeguard the data.

I.9.1.2 For NASA-produced data, if the Program/Project places responsibility on the OPRD to confer with a CER to ensure the SBU marking is appropriate before submitting data to the program/project, then it is acceptable to accept the data restriction assigned by the data preparer and secure/distribute the data accordingly.

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I.9.1.3 Guidance provided by the CEA, Security, and Legal clarifies the qualifications necessary for someone to serve as the program/project/activity representative to assess data restrictions. If making export jurisdiction and classification determinations, the qualified individual is a CER who has completed the annual export control training. Only civil servants may be official CERs, though support contractors may provide a recommended assessment to a CER. When it becomes necessary to designate one person to assess different kinds of restrictions, the CER is the best choice. The CO and COR are involved in any assessments that involve contract Limited Rights Data (e.g., Proprietary).

I.10 Secure Data Storage and Handling in an Electronic System (Guidance for Appendix F.4.9, SBU Identification, Marking, and Safeguarding).

I.10.1 Figure 5, below, provides elements to consider when entering data in a system, maintaining data access within the system, and transmitting data out of the system. The Program/Project and the electronic system developers/administrators need to determine the philosophy used to store data securely within the system. First, the data restriction for each data item is identified and recorded in the system's data item metadata (Metadata is the data that helps you search and retrieve data such as document number, title, etc.). Also, each user is known by the system (i.e., username and password access) and metadata about that user is captured such as the user's country of citizenship/foreign countries represented and whether the user works for NASA, a NASA support contractor, or a contractor including the name of the contractor. When appropriate metadata is captured for each data item and user, users may be placed into groups, groups assigned access privileges, and data filed so that appropriate personnel have access. Regardless of the methodology used, the personnel filing data in the electronic system need to understand how security is applied in the system, and have visibility to metadata which allows them to store data securely in accordance with the data restriction. Some different options for assigning access within a system are listed below.

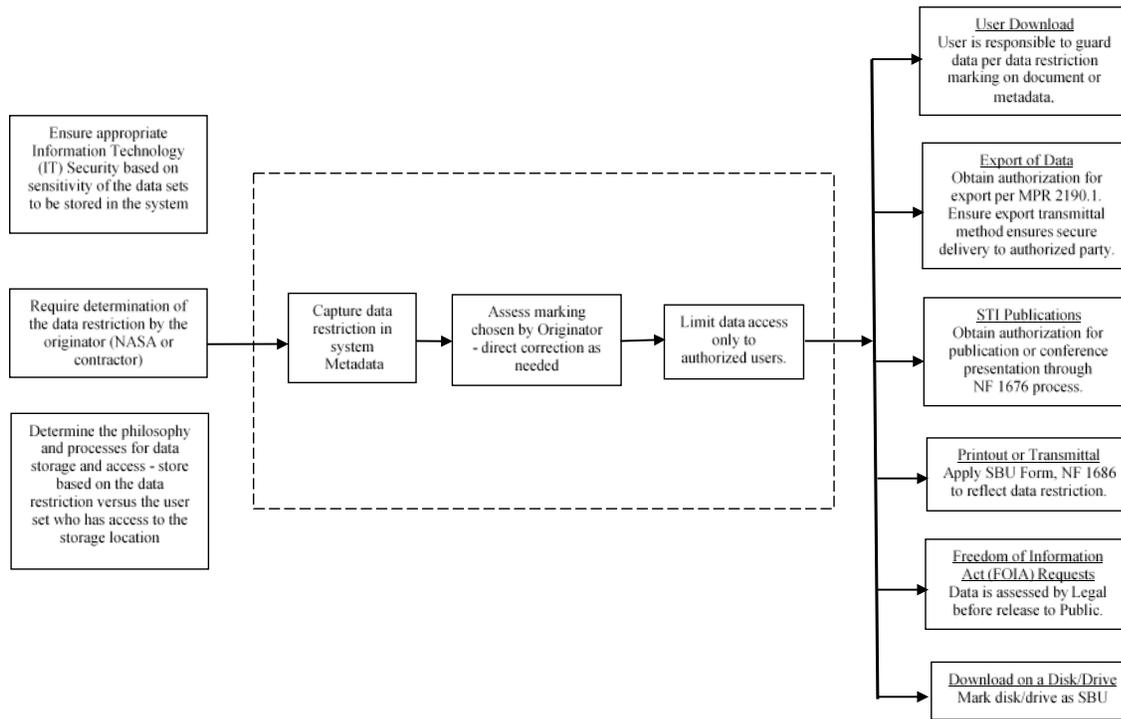


Figure 5. Example Electronic System – Secure Data Handling Considerations

I.10.1.1 Restrict system access to a controlled group (e.g., NASA and NASA support contractors within a Program/Project only) that may see everything filed in that area.

I.10.1.2 Set group accesses per folder with controlled filing (requires the persons filing data to be knowledgeable about data restrictions and the user access privileges to specific folders).

I.10.1.3 Design the electronic system such that the data restriction for each data item is captured in the system metadata, and with rules that define which group types are allowed access to data with certain data restrictions. Then the system may automatically control which users may “see” or access data according to the group(s) they are assigned to, and which data those groups are allowed to see.

I.10.1.4 The following user groups are recommended, and it is preferred that these groups are further restricted per Project: All Members, U.S Persons or U.S Citizens, NASA civil servants, NASA support contractors, X Country Foreign Nationals, and X Contract Number Contractors.

I.10.1.5 Table I includes guidance on the above groups that may be granted access to data with certain SBU data restrictions. SBU requirements state that dissemination of SBU is limited to those with a need-to-know as part of Government business. Therefore, this guidance is based on the fact that NASA civil servants and support contractors need access to

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program/project/activity data to perform their jobs and may be “trusted” to guard data appropriately. The Program/Project DM Lead ensures that the electronic DM system used to house program/project data is implemented so that data access is controlled according to the SBU data restriction identified by the originator and authorized by their Designating Official.

Table I. Guidance on Allowed Access Based on SBU Categories

Data Restriction Category (SBU)	Allowed Audience (within Project Members)
No Restriction	Everyone
Export Controlled <ul style="list-style-type: none"> • ITAR • EAR 	U.S. Persons, which includes Lawful Permanent Residents (LPR) (informally known as Green Card Holders), and vetted International Partners if approved under an export authorization from the CEA.
SBU - Allow Access by Group <ul style="list-style-type: none"> • Limited Rights Data-Trade Secrets (e.g., Proprietary/Privileged, Business/Company Confidential) • Small Business Innovative Research • Space Act • Patent • NASA Sensitive • Inter or Intra-Agency Memoranda or Letters 	NASA Civil Servants, NASA Support Contractors, Owning Organization
SBU - Limit Access to Originator List <ul style="list-style-type: none"> • Developing or Current Technology Information • Emergency Contingency/Continuity of Operations Information • Financial Institution Information • Geological/ Geophysical Information • Infrastructure or Security Vulnerabilities Information • Internal Personnel Rules/Practices • Investigative Records • NASA Information Technology/Internal Systems Data • Personnel, Medical, and Similar Files; • Systems Security Data Information 	Originator/Controlling Organization list

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APPENDIX J. SBU MARKING MATRIX

J.1 This appendix provides the MSFC requirements for marking each type of SBU. These requirements were derived from NID 1600.55 and other applicable statutes, regulations, and NASA directives.

J.1.1 In accordance with NID 1600.55, some SBU types have existing marking criteria established by other statutes, regulations, contractual provisions, NASA directives, etc. (hereinafter, collectively referred to as “Other Directive(s)”).

J.1.1.1 For these types of SBU, the Originator or Custodian marks information, after appropriate analysis and designation protocols as described in NID 1600.55, in accordance with the applicable Other Directive.

J.1.1.2 Markings required by the Other Directive are used and no additional SBU markings need to be added.

NOTE: Use the SBU coversheet (NF 1686) in accordance with NID 1600.55.

Data Restriction Type from NF 1686	Applies to NASA or Contractor	Notice on Front Cover	Marking of Individual Pages
-Emergency Contingency/Continuity of Operations Information (Freedom of Information Act (FOIA) Exemption 2) -Financial Institution Information (FOIA Exemption 8) -Geological/Geophysical Information (FOIA Exemption 9) -Infrastructure or Security Vulnerabilities Information (FOIA Exemption 2) -Inter or Intra-Agency Memoranda or Letters (FOIA Exemption 5) -Internal Personnel Rules/Practices (FOIA Exemption 2) -Investigative Records/Law Enforcement Records (FOIA Exemption 7) -NASA Information Technology/Internal Systems Data (FOIA Exemption 2) -NASA Sensitive (FOIA Exemption 5) -Systems Security Data Information (FOIA Exemption 2)	NASA	Apply the SBU Notice per NID 1600.55. Refer to Appendix K for cover sheet marking.	Mark individual pages in accordance NID 1600.55.

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-Other			
-Arms Export Control Act/International Traffic in Arms Regulations (ITAR) (FOIA Exemption 3)	NASA or Contractor	Apply the ITAR Notice per NPR 2200.2 and supports /NID 1600.55. Refer to Appendix K for cover sheet marking.	Individual pages are to be marked, but are to be marked with ITAR per FOIA 3 as stated in NID 1600.55. NASA groups ITAR with other forms of SBU so marking should follow the SBU marking indicated in H.4.2.2, which states to "Mark the bottom of the front cover or first page and each individual page containing SBU information with a notice..."
-Export Administration Act/Export Administration Regulations (EAR) (FOIA Exemption 3)	NASA or Contractor	Apply the EAR Notice per NPR 2200.2 and supports NID 1600.55, paragraph 5.24.3.1. Refer to Appendix K for cover sheet marking.	Individual pages are to be marked, but are to be marked with EAR per FOIA 3 as stated in NID 1600.55. NASA groups EAR with other forms of SBU so marking should follow the SBU marking indicated in H.4.2.2, which states to "Mark the bottom of the front cover or first page and each individual page containing SBU information with a notice..."
-Developing or Current Technology Information (FOIA Exemption 3) -Patent Information (FOIA Exemption 3) -Space Act (Sec 303b) or Cooperative Research and Development Agreement (CRADA) (FOIA Exemption 3)	NASA or Contractor	Apply marking as specified by contract/agreement or as directed by Center Patent/Intellectual Property Counsel.	Apply marking as specified by contract/agreement or as directed by Center Patent/Intellectual Property Counsel.
-Business/Company Confidential (FOIA Exemption 4) -Privileged/Proprietary Commercial or Financial Information (FOIA Exemption 4) -Subject to Trade Secrets Act (FOIA Exemption 4) <i>NOTE: If NASA is using restricted contractor data as source material in a NASA-originated document, the originator's original restriction notice is retained on the NASA document, and additional restriction notices this Appendix H.</i>	Contractor	Apply appropriate restriction notice in accordance with company requirements. In addition, apply the notice required by NFS 1852.237-73.	Apply the notice required by NFS 1852.237-73.

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<ul style="list-style-type: none"> -Small Business Innovative Research (SBIR) Data (FOIA Exemption 4) -Limited Rights Data (FOIA Exemption 4) -Restricted Computer Software (FOIA Exemption 4) 	Contractor	Apply the notice required by FAR 52.227-14, Alternates II and III, for marking of Limited Rights.Data and Restricted Computer Software, and FAR 52.227-20 for marking of SBIR Data. These notices are shown in Appendix K.	Individual pages are to be marked, but are to be marked Proprietary or whatever marking is relevant per FOIA 3 as stated in NID 1600.55. NASA groups this data with other forms of SBU so marking should follow the SBU marking indicated in H.4.2.2, which states to "Mark the bottom of the front cover or first page and each individual page containing SBU information with a notice..."
-Source Selection Information (FOIA Exemption 4)	NASA	Apply the notice required by FAR 3.104-4.	Mark individual pages in accordance with FAR 3.104-4.
-Personnel, Medical, and Similar Files containing Personally Identifiable Information (PII) (FOIA Exemption 6)	NASA	Apply the notice required by NPR 1382.1.	Mark in accordance with NPR 1382.1, paragraph 5.4.4.

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APPENDIX K. SBU NOTICE AND NOTICES OF AVAILABILITY LIMITATIONS

K.1 SBU Notice and Notices of Availability Limitations.

This Appendix provides the SBU Notice and Notices of Availability Limitations to be applied to the front cover of Program/Project documentation so that users are aware of the data sensitivity and protection requirements.

K.1.1 The notices in this Appendix may apply only to NASA-produced data, or may apply to both NASA-produced and contractor-supplied data. The applicability is noted immediately after the limitation title. Notices specified in K.1.6 and K.1.7 only apply to contractor-supplied data. These notices are included in the document for completeness and to provide information and guidance to NASA personnel who may be receiving or handling contractor data.

K.1.2 Publicly Available Documents (NASA only).

All NASA unclassified Program/Project documentation not meeting any of the criteria for distribution limitations described in NPR 2200.2, not export controlled, does not contain trade secret or confidential commercial data, and has cleared any applicable patents application process, is considered approved for public release and bear the following notice:

Approved for Public Release; Distribution is Unlimited
--

K.1.3 Sensitive But Unclassified.

In accordance with NID 1600.55 and NPR 2200.2, SBU data is unclassified data that requires restricted user access. If NASA Program/Project documentation is designated SBU and does not have marking regulations established by other statutes, regulations, or NASA Directives, all copies should bear the following notice on the cover sheet.

Sensitive But Unclassified: [<i>Insert the SBU designation from NASA Form 1686.*</i>]

<p>WARNING: This document is SENSITIVE BUT UNCLASSIFIED (SBU). It contains information that may be exempt from public release under the Freedom of Information Act (5 U.S.C, 552) or other applicable laws or restricted from disclosure based on NASA policy. It is to be controlled, stored, handled, transmitted, distributed, and disposed of in accordance with NASA policy relating to SBU information and is not to be released to the public or other personnel who do not have a valid “need-to-know” without prior approval of an authorized NASA official (see NID 1600.55).</p>
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*SBU designations from NASA Form 1686 that do not have marking regulations established by other statutes, regulations, or NASA Directives include: NASA Sensitive; Internal Personnel Rules/Practices; Investigative Records; Financial Institution Information; Geological/Geophysical Information; Interagency or Intra-Agency Memoranda or Letters; Emergency Contingency/Continuity or Operations Information; Infrastructure or Security Vulnerabilities Information; NASA Information Technology/Internal Systems Data; Systems Security Data Information; or Other (Specify).

K.1.4 ITAR Notice (NASA or Contractor).

In accordance with NPR 2200.2, if NASA Program/Project documentation is restricted by ITAR, all copies should bear the following notice from NPR 2200.2:

NOTE: This marking is inserted instead of the SBU marking in K.1.3.

International Traffic in Arms Regulations (ITAR) Notice

This document contains information which falls under the purview of the U.S. Munitions List (USML), as defined in the International Traffic in Arms Regulations (ITAR), 22 CFR 120-130, and is export controlled. It shall not be transferred to foreign nationals in the U.S. or abroad, without specific approval of a knowledgeable NASA export control official, and/or unless an export license/license exemption is obtained/available from the United States Department of State. Violations of these regulations are punishable by fine, imprisonment, or both.

K.1.5 EAR Notice (NASA or Contractor).

If NASA Program/Project documentation is controlled by EAR, all copies will bear the following notice from NPR 2200.2:

NOTE: This marking is inserted instead of the SBU marking in K.1.3.

Export Administration Regulations (EAR) Notice

This document contains information within the purview of the Export Administration Regulations (EAR), 15 CFR 730-774, and is export controlled. It may not be transferred to foreign nationals, in the U.S. or abroad, without specific approval of a knowledgeable NASA export control official, and/or unless an export license/license exception is obtained/available from the Bureau of Industry and Security, United States Department of Commerce. Violations of these regulations are punishable by fine, imprisonment, or both.

K.1.6 Copyright (Contractor only).

To the extent a NASA contractor is authorized to assert copyright in data (including technical data and computer software) delivered to the Government, the Contractor is required to affix the applicable copyright notices of 17 U.S.C. 401 or 402, and an acknowledgement of Government sponsorship (including contract number). The presence of a copyright notice on data delivered

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under the contract should be coordinated with the cognizant contracting officer. When appropriately marked with a copyright notice by a NASA contractor, such notice is required to be marked on any reproduction of the data.

K.1.7 Limited, Restricted, and Small Business Innovation Research (SBIR) Rights Notices (Contractor Only).

Generally, NASA contractors, grantees, or partners are required to deliver data (including computer software) to NASA without any restriction on further dissemination and use of the data. However, to the extent NASA contractors, grantees, or partners need to deliver data developed at private expense (i.e., trade secrets) to NASA, then such data will only be (1) delivered in strict accordance with the contract, grant, or written agreement (i.e., the contract, grant, or written agreement has to expressly allow the delivery of such data) and (2) marked in strict accordance with the contract, grant, or written agreement. Under a NASA contract, the only acceptable markings are (1) the “Limited Rights Notice” specified in FAR 52.227–14 *Alternate II* for technical data (which includes computer databases and computer software documentation), (2) the “Restricted Rights Notice” specified in FAR 52.227–14 *Alternate III* for computer software and (3) the “SBIR Rights Notice” specified in FAR 52.227–20 for data developed under an SBIR contract.

Limited Rights Notice (Dec 2007)

(a) These data are submitted with limited rights under Government Contract No. _____ (and subcontract _____, if appropriate). These data may be reproduced and used by the Government with the express limitation that they will not, without written permission of the Contractor, be used for purposes of manufacture nor disclosed outside the Government; except that the Government may disclose these data outside the Government for the following purposes, if any; provided that the Government makes such disclosure subject to prohibition against further use and disclosure: [*Agencies may list additional purposes as set forth in 27.404–2 (c)(1) or if none, so state.***]

(b) This notice shall be marked on any reproduction of these data, in whole or in part.

** These purposes are contained in the contract under which the technical data was delivered.

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Restricted Rights Notice (Dec 2007)

- (a) This computer software is submitted with restricted rights under Government Contract No. _____ (and subcontract _____, if appropriate). It may not be used, reproduced, or disclosed by the Government except as provided in paragraph (b) of this notice or as otherwise expressly stated in the contract.
- (b) This computer software may be-
 - (1) Used or copied for use in or with the computer(s) for which it was acquired, including use at any Government installation to which the computer(s) may be transferred;
 - (2) Used or copied for use with a backup computer if any computer for which it was acquired is inoperative;
 - (3) Reproduced for safekeeping (archives) or backup purposes;
 - (4) Modified, adapted, or combined with other computer software, provided that the modified, adapted, or combined portions of the derivative software incorporating any of the delivered, restricted computer software shall be subject to the same restricted rights;
 - (5) Disclosed to and reproduced for use by support service Contractors or their subcontractors in accordance with paragraphs (b)(1) through (4) of this notice; and
 - (6) Used or copied for use with a replacement computer.
- (c) Notwithstanding the foregoing, if this computer software is copyrighted computer software, it is licensed to the Government with the minimum rights set forth in paragraph (b) of this notice.
- (d) Any other rights or limitations regarding the use, duplication, or disclosure of this computer software are to be expressly stated in, or incorporated in, the contract.
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APPENDIX L. GUIDANCE FOR DOCUMENT HEADER AND FOOTER

L.1 The recommended formatting for the header and footer are shown below.

SENSITIVE BUT UNCLASSIFIED (SBU) - [Insert specific SBU type] (Appendix H.4.2) Document Type (Appendix H.3.6) OPR Organizational Code (Appendix H.3.5)		
Document title/subject Appendix H.3.3)	Unique Document Number (Appendix H.3.1)	Revision Level (Appendix H.3.2) or Baseline
	Effective Date (Appendix H.3.4.1)	Page number and the total number of pages (Appendix H.3.7)

**CHECK THE MASTER LIST—
VERIFY THAT THIS IS THE CORRECT VERSION BEFORE USE at**
<https://repository.msfc.nasa.gov/docs/multiprogram/MSFC-XXXX-XXX>
(Appendix H.3.8)

SENSITIVE BUT UNCLASSIFIED (SBU) – [Insert specific SBU type]
SBU designated made by John G. Doe/Director, NASA HQ Procurement Branch on Jan. 10, 2007 (Appendix H.4.2)

L.2 Recommend placing required SBU markings as provided in document templates at
<https://nasa.sharepoint.com/sites/MIDL/SitePages/Templates.aspx>

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APPENDIX M. DATA REQUIREMENTS LIST SAMPLE PREPARATION INSTRUCTIONS

M.1 DRL Preparation Guidance Definitions. The following control process definitions are recommended for NASA-produced or External Agreement-produced data deliverables. These definitions may be established in the Program/Project DMP, and then applied through the DRL. These definitions are consistent with the control process requirements in this document.

M.1.1 Control Processes for NASA-Produced or External Agreement Data Deliverables. The NASA Activity assigns a control process to each NASA-produced or External Agreement-produced data deliverables to indicate the level of control required. Each control process has an associated approval authority which has decision authority over the data routed through the process. If the level of control needs to increase as the data product matures, the requiring activity may assign one Control Process to a data deliverable at an early delivery milestone (e.g., OPR control) and assign a different Control Process requiring a higher level of requiring activity approval (e.g., CM control) at a later delivery milestone.

M.1.1.1 Control Categories. Category Level 1 (CM Control) and Category Level 2 (OPR Control) may be applied to NASA-produced or External Agreement-produced data deliverables (see STD/DM-DRD).

a. CM control is used to authorize configuration documentation (requirements, specifications, drawings) to ensure relationship of documentation and documentation changes to the applicable configuration items. The CM process may also be utilized for non-configuration documentation. The approval authority associated with the CM control process is a CCB (or a Project Control Board that includes CCB authority).

b. OPR Control. An OPR control process is used to authorize non-configuration documentation when the project has designated that the OPR organization may authorize data through their organization's control procedure. The OPR then submits the data to the project as scheduled in the DRL. The project reviews the submitted data for adequacy and accepts the data or provides comments back to the OPR organization.

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APPENDIX N. SAMPLE CONTRACTING OFFICER’S LETTER

(Insert Contractor’s Name, contact, and address)

Subject: Contract NNM13AA02C, Distribution of Data Deliverables

This letter provides instructions for submittal and distribution of all data deliverables and any update or revision thereto in accordance with DPD XXXX. (Insert Contractor’s Name) transmits each data deliverable electronically by submittal to [specify electronic system or email address(s)]. With each data delivery, (Insert Contractor’s Name) provides a transmittal memorandum including the information specified in the DPD XXXX Statement of General Requirements (SGR). The transmittal memorandum lists the data deliverable distribution shown in the enclosed matrix. In addition, (Insert Contractor’s Name) submits one reproducible hard copy of each transmittal memorandum and data deliverable to (insert desired delivery destination).

The data restriction (e.g., export control, limited rights.) associated with each data deliverable is marked on the data or specified in the transmittal memorandum as required in the DPD SGR.

In the event that any data deliverable is not reproducible, (Insert Contractor’s Name) provides the number of hard copies specified in the distribution matrix or enough copies for MSFC to provide one copy to each person or office designated on the distribution list.

Please contact the undersigned at (enter contracting officer’s phone number) if you have any questions or comments.

(Insert Contracting Officer’s Name)
Contracting Officer
Enclosure (1)

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Sample Contracting Officer's Letter (continued)

Enclosure

Distribution DPD XXXX

DPD NO. XXXX	TITLE	TYPE	MSFC Repository	Contracts	COTR	Data Management
CD-001	New Technology Report	3	1	1		1
CM-001	Specifications	1	1	1		1
DE-001	Fracture Control Plan	2	1	1		1
LS-001	Logistics Plan	2	1	1		1
MA-001	Project Management Plan	1	1	1	1	1
MA-002	Monthly Status Reports	3	1	1	1	1
MP-001	NDT Plan	1	1	1		1
QE-001	Quality Plan	1	1	1		1
SA-001	Safety Plan	1	1	1	1	1
SE-001	Mass Properties Report	3	1	1		1
SW-001	Software Design Spec	1	1	1		1
VR-001	Verification Plan	2	1	1		1

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APPENDIX O. REFERENCES

17 U.S.C. 401/402	Title 17, Copyrights, United States Code Chapter 4, Copyright Notice, Deposit and Registration, Section 401, Notice of Copyright: Visually Perceptible Copies and Section 402, Notice of Copyright: Phonorecords of Sound Recordings
31 U.S.C. 6301	Title 31, Money and Finance, Subtitle V, General Assistance Administration, Chapter 63, Using Procurement Contracts and Grant and Cooperative Agreements, Subchapter 6301, Purposes
OMB Circular No. A-119	Federal Participation in the Development and Use of Voluntary Consensus Standards and in Conformity Assessment Activities
NPD 7120.4	NASA Engineering and Program/Project Management Policy
NID 1600.55	Sensitive But Unclassified (SBU) Controlled Information
NPR 1382.1	NASA Privacy Procedural Requirements
NPR 1440.6	NASA Records Management
NPR 1441.1	NASA Records Management Program Requirements
NRRS 1441.1	NASA Records Retention Schedules
NPR 1450.10	NASA Correspondence Management and Communications Standards and Style
NPR 1600.2	NASA Classified National Security Information (CNSI)
NPR 2200.2	Requirements for Documentation, Approval and Dissemination of Scientific and Technical Information
NPR 2810.1	Security of Information Technology
NPR 7120.5	NASA Space Flight Program and Project Management Requirements
NPR 7120.8	NASA Research and Technology Program and Project Management Requirements
NPR 7123.1	NASA Systems Engineering Processes and Requirements
MPR 2190.1	MSFC Export Control Program
MPR 1280.4	MSFC Corrective Action System
MPR 1280.10	Marshall Quality Management System
MPR 1420.1	MSFC Forms Management Program
MPR 1440.2	MSFC Records Management Program
MPR 2800.2	MSFC Information Technology Services
MPR 5000.1	Purchasing
MPR 7120.1	MSFC Engineering and Program/Project Management Requirements
MPR 7123.1	MSFC Systems Engineering Processes and Requirements
MPR 8070.1	Administration of MSFC Technical Standards and MSFC Standard Data Requirements Descriptions
MGM 8040.1	MSFC Configuration Management Guidance
MWI 1280.4	MSFC Quality System Deficiency Notice System
MWI 2210.1	MSFC Repository Documentation Processing
IEEE/EIA 12207.1	Industry Implementation of International Standard, International Organization for Standardization and the International

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	Electrotechnical Commission (ISO/IEC) 12207:1995 Standard for Information Technology-Software Life Cycle Processes-Life Cycle Data
MIL-STD-961	Department of Defense Standard Practice, Defense and Program-Unique Specifications Format and Content
MIL-STD-962	Department of Defense Standard Practice, Defense Standards Format and Content
MIL-STD-967	Department of Defense Standard Practice, Defense Handbooks Format and Content
MSFC-HDBK-3173	Systems Engineering Handbook
MSFC-STD-555	MSFC Engineering Documentation Standard
NASA Form 1676	NASA Scientific and Technical Document Availability Authorization
NASA Form 1686	Sensitive But Unclassified (SBU)
NASA Form 1733	Information and Technology Classification and/or Sensitivity Level Determination Checklist
MSFC Form 4140	Specification/Document Change Instruction
DRDs	MSFC Integrated Document Library, MSFC Data Requirements Management System
STD/DM-DMP	Standard/Data Management-Data Management Plan
STD/DM-DRD	Standard/Data Management-Data Requirements Description
STD/DM-DPD	Standard/Data Management-Data Procurement Document
STD/DM-DRL	Standard/Data Management-Data Requirements List
STD/SE-ICD	Standard/Systems Engineering-Interface Control Documents
STD/SE-IRD	Standard/Systems Engineering-Interface Requirements Documents
FAR 2.101	Federal Acquisition Regulation Site – Definitions of words and terms
FAR 3.104-4	Federal Acquisition Regulation Site – Disclosure, protection, and marking of contractor bid or proposal information and source selection information
FAR 27.409(h)	Federal Acquisition Regulation Site – Solicitation provisions and contract clauses
FAR 52.227-14	Federal Acquisition Regulation Site – Rights in Data - General
FAR 52.227-20	Federal Acquisition Regulation Site – Rights in Data –Small Business Innovation Research Program
NFS 1852.237-73	NASA Federal Acquisition Regulation Supplement, Code of Federal Regulations, Title 48, Federal Acquisition Regulations System, Chapter 18, NASA, Part 1852, Solicitation Provisions and Contract Clauses, Clause 1852.237-73, Release of Sensitive Information
QD-QE-017	Program/Project Quality Plan Development