

REVISION C



Prepare and Manage NASA SMA Requirements Documentation

A handwritten signature in black ink that reads "Bryan O'Connor".

Bryan O'Connor
Associate Administrator for
Safety and Mission Assurance

October 31, 2003

Date

DOCUMENT HISTORY LOG

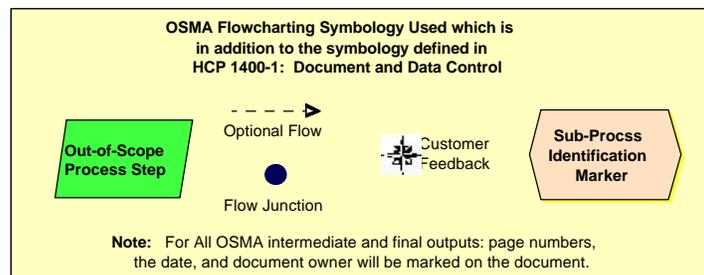
Status (Draft/ Baseline/ Revision/ Canceled)	Document Revision	Effective Date	Description
Baseline		January 13, 2000	
Revision	A	April 14, 2000	Modified Section 5 Flowchart outputs from steps 6.05, 6.07, & 6.10 and modified steps 6.12, and 6.16; Editorial corrections to steps 6.03, 6.04, 6.06, 6.07, 6.09, 6.10, and 6.12 – 6.17; Added second Quality Record to Section 7
	B	February 2, 2002	Added customer list, customer feedback to sections 5, 6.09, 6.12, and 6.14. Editorial corrections to sections 1, 3.10, and 4.3. Updated procedures for adoption of standards in sections 6.01, 6.02, 6.06, 6.08, 6.09, 6.13, 6.14, and 6.17. Removed HATS action item tracking from sections 6.05, 6.13, and 7. Changed retention of Discipline Review Draft and OSMA Approved Document in section 7. Due to the cancellation of HOWI 1410-Q003, the following changes were made: Section 3.13, flowchart step 6.05, steps 6.05, 6.08, 6.13, and 6.17.
	C	October 31, 2003	Added definitions. Modified process steps 6.03 through 6.07, 6.09, 6.10, 6.13, 6.16, and Appendix A to reflect changes in OSMA organization and new NODIS and NASA Standards processing.

HOWI Author: QS/Wil Harkins

OSMA Staff Member Responsible for this HOWI: QS/Michael Stamatelatos, Ph.D.

Customers for this HOWI: Internal: HQ Codes and NASA Engineering Standards Steering Committee

External: none



1. Purpose

The purpose of this Office of Safety and Mission Assurance (OSMA) Headquarters Office Work Instruction (HOWI) is to document the process for the initiation and development of NASA Safety and Mission Assurance (SMA) policy and requirements documents and adoption of SMA-sponsored standards. Documentation includes, but is not limited to: SMA functional leadership and strategic plans, NASA Policy Directives (NPD), NASA Procedures and Guidelines (NPG), NASA Standards (NASA-STD), voluntary consensus standards, other government standards, and other documents for which the OSMA is designated as the Office of Prime Responsibility (generally related to the safety, reliability, maintainability, or quality assurance functional areas of interest). This HOWI also specifies the Quality Records associated with the process.

2. Scope and Applicability

This OSMA HOWI is applicable to the propagation of all policy and requirements documents by the OSMA organization except for OSMA HOWIs which are covered by HOWI 1410-Q001. Note: This process interfaces with a more global process owned by the Office of Management Systems (Code J) as defined in NPD 1400.1.

3. Definitions

- 3.1. AA/SMA: Associate Administrator for Safety and Mission Assurance
- 3.2. Code QE: Enterprise Safety and Mission Assurance Division
- 3.3. Code QS: Safety and Assurance Requirements Division
- 3.4. Code QV: Review and Assessment Division
- 3.5. DD: Division Director
- 3.6. DL: Document Lead
- 3.7. DTM: Document Tree Manager
- 3.8. DM: Directives Manager
- 3.9. HATS: Headquarters Action Tracking System
- 3.10. NASA Policy Directive (NPD): NPD's are policy statements that describe the "what" that is required by NASA management for achieving NASA's vision and mission. (refer to NPG 1400.1)
- 3.11. NASA Procedures and Guidelines (NPG): NPG's provide the detailed instructions and guidelines for implementing the NASA policy; they are the "how to" instructions. (refer to NPG 1400.1)

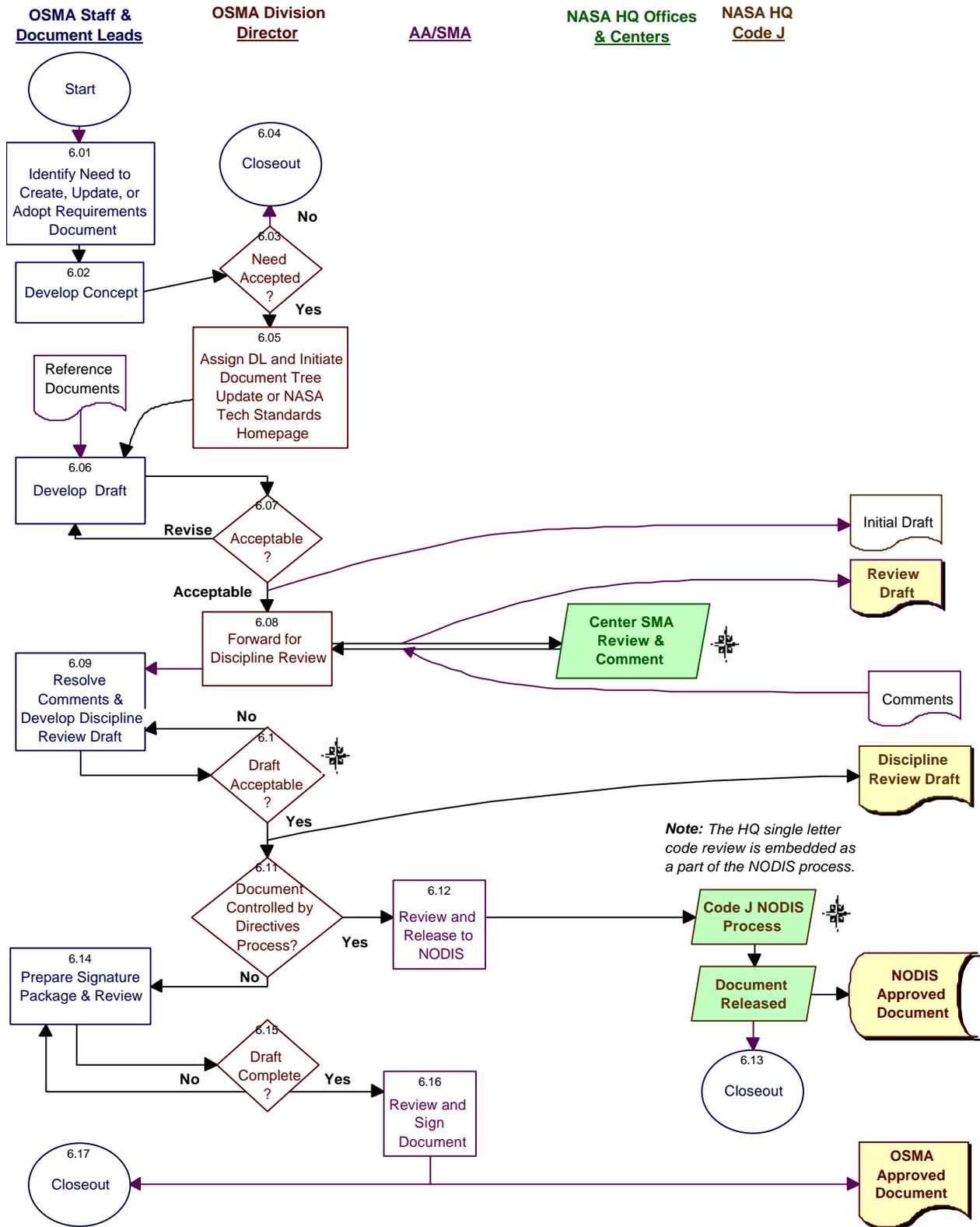
- 3.12. NASA Standard (NASA-STD): A NASA Standard is either: (1) Common and repeated use of NASA rules, conditions, guidelines, or characteristics for products or related processes and production methods, and related management systems practices. (2) The definition of NASA terms, classification of components; 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. (refer to NPD 8070.6 and the “*Guidelines for Preparing NASA Technical Standards (Handbooks, etc) as tailored from MIL-STD-962C*”).
- 3.13. NODIS: NASA On-Line Directives Information System
- 3.14. PM: Program Manager
- 3.15. OSMA Management Council: OSMA’s management steering group comprised of the DAA, DD/Code QE, DD/Code QS, DD/Code QV, and the Resources Manager.
- 3.16. SMA Documentation Tree: A graphical representation of how the OSMA has assembled and interrelated its documents using a visual graphical interface. The tree may be used to both understand the document set for which OSMA is responsible and can be used for a hyperlink to meta-data about the document, the document status, the document itself, and training that may also be available. The document tree is maintained by the OSMA Document Tree Manager with the OSMA Webmaster and is located at <http://www.hq.nasa.gov/office/codeq/doctree/doctree.htm>
- 3.17. SMA Functional Leadership Plan: The SMA requirements document that sets the overall direction, goals, objectives, and strategies for SMA within NASA.

4. Reference Documents

The documents listed in this section are used as reference materials for performing the processes covered by the Quality Management System (QMS). Since all NASA Headquarters Level 1 (QMS Manual) and Level 2 (Headquarters Common Processes) documents are applicable to the QMS, they need not be listed in this section unless specifically referenced in this OSMA HOWI.

- 4.1. [NPG 1400.1: NASA Directives System Procedures and Guidelines](#)
- 4.2. [NPD 8070.6: Technical Standards](#)
- 4.3. [Guidelines for NASA Preparing Technical Standards \(Handbooks, etc\) Tailored from MIL-STD-962C, dated 31 July 2001](#) (<http://standards.nasa.gov/procsguidlms.pdf>)
- 4.4. [HOWI1410-J007: Agency Directives Management Process](#)

5. Flowchart



6. Procedure

6.01 OSMA Staff Member Identify Need to Create, Update, or Adopt Requirements Document:

The need to develop a new or update a current SMA policy or requirements document or adopt a standard may be identified through a number of means. Means of identifying a need include, but are not limited to: the identification of a gap in the requirements tree for OSMA, direction from the senior management, changes in regulations or laws of an external authority, the identified need by customers needing guidance, a deficiency identified by evaluation of request for variance (refer to HOWI 8700-Q004), functional reviews, or process verifications.

6.02 OSMA Staff Member Develop Concept:

The OSMA staff member identifies and details the documentation deficiency, establishes a plan for requirements document development or standard adoption, and briefs the associated Division Director and/or other management.

6.03 DD Need Accepted and Obtain OSMA Management Council Concurrence?

The OSMA Division Director (DD) (Code QE, Code QS, or Code QV) with responsibility for the document area (NOTE: see OSMA website for OSMA Divisional Responsibilities) reviews the concept developed in the previous step for the change and decides whether the proposal is a necessary item for work, based on professional expertise with NPD 8700.1 requirements and responsibilities. If the proposed change is not needed, the project ceases.

In order to assure continuity within OSMA requirements documents, and to avoid duplicate or counterproductive effort, the DD informs the OSMA Management Council of the need for the proposed change and obtains OSMA Management Council agreement that the change is needed.

6.04 DD Closeout:

If the proposed change is not needed, the process is terminated.

6.05 DD, DTM Assign DL and Initiate Document Tree Update:

If the OSMA Management Council concurs with the need for a change, the DD assigns a staff member to be responsible for the requirements document development as the Document Lead (DL) of the change. This may or may not be the same staff member that identified the deficiency.

The DL notifies the Documentation Tree Manager (DTM) of the change.

The DTM ensures that the new/revised document is added to the SMA Documentation Tree. An interim document number is assigned by the DTM or, if the proposal is to adopt a standard, that appropriate data is added to the NASA Technical Standards Program candidates for adoption.

6.06 DL Develop Draft:

The development of a draft document or proposal for adoption of a standard begins in accordance with references in Section 4. When the DL has completed the draft, the draft is reviewed for readiness and completeness with the cognizant DD. The DD and the DL determine who should review the draft during the discipline review. At a minimum, each Center SMA Director and all OSMA DD's shall be included in the discipline review. Other reviewers may be added internal and external to NASA based on the subject and interfaces affected. For new NPD's, new NPG's, or significant revisions to an existing NPD/NPG, the Headquarters Offices and Centers that are impacted should be included in the discipline review (the DL should work with the Directives Manager (DM) to determine the appropriate reviewers and processes).

6.07 DD Acceptable?

The DD decides whether the document is mature enough to send out for discipline review or return for additional work, based on the DD's professional expertise and knowledge of SMA policies.

NOTE: Consolidating various documents into a single discipline review request may help the process.

NOTE: Nominally, the discipline review participants are given one month to provide OSMA with comments.

6.08 DD/Code QS Forward for Discipline Review:

The DL provides the DD-approved draft document or proposed standard for adoption in an electronic format to the DD/Code QS and the DTM to initiate the discipline review. The DD/Code QS provides the document in an electronic format to the designated reviewers and specifies a due date and a point of contact for the receipt of comments. (The DD/Code QS copies the DM on the review request.) Additionally, the SMA Document Tree is updated to reflect the current status of the DRAFT by the OSMA DTM and the OSMA Webmaster. (Note: The SMA Document Tree does not include adopted standards.)

The designated NASA HQ Offices and Centers staff the initial draft document through their respective organization(s) and provide comments back to the DL. (Internal Customer Feedback).

6.09 DL Resolve Comments and Develop the Discipline Review Draft:

The DL develops a response for each comment received.

The DL prepares a disposition matrix that includes all of the comments received on the document and their disposition. Nominally, the DL should complete the comment disposition no later than one month from the end of the review.

The revised draft or adoption proposal, along with the disposition matrix, is reviewed with the DD for a decision to proceed with further processing.

6.10 DD Draft Acceptable?

The DD decides whether to send for further processing (and file as a Quality Record) or return for additional work. The review is based on the professional expertise and knowledge of the DD and compliance with NPD 8700.1. (Internal Customer Feedback).

6.11 DD Document is Controlled by the Directives Process?

The DD reviews the draft to determine if the document is defined as a directive (reference 4.1) and requires additional processing through the NASA On-line Directives Information System (NODIS) process or if it can be processed directly for signature.

6.12 DL/DM Review and Release Document to NODIS:

The DL and the DM prepare the concurrence package for release to NODIS. The concurrence package contains the draft, the disposition matrix, and the completed NHQ Form 184. The package is routed to all Code Q DD's, the DAA, and the AA/SMA for concurrence. Once all concurrences have been received, the DD/Code QS provides the comment dispositions and revised document to the reviewers for feedback, and the document is released into the NODIS process in accordance with NODIS operating procedures and NPG 1400.1. (ref: HOWI 1410-J007: Agency Directives Management Process)

HQ Office of Management Systems (Code J) coordinates formal staffing of the document in accordance with NODIS procedures and recordkeeping requirements. HQ Code J releases and posts the signed directive to NODIS with a final document number after approval. (Internal Customer Feedback).

6.13 DD Closeout:

The SMA Documentation Tree is updated to reflect the signed document.

6.14 DL Prepare Signature Package:

The DL prepares the document package for AA/SMA signature. The signature package includes the original document, matrix of review comments and disposition, supporting documentation, and the draft change or standard adoption notice. A final document number is assigned by the DTM based on reference 4.1 guidance.

NOTE: If the review comments from the discipline review can not be resolved in a manner that is acceptable to the DD, DL, and Reviewer, then the issue in question shall be sent to the SMA Directors for advice/consent in resolving the issue.

6.15 DD Draft Complete?

The DD reviews the staffing package for readiness and completeness and decides whether to send for signature or return for rework so that all issues may be resolved. If the draft is complete, the DD forwards the package for AA/SMA signature. The DD provides a copy to the DD/Code QS and the DTM of the discipline review draft with comment review material or a copy of the adoption proposal. The DD/Code QS forwards the comment dispositions and revised document to the reviewers for feedback. The DTM files the material as a Quality Record.

6.16 AA/SMA Review and Sign Document:
 The AA/SMA reviews the draft and signs the document.

6.17 PM Closeout:
 The DL provides a copy of the signed document to the DTM. The DTM posts the signed document to the SMA Document Tree (and document meta-data updated). In the case of adopted standards, the DTM forwards the signed adoption notice to the NASA Technical Standards Program Office.
 In the case of a NASA-STD the DTM informs the curator of the NASA Standards homepage of the release of the new or updated document. The Approved Document with its signature is filed as a Quality record.

7. Quality Records

Record ID	Owner	Location	Media Electronic /hardcopy	Schedule Number & Item Number	Retention & Disposition
Review Draft	DL	DL Files	Hardcopy	Schedule: 1 Item: 72.D	Keep until new document is approved and all review issues are resolved then destroy
Discipline Review Draft	DL	DL Files	Hardcopy	Schedule: 1 Item: 72.C	Keep until new document is approved and all review issues are resolved then destroy
NODIS Approved Document **Not an OSMA Quality Record**	Code JM	NODIS	Electronic	Per NPG 1400.1	Per NPG 1400.1
OSMA Approved Document (** Document is not in NODIS **)	OSMA DTM	Code QS	Hardcopy	Schedule: 8 Item 12.A	* Permanent * Retire to FRC when no longer needed for reference. Transfer to NARA when 15 years old

Appendix A: Supplemental Optional Information on Documentation Retention:

- For NASA Directives: Copy of the initial staffing package and disposition matrix in both electronic and hard copy. Copy of the signature-ready master document provided to Code J for release in electronic copy (hardcopy may also be retained.)
- For SMA Functional Leadership or Strategic Plan: A Master hard copy of the Plan with original signature, electronic copy of the master document and hard copy and/or electronic copy of the disposition matrix.
- For NASA-STDs: Master NASA-STD – hard copy with original signature, electronic copy of the master document and hard copy and/or electronic copy of disposition matrix.
- For adopted standards – a hard copy of the adoption notice with the original signature and electronic copy of the disposition matrix.