

Revision G



Development and Utilization of Annual Operating Agreements (AOA)


For Bryan O'Connor
Chief, Safety and Mission Assurance

6 JULY 2011
Date

DOCUMENT HISTORY LOG

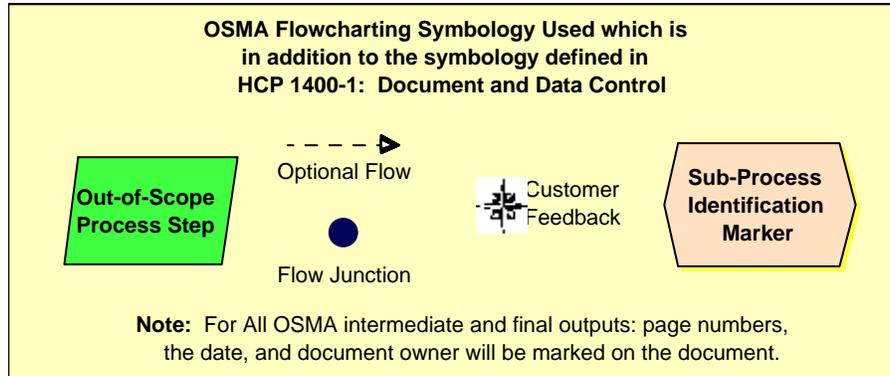
Status (Draft/ Baseline/ Revision/ Canceled)	Document Revision	Effective Date	Description
Baseline		January 13, 2000	
Revision	A	April 14, 2000	Editorial corrections to Section 5 flowchart formatting and steps 6.03, and 6.04; Modified step 6.05, and 6.07 retention to 2 nd Quality Record (new #) in Section 7; Added new 1 st Quality Record.
	B	February 1, 2002	Added customer list, customer feedback to sections 5 and steps 6.03, 6.04, and 6.07. Editorial corrections to step 6.02. Technical correction to steps 6.04 and 6.05
	C	March 31, 2004	Editorial and organizational changes to all sections.
	D	November 9, 2007	Editorial and organizational changes to all sections
	E	January 26, 2009	Editorial and organizational changes to all sections and expanded on the guidance provided to developers and reviewers.
	F	March 5, 2010	Editorial changes to all sections (including Section 5 flowchart) and expanded guidance provided to developers and reviewers
	G	July 6, 2011	Editorial changes to all sections (including Section 5, flowchart and Section 7, Quality Record).

HOWI Author: MSD/AOA Manager/Merrylee Weber

OSMA Staff Member Responsible for this HOWI: MSD Director, Tom Whitmeyer

Customers for this HOWI: Internal: Chief/OSMA

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 providing guidance to and management of the development of the Annual Operating Agreements (AOA) by NASA Centers and ensuring approval of the AOAs by NASA management. This OSMA HOWI also specifies the Quality Records associated with the process.

2 Scope and Applicability

This HOWI is applicable to the Chief, Safety and Mission Assurance (Chief SMA), the OSMA Mission Support Division (MSD), the OSMA Safety and Assurance Requirements Division (SARD), the OSMA Center Point of Contact (POC), and the OSMA AOA Manager.

3 Definitions

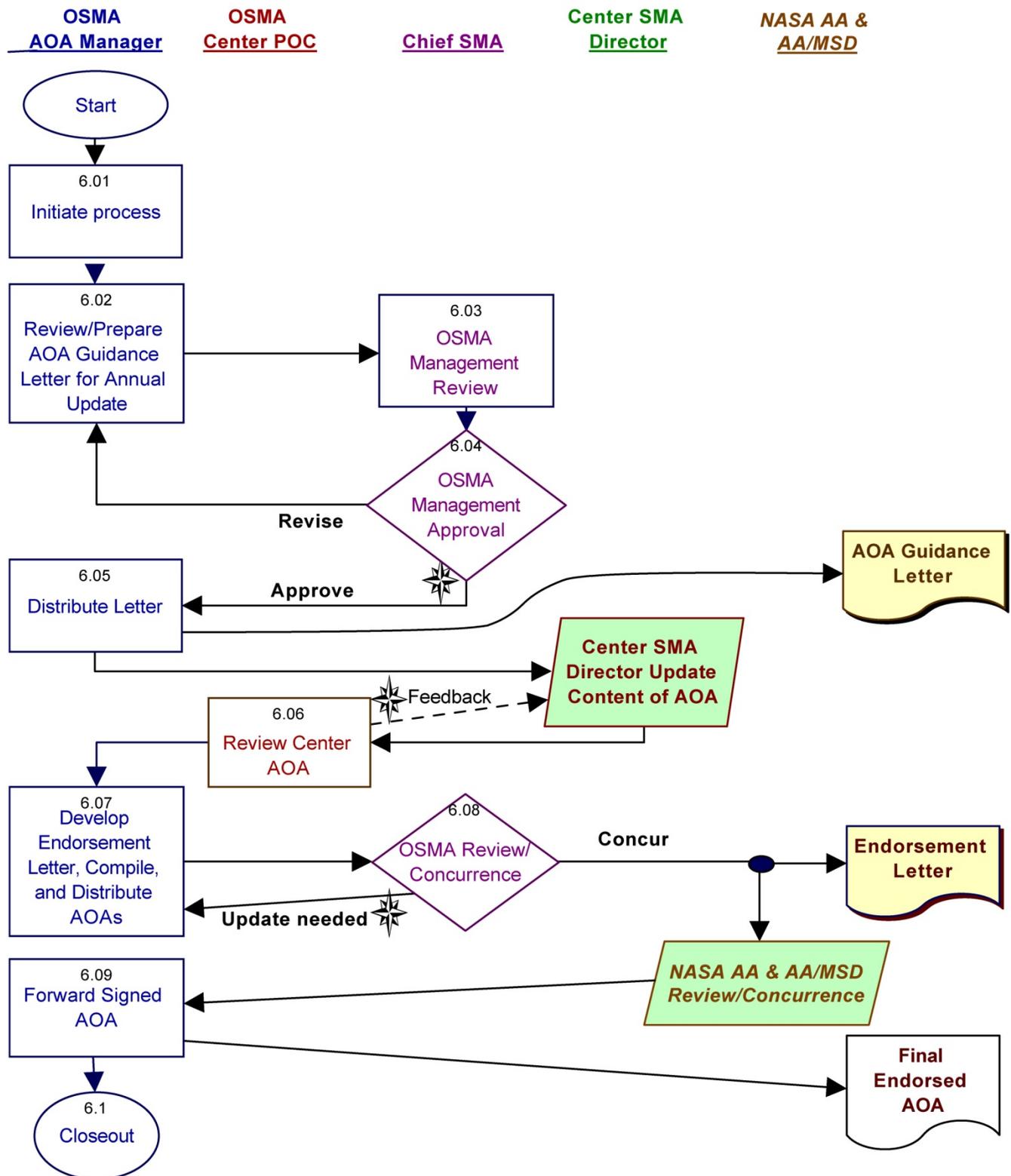
- 3.1 AA: Associate Administrator
- 3.2 Annual Operating Agreement (AOA): A NASA Center SMA management plan which defines customer requirements, SMA processes, resources required to meet SMA customer requirements, and the metrics defining effectiveness and efficacy of SMA processes.
- 3.3 Chief SMA: Chief, Safety and Mission Assurance
- 3.4 MSD: Mission Support Division or Mission Support Directorate (Mission Support Directorate spelled out throughout the document, except on the flow chart)
- 3.5 OSMA: Office of Safety and Mission Assurance
- 3.6 POC: Point of Contact
- 3.7 NSC: NASA Safety Center (Office of Audits and Assessments)
- 3.8 SMA: Safety and Mission Assurance

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 NPD 8700.1: *NASA Policy for Safety and Mission Success*

5 Flowchart



6 Procedure

6.1 AOA Manager Initiate Process

Annually, the process will normally commence in May for all AOAs. The process can also be initiated at any time at the request of the Chief SMA, if it is felt that a Center AOA update is needed. Appendix A provides the AOA performance specification for this process.

6.2 AOA Manager Review and Prepare AOA Guidance Letter for Annual Update

The previous year's AOA guidance letter is reviewed and updated to reflect current NASA SMA strategies per updates to NASA policies and strategic planning. The letter is prepared for Chief SMA's signature. The target is for the annual AOA guidance letter to reach the Center Directors on or before July 1.

6.3 MSD Director OSMA Management Review

The MSD Director reviews and concurs with the guidance letter before it is signed by the Chief SMA.

6.4 Chief SMA OSMA Management Approval

The Chief SMA reviews and signs the letter.

6.5 AOA Manager Distribute Letter:

The signed AOA Guidance Letter is distributed to the Center Directors with copies to the NASA Associate Administrator and Center SMA Directors. The letter is filed as a Quality Record as Chief SMA Correspondence per HOWI 1450-GB27.

The Center Directors, Center SMA Directors will update the Center AOA to conform to the AOA guidance letter, Center and Agency policies, and strategic plans.

The updated Center AOA, with appropriate signatures, is submitted to the AOA Manager, who provides a copy to the Center POC who distributes to the appropriate organizations for review.

6.6 OSMA Center POC Review Center AOA

The OSMA Center POC serves as the primary interface with the Center's SMA management for the development of the AOA. The POC considers the information and metrics contained within the AOA when providing input to the Chief SMA for the Center SMA Director's annual performance evaluation.

6.7 AOA Manager Compile and Distribute AOAs

The Center POC or the AOA Manager distributes copies of the AOA to OSMA SARD and the appropriate organizations affected by the AOA (e.g., facilities, environmental, medical) for review. The Center POC considers comments and compiles the individual AOAs. The Center POC then prepares a signature package for OSMA management review and concurrence of the AOA. The signature package contains the Center AOA, the AOA endorsement letter and any additional supporting materials needed.

The Center POC develops an endorsement letter (if clarification or comments are required) which is reviewed by the AOA Manager and signed by the MSD Director. The AOA, along with the endorsement, is then forwarded to the Chief SMA for review and approval.

6.8 Chief SMA OSMA Review/Concurrence:

The AOAs are reviewed by the MSD Director, Deputy Chief SMA and the Chief SMA. The Deputy Chief concurs on the AOA and forwards it to the Chief SMA, who then concurs on the Center AOA by signing it.

After concurrence by the Chief SMA, the AOA package is forwarded to the AA, Mission Support Directorate and finally, the NASA Associate Administrator for review/concurrence. Afterwards, the AOA is returned to the OSMA AOA Manager for distribution and filing.

6.9 AOA Manager Forward Signed AOAs:

The AOA Manager distributes the Final Endorsed AOA to the OSMA Center POC who provides a copy to the Centers.

(Note: Center SMA Offices maintain copies of Final Endorsed AOAs.)

6.10 AOA Manager Closeout

When all work is done and the Quality Records have been filed, then the process is closed out. However, the current AOA provides useful information and must be easily accessible to the Chief SMA, audit managers, and SMA organizational personnel requiring Center information.

Although the current fiscal year's AOA process is closed out, the document is a living document. If, after the closeout period, significant SMA processes, organizational changes, or changes to the Center SMA mission occur, an amendment to the initial AOA may be submitted.

7. Quality Records

Record ID	Owner	Location	Media Electronic /hardcopy	Schedule Number & Item Number	Retention & Disposition
AOA Guidance Letter	OSMA Corres Control	OSMA Chron File	Hardcopy	Schedule: 1 Item: 22	Retire to FRC after becoming 5 years old, then retire to NARA when 10 years old
Endorsement Letter (if required)	OSMA Corres Control	OSMA Chron File	Hardcopy	Schedule: 1 Item: 22	Retire to FRC after becoming 5 years old, then retire to NARA when 10 years old

APPENDIX A: Performance Specification for AOA Process

The OSMA AOA process should:

- Ensure that AOA content supports important Agency-wide SMA initiatives; e.g., SMA management, safety, reliability, maintainability, risk management, quality, and software assurance.
- Ensure availability and accessibility of Center AOA documents, from either a filing cabinet and/or beginning FY 2009, electronic medium (for up to 6 years). Facilitate the identification of resource shortfalls by Center SMA organizations, and document mitigation plans to address these shortfalls.
- Include metrics-not just descriptive information, but actual display of metrics data in graphical format, including annually reporting on status of previous year's performance against the declared metrics.
- Support Center SMA organizational business processes.
- Provide feedback to the Centers resulting from the review process; i.e., copies of signed AOAs and endorsement letters and any feedback or concerns through verbal communication and the endorsement process.

APPENDIX B: Safety and Mission Assurance Annual Operating Agreement (AOA) Guidance Development

The following provides the general guidelines for the AOA Program Manager to use in the development of the AOA guidance letter, which is signed by the Chief, SMA and provided annually to each Center as part of the OSMA call for AOAs.

OVERVIEW

This AOA guidance provides the minimum requirements and guidelines for the development of AOAs at each Center and respective Component Facilities. AOAs are Center SMA management plans, focused on customers for SMA products and services. AOAs establish the planning and execution processes to assure available SMA resources are properly allocated for mission success. They are directly linked to the NASA Strategic Management Process, as described in NPD 1001.0, NASA Governance and Strategic Management Handbook, and NPD 8700.1, NASA Policy for Safety and Mission Success. Specific to each Center, the AOA process does three things: (1) assures *planning* for SMA functions to meet the institutional, program, and project requirements; (2) establishes a basis for *negotiation* at the Center level on resource allocations necessary to meet institutional, program, and project requirements; and (3) uses metrics for *management* to evaluate the efficacy and efficiency of SMA processes. The three basic questions that must be answered in an AOA are: "What are the customer's requirements?" "How effectively were my customer's requirements met?" and "How efficiently were the Center's SMA resources used to meet these requirements?"

An AOA should include both Agency SMA requirements and Center-unique SMA customer requirements. The AOA should also include definitions of these requirements, descriptions of SMA processes and activities to meet these requirements, resource allocations to meet these requirements, and realistic metrics for determining the value and efficiency of the SMA processes and activities.

The AOA should also include activity or process descriptions for SMA functional areas that are managed by the Center SMA organization, as well as for those areas of OSMA functional cognizance which are not managed by the Center SMA organization (i.e., environmental, fire protection, aviation safety, etc.) as described in NPD 8700.1. For the SMA functional areas not under the cognizance of the Chief, SMA, goals and metrics are not required, but rather a description of the SMA interface and resources committed to maintain cognizance should be addressed.

Appendices I through V provide additional guidance for AOA content. These appendices include:

- Appendix I - Guidelines to aid development of an AOA;
- Appendix II - List of Centers and Component Facilities to be included in AOA;
- Appendix III - List of SMA processes;
- Appendix IV - Coordination of Risk-Informed Decision Making (RIDM) and Continuous Risk Management (CRM) within the NASA Hierarchy Model

A. Responsibility

The following responsibilities apply to the AOA:

1. Agency Chief, SMA - Concur on the Centers' SMA AOA
2. Associate Administrator, Mission Support Directorate - Concur on the Centers' SMA AOA
3. Associate Administrator - Approve AOAs (AOAs will be forwarded after concurrence by OSMA and the Mission Support Directorate for Agency Associate Administrator approval)
4. Center Directors - Develop and approve the Center's SMA AOA
5. Center SMA Functional Manager - Formulate the Center SMA AOA, provide the SMA products and services described in the AOA, and manage the delivery of SMA products and services in accordance with the AOA.

The Center's SMA organization will also obtain input and concurrence on the AOA from other Center organizations that have management responsibility of SMA functional areas, as described in NPD 8700.1 (i.e, pressure vessels and systems if under an engineering directorate). This includes a Center's Component Facilities.

B. Contents of the AOA

Required components of the AOA include:

1. **Signature Page** - Include signatures and signature blocks for Center SMA Director, Center Director, Center Management of areas of SMA functional cognizance (if required), NASA Associate Administrator, Associate Administrator, Mission Support Directorate, and Chief, Safety and Mission Assurance (concurrence). Identify signatories by title and name.
2. **Table of Contents** – See example in Section G.
3. **Executive Summary** - Should succinctly address salient management concerns and focus on planned year's activities/goals/challenges.
4. **Introduction** - Briefly describe the AOA purpose, as described in the current AOA guidance letter. Also, include in this section the SMA organizational chart.
5. **Center SMA Mission** - Provide a brief description of your Center's SMA role and mission. Identify any SMA functional responsibilities included in NPD 8700.1, which are not under the management responsibility of the Center SMA Director.
6. **Macro-metrics** - Include macro-metrics to measure the SMA organization's performance in meeting top level SMA goals. Macro-metrics are selected metrics that most clearly indicate how well the organization is meeting its goals. They are designed to measure significant organizational goals and to show trends useful to senior management for process improvement.
7. **Customer Feedback** - Include information on customer feedback related to the organization's performance in meeting its metrics (awards, letters, survey results, etc.)

8. **Planning Assumptions** - Provide the planning and resource assumptions used to develop the AOA. These assumptions can include, but are not limited to, projected funding increases or decreases, funding reserves, staffing increase or decrease, new program/project starts, program/project completion, anticipated changes to ongoing programs, response to Headquarters-directed initiatives, etc.
9. **Resource Threats and Associated Risks** - The internal process of AOA development and update should help determine resource shortfalls (human, financial, capital equipment, etc.). Where these shortfalls/issues have not been resolved, they should be identified and described in the AOA with a plan for resolving the shortfall or managing the resultant risk within the Center/Project. Details should be submitted as reported on the Statement of Assurance, required by NPD 1200.1, NASA Internal Control.
10. **Linkages** - Describe the linkages between the AOA and strategic planning documents used by other organizations in NASA with which the Center SMA organization must interface to perform its mission. A URL may be included in lieu of a description if Headquarters is able to access the link.
11. **Critical Deliverables** - The Centers may include a list of the key deliverables associated with the goals and metrics for the year. This information could be useful for the Chief, SMA in developing performance evaluation input. However, this is not required information.

C. **Processes/Activities for Special Attention**

AOAs should identify processes and activities that support OSMA areas of special attention. These include:

1. **Risk Management** - The AOA should include risk management consulting as a service provided by the SMA organizations to programs/projects and Center mission support offices. This service includes assistance to program/project managers in satisfying the risk management requirements of the NPR 8000.4, "Agency Risk Management Procedural Requirements" and NPR 7120.5, "NASA Space Flight Program and Project Management Requirements." SMA organizations should be prepared to provide technical assistance to programs/projects and Center Directors in the following areas:

- Preparation of risk management plans,
- Implementation of the risk management activities throughout the life cycle of programs and projects, including acquisition,
- Management of institutional and cross-cutting risks, and
- Coordination of risk management activities across Center's organizational units.

NPR 8000.4 defines risk management in terms of two complementary processes: Risk-informed Decision-making (RIDM) and Continuous Risk Management (CRM). The RIDM process fosters proactive risk management to better inform decision-making through better use of risk information, and the CRM process focuses on the baseline performance requirements emerging from the RIDM process. Appendix IV provides a process illustration of the coordination of RIDM CRM within the NASA hierarchy.

2. **Mishap Reduction** - The AOA should identify the processes that are in place or will be initiated to reduce or eliminate mishap experiences. As a minimum, these will include the elements of 29 CFR 1960 that are asterisked in the latest Occupational Health and Safety Administration (OSHA) Checklist for Occupational Safety distributed to Center safety organizations. The source document for this is the OSHA Baseline Questionnaire. Line managers responsible for the prevention of employee injuries and property damage due to mishaps should be identified. For mishap reduction processes, the AOA should demonstrate that a monitoring system, such as the Incident Reporting Information System, and an appropriate campaign is used to report, track, measure, and reduce close call incidents encountered at the Center. Mishap investigation processes should demonstrate identification of root cause and contributing factors to prevent reoccurrence of the mishap.
3. **Training** - The AOA should identify the processes for developing, institutionalizing, utilizing, and continually improving the comprehensive and properly documented training and career development programs for NASA SMA professionals. These processes should include tracking metrics for student participation and course selection and utilization.
4. **Software Assurance** - The AOA should describe software assurance activities. In particular, the AOA should identify the processes for implementation of a software assurance program that reduces the technical and programmatic risk associated with the delivery of software meeting NASA's technical, schedule, and budgetary needs.
5. **ISO 9001/AS9100** - Where appropriate, the AOA should identify the SMA processes that are either ISO 9001 or AS9100 certified or planned to be certified in accordance with NPD 8730.5, NASA Quality Assurance Program Policy.
6. **NSC Independent Audits and Reviews** - The AOA should include a high level status of corrective action closures for NSC independent compliance verification audits, (e.g., Institutional/Facility/Operational Safety Audits, Requirements flow-down and SMA Engineering Design Audits and Assessments, or Quality Audits, Assessments, and Reviews conducted at the Centers.

D. **Schedule**

- July: The AOA guidance and call letter is signed by the Chief, Safety and Mission Assurance, and then distributed to the Centers.
- Mid-November: Centers forward approved and signed AOAs for the next Fiscal Year to NASA Headquarters OSMA for OSMA concurrence and forwarding to Associate Administrator.

E. **Approvals**

AOAs are considered to be a negotiated agreement among Center SMA customers, other Center organizations responsible for performing the safety implementation and assurance functions, the SMA organization, and the Center Director. They are approved and signed by the Center SMA Director, other Center management (areas of SMA functional cognizance), the Center Director and are concurred on by the Chief, SMA. Customer or other Center organizations' signatures are also encouraged if appropriate.

Approval of the AOA by the Center Director

Approval of AOAs by the Center Director assures that the requested level of SMA support to the Center and Mission Directorate programs and projects is provided in terms of resources (funding and staffing) and ensures that the appropriate SMA (safety, reliability, maintainability, quality assurance, and software assurance, etc.) activities are provided to the Center and Mission Directorates for the management of risk.

AOA concurrence by the Chief, Safety and Mission Assurance

Concurrence on AOAs by the Chief, SMA demonstrates that OSMA has reviewed the AOA, agrees that appropriate processes and levels of SMA support to the Centers, programs and projects are provided, and concurs that accepted risks are appropriate to maximize mission success.

AOA concurrence by the Associate Administrator, Mission Support Directorate

Concurrence of an AOA by the Associate Administrator MSD demonstrates Agency review, evaluation, and modification (if necessary) of the AOA, commits appropriate levels of SMA support in terms of resources (funding and staffing) and agrees that the accepted risks are appropriate to maximize mission success.

AOA concurrence by the Associate Administrator

Concurrence of an AOA by the Associate Administrator demonstrates Agency review, evaluation, and modification (if necessary) of the AOA and agrees that the accepted risks are appropriate to maximize mission success.

F. Transmittal of AOAs

A signed, original AOA should be provided to OSMA, addressed to Chief, SMA plus an electronic copy in PDF format to the AOA Manager.

Both the MSD and the SARD have the responsibility for review of AOAs. MSD is responsible for forwarding the AOAs for OSMA and for Agency management concurrence. A final signed copy of the AOA will be returned to the respective Center SMA organization, along with a copy of the endorsement letter.

G. Table of Contents Example

1. Executive Summary
2. Introduction
 - 2.1. Purpose
 - 2.2. Center SMA Organizational Chart
3. SMA Mission-Function-Process Descriptions
 - 3.1. Center SMA Vision (optional)
 - 3.2. Center SMA Charter (optional)
 - 3.3. Strategic Linkages (Centers may include information or URL if accessible by Headquarters)
 - 3.4. Center SMA Functional Disciplines, Goals, and Performance
 - 3.4.1. Functional Group "A" (example)
 - 3.4.1.1. FY11 Goals and Performance
 - 3.4.1.2. FY12 Goals and Metrics

- 3.4.2. Functional Group “B”
 - 3.4.2.1. FY11 Goals and Performance
 - 3.4.2.2. FY12 Goals and Metrics
 - 3.4.3. Other Functional Groups (if applicable)
 - 4. Center Safety and Institutional Metrics
 - 5. Customer Feedback Process and Summary Results
 - 6. Planning Assumptions (NASA Requirements, SMA Workforce, budget, etc.)
 - 7. Current Year and Out-year Resource Plan
 - 8. Resource Threats and Associated Risks
- Headquarters preference is to submit information as reported in the Statement of Assurance

AOA APPENDIX I: AOA Guidelines

The following are questions and suggestions that should be considered when developing the AOA content. Current Headquarters and Center policy and planning documents should also be reviewed.

1. Planning

- How do the SMA organization goals and objectives relate to NASA's, OSMA's, and the Center's strategic planning process?
- Are customers clearly identified by name?
- Are the process descriptions clearly stated?
- Do the budgets and human resource allocations make sense for a given process?
- Are metrics included? Are they achievable, useable metrics that contribute to continuous improvement?

2. Management

- Can the SMA organization manage in accordance with the AOA?
- Does the Executive Summary and introduction provide sufficient information to make the AOA a stand-alone management document?
- Is a functional organizational chart included?
- Are the underlying assumptions stated?
- Are macro-metrics identified? (These are the top-level metrics used by the SMA Director to determine the health of the organization's processes.) Are the macro-metrics tracked by the Center SMA organization's management as a tool for process improvement?
- Are resource threats and associated risks identified along with a plan for internally meeting the shortfalls and addressing the issues?
- Does the AOA reflect "new ways of doing business" (e.g., customer focus, value added, oversight and coordination where appropriate, etc.)?

3. Institutional Functions

- Is the Center's Operational Safety Program meeting the basic OSHA requirements to implement OSHA Standard 29 CFR 1960 with its current staffing and resources?
- Are "asterisked" items in the OSHA Standard 29 CFR 1960 Checklist (OSHA citables and "Notice of Violations") complied with, in identified processes?
- Based on the performance of the OSHA program at the Center, are the processes and associated resources listed in the AOA adequate?
- Do the process descriptions and metrics address the Center's Operational Safety Program (NASA Safety Reporting System, fire protection and configuration management coordination efforts, facility safety, workplace and laboratory safety, confined space entry, pressure systems, lifting devices, explosive safety and other hazardous operations, safety training and awareness programs, etc.)?

- What are the overall metrics for the Center's Operational Safety Program?
- Are operational safety linkages to the various NASA programs and projects at the Center identified? Are the AOAs coordinated with and concurred on by other Center organizations that actually perform the safety implementation and assurance functions?
- What evaluation process is in place to assess how well the Operational Safety Program is performing at the Center? What is the list of outstanding operational safety-related activities that may not be accomplished due to the limited resources?
- Is the mishap reporting process defined? Are the reporting metrics appropriate?

AOA APPENDIX II: NASA Centers and Component Facilities To Be Included in AOA

Ames Research Center

Dryden Flight Research Center

Goddard Space Flight Center

- Wallops Flight Facility
- Independent Verification and Validation Facility

Jet Propulsion Laboratory/Pasadena, CA

- JPL Deep Space Network
 - Goldstone/Barstow, CA
 - Madrid, Spain
 - Canberra, Australia

Johnson Space Center

- White Sands Test Facility

Kennedy Space Center

- KSC/Vandenberg Launch Facility, CA

Langley Research Center

Glenn Research Center

- Plum Brook Station, OH

Marshall Space Flight Center

- Michoud Assembly Facility, LA

Stennis Space Center

AOA APPENDIX III: List of Safety and Mission Assurance Processes to be Included in AOAs

- *Aviation Safety
- Emergency Preparedness (interface with OSHA)
- Explosive Safety
 - Exposure to Hazardous
 - Chemicals/Materials
- Facilities Configuration Management
- Facility and Operational Safety
- Fire Prevention/Protection
- Government/Industry Data Exchange Program (GIDEP)
- Hazard Communications
- Interagency Nuclear Safety Review Panel (INSRP)
- Lessons Learned Information
- Lifting Devices
- Mishap Reporting and Investigating
- NASA Alert Reporting
- NASA/OSHA Interface
- NASA Safety Reporting System
- Orbital Debris Limiting & Mitigation
- Pressure Vessel System Safety Exchange Program
- Problem Reporting and Corrective Action (PRACA)
- Quality Assurance
- Range Safety (delegation to KSC or WFF)
- Reliability and Maintainability
- Risk Management/Assessment
- SMA Training
- Software Assurance/Quality
- System Safety
- Underwater Facility and Non-Open Water Operations
- Workplace and Laboratory Safety

**SMA resources committed to coordination and oversight, if any*

AOA APPENDIX IV: Coordination of Risk-Informed Decision Making (RIDM) and Continuous Risk Management (CRM) within the NASA Hierarchy (Illustrative)

