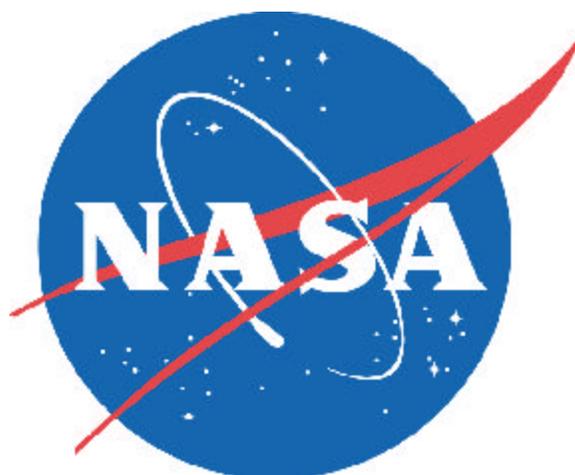

Subject: Formulation Authorization



**NASA Headquarters
Office of Space Science (OSS)**

Office Work Instruction

Formulation Authorization

Approved by: (Original signed by Christopher J. Scolese) Date: (06/23/2003)

Christopher J. Scolese

Deputy Associate Administrator for Space Science

Responsible Office: NASA Headquarters Office of Space Science (OSS) [Code S]

06/23/2003

Subject: Formulation Authorization**DOCUMENT HISTORY LOG**

STATUS (BASELINE/ REVISION/ CANCELED)	DOCUMENT REVISION	EFFECTIVE DATE	DESCRIPTION
Baseline		06/23/2003	• Initial "baseline" version of the OWI.

Subject: Formulation Authorization

1. PURPOSE

The purpose of this Office Work Instruction (OWI) is to define the process by which the Office of Space Science (OSS) authorizes entry of a new program or project into the Formulation subprocess of its life cycle, in accordance with the requirements of NPG 7120.5.

2. SCOPE AND APPLICABILITY

- 2.1 The purpose of the Formulation subprocess is to refine mission concepts in order to define an affordable program and plan to meet mission objectives or technology goals specified in the NASA and Space Science Enterprise (SSE) Strategic Plans. The Formulation subprocess includes developing advanced concepts, conducting trade studies, defining technology-development goals, exploring implementation options, establishing internal management-control functions, performing cost and performance analyses on concepts deemed to have a high degree of technical and operational feasibility, and identifying reserves associated with program risk management and other estimated project reserves.
- 2.2 Formulation authorization entails placing the definition of a newly formed program, including objectives and how it supports the SSE Strategic Plan, into a Formulation Authorization Document (FAD). Program and project assignments are made to the designated NASA Centers via either a Program Delegation Letter or a Project Authorization Letter.

3. DEFINITIONS

- 3.1 AA. Associate Administrator for Space Science.
- 3.2 Code SE. Solar System Exploration Division of the NASA Headquarters Office of Space Science.
- 3.3 Code SM. Mars Exploration Program Office of the NASA Headquarters Office of Space Science.
- 3.4 Code SS. Sun-Earth Connection Division of the NASA Headquarters Office of Space Science.
- 3.5 Code SZ. Astronomy and Physics Division of the NASA Headquarters Office of Space Science.

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3. DEFINITIONS (*continued*)

- 3.6 DAA/P. Deputy Associate Administrator for Programs, Office of Space Science.
- 3.7 EDS. OSS Executive Director for Science.
- 3.8 Formulation Authorization Document (FAD). The FAD documents the purpose of an OSS program (that is traceable to the SSE Strategic Plan), the terms of reference, the funding, and the participants. It may be required for a new OSS project, if the project's Program Plan so states. The authorization is independent of any particular design solution for science or technology and is stated in terms of functional capabilities.
- 3.9 Governing Program Management Council (GPMC). The highest-level PMC that regularly reviews a program or project. The determination of whether a cognizant Center's PMC, an Enterprise's PMC, or NASA's agency-wide PMC is "governing" for a specific program or project is made by the NASA agency-wide PMC.
- 3.10 OSS. NASA Headquarters Office of Space Science.
- 3.11 Phase A. Phase A of the Formulation subprocess concentrates on defining mission and system concepts, parameters, constraints, and requirements that will allow the program or project to be developed on a schedule to meet established goals and within a realistic cost. It is accomplished through conduct of studies that examine the trade space permitted within identified constraints and through continued development of enabling technology toward achieving an acceptable Technology Readiness Level.
- 3.12 Program. An activity within an Enterprise having defined goals, objectives, requirements, and funding and consisting of one or more projects. It reports to its designated GPMC.
- 3.13 Program Delegation Letter (PDL). For a new OSS program, the signed Formulation Authorization Document is sent to a designated NASA Center Director, under cover of a Program Delegation Letter, assigning program-management responsibility. In response to this delegation, the designated NASA Center is instructed to respond with a proposed Program Plan for executing this responsibility, describing how the Center proposes to manage and implement the program. The PDL also provides authority for establishment of a Program Office at the designated NASA Center.

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3. DEFINITIONS (*concluded*)

- 3.14 Program Executive. In accordance with delegation authority from the Associate Administrator for Space Science, responsible for: (a) providing program policy, strategy, and standards that support OSS goals and standards; (b) determining program objectives, goals, and requirements; (c) approving principal program documents; (d) allocating funds to ensure successful implementation of the program; and (e) assessing program performance.
- 3.15 Program Management Council (PMC). Forum composed of NASA Headquarters, NASA Center, and/or NASA Federally Funded Research and Development Center (FFRDC) senior management that is responsible for reviewing and recommending approval of proposed programs and projects and overseeing their implementation according to NASA commitments, priorities, and policies.
- 3.16 Program Scientist. In accordance with delegation authority from the Associate Administrator for Space Science, responsible for: (a) providing science policy, strategy, and standards that support OSS goals and standards; (b) determining science objectives, goals, and requirements; (c) approving principal program documents; (d) providing science leadership for the program; and (e) assessing science performance.
- 3.17 Project. An activity designated by a program and characterized as having defined goals, objectives, requirements, life-cycle costs, a beginning, and an end.
- 3.18 Project Authorization Letter (PAL). For new projects within existing OSS programs, a PAL is issued to the designated NASA Center Director for the project and to the Program Manager at this Center, authorizing Phase A work on the new project to commence.
- 3.19 SSE. NASA Space Science Enterprise.

Subject: Formulation Authorization

4. REFERENCES

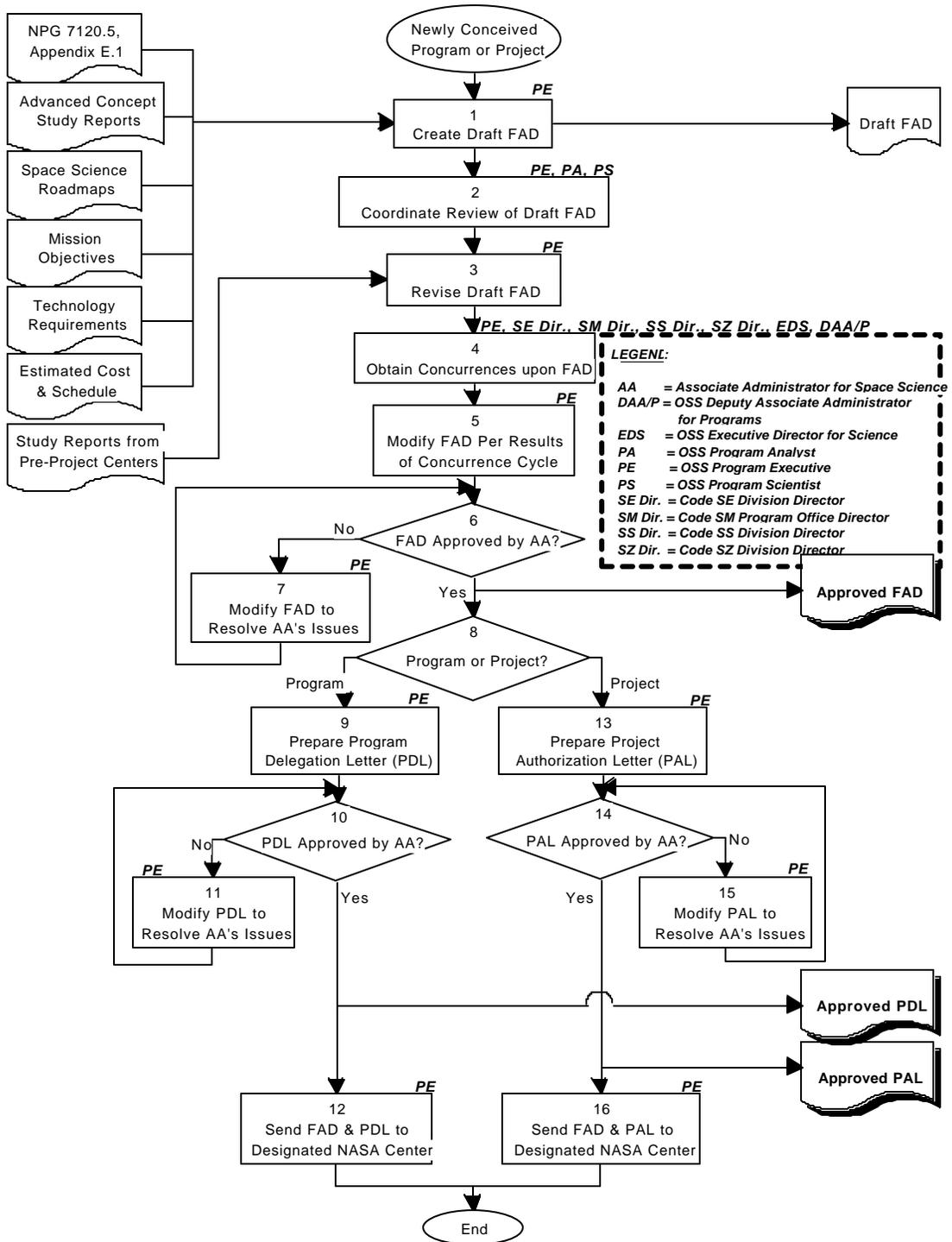
- 4.1 NPG 1441.1 NASA Records Retention Schedules (NRRS)
[\[http://nodis3.gsfc.nasa.gov/library/lib_docs.cfm?range=1___\]](http://nodis3.gsfc.nasa.gov/library/lib_docs.cfm?range=1___)
- 4.2 NPG 7120.5 Program and Project Management Processes and Requirements
[\[http://nodis3.gsfc.nasa.gov/library/lib_docs.cfm?range=7___\]](http://nodis3.gsfc.nasa.gov/library/lib_docs.cfm?range=7___)
- 4.3 SSE MH2002 Space Science Enterprise Management Handbook
[\[http://spacescience.nasa.gov/admin/pubs/handbook/OSSHandbook.pdf\]](http://spacescience.nasa.gov/admin/pubs/handbook/OSSHandbook.pdf)

Subject: Formulation Authorization

5. FLOWCHART

[NOTE #1: Process steps are numbered in accordance with their corresponding step numbers in Section 6.]

[NOTE #2: "Quality records" are identified via bold-text titles and shadowing of the border of their symbols.]



Subject: Formulation Authorization**6. PROCEDURE**

<u>STEP #</u>	<u>ACTION OFFICERS</u>	<u>DESCRIPTION</u>
1	Program Executive	In accordance with the format contained in Appendix E.1 of NPG 7120.5, an OSS Program Executive creates a draft version of the Formulation Authorization Document (FAD) for the identified OSS program or project, using inputs from advanced-concept study reports, space-science roadmaps, mission objectives, technology requirements, and estimated cost and schedule.
2	Program Executive Program Analyst Program Scientist	The OSS Program Executive coordinates the draft FAD with OSS Program Analysts and Program Scientists and with pre-project study Centers.
3	Program Executive	The OSS Program Executive incorporates information from study reports submitted by pre-project Centers into a revised draft FAD.
4	Program Executive Code SE Director Code SM Director Code SS Director Code SZ Director EDS DAA/P	The OSS Program Executive obtains concurrence upon the revised draft FAD by the OSS Directors for Codes SE, SM, SS, and SZ, the OSS Executive Director for Science, and the OSS Deputy Associate Administrator for Programs.
5	Program Executive	The OSS Program Executive incorporates the results of the concurrence activity in Step #4 into the FAD and submits it to the Associate Administrator for Space Science for review and approval.

Subject: Formulation Authorization**6. PROCEDURE** *(continued)*

<u>STEP #</u>	<u>ACTION OFFICERS</u>	<u>DESCRIPTION</u>
6		If the Associate Administrator for Space Science approves the FAD (via signature on its cover), proceed to Step #8. If not, proceed to Step #7.
7	Program Executive	The OSS Program Executive modifies the FAD to address issues identified by the Associate Administrator for Space Science and resubmits it for approval at Step #6.
8		If the mission initiative is an approved OSS <u>program</u> , proceed to Step #9. If the mission initiative is an approved OSS <u>project</u> portion of an OSS program, proceed to Step #13.

Program Delegation Subprocess

9	Program Executive	The OSS Program Executive prepares a Program Delegation Letter (PDL) and submits it to the Associate Administrator for Space Science for review and approval.
10		If the Associate Administrator for Space Science approves and signs the PDL, proceed to Step #12. If not, proceed to Step #11.
11	Program Executive	The OSS Program Executive modifies the PDL to satisfy issues identified by the Associate Administrator for Space Science and resubmits the modified PDL at Step #10.
12	Program Executive	The OSS Program Executive sends the approved FAD and the approved PDL to the Director of the designated NASA Center associated with the program.

Subject: Formulation Authorization**6. PROCEDURE** *(concluded)***Project Authorization Subprocess**

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|----|-------------------|--|
| 13 | Program Executive | The OSS Program Executive prepares a Project Authorization Letter (PAL) and submits it to the Associate Administrator for Space Science for review and approval. |
| 14 | | If the Associate Administrator for Space Science approves and signs the PAL, proceed to Step #16. If not, proceed to Step #15. |
| 15 | Program Executive | The OSS Program Executive modifies the PAL to satisfy issues identified by the Associate Administrator for Space Science and resubmits the modified PAL at Step #14. |
| 16 | Program Executive | The OSS Program Executive sends the approved FAD and the approved PAL to the Director of the designated NASA Center associated with the project. |

Subject: Formulation Authorization**7. QUALITY RECORDS**

RECORD IDENTIFICATION	OWNER	LOCATION	MEDIA: ELECTRONIC OR HARDCOPY	NPG 1441.1 SCHEDULE NUMBER AND ITEM NUMBER	RETENTION/ DISPOSITION
Approved Formulation Authorization Document (FAD)	Secretary for OSS Deputy Associate Administrator for Programs and OSS Executive Director for Science	OSS Programmatic files	Hardcopy	Schedule 7, Item 10A	* Permanent* Retire files by fiscal year to FRC when no longer needed for active reference or when 8 years old, whichever is sooner. Transfer to NARA when 25 years old.
Approved Program Delegation Letter (PDL)	Secretary for OSS Deputy Associate Administrator for Programs and OSS Executive Director for Science	OSS Programmatic files	Hardcopy	Schedule 7, Item 5A3a	* Permanent* Retire to FRC when 2 years old. Transfer to NARA when 20 years old.
Approved Project Authorization Letter (PAL)	Secretary for OSS Deputy Associate Administrator for Programs and OSS Executive Director for Science	OSS Programmatic files	Hardcopy	Schedule 7, Item 5A3a	* Permanent* Retire to FRC when 2 years old. Transfer to NARA when 20 years old.

[NOTE #1: These "quality records" are identified in Section 5 ("Flowchart") of this OWI via bold-text titles and shadowing of the border of their symbols.]

[NOTE #2: In accordance with NPG 1441.1 NASA Records Retention Schedules, "... installations' office of primary responsibility will maintain one official record copy ...; reference copies may be maintained for related work". Therefore, the "Retention" and "Disposition" aspects of quality records apply only to the one official record copy of each quality record.]