

MPD 1130.1

REVISION A

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MARSHALL POLICY DIRECTIVE

SD01

ROLES AND RESPONSIBILITIES OF THE MSFC PROJECT SCIENTIST

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DOCUMENT HISTORY LOG

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1. PURPOSE

To define and clarify the roles and responsibilities of the Marshall Space Flight Center (MSFC) Project Scientist as they relate to MSFC-managed science programs and projects, MSFC-produced science, NASA science policy and program development, and the external science community.

2. APPLICABILITY

This Directive is applicable to all science programs and projects assigned to MSFC. It applies to both flight and ground-based programs when a Project Scientist is deemed necessary for the successful execution of the project.

3. AUTHORITY

NHB 1101.3, "The NASA Organization"

4. APPLICABLE DOCUMENTS

- a. NPG 3319.1, "Management of Senior Scientific and Technical and Other Senior Level Positions"
- b. "Announcement of Opportunity Process - Acquisition and Administration of Space Science and Applications Investigations"
- c. NPD 7120.4, "Program/Project Management"
- d. MSAD-100-0, "Microgravity Science & Applications Division Management Plan Programs and Projects"
- e. NASA Science Communications Strategy, Final Report of the NASA Science Communications Working Group (SCWG), <http://dlt.gsfc.nasa.gov/cordova>.

5. REFERENCES

None

6. DEFINITIONS

None

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7. POLICY

The Project Scientist is deemed necessary for Center science projects/programs when no Principal Investigator (PI) exists, when multiple PIs exist, when the PI is external to the Center, or when the MSFC PI cannot serve in the function. The selection of Project Scientist will be in accordance with the following qualifications and conditions:

a. The Project Scientist shall be a recognized expert in the field which the project/program hardware or science will address. The scientific stature of the Project Scientist will be commensurate with the magnitude of the project/program.

b. The selection of the Project Scientist will be made by the following individuals from the project's/program's responsible organization:

Microgravity Science and Applications Department

1. Project/Program Manager
2. Department Manager
3. Science Directorate Director

Space Science Department

1. Project/Program Manager
2. Department Manager
3. Science Directorate Director
4. Appropriate NASA Headquarters discipline chief

Earth Science Department

1. Program/Project Manager
2. Department Manager
3. Science Directorate Director
4. Appropriate NASA Headquarters discipline chief

Large projects/programs (e.g., observatory class missions) may also require the concurrence of the MSFC Director and the NASA Headquarters Associate Administrator responsible for that mission.

c. The responsibility for initiating the request for a Project Scientist resides with the Project Office.

8. RESPONSIBILITIES

The Project Scientist has the primary responsibility for managing all scientific aspects of the project/program. He or she is responsible for the scientific integrity of the mission within project/program constraints. This includes ensuring that the PIs' science requirements are accurately and sufficiently documented;

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that the project/program definition, implementation and hardware development, and mission operations are consistent with these science requirements and that the science results are articulated to the external community in a timely manner. In the case where the PI is a MSFC civil servant, the Project Scientist's duties will be the responsibility of the PI or may be delegated as necessary with the concurrence, as appropriate, of the Manager of the Microgravity Science and Applications Project Department; Manager, Space Sciences Department; Manager, Earth Science Department; Director, Science Directorate; and the MSFC Project Manager.

Specific roles and responsibilities commensurate with this primary function are as follows:

- a. Consults with the Program Scientist on the formation of the Science Working Group (SWG) or Investigators Working Group (IWG) when such a group is required by the project/program; serves as the chairman of the SWG/IWG.
- b. Facilitates discussions within the SWG/IWG that lead to decisions affecting the science of the project/program and makes decisions in response to science issues requiring rapid response.
- c. Serves as the scientific advisor to the MSFC Project/Program Manager.
- d. Assists and cooperates with the Discipline Scientist or Program Scientist, and Program Manager in carrying out their roles and responsibilities; may include preparing information and guidelines for science experiment solicitations and/or participating in the selection process.
- e. Serves as the scientific spokesperson for the project/program, except for the case where the PI is the spokesperson; advises the PI on preparation for major reviews.
- f. Represents the science interests of the PI(s) and/or the SWG/IWG in their relationships with all elements of the project/program and the Center.
- g. Recommends action to maximize the science return of the project/program within the agreed upon time, the funding constraints, and the mission or spacecraft resource constraints.
- h. Maintains cognizance of the individual as well as the overall science investigations included in the project/program.
- i. Reviews and recommends approval or disapproval of proposed modifications to investigation science objectives or instrument

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change proposals; utilizes advisory panels as needed in carrying out this responsibility.

j. Reviews and recommends measures to resolve conflicting requirements between scientific instrument(s) and the spacecraft, and between instruments.

k. Verifies and certifies through timely reviews (Science Requirement Review (SRR) or equivalent, Preliminary Design Review (PDR), Critical Design Review (CDR), Integration Readiness Review and Preship Reviews, Calibration Plans and Procedures) that scientific requirements have been met.

l. Serves as a member of all boards whose activities affect the science capabilities of the project including the Preliminary Design Review Board (PDRB), the Critical Design Review Board (CDRB), the Source Evaluation Board (SEB) as appropriate, the Performance Evaluation Board (PEB), and the Configuration Control Board (CCB).

m. Assists the Program Scientist and the project/program in developing and implementing guest observer programs.

n. Reviews and recommends action on data analysis plans and programs in order to ensure timely and adequate analysis of project/program data; ensures data analysis contracts are consistent with NASA data archive policy.

o. Reviews operations strategy to ensure consistency with science requirements.

p. Develops and owns a process to be integrated within the science communications process of MSFC for identifying science discoveries and mission successes and making timely dissemination of science discipline results from PIs and mission operations according to the NASA Science Communications Strategy and the NASA Strategic Plan.

The functional interfaces of the Project/Program Manager, Project Scientist, Systems Engineer, and the MSFC Engineering Directorate Departments are shown graphically in Figure 1. The Project/Program Manager has total management responsibility for the Project/Program including experiment development. The Systems Engineer provides the technical interface from the Project/Program to the Engineering Directorate where the discipline technical expertise resides, and thereby ensures that adequate technical support is provided to the Project/Program.

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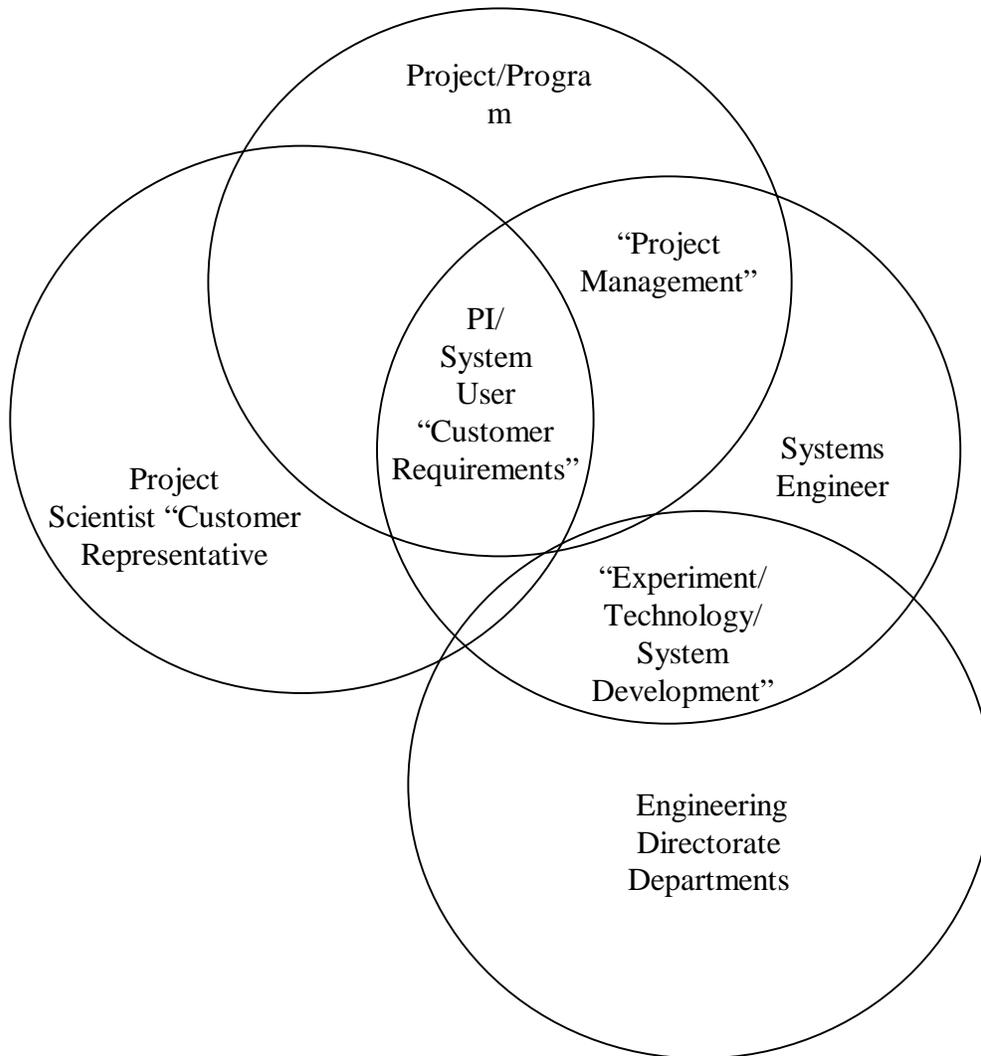


Figure 1 - Relationship of Project/Program Manager, Project Scientist, Systems Engineer, and Engineering Directorate

9. RECORDS

Records generated by the Project Scientist shall be maintained per the requirements of the approved Project/Program Plan for that project/program.

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10. MEASUREMENT

None

11. CANCELLATION

MPD 1130.1 dated February 3, 1998

Original Signed by
Sidney P. Saucier for

A. G. Stephenson
Director