Appendix A. -- Assessment Issues
Workshop on NASA's Office of Space Science and Applications: Process, Priorities and Goals

OTA developed the following set of broad issues in order to help workshop participants focus on process, plans, outcomes, and possible improvements. Although the issues are broadly stated, the discussion of them necessarily focused on specific examples.

Goal-Setting and Planning Process

The Task Force is particularly interested in how OSSA establishes its long-term goals and objectives, and the process by which OSSA assesses the current state of knowledge (and technology) with respect to future space missions and the potential contributions of these activities to the advancement of knowledge. It is also interested in how the results of the process are circulated among the communities and how frequently the assessments are made.

1. How are participants in the planning process selected? Are they representative of the scientific and technical disciplines involved? Is the process an open one in the sense that young investigators and emerging fields of science are provided an opportunity to compete for resources and priority with established activities and investigators?

2. To what extent are long-term goals and objectives driven by basic scientific issues and the state of knowledge in particular fields and disciplines? To what extent do extra-scientific issues and considerations affect the overall scope and direction of the program?

3. How do the above considerations vary across the diverse scientific disciplines that comprise the space science program (e.g., astrophysics, planetary exploration, space physics, earth science, microgravity)? Do all disciplines within OSSA have a structured planning process and published long-term scientific strategies? (Cite examples of particularly good or weak areas.)

4. How are cross-disciplinary priorities and issues addressed in establishing the overall direction of the space science program? How effectively do emerging disciplines and smaller scientific communities (e.g., microgravity, life sciences) compete with more established traditional space science activities (e.g., planetary, astrophysics, space physics)?

5. How effectively are results (and failures) of previous space missions and investigations factored into the overall scientific and project planning for the program? Are "lessons learned" applied in practice?

6. Does the planning process for space research take adequate account of scientific and technical progress in other fields (e.g., space astrophysics vs. ground-based astronomy)?

Annual OSSA Strategic Plan

Since 1966, OSSA has published an annual Strategic Plan that covers the full range of science and applications programs for which the office has responsibility. The Committee is interested in the views of the scientific community outside NASA toward this process:

7. **How successful is the OSSA strategic plan? How successful has it been in gaining support for OSSA programs from the funding entities (OMB and the Congress) and the broader public interested in the space program?**

8. **Does the strategic plan grapple with the real issues facing the space science program? How successful has it been in dealing with the difficult tradeoffs forced by budget constraints and the competing claims of OSSA's diverse science disciplines?**

9. **Does the plan provide outside observers with adequate insight into the basis for the agency's decisions on program priorities and funding allocations? Is the process reported in the plan perceived by OSSA's scientific constituencies as being fair and even-handed?**

10. **Is the priority-setting process (especially the set of decision rules, pp. 16 and 21 of the 1991 plan) perceived as being rational and appropriate to the selection of project new starts? For establishing " the funding balance between ongoing efforts and new initiatives? Between "big science" and "little science"?**

11. **Does the OSSA plan reflect an appropriate awareness of the external concerns and interests of the Congress and the Administration, including the broader national agenda? Is the OSSA planning process resilient in responding to changes in the external environment (e.g., the recent major shift in long-term funding assumptions resulting from the budget agreement and Congressional funding guidelines to NASA)?**

Program Outcomes

12. How well has OSSA succeeded in actually meeting the goals and objectives set for its programs by the scientific community and by Administration and Congressional policies? What are appropriate measures for success?

13. By what means does the broader scientific community assess the effectiveness of OSSA programs? Do these assessments become factored into the decision-making process on future planning and budgets? Is there there adequate "feedback" mechanisms?

14. Is the OSSA program as it currently exists appropriately "balanced" across disciplines and types of activities involved in the program?

15. Will major shifts in the OSSA program planning process be required to meet the constraints of more stringent funding guidelines now being addressed for NASA?

Suggestions for Improvements

16. What changes might improve the effectiveness of the planning and program implementation processes used by NASA in its management of the space science program?

17. Are there substantive changes in program directions that would lead to more effective utilization of available resources for the conduct of the OSSA program?