

Common Management Major Weaknesses in Step One Proposals

Science Office for Mission Assessments

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Areas of Management Major Weaknesses

- Four general areas of management weaknesses were identified in a study of 96 step one proposals.
 - Responsibilities are not defined or are inconsistently described across proposal sections and are not consistent with the decision-making discussion. The organization chart is inconsistent with described responsibilities such as missing reporting paths. Lines of authority are not clear or are inconsistent with described contractual arrangements
 - This area represents 39% of Major Weaknesses and 37% of all management weaknesses
 - Organizational or individual expertise for a specific role is inadequately demonstrated. Partner responsibilities are not consistent with institutional experience and strengths or multiple organizations are responsible for same element without differentiation.
 - This area represents 30% of Major Weaknesses and 16% of all management weaknesses
 - There is a lack of discussion of management tools and processes including how Systems Engineering (SE), S&MA, configuration control, risk management etc. will be managed across the partners. Examples include: SE is inadequate to manage the interfaces; discrepancies in requirements across elements are identified; interfaces are not defined; partners are not included in the SE team; Communications across the organizations are inadequately addressed
 - This area represents 22% of Major Weaknesses and 24% of all management weaknesses
 - Major partner roles are not adequately discussed or are inconsistently represented across the various sections of the proposal.
 - This area represents 9% of Major Weaknesses and 24% of all management weaknesses

TMC Evaluation Factor

- The factor for TMC feasibility which addresses the management evaluations is
 - Factor C-4.* Adequacy and robustness of the management approach and schedule, including the capability of the management team. This factor includes: the adequacy of the proposed organizational structure and WBS; the management approach including project level systems engineering; the roles, qualifications, and experience of the PI, PM, other named Key Management Team members, and implementing organization, mission management team, and known partners; the commitment, spaceflight experience, and relevant performance of the PI, PM, other named Key Management Team members, and implementing organization, mission management team, and known partners against the needs of the investigation; the commitments of partners and contributors; and the team's understanding of the scope of work covering all elements of the mission, including contributions. Also evaluated under this factor is the adequacy of the proposed risk management approach, including any risk mitigation plans for new technologies, any long-lead items, and the adequacy and availability of any required manufacturing, test, or other facilities. The approach to any proposed descoping of mission capabilities will be assessed against the proposed Baseline Science Mission. The plans for managing the risk of contributed critical goods and services will be assessed, including the plans for any international participation, the commitment of partners and contributors, as documented in Letters of Commitment, and the technical adequacy of contingency plans, where they exist, for coping with the failure of a proposed cooperative arrangement or contribution. This factor also includes assessment of proposal elements such as the relationship of the work to the project schedule, the project element interdependencies, the associated schedule margins, and an assessment of the likelihood of launching by the proposed launch date. Also evaluated under this factor are the proposed project and schedule management tools to be used on the project along with the subcontracting plan, including small and small disadvantaged businesses.
 - Key criteria for this study are annotated in red
 - *Wording from *Announcement of Opportunity, Standard PI-led Mission AO Standard AO Template: A Product of the AO Simplification Team Revision Date: June 13, 2014*

AO Requirements related to Management

- An examination of the relevant AO requirements was also performed as part of this study
 - Specifically requirements 28, 29, 52, 68, 78, 80, 86, 90, and B-54 were reviewed for TMC expectations
 - Requirement 28. Proposals shall describe the investigation's proposed management approach, including the management organization and decision-making process, the teaming arrangement, the responsibilities of the PI and other team members, and the risk management and risk mitigation plans (see Appendix B, Section G, for additional detail).
 - Requirement 29. Proposals shall describe the investigation's proposed systems engineering approach, including plans, tools, and processes for requirements, interfaces, and configuration management. (see Appendix B, Section F, for additional detail).
 - Requirement 52. Proposals shall describe the qualifications and experience of the primary implementing institutions and demonstrate that they are commensurate with the technical and managerial needs of the proposed investigation.
 - Requirement 68. Proposals shall specify the proposed teaming arrangements for the Phase A concept study, including any special contracting mechanisms that are advantageous for specific partners in the team. If more than one contractual arrangement between NASA and the proposing team is required, proposals shall identify how funds are to be allocated among the partnering organizations.

AO Requirements related to Management (2)

- Requirement 78. If a proposal includes one or more contributions, the proposal shall separately identify all contributions, the organizations providing the contributions, and the organizations providing the funding for the contributions; the costs for the contributions shall be clearly identified within the Total Mission Cost.
- Requirement 80. If a proposal includes contributions that are essential to the success of the proposed investigation or in the critical path, the proposal shall include: (i) demonstrations of clear and simple technical and management interfaces in the proposed cooperative arrangements, (ii) explicit evidence that the proposed contributions are within the contributors' scientific and technical capabilities, and (iii) contingency plans for coping with potential failures of proposed cooperative arrangements or, where no mitigation is possible, an explicit acknowledgement to that effect and an explicit rationale for accepting the risk.

AO Requirements related to Management (3)

- Requirement 86. Proposals with non-U.S. participation shall include a table listing: (i) non- U.S. participants (individuals, institutions), (ii) roles and responsibilities, (iii) funding organization, (iv) approximate value of contribution and method for estimating value (detailed budget not required), and (v) cross-reference to any Letters of Commitment in the proposal appendix. Proposals with non-U.S. participation must clearly describe the flow of design requirements (potentially export controlled information) and hardware between U.S. and non-U.S. participants. This description may take the form of a flowchart. See Section J.4 of Appendix B.
- Requirement 90. Unless otherwise explicitly exempted elsewhere in this AO (e.g., Section 5.2.5), proposals shall include a Letter of Commitment [LoC] from each major partner in the proposal, regardless of source of funding. For major partners providing one or more contributions, only a single Letter of Commitment is required.

AO Requirements related to Management (4)

- Requirement B-54. A table of Proposal Participants shall be provided. The table shall include all organizations named in the proposal including contributing organizations. The primary purpose of the table is to aid NASA in avoiding conflicts of interest during the evaluation of the proposal. A secondary purpose is to provide material helpful for the evaluation and selection process. The table shall have three columns: (i) name of organization, including city and state/country where it is located, (ii) role of organization, and (iii) total cost or budget for that organization (real year dollars over the life of proposal for baseline mission). The table shall have a row for every organization named in the proposal, and the rows shall be organized into three sections: (i) major partners, (ii) science only, non-hardware partners, and (iii) minor partners, vendors, and suppliers, as known at the time of the proposal. Major partners are defined to be organizations responsible for providing project management, system engineering, major hardware elements, science instruments, spacecraft accommodations, launch services, integration and test, mission operations, and other major elements of the proposed investigation, as defined by the proposer.