Program Management
from the NASA Headquarters Perspective

Symposium on Management of NASA Science Projects

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Increased Focus on Project Management

From "NASA Program and Project Management Processes and Requirements", NPR 7120.5C:

NASA is an agency in the process of transforming itself. This transformation is largely being driven by the new, unifying Vision for Space Exploration, but it is also a response to the recognition of the need to manage more efficiently, and with greater management responsibility and accountability.

Not forgotten too, are the Columbia Accident Investigation Board (CAIB) recommendations for improving responsibility and accountability in the area of safety. The establishment of an Independent Technical Authority (ITA) represents a direct response to the CAIB recommendations, and a critical shift in NASA's program and project management strategy relating to safe and reliable operations.

Examples of Increased Focus

- Full Cost Accounting

- Independent Technical Authority

- Technical Warrant Holders

- Independent Assessment

- Program Management Committees

- Cost Analysis Data Requirements (CADRe)

- Work Breakdown Structure/Integrated Master Schedules

- Earned Value Management

Increased Focus Applies to Project Life Cycle

➢ **Formulation** - the assessment of feasibility, review, and analysis of concepts, initial risk reduction activities, assembly of teams, development of operational concepts and acquisition strategies, establishment of high-level requirements and success criteria, selection of an ITA and preparation of detailed plans, budgets, and schedules that are essential to the success of a program or project.

➢ **Approval** - the ongoing effort by responsible officials above the program and project management level to review plans and performance at key milestones and authorize continuation of the effort and progression to the next phase

➢ **Implementation** - the execution of approved plans for development and operation, and the establishment of required control systems to ensure performance to plan.

➢ **Evaluation** - the ongoing independent (i.e., outside the advocacy chain of the program or project) evaluation of the performance of a program or project, and incorporation of the evaluation findings to ensure adequacy of planning and execution according to plan.

The Essential Elements of a NASA Science Project

- ➢ Compelling science

- ➢ Credible management plan

Evidence of Credibility - 1

➢ Organizational Structure and Staffing

- Clear lines of responsibility, authority, and accountability
- Key personnel identified and available
- Credible staffing plan

➢ Partnerships

- Are they meaningful and worthwhile?
- Demonstration of commitment
- Export Control issues understood if non-U.S.

➢ Schedule

- Consistent with WBS

- Realism of baseline

- Margin consistent with risk

- Understanding of critical path and interdependencies

- Tracking, reporting, and control mechanisms

➢ Cost

- Acquisition plan

- Reserves consistent with risk

- Financial management structure in place

- Descope plan

➢ Risk

- Identification and mitigation
  - Technical, safety, mission assurance, supplier, schedule
- Risk management approach
  - Tracking, reviewing, trigger points
- Consistency with schedule and cost reserves

Final Thoughts

➢ Credible plan is essential

  • Responsibility and accountability are key

  • Cost, Schedule, Risk are interrelated

  • A good WBS makes a big difference

➢ Effective program management is critical throughout entire project lifecycle to assure performance is consistent with plan and that commitments can be met

➢ Program Management is hard work