

Improvements in Project Management at NASA

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In the summer of 1992, the NASA Administrator asked Marshall Space Flight Center Director Jack Lee to chair an Agency-wide team to conduct a six-month review of 30 recent NASA projects. The team found eight major factors that drive NASA program cost and technical increases inadequate Phase B definition, unrealistic dependence on unproved technology, annual funding instability, complex organizational structures, cost estimates that are often misused, scope additions due to "requirements creep," schedule slips, and an acquisition strategy that does not encourage cost containment.

The fact that similar findings appear in earlier NASA studies indicates that NASA may not have learned fully from past reports, as illustrated in the "Common Issues" matrix on the next page. Many of the dozen recommendations of the Program/Project Institutional Team have also appeared in earlier studies:

1. Establish a Program Management Council (PMC) to review, rank and recommend all subsequent Phase B studies and Phase C/D program starts.
2. Establish an Agency-level funding wedge for these same studies and starts.
3. Direct program/project managers to define requirements better. Planning should carry Phase B at least through PRR or PDR before Phase C/D starts.
4. Provide stable funding for high priority NASA programs by multi-year funding or by internal protection.
5. Use performance specifications instead of detailed design specs in new starts where possible.
6. Comply with Phase C/D "period of understanding" on time-phased contractor buildup (NMI 7120.3).
7. Freeze requirements at the end of the "period of understanding." Resist easy changes.
8. Appoint project manager and key team members at beginning of Phase B and keep them into Phase C/D if possible.
9. Allocate adequate contingency reserves (NMI 7120.3) for project managers but hold the Allowance for Program Adjustment (APA) at Headquarters for scope changes and major problems.
10. Promulgate progressive competition/down selection procedure to minimize gaps between program phases.
11. Provide comments to Code H, NASA Headquarters, on "Award Fee Initiatives" for cost containment.
12. Avoid "buy-in" by requiring cost estimates, by providing project funding profile to prospective contractors for Phase C/D, and by emphasizing the scoring of cost realism in the source selection process.

While some of the recommendations have been proposed for many years, the Administrator has accepted them and handed them off to the Program Excellence Team chaired by Howard Robins. The team has prepared a new NMI, currently in the review cycle, based upon these recommendations.