

## Science Mission Directorate Policy

### Meeting the 70% JCL Requirement in PI-led Missions

#### SMD Policy Document SPD-19

Recommended by SMD Science Management Council, June 3, 2010

Approved by SMD Associate Administrator, Edward J. Weiler, June 18, 2010

Responsible SMD Official: Deputy AA for Programs

#### Executive Summary

(a) In the proposal at KDP-A (selection for one step selections) and in the Concept Study Report (CSR) at KDP-B (downselection for two step selections), the PI commits to a mission cost commitment which is at or below the AO-specified cost cap. (Section 1(c))

(b) The budget and schedule for the project will be baselined at KDP-C. The PI's cost commitment is still valid and does not go away at KDP-C even though the Commitment Baseline (at 70% joint confidence level) may be higher than the PI's cost commitment. (Section 3(b), Section 3(f))

(c) SMD considers provision of UFE funds to the project beyond the Management Baseline to constitute an overrun of the PI's cost commitment. (Section 3(g))

#### 1. Background

(a) NASA requirements state that programs and projects must have sufficient cost and schedule reserves at Key Decision Point C (KDP-C) to ensure success. NM 7120-81 (NPR 7120.5D NID), Section 2.1.8.2, defines the project Management Baseline, Unallocated Future Expenses (UFE), and the project Commitment Baseline (which is the Management Baseline plus any Unallocated Future Expenses). NM 7120-81 requires programs to have a Commitment Baseline set at a 70% joint confidence level, and it requires projects to have a Commitment Baseline consistent with the program's joint confidence level.

(b) SMD's competitively-selected, PI-led missions are generally projects in uncoupled programs (e.g. Explorer, Discovery, New Frontiers, etc.). For an uncoupled program to maintain a Commitment Baseline at the 70% joint confidence level, each of the projects must also maintain a joint confidence level at or near 70%.

(c) SMD Announcements of Opportunity (AOs) set a cost cap for competitively-selected, PI-led mission proposals. The cost cap is restated, if necessary, in the Guidelines for Phase A Concept Study Reports. In the proposal at KDP-A (selection for one step selections) and in the Concept Study Report (CSR) at KDP-B (downselection for two step selections), the PI commits to a mission cost commitment which is at or below the AO-specified cost cap.

(d) After consultation with the PI, the cost commitment may be adjusted by SMD during development to accommodate changes.

(e) It is generally the case that the project design maturity is insufficient to determine the 70% joint confidence level for cost and schedule at either KDP-A or KDP-B. The agreed-to PI-led mission cost commitment, which includes appropriate cost and schedule reserves for the planned mission, may or may not be at a 70% joint confidence level.

(f) This document states SMD policy and practice for meeting the Agency requirements in NM 1720-81 while maintaining the PI's cost commitment for the PI-led mission. These policies and practices are based on actual experience gained during KDP-C review and approval for JUNO, GRAIL, and NuSTAR.

## 2. Requirements

(a) NM 7120-81, *NASA Space Flight Program and Project Management Requirements*, Section 2.1.8.5, has the following requirements regarding the 70% joint confidence level as applicable to PI-led missions.

(b) Section 2.1.8.5(a). Programs are baselined or rebaselined and budgeted at a confidence level of 70 percent or the level approved by the decision authority.

(c) Section 2.1.8.5(b) Projects are baselined or rebaselined and budgeted at a confidence level consistent with the program's confidence level.

(d) Section 2.1.8.5(c) As a minimum, projects are funded at a level that is equivalent to a confidence level of 50 percent or as approved by the decision authority.

(e) Section 2.1.8.5(e) Joint cost and schedule confidence levels are developed and maintained for the life cycle cost and schedule associated with the initial lifecycle baseline established at implementation.

## 3. Policy

(a) The project (as referenced in NM 1720-81) is the PI-led mission. The program (as referenced in NM 1720-81) is the loosely coupled, multi-mission program, which includes PI-led missions, other projects, and a future mission budget.

(b) The budget and schedule for the project will be baselined at KDP-C. A joint cost and schedule estimate will be developed by the project, and assessed by the Standing Review Board, prior to KDP-C. Additional independent cost and schedule estimates may be conducted.

(c) At KDP-C, the Management Baseline will be the PI-led mission cost commitment as proposed in the proposal or CSR and as adjusted by SMD. The Management Baseline is the

project budget that is provided to the PI-led project and the implementing Center. The PI and the implementing Center commit to SMD to execute the project within the approved Management Baseline, so the Management Baseline budget approved at KDP-C becomes the PI-led mission cost commitment.

(d) One of the decisions associated with KDP-C approval is identification of sufficient cost reserves (UFE) that, if needed, can supplement the Management Baseline budget and satisfy the Agency JCL requirements. As discussed in Section 1, SMD generally sets the Commitment Baseline budget to be at or near the 70% joint confidence limit. SMD and the Agency commit to Congress to execute the project within the approved Commitment Budget.

(e) The identified UFE that constitute the difference between the mission cost cap and the 70% confidence limit will be held by SMD at Headquarters in the project's budget line. UFE will not be provided to the project, nor will they be used to increase the PI-led mission cost commitment beyond the project's Management Baseline budget, without approval by the SMD Directorate Program Management Council.

(f) The PI's cost commitment is still valid and does not go away at KDP-C even though the Commitment Baseline (at 70% joint confidence level) may be higher than the PI's cost commitment.

(g) SMD considers provision of UFE funds to the project beyond the Management Baseline to constitute an overrun of the PI's cost commitment.

(h) The Agency considers provision of additional funds to the project beyond the Commitment Baseline to constitute a breach of the Agency's cost commitment.

#### 4. Approval

(a) This policy was recommended by the SMD Science Management Council on June 3, 2010. It is approved by the Associate Administrator for the Science Mission Directorate.

  
\_\_\_\_\_  
Associate Administrator  
for Science Mission Directorate

*C-18-10*  
\_\_\_\_\_  
Date