

**Pluto-Kuiper Belt Mission  
AO 01-OSS-01  
Concept Study Kickoff Meeting**

**Technical, Management, Cost, and  
Other Factors (TMCO) Requirements**

**June 18, 2001  
R. Brad Perry**

# TMCO Requirements Overview

- **The *Guidelines and Criteria for the Phase A Concept Study* as supplemented by the AO will apply for the Concept Study.** The general and programmatic portions of the AO are still valid, including the pertinent portions of Sections 1, 2, 3, 4, 5, and 6; and Appendices A, B, C, D, E, and G
- During Selection the priority was on Science. During Downselection, implementation details and commitments will be emphasized. **Mature planning, with complete details in all areas, will be expected in the Concept Study Report (CSR) in accordance with the *Guidelines and Criteria for the Phase A Concept Study*, including the following:**
  - Science Investigation (highlight any changes)
  - Technical Approach
  - Management Plan
  - E/PO, New Technology, and SDB Plan
  - Phase B Plan
  - Cost Plan for Phases A through E
  - Cost Plan for any Extended Mission, PSP, and/or DAP
  - Required Appendices

# TMCO Requirements

- **The *Guidelines and Criteria for the Phase A Concept Study*, revised 6/15/01 defines all CSR preparation and submission requirements:**
  - Reports are to be single volumes organized in Sections A-L
  - Page formats and limitations as defined
  - Use no references to Proposals. **The Downselection evaluation will only include the Concept Study Reports and information presented at the Site Visits**
  - All contributions must be documented with signed commitments by the appropriate authorizing officials
  - A Mission Definition and Requirements Agreement (MDRA), signed by all major proposal partners, is a required Appendix
  - Planning for Other Factors (E/PO, New Technology, and SDB) should be complete and include all pertinent criteria
  - Appendices other than those specified are not allowed

## TMCO Requirements (continued)

- CSR's should address both primary 2004 and fallback 2006 launch windows, including separate cost estimates for both options
- Due to the developmental status of the Atlas V and Delta IV launch vehicles, maintaining dual compatibility between these launch options is required throughout the Concept Study . Additionally, CSR should identify what mission constraints/costs, if any, are incurred by maintaining dual compatibility at least through mid 2002
- For Government provided services (ELV's, RTG's, DSN, etc.), use the latest revised cost estimates from the identified POC's and include appropriate letters of commitment
- If international participation is included, at least draft agreements should be submitted
- Cost growth will be limited by the AO Cost Cap (\$500M FY 01), or a maximum of +20% cost growth from proposals, whichever occurs first

## TMCO Requirements (continued)

- Use full cost accounting. Cost data submitted will be assumed to be both Costs and Obligations
- Note long lead procurement needs and Confirmation Review (CR) constraints. Long lead procurements that require substantial portions of Phase C funding before the CR will not be allowed
- Include all letters of endorsement from all organizations required to implement the Project
- If Project is chosen at Downselection, the proposed costs submitted in the CSR are final unless NASA elects to renegotiate them during the Project Kickoff or at some other time
- Other Program Factors (E/PO, SDB, and Technology) must be adequately addressed to demonstrate content, commitment, and feasibility

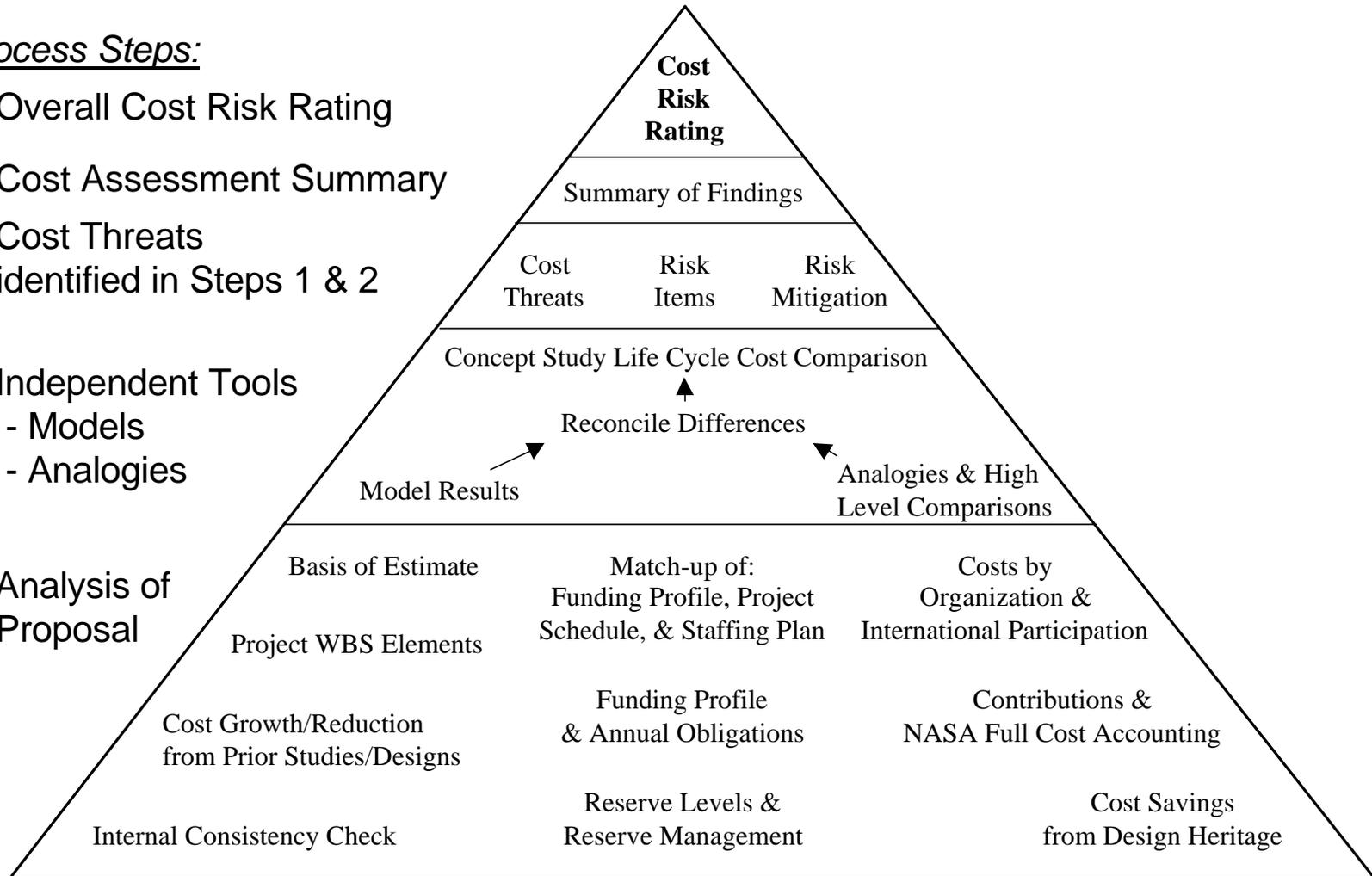
# TMCO Requirements (concluded)

- **CSR Due Date to NPRS is September 18, 2001 nlt 4:30 p.m. EDT**
  - Signed Original and 60 copies
  - No late changes or errata sheets, no exceptions
  - NPRS address and contact information is in the AO
- TMCO Evaluation is defined in the *Guidelines and Criteria for the Phase A Concept Study*, 6/15/01 revision
  - For Phase 1, TMC Risk was evaluated as Low, Medium, or High
  - For Phase 2, TMC Risk will be evaluated with 9 possible grades, equivalent to Science Merit, and Technical Merit and Feasibility of the Science Investigation. The TMC evaluation will be significantly more in-depth and discriminating during Phase 2
  - Cost adequacy and realism will be an important and emphasized TMC Risk consideration. Concept Study Reports at or near the Cost Cap, and/or with insufficient cost reserves, will likely be considered High Risk
  - New technology items will add risk unless they are flight qualified (TRL 8) or have identified/demonstrated backups

# TMCO Independent Cost Assessment Pyramid

Process Steps:

- 5. Overall Cost Risk Rating
- 4. Cost Assessment Summary
- 3. Cost Threats identified in Steps 1 & 2
- 2. Independent Tools
  - Models
  - Analogies
- 1. Analysis of Proposal



**Cost is evaluated by the entire TMC Team**

# Site Visits

- Site Visits with Oral Briefings will be used to clarify implementation details and commitments
- Site Visits are anticipated during the October 4-9 timeframe, at location sites to be determined by the PI/Proposal Team and coordinated with the TMC Chair, Brad Perry by email at [raleigh.b.perry@larc.nasa.gov](mailto:raleigh.b.perry@larc.nasa.gov) or by telephone at 757-864-8257. Site Visit dates should be scheduled not later than 8/31/01
  - Briefings at each Site Visit will be limited to 8 hours with 1 additional hour for a site tour. (Suggest a schedule of 8:00 a.m. - 6:00 p.m. including 1 hour lunch)
  - All Site Visit presentations/briefings should be in a plenary session with all TMC Evaluation Team members attending - no splinter sessions
  - Written questions will be submitted to the PI/Proposal Team approximately 8:30 a.m. EDT two days before the Site Visit. Both teams will have the same lead time
  - Unless otherwise requested by NASA, only the information presented during the Site Visit and contained in the CSR will be considered during the evaluation

# PKB Inherent and Programmatic Mission Risks

<b>Risk Category</b>	<b>Issue</b>	<b>Risk</b>	<b>Impact</b>	<b>Actionee</b>
Inherent	Mission Duration (15 yrs)	Mod	Hi	ALL
Programmatic	NEPA Compliance/Approval	Hi	Hi	NASA/ DOE
Programmatic	Launch Approval for 2004	Hi	Hi	NASA/DOE/Gov
Programmatic	ELV Certification/Availability	Mod	Mod	NASA
Programmatic	Delay of Phase B beyond Nov 1, 2001	Lo	Hi	NASA

# PKB Mission Downselect Evaluation Flow

