



Astrophysics Explorers Program Phase A Concept Study Kickoff Meeting

Welcome and Congratulations!

Linda Sparke
Astrophysics Explorers Program Scientist
August 28, 2017

Astrophysics Explorers Program Concept Study Kickoff



Selected Investigations

Explorer Missions (MIDEX)

- Arcus - Exploring the Formation and Evolution of Clusters, Galaxies and Stars – Randall Smith, Smithsonian Astrophysical Observatory, Cambridge MA
- FINESSE - Fast INfrared Exoplanet Spectroscopy Survey Explorer – Mark Swain, Jet Propulsion Laboratory
- SPHEREx - An All-Sky Near-Infrared Spectral Survey – Jamie Bock, Jet Propulsion Laboratory

Mission of Opportunity (MO)

- COSI-X - Compton Spectrometer and Imager Explorer, a Small Complete Superpressure Balloon Mission – Steven Boggs, UC San Diego
 - ISS-TAO - Transient Astrophysics Observer on the International Space Station – Jordan Camp, Goddard Space Flight Center
 - CASE - Contribution to ARIEL Spectroscopy of Exoplanets – Mark Swain, Jet Propulsion Laboratory. This Partner Mission of Opportunity would proceed only if ARIEL is selected by ESA.
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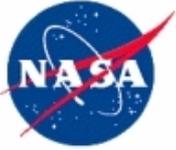
Phase A Overview

- Full Mission selected teams will conduct 9-month Phase A Concept Studies, funded up to **\$2M** (real year dollars).
- Missions of Opportunity (MO) selected teams will conduct 9-month Phase A Concept Studies, funded up to **\$0.5M** (real year dollars); special conditions for CASE as partner MO.
- Concept Study Reports (CSRs) will be due **May 24, 2018**.
- NASA will conduct detailed reviews of the Concept Study Reports to evaluate the implementation details of the selected investigations, including any modifications of the scientific objectives, and the implementation including all technical and management factors.
- As a result of this Phase A evaluation, one MDEX Explorer Mission investigation and one or two MO investigations may be confirmed for Phase B.



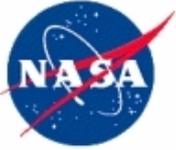
Management and Constraints

- This meeting will provide instructions for the Phase A Concept Study.
- Phase A Study deliverables:
 - **Concept Study Report** must provide sufficient implementation detail and planning to allow NASA to judge probability of mission success; and
 - **Complete cost or pricing data** for Phase B shall be included with the CSR for each organization. A separate bridge phase price option shall be part of the Phase B cost or pricing data.
- Each mission's Concept Study Report must conclude with a commitment by the PI for the cost, schedule, and scientific performance of the investigation.
- NASA cannot guarantee that the proposed funding profile can be accommodated within the Explorer Program's budget. A funding profile for the selected mission will be negotiated during Phase B.



Procurement

- Each Phase A contract will contain a priced option for Phase B along with a Bridge Phase, to be exercised only when that investigation is down-selected to proceed into Phase B.
 - Priced option for Bridge Phase:
 - 5 months for a Full MIDEX Mission
 - 4 months for a Mission of Opportunity
 - The Bridge Phase is intended to cover a period of Phase B effort, to provide program continuity while negotiations are completed to modify the contract to include Phases B, C/D, and E/F.
 - During the Bridge Phase, NASA and the continued project will negotiate and sign a contract modification necessary for the remaining portion of Phase B. Deliverables for Phase B will be negotiated during this Phase, on the basis of information provided in the Concept Study Report.
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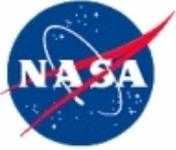
Schedule

- The 9-month Phase A clock started on 24 August 2017.
- Concept Study Reports (CSRs) will be due on 24 May 2018.
- Linda Sparke will be the overall chair of the evaluation team.
- Odilyn Luck and Carlos Liceaga (SOMA) will lead the TMC evaluations for the MDEX and MO studies respectively, and will coordinate site visits.

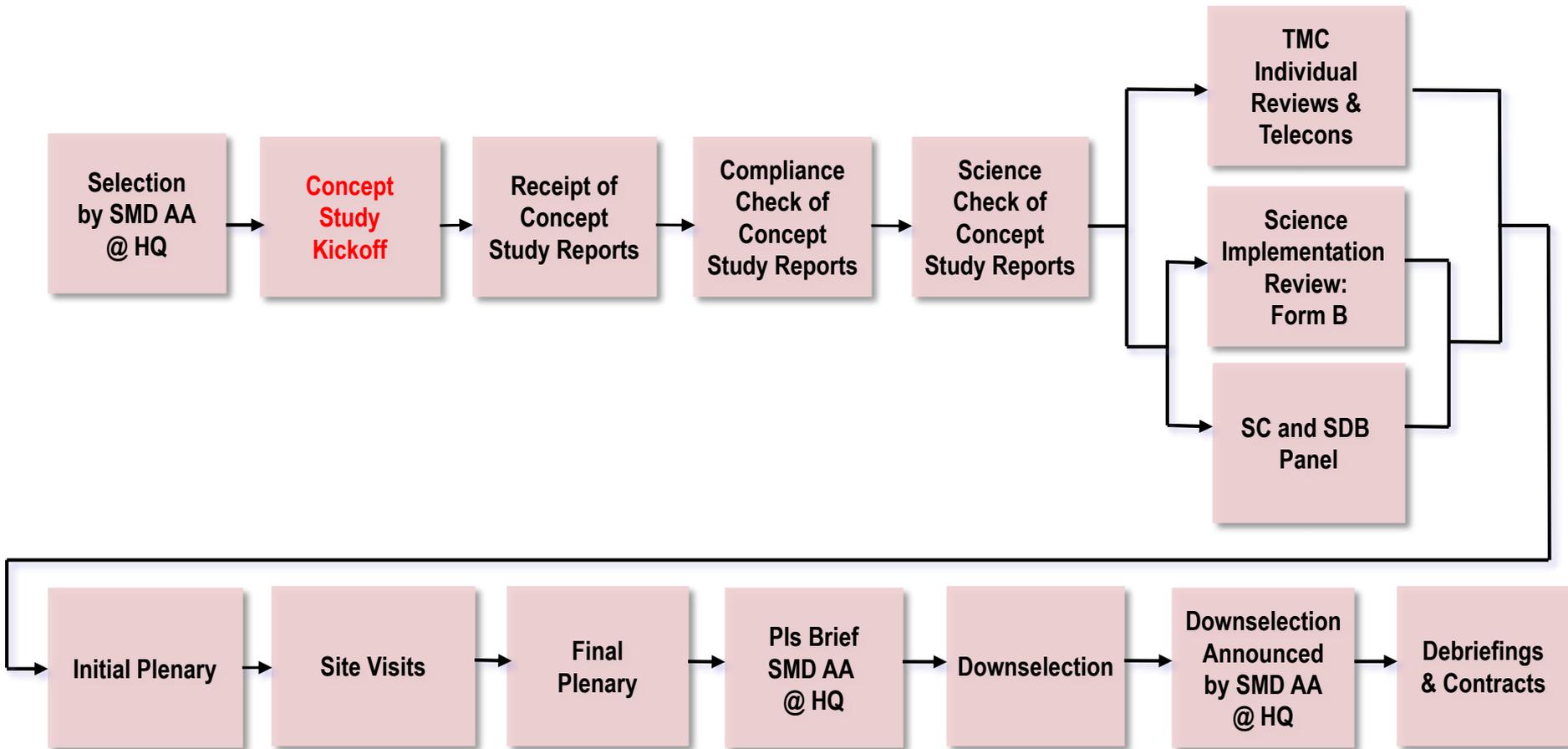


Concept Study Guidelines

- Astrophysics Explorer 2016 Draft Guidelines And Criteria For The Phase A Concept Study may be found at the Explorer Program Acquisition Website
 - https://explorers.larc.nasa.gov/APMIDEX2016/MIDEX/pdf_files/2016-Astro-MIDEX-Draft-2-CSR-Guidelines.pdf
- These Draft Guidelines are based on the “Standard CSR Guidelines,” so changes for the final version are expected to be minimal.
- Please send comments and questions to Linda Sparke by COB on Monday September 11.



What Follows Selection?





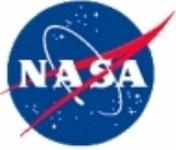
Major Evaluation Criteria

- All three criteria from the AO or PEA will be used:
 - Scientific Merit
 - Science Implementation Merit
 - Feasibility including Cost Risk
- Weighting between criteria will be different from Step 1, some individual factors are tweaked, some factors added
- The Step-2 evaluators will not have access to the Step-1 proposals, nor to the Step-1 reviews.



Scientific Merit Evaluation: Criterion A

- Step 1 selections were primarily based on *science balanced by feasibility*. Unless the science has changed, the Step-2 Science evaluation *will emphasize implementation*.
 - Unless directed, or Concept Study results demand it, objectives of Baseline and Threshold Science Missions should not change.
 - Science section from Step 1 proposal **must** be repeated in the CSR.
 - Any and all changes must be highlighted (change bars)
 - If there are no significant changes to the proposed investigation or other aspects of the proposed Baseline and Threshold Science Missions, the Form A rating remains unchanged from Step-1.



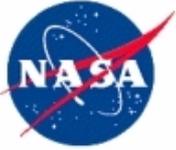
Science Implementation Evaluation: Criterion B

- All of the factors defined in Section 7.2.3 of the MIDEX AO or the SALMON-2 AO apply to the Concept Study and will be re-evaluated from the data supplied in the CSR and at the site visit.
 - Factor additions:
 - Details added to Factor B-1
 - Added instrument design to Factor B-2
 - New Factor B-7: Likelihood of scientific success (same as Factor A-3 at Step 1).
 - New Factor B-8: Maturity of proposed Level 1 science requirements and Level 2 Project Requirements
 - Any proposed SEO and Student Collaboration is evaluated
 - Site visit is viewed as an update to the Concept Study Report



Feasibility Evaluation: Criterion C

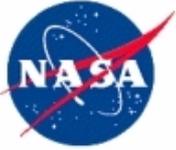
- See TMC presentation...



Criteria Weighting

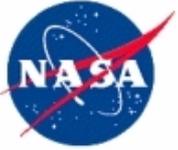
- Scientific merit of the investigation: approximately 25%
- Scientific implementation merit and feasibility of the investigation: approximately 20%
- Feasibility of mission implementation, including cost risk: approximately 50%
- Quality of plans for Small (Disadvantaged) Business subcontracting, and for an optional Student Collaboration, if proposed: approximately 5%

Plans for Small Business subcontracting, and for the Student Collaboration, are assessed by separate panels.

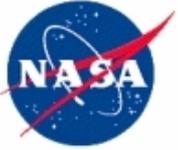


Competition Conditions

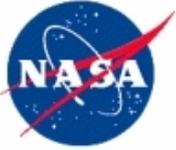
- **“Blackout” after the Kickoff Meeting.** Communications between Study Teams and the various NASA program offices will be focused to ensure fairness
 - Communications after this meeting will be controlled.
 - Technical and expert advice should be obtained directly from identified Points of Contact (POC’s).
 - All programmatic questions, including questions of policy, questions of interpretation, and questions of clarification, should come to HQ/Linda Sparke
 - But, NASA does not want to restrict these communications
 - If the process outlined by Program Office proves onerous, we will reassess it.
- Generic versions of questions and answers will be posted as “Questions and Answers” available from the Explorer Program Acquisition website.



QUESTIONS?

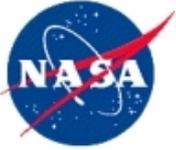


Backup



Explorers Kickoff Logistics

- Plenary Sessions held in Building 36, Room C211, 8:00 – 9:55 AM
 - Dial in # 844-467-6272, passcode 334821
 - Webex: Meeting #: 991 336 525 / Password: My79WiF?
 - Debrief Sessions in Room N207 and Award Sessions in Room N223 — see posted schedules
- Dial-in to be provided at the start of each Debrief or Award Session
- Breakout rooms are available; sign up on arrival
- Internet Access: Guest CNE option, choose Code 460 as your sponsor.
- Lunch will arrive at 11:30am. Those who did not sign up for lunch, but are hungry, can walk to the cafe in Building 34: out the back door, over the cat walk, follow the path straight ahead.



Meeting Agenda

Welcome

Concept Study Overview

TMC Requirements

Explorers Program Office

Mission Assurance

International Relations

Export Control

Launch Vehicles

Questions and Answers

Andrea Razzaghi

Linda Sparke/Mark Sistilli

Odilyn Luck (MIDEX) / Carlos Liceaga (MO)

Greg Frazier

Bob Calvo

Dennis McSweeney / Gib Kirkham

Juan Santos

Diana Calero