Draft EVM-2 Announcement of Opportunity and Science Evaluation

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Introduction

Purpose of this Presentation

1. Present to the community the Draft EVM-2 (EVM-2) Announcement of Opportunity (AO), and highlight the evaluation process.

2. To collect comments and answer questions.

Important Note: This Draft EVM-2 AO is based on SMD's Standard PI-Led Mission AO. However, it incorporates a large number of changes relative to the standard template as well as previous ESSP Program AOs including both policy changes and changes to proposal submission requirements. All proposers must read this AO carefully, and all proposals must comply with the requirements, constraints, and guidelines contained within this AO.

Draft EVM-2 AO Overview

- **The Draft EVM-2 AO is based on EVM-1 AO and SMD's Standard PI-Led Mission AO**
  - **Single-Step Evaluation & Selection Process**

- **PI-managed Mission Cost Cap** - $166M in FY 2018 dollars

- **Life Cycle Schedule** - Development not to exceed 5 years from selection announcement to launch readiness

- **Access to Space available to Proposers**
  - NASA-provided launch (reduces PI Cost Cap by $55M)
  - Non NASA-provided launch US or non-US primary, secondary, or co-manifested payload
  - Hosted payload on US or non-US launch vehicle
  - Potential ISS Payloads are solicited in the EVI element and not in this AO

- **Standard NASA Earth Science Data Policy**

- **Education/Public Outreach Plan:** costs only must be identified

Draft EVM-2 AO Overview

Complete Spaceflight Mission

- Complete PI led mission and is cost capped at $166M in FY 2018 dollars
- Proposals must identify and define an access to space identification, may be either PI provided or NASA provided with a $55M reduction in the PI Cost Cap.
- All phases of the project life must be identified scheduled and costed (formulation, development, implementation, operations and support of data archiving and closeout).
- All missions must collect data from a spaceborne platform
  - Potential ISS Payloads are solicited in the EVI element of the Earth Venture Program

Principal Investigator led Mission

- The PI is accountable to NASA for the success of the investigation, with full responsibility for its scientific integrity and for its execution within committed cost and schedule.
- Essential NASA oversight to ensure that the implementation is responsive to NASA requirements and constraints.
- Technology development is not expected.

Draft EVM-2 AO Overview

- **No limit on non-NASA or non-US contributions**
  - Contribution of access to space is permitted
  - Enabling partnerships are encouraged, however the stability & reliability of the partnership will be considered as a risk element in the proposal

- **Risk Classification** - Mission Category 3 (<$250M, low priority), Payload Class D allowable

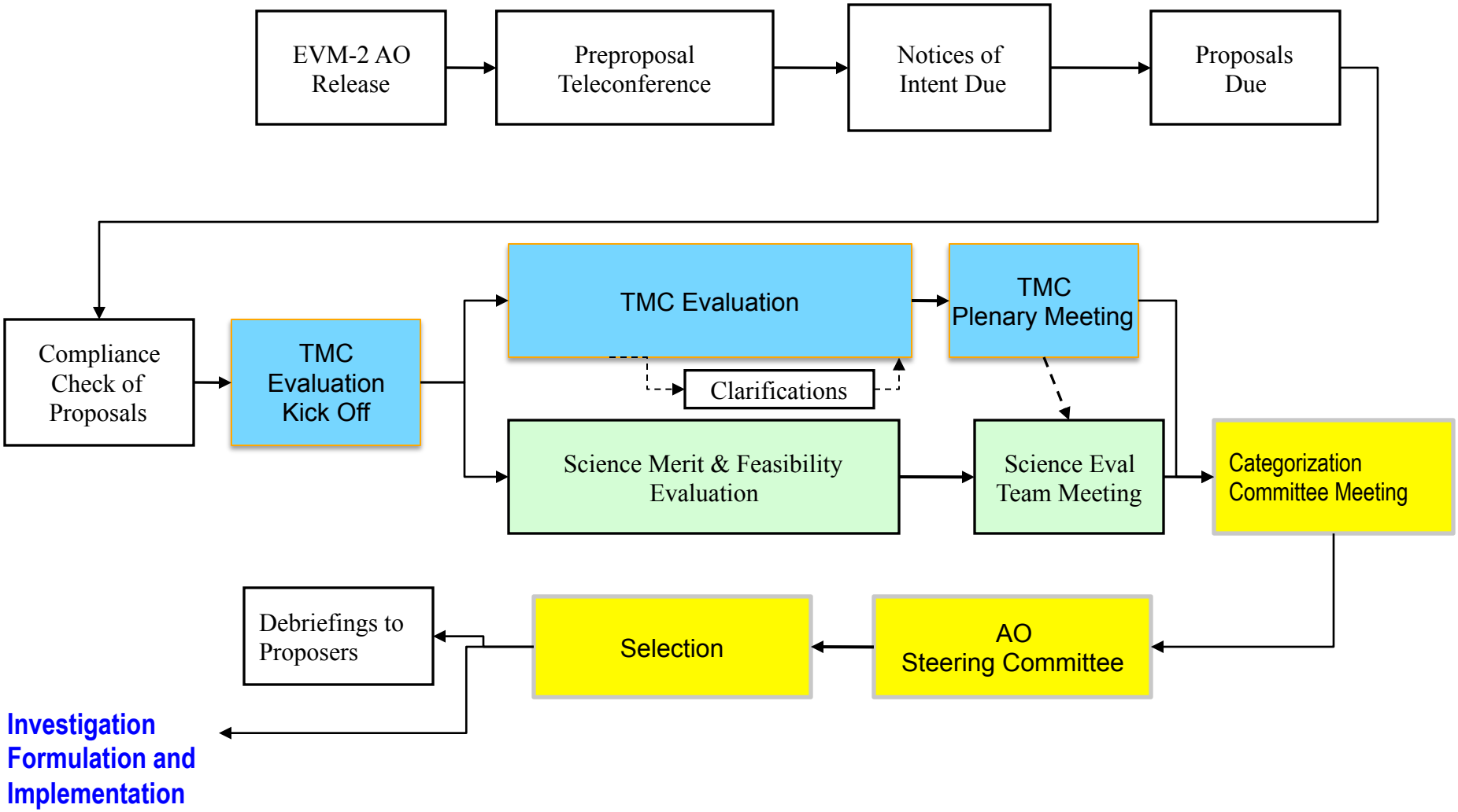
- **Applied Science**
  - Proposers shall describe a plan and budget for applications. In some science investigations, applications are not possible. In such cases, the proposer shall explain and justify why there is no viable application dimension to the investigation.

Tentative EVM-2 AO Schedule

- **Release Draft AO for comments** – 5/12/15
- **Draft AO Workshop** – 5/29/15
- **Comment due date** – 6/12/15
- **Release of AO** – Summer 2015
- **Preproposal Conference** – Release of AO + ~2 weeks
- **Proposal Submittal** – Release of AO + 90 days
- **Selection** – Submittal + 8 months
- **Launch Readiness** – no later than 5 years after selection announcement

Evaluation Overview

Proposal Evaluation Process



Compliance

- All proposals will be initially screened to determine their compliance to requirements and constraints of this AO.

- Proposals that do not comply may be declared noncompliant and returned to the proposer without further review. A submission compliance checklist is provided in Appendix F.

EVM-2 Applications Plan Requirement (New)

A new requirement has been added to request an Applications Plan that demonstrates how the data generated by the proposed mission could be utilized for applications. In some science investigations, applications are not possible. In such cases, the proposer shall explain and justify why there is no viable application dimension to the investigation. The AO language is quoted below.

"For this EVM-2, NASA places a strong emphasis on research and innovation for Earth system science issues. However, proposals must also articulate a plan to address applications-oriented users for their measurements, investigation, and data products.

Requirement 10. The proposal shall describe a plan and budget for the applications dimension of the mission. The proposal shall describe applications as part of the overall mission concept. The applications program plan shall address approach(es) and interaction with applications-oriented users and organizations of the project goals and products. The ability to adapt to new opportunities and to coordinate with NASA shall also be addressed. Proposal teams are strongly encouraged to identify a point of contact for applications to coordinate with NASA. NASA recognizes that, in some science investigations, applications are not possible. In such cases, the proposer shall explain and justify why there is no viable application dimension to the investigation."

RED indicates changes from EVM-1

Draft EVM-2 AO Highlights

Proposal Evaluation, Selection, and Implementation (Section 7)

7.1 Overview of the Proposal Evaluation and Selection Process

7.2 Evaluation Criteria

- 7.2.1 Overview of Evaluation Criteria
- 7.2.2 Scientific Merit of the Proposed Investigation (4 factors)
- 7.2.3 Scientific Implementation Merit and Feasibility of the Investigation (5 factors)
- 7.2.4 TMC Feasibility of the Mission Implementation, Including Cost Risk (5 factors)

EVM-2 Evaluation Criteria

The evaluation criteria as defined in the EVM-2 AO will be used to evaluate proposals.

- Scientific merit of the proposed investigation;
- Scientific implementation merit and feasibility of the proposed investigation; and
- Technical, management, and cost (TMC) feasibility of the proposed mission implementation, including cost risk.

The proposal categorizations will be based on these criteria. For categorization, scientific merit is weighted approximately 40%, scientific implementation merit and feasibility is weighted approximately 30%, and TMC feasibility, including cost risk, is weighted approximately 30%.

A Science Panel will evaluate the Scientific merit of the proposed investigation and the Scientific implementation merit and feasibility of the proposed investigation.

- This Science Panel will evaluate proposals relative to NASA ESD Research Goals, emphasizing innovative science.
- All Earth Science topics are applicable.

7.2.2 Scientific Merit of the Investigation

- Factor A-1. Compelling nature and scientific priority of the proposed investigation's science goals and objectives.
- Factor A-2. Programmatic value of the proposed investigation.
- Factor A-3. Likelihood of scientific success.
- Factor A-4. Scientific value of the Threshold Science Mission.

EVM-2 Applications Plan Criteria (New)

"7.2.2 Scientific Merit of the Proposed Investigation

The information provided in a proposal will be used to assess the intrinsic scientific merit of the proposed investigation. Scientific merit will be evaluated for the Baseline Science Mission and the Threshold Science Mission; science enhancement options beyond the Baseline Science Mission will not contribute to the assessment of the scientific merit of the proposed investigation. For this EVM-2 solicitation, emphasis and consideration of research objectives outweighs applications. The factors for scientific merit include the following:

Factor A-1. Compelling nature and scientific priority of the proposed investigation's science goals and objectives. This factor includes the clarity of the goals and objectives; how well the goals and objectives reflect program, Agency, and National priorities; the potential scientific impact of the investigation on program, Agency, and National research and applications objectives; and the potential for fundamental progress, as well as filling gaps in our knowledge relative to the current state of the art.

Factor A-2. Programmatic value of the proposed investigation. This factor includes the unique value of the investigation to make scientific progress in the context of other ongoing and planned missions; the relationship to the other elements of NASA's science programs; how well the investigation may synergistically support ongoing or planned missions by NASA and other agencies; how well the mission may support key applications communities and inform decisions; and the necessity for a space mission to realize the goals and objectives."

RED indicates changes from EVM-1

7.2.3 Scientific Implementation Merit and Feasibility of the Investigation

- Factor B-1. Merit of the instruments and mission design for addressing the research and application goals and objectives.
- Factor B-2. Probability of technical success.
- Factor B-3. Merit of the data analysis, data availability, and data archiving plan.
- Factor B-4. Science resiliency. This factor includes both developmental and operational resiliency.
- Factor B-5. Probability of science team success.

EVM-2 Applications Plan Criteria (New)

"7.2.3 Scientific Implementation Merit and Feasibility of the Proposed Investigation

The information provided in a proposal will be used to assess merit of the plan for completing the proposed investigation, including the scientific implementation merit, feasibility, resiliency, and probability of scientific success of the proposed investigation. For this EVM-2 solicitation, emphasis and consideration of research objectives outweighs applications. The factors for scientific implementation merit and feasibility include the following:

Factor B-1. Merit of the instruments and mission design for addressing the research and potential applications goals and objectives. This factor includes the degree to which the proposed mission will address the goals and objectives; the appropriateness of the selected instruments and mission design for addressing the goals and objectives; the degree to which the proposed instruments and mission can provide the necessary data; and the sufficiency of the data gathered to complete the scientific investigation.

Factor B-3. Merit of the data analysis, data availability, and data archiving plan. This factor includes the merit of plans for data analysis and data archiving to meet the goals and objectives of the investigation; to result in the publication of science discoveries in the professional literature; to potentially serve and support key applications communities; and to preserve data and analysis of value to the science community. Considerations in this factor include assessment of planning and budget adequacy and evidence of plans for well-documented, high-level data products and software usable to the entire research community and interested applications communities; assessment of adequate resources for physical interpretation of data and reporting scientific results in the professional literature (*e.g.*, refereed journals); and assessment of the proposed plan for the timely release of the data to the public domain for enlarging its science impact."

RED indicates
changes from EVM-1

The adjectival summary scores

Summary Evaluation	Basis for Summary Evaluation
Excellent	A comprehensive, thorough, and compelling proposal of exceptional merit that fully responds to the objectives of the AO as documented by numerous and/or significant strengths and having no major weaknesses.
Very Good	A fully competent proposal of very high merit that fully responds to the objectives of the AO, whose strengths fully outbalance any weaknesses.
Good	A competent proposal that represents a credible response to the AO, having neither significant strengths nor weakness and/or whose strengths and weaknesses essentially balance.
Fair	A proposal that provides a nominal response to the AO, but whose weaknesses outweigh any perceived strengths.
Poor	A seriously flawed proposal having one or more major weaknesses (*e.g.,* an inadequate or flawed plan of research or lack of focus on the objectives of the AO).

Categorization

- Category I. Well conceived and scientifically and technically sound investigations pertinent to the goals of the program and the AO's objectives and offered by a competent investigator from an institution capable of supplying the necessary support to ensure that any essential flight hardware or other support can be delivered on time and data that can be properly reduced, analyzed, interpreted, and published in a reasonable time. Investigations in Category I are recommended for acceptance and normally will be displaced only by other Category I investigations.
- Category II. Well-conceived and scientifically or technically sound investigations which are recommended for acceptance, but at a lower priority than Category I.
- Category III. Scientifically or technically sound investigations which require further development. Category III investigations may be funded for development and may be reconsidered at a later time for the same or other opportunities.
- Category IV. Proposed investigations which are recommended for rejection for the particular opportunity under consideration, whatever the reason.

Questions

All questions pertaining to the draft EVM-2 AO

MUST

be addressed to:

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