

**Fifth Community Announcement: Advance Notice Regarding Forthcoming Release of the New Frontiers 5 (NF5) Announcement of Opportunity (AO)**

SAM.gov Special Notice ID Number: [NNH20ZDA016L](#)

Estimated Release of draft AO ..... November 2022 (target)

Estimated Release of final AO..... November 2023 (target)

Estimated Proposal due date ..... March 2024 (target)

This community announcement is the fifth in a series to provide an advance notice of NASA’s Science Mission Directorate (SMD) plan to release an Announcement of Opportunity (AO) to solicit New Frontiers Program mission investigations. The New Frontiers Program conducts Principal Investigator (PI)-led space science investigations in SMD’s planetary programs under a not-to-exceed cost cap for the PI-Managed Mission Cost (PMMC). The target release date for the final AO is Fall 2023. This NF5 announcement shares some policies under consideration for the AO and invites public comment to NASA.

The policies described in this announcement are not final. Public feedback to this announcement will be considered by NASA as part of the ongoing AO preparation process to revise these and other policies. SMD’s Planetary Science Division (PSD) estimates the policies in this announcement may have the most significant impact on proposers’ responses to the AO.

The draft policies offered for public comment are the following:

Mission Themes: Mission investigations will be limited to the following mission themes (listed without priority), with the science objectives specified in either the [Decadal Survey](#) or the previously issued [New Frontiers 4 AO](#):

- Comet Surface Sample Return
- Lunar South Pole-Aitken Basin Sample Return
- Ocean Worlds (only Enceladus)
- Saturn Probe
- Io Observer
- Lunar Geophysical Network

Cost Cap: PI-Managed Mission Cost (PMMC) for investigations will have two cost caps. The PMMC for Phases A-D will be capped at \$900M (FY22\$) with exclusions as noted in this announcement. The PMMC for Phase E will be capped at \$300M (FY22\$) with exclusions as noted in this announcement. The now-standard 25% minimum reserve on Phases A-D will be required within the PMMC. Development of flight or ground software, ground hardware, or testbed development or refurbishment that occurs after launch will be considered deferred Phase C/D work and their costs will be included under the PMMC cost cap for Phases A-D. Only costs related to spacecraft and science

operations will be considered part of the Phase E PMMC cost cap. Lower-cost investigations and cost-efficient operations are encouraged.

Step 2 Selections: NASA intends to select up to three proposals to proceed to Step 2 to conduct a mission concept study followed by downselection of up to one mission investigation to proceed into development. NASA will provide \$5M (Real Year\$) to each selectee(s) for this mission concept study.

Government Furnished Equipment (GFE)/Tech Incentives: NASA currently does not plan to offer an incentive to infuse particular NASA-developed technologies under the New Frontiers 5 AO. NASA will revisit the availability, utility, and readiness of technologies prior to the release of the final AO.

Launch Readiness Date: Mission investigations must be ready to launch no earlier than Fall 2031 and no later than Fall 2034.

Launch Vehicle: Launch Vehicle costs and procurement will be the responsibility of NASA. NASA intends to offer all launch vehicle performance capabilities (defined in previous AOs from Low through High) as GFE. Its cost will not be included in the PMMC. The cost of mission specific and special launch services (i.e., larger fairing or the flight of nuclear materials) will be included within the PMMC. Details of these specialized costs are still under discussion.

Non-U.S. Contributions: The value of non-U.S. contributions remains constrained as was done for recent New Frontiers and Discovery Program AOs. The total value of non-U.S. contributions may not exceed one-third of the PMMC for phases A-D, and the value of non-U.S. contributions to the science payload may not exceed one-third of the total payload cost.

In addition, NASA and ESA are working to formalize a partnership for the New Frontiers 5 AO that would make available an ESA contribution to proposers. The contribution can include hardware procured by ESA from European vendors and/or other services, such as ground segment support, to be considered under ESA responsibility. Scientific instruments are explicitly not included as an option under this potential partnership.

Nuclear Power Sources: Mission investigations may utilize radioisotope power systems (RPS) provided by NASA. Radioisotope Heater Units (RHUs) also are available for use as localized heat sources. For electrical power, up to one Next Generation Radioisotope Thermoelectric Generator (RTG) will be offered by NASA. Multi-Mission Radioisotope Thermoelectric Generators (MMRTGs) are not planned to be offered under the New Frontiers 5 AO. The cost for the Next Generation RTG and/or RHUs and associated specialized launch services will be included within the PMMC. Information on these costs and the performance characteristics of the Next Generation RTG and RHUs will be made available at a later date.

Additional Opportunities: As has been done for the two most recent New Frontiers and Discovery Program AOs, requests for including Student Collaborations, Science

Enhancement Options, and Technology Demonstrations are deferred to the Step-2 mission concept study. Though deferred, information on these opportunities will be provided no later than the AO release date.

NASA has not approved the issuance of the New Frontiers AO and this notification does not obligate NASA to issue the AO and solicit proposals. Any costs incurred by prospective investigators in preparing submissions in response to this notification or the planned Draft and Final New Frontiers 5 AO are incurred completely at the submitter's own risk

Further information will be posted on the New Frontiers Program Acquisition Page at <https://newfrontiers.larc.nasa.gov/NF5/> as it becomes available. Questions and feedback on the draft policies in this notice are due by October 31, 2022. The draft AO expected to be released in November 2022 presents an additional opportunity to comment on the draft policies in this notice. Questions and feedback may be emailed to Dr. Curt Niebur, the New Frontiers Program Lead Scientist, via [curt.niebur@nasa.gov](mailto:curt.niebur@nasa.gov).