



# ***EARTH VENTURE MISSION-3***

## **Access to Space**

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# Options Allowed in the Draft AO

Five possible approaches the PI may propose for access to space:

1. NASA-provided Small Class Launch Vehicle (Expendable Launch Vehicle, aka Commercial Launch vehicle), or ELV
2. NASA-provided Commercial Federal Aviation Administration (FAA)-Licensed Launch Services (aka Venture Class Launch Services), or CFAALV
3. NASA-provided Ride share Access to Space through Evolved Expendable Launch Vehicle Secondary Payload Adapter (ESPA) on a launch capable of carrying the extra capacity.
4. Non NASA-provided launch services (as primary, secondary, or co-manifested payload on US- or non US-provided launch vehicle).
5. Non NASA-provided launch services for a Rideshare Access to Space.



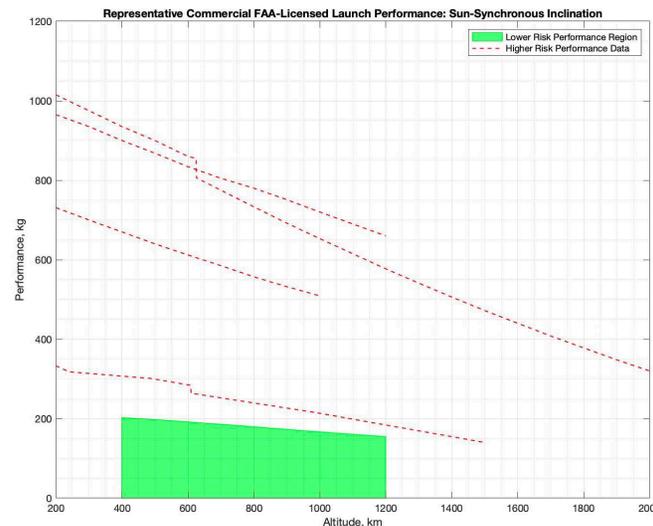
# 1 NASA-Provided Launch Services Small Class Launch Vehicle

- Typical approach used on other PI-led AO missions
- NASA-provided launch services may be proposed at a charge of \$61M in FY22 dollars against the PI-Managed Mission Cost (PIMCC).
  - Covers basic services as delineated in the ELV Launch Services Program Information Summary and expects the proposer to cover additional special requirements.
  - Launch delay costs as a result of spacecraft or payload delays are not covered in the basic services. Any such delay costs must be funded out of the PI-Managed Mission Cost and, therefore, represent a cost risk to the PI-Managed Mission Cost.
- Mr. Garrett Skrobot, NASA Launch Services Program, is the POC for any questions regarding NASA-provided Launch Vehicle capabilities.



## 2. NASA-Provided Commercial FAA Licensed Launch Service

- Investigations may use the Commercial FAA Licensed Launch Services (CFAALS)
  - NASA Launch Service Providers will arrange a Launch vehicle to meet the mission requirements
- If NASA provides a launch for a CFAALS investigation there will be a charge of \$22M in FY 22 dollars against the PI-Managed Mission Cost.
- If the requirements is below the performance curves in the Commercial FAA-Licensed Launch Services Program Information Summary shown in Figures 1a and 1B, then the charge is \$12M against the PIMCC.
- Mr. Garrett Skrobot, NASA Launch Services Program, is the POC for any questions regarding NASA-provided Launch Vehicle capabilities.





# 3. NASA-Provided Rideshare

- Investigations are permitted to use NASA to arrange a Rideshare on a launch in a timeframe consistent with the investigation.
- The costs against the PIMCC is \$25M for the costs of the entire Evolved Expendable Launch Vehicle Secondary Payload Adapter (ESPA) or ESPA Grande.
- If the entire ESPA or ESPA Grande is not required, the costs against the PIMCC are on a per-port basis
  - For a standard ESPA with 6 ports, the cost is \$4.3M per port needed for the investigation
  - For ESPA Grande with 4 ports, the cost is \$6.5M per port for the investigation
- Consult the 2020 SMD ESPA RUG for guidelines of the requirements for ports on the ESPA or ESPA Grande.

Questions concerning potential ESPA investigations may be addressed to:

Garrett L Skrobot

Launch and Flight Operations NASA Kennedy Space Center KSC, Florida 32899

Telephone: 321-867-5365 E-mail: [garrett.l.skrobot@nasa.gov](mailto:garrett.l.skrobot@nasa.gov)



## 4. Non-NASA Launch Services

Alternative access to space, rather than the use of AO-provided access to space, is permitted under this AO. Alternative access to space may include non-AO-provided launch services as primary or secondary (e.g., ESPA) payloads on a U.S.- manufactured (purchased or contributed) or foreign-manufactured (contributed) launch vehicle; Department of Defense (DoD) Space Test Program (STP) Rideshare; and deployment from a spacecraft not related to this AO.

- This terminology is intentionally designed to allow the proposer to devise their own approach to launch, including working directly with Launch Vehicle providers outside of the LSP NLS II contract mechanism
  - Allows the Proposer to purchase a U.S. launch vehicle outside of NASA LSP and NLS II contract
  - Allows the Proposer the use of a non-U.S. launch vehicle or rideshare with certain restrictions
    - Contributed launch services must be provided on a no-exchange-of-funds basis and be part of a legitimate scientific collaboration.
- This will allow for possibly innovative Science Instruments + Spacecraft + Launch Vehicle proposals



## 4. Non-NASA Launch Services (cont.)

- Proposal must be consistent with national law and NASA policy
- LSP will not have much insight into many of the launch provider processes, hence their oversight will be minimal.

For missions proposing non-AO-provided launch services, proposals shall describe the management approach for launch service procurement, insight, and approval (in compliance with NPD 8610.23) and demonstrate that the management of the launch service risks is appropriate for the mission.

Missions proposing non-AO-provided launch services shall include the effects of any known risks in their project risk assessments. Uncertainty associated with unknown risks shall be included in the basis of the proposed unencumbered cost reserves



# Hosted Payloads

- Hosted payloads are not solicited in the EVM-3 AO.
  - They can be included as an option in future Earth Venture Instrument solicitations.





# NASA Launch Services Program's Monitoring Role for non NASA-provided Launch Vehicles

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Prospective Bidders  
Teleconference/WebEx

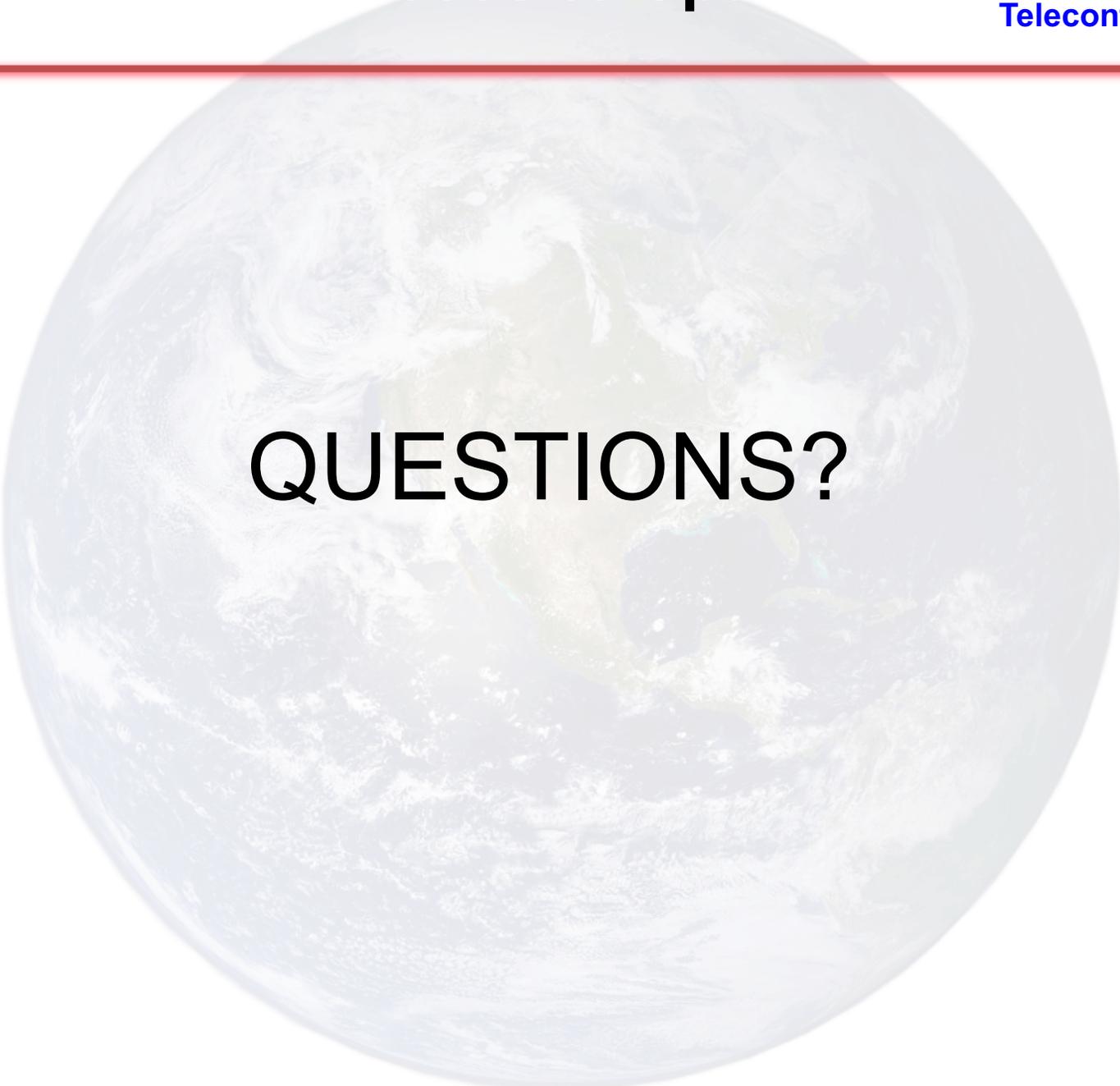
- The LSP monitoring role will be done through an established process that has been employed on previous NASA missions
- For Launch Vehicles that are not certified, it will be the responsibility of the PI to ensure that the LV obtains the appropriate approvals. (see the following presentation.
- Mr. Garrett Skrobot, NASA Launch Services Program, is the POC for any questions regarding LSP Advisory Services.

Non-NASA launch services will be handled by NASA consistent with existing policy and regulations. The demonstrated reliability and the resultant probability of mission success for contributed launch services will be evaluated by NASA consistent with U.S. Space Transportation Policy (see Section 5A) and NASA's Launch Services Risk Mitigation Policy (NPD 8610.7D, *NASA Launch Services Risk Mitigation Policy for NASA-Owned or NASA-Sponsored Payloads/Missions*). The proposed launch service will be assessed in conjunction with NASA stakeholders as part of the selection process. The NASA Flight Planning Board will approve final mission assignment assuring consistency with Agency risk strategy. Information on the reliability of ELVs may be obtained from the point of contact listed in the *Launch Services Information Summary* document.



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A large, faded satellite image of Earth from space, showing the Americas and surrounding oceans, serving as a background for the central text.

**QUESTIONS?**