Domestic ELV Launch Services Groundrules/Policy

Any domestic Expendable Launch Vehicles (ELV) proposed for this AO will be procured and managed by the NASA/Launch Services Program (LSP) using government contracts.

Under the provisions of the NASA contract, the launch service includes the launch vehicle (LV) and associated standard services, non-standard services (mission unique options), and all engineering and analysis. LSP also provides technical management of the launch service, provides technical insight into the LV production/test, coordinates and approves mission-specific integration activities, provides mission unique LV hardware/software development, provides payload-processing accommodations, and manages the launch campaign/countdown. (Reference Attachment 1)

Upon mission selection, LSP using its standing contracts, will competitively select a launch service provider and award a Launch Service Task Order (LSTO) for the mission based on customer requirements. The LSTO is awarded to the Contractor that provides the best value in launch services to meet the Government's requirements based on technical capability/risk, reasonableness of proposed price, and past performance. Accordingly, assumption of a specific launch vehicle configuration as part of the AO proposal will not guarantee that the proposed LV configuration will be selected unless there is firm technical rationale for sole source. This rationale should be clearly explained in the proposal.

All NASA-procured launch services are to be consistent with NASA Policy Directive (NPD) 8610.7, NASA Launch Services Risk Mitigation Policy. Expendable launch services acquired by NASA will be managed in accordance with NPD 8610.23, Technical Oversight of Expendable Launch Vehicle (ELV) Launch Services and NPD 8610.24, Launch Services Program (LSP) Pre-Launch Readiness Reviews. These NPD's can be accessed through the URLs:

http://nodis.gsfc.nasa.gov/displayDir.cfm?t=NPD&c=8610&s=7D

http://nodis.gsfc.nasa.gov/displayDir.cfm?t=NPD&c=8610&s=23C

http://nodis.gsfc.nasa.gov/displayDir.cfm?t=NPD&c=8610&s=24C

Dual manifested or secondary payloads will not be considered under this AO.

Contributed Domestic or Foreign Launch Vehicles

Foreign launch vehicles will not be considered under this AO.

Launch Vehicle Information/Configuration/Performance

The LSP has developed a performance website for vehicles currently on contract to NASA. This web site contains information relevant to NASA-procured launch services. This planning tool can be found at the following web address: http://elvperf.ksc.nasa.gov/elvMap/. Access to this site is available to anyone with an internet connection and is generally available at any time. For questions, utilize the point(s) of contact listed in this document.

The Offerors should select the minimum launch service performance class that meets their requirements including adequate performance margins. Attachment 2 describes these performance ranges in terms of mass to orbit (kilograms) for a range of C3 values. The performance data in Attachment 2 is based upon

the NASA Launch Services II (NLS II) contracted performance data and is to be used for planning purposes only. For variations from what is found in Attachment 2, refer to the contact listed in this document for an assessment. The Offerors should specifically state in the proposal the launch service performance range to meet their requirements for this mission.

Launch Service Costs

The launch services costs will be held by the Discovery Program. Provided in the launch service costs are the launch service, a nominal allocation for mission unique launch vehicle modifications/services, mission integration, launch site payload processing, range safety and launch vehicle telemetry support. Attachment 2 describes performance ranges for six categories of launch vehicles in the intermediate performance class. The "baseline" service is based upon a medium performance curve with a 4-m fairing. Attachment 2 also shows the composite launch vehicle environments and payload fairing static envelope that would ensure compatibility across the range of potential launch vehicles currently available under the baseline launch service for which demonstrated compatibility is expected.

For purposes of this AO, a charge/credit will be reflected against the PI-Managed Mission Cost for investigations that require the use of more/less capable launch vehicles as shown in Table 1 below. Additionally, an $11M charge will be counted against the PI-Managed Mission Cost for missions utilizing radioactive materials.

	4m	5m
Low	$(16)	$13
Med	Baseline	$28
High	$14	$43

Table 1: LV Mission Cost variables ($M)

Evaluation Criteria

Attachment 3 shows the Evaluation checklist that will be used as a guide for the evaluators during the proposal evaluation phase. This checklist should give the offerors an indication of the types of information that are expected to be contained in the proposals.

NASA Launch Services Program Point of Contact for Additional Information

Additional information including performance quotes, mission integration inquiries and costs may be obtained directly from the point of contact below. Otherwise questions must be directed as indicated in the Technical and Scientific Inquiries section of the AO.

Diana Manent Calero
Mission Manager
NASA Launch Services Program
Code VA-C
Kennedy Space Center, FL 32899
Phone: 321-867-8197
Email: Diana.m.calero@nasa.gov

NASA-LSP Standard Launch Services

This list provides an overview of the standard services that the spacecraft customer receives with NASA-LSP as their launch service provider.

Integrated Services:

- Range support and services
- Payload processing facility and support
- Contractor Engineering support
- Base Support contractors
- Logistics
- Hazardous support

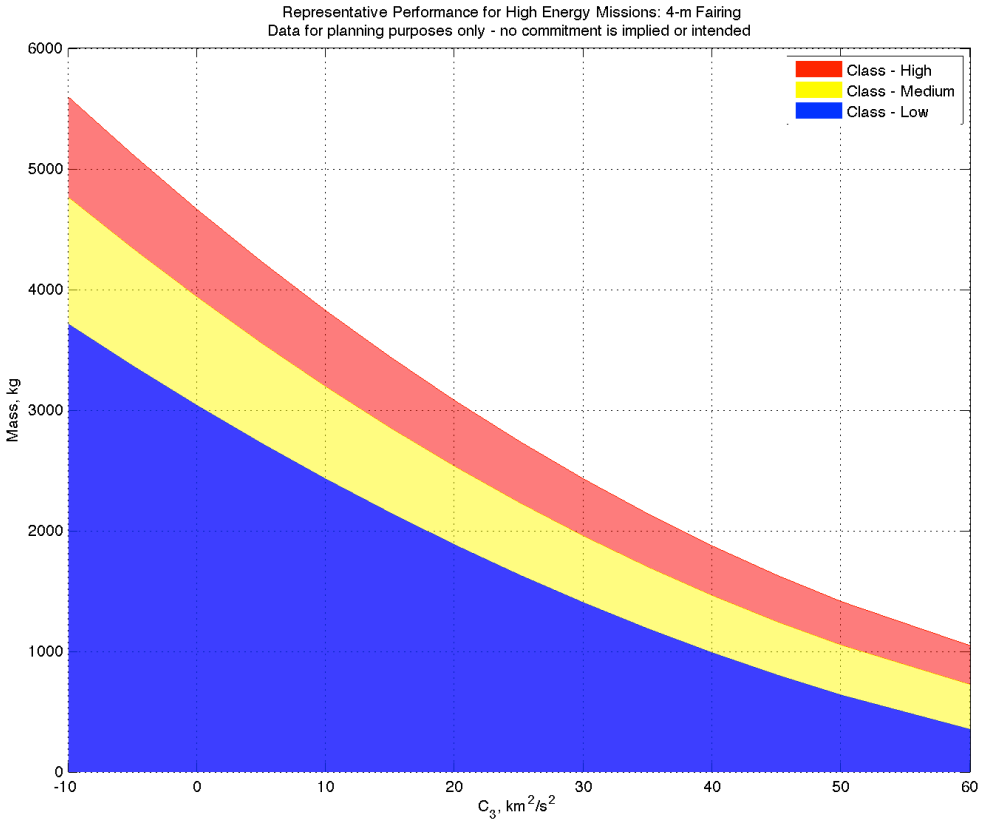
Launch Vehicle and Mission Unique:

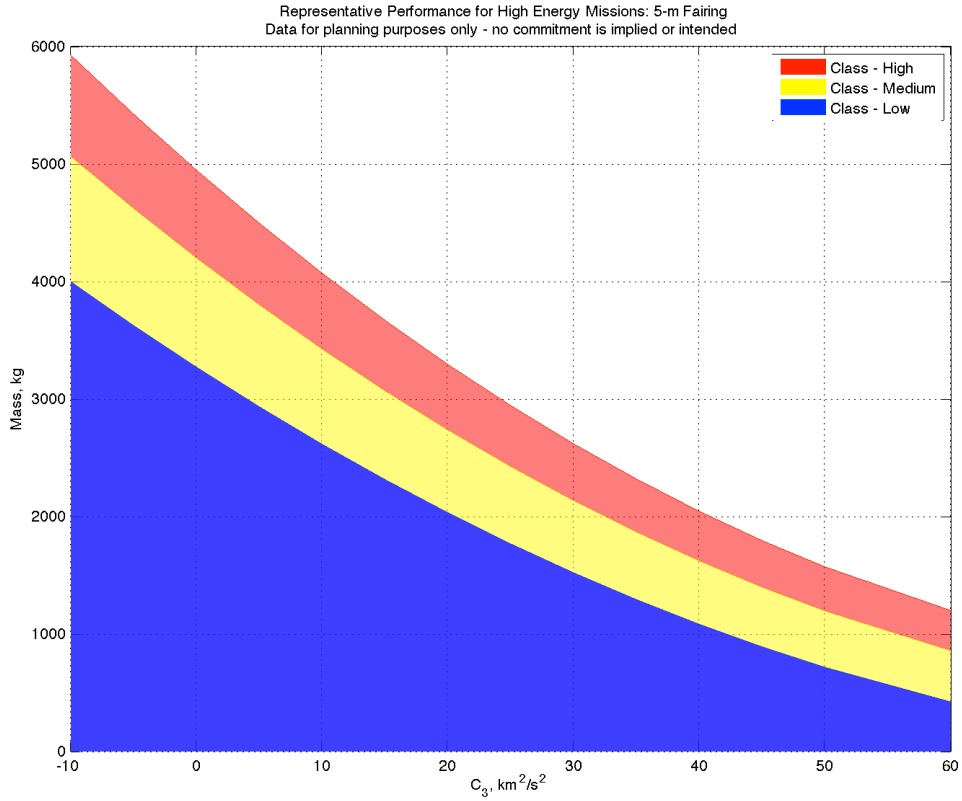
- Launch vehicle that meets customer's performance needs
- Payload Fairing with approximately 2 access doors with thermal and/or acoustic blankets
- Payload Separation System
- Payload Adapter
- Test Payload adapter availability
- Spacecraft Spin/De-spin capability for separation (if required)
- Collision/Contamination Avoidance Maneuver (CCAM) capability if needed
- Electrical interface connectors (approximately 3 sets)
- Mission Unique Reviews (approximately 3)
- Readiness Reviews (approximately 4)
- Risk Management
- Launch vehicle insight and approval
- Mission integration management & engineering support
- Launch campaign management
- Down range telemetry assets for LV data

NASA-LSP Non-Standard Nuclear Launch Services for Missions utilizing a Radioisotope Heater Unit (RHU)

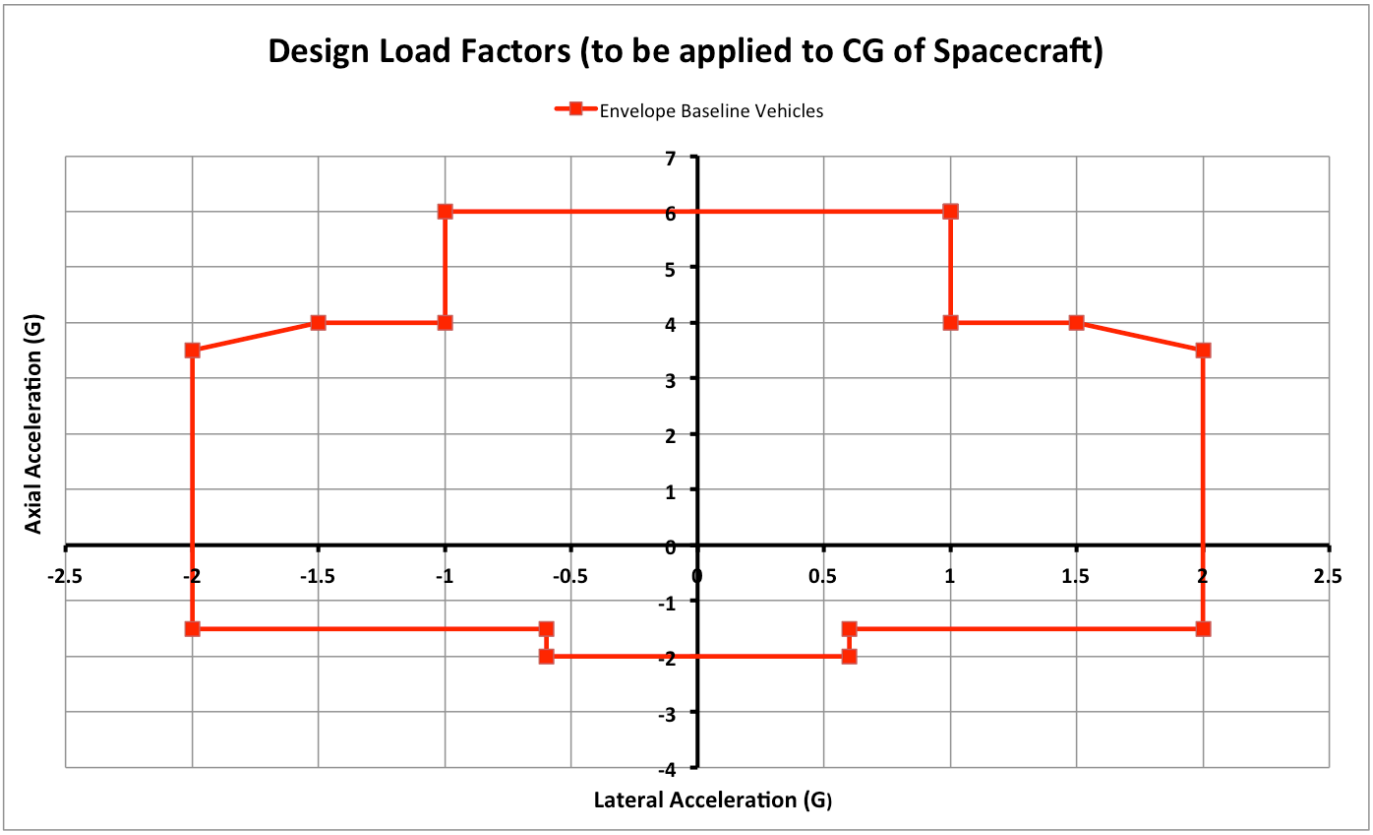
- Nuclear Databook
- FTS/ADS launch vehicle modifications
- Ground video coverage
- NEPA/Launch Approval support Testing
- Range Support i.e. RSAS
- Near Pad Contingency Detectors
- DER Certification Support
- Nuclear Payload Processing
- Radiation Safety Operations
- Security
- Health Physics Support
- Radiation Contingency support
- Facility Modifications

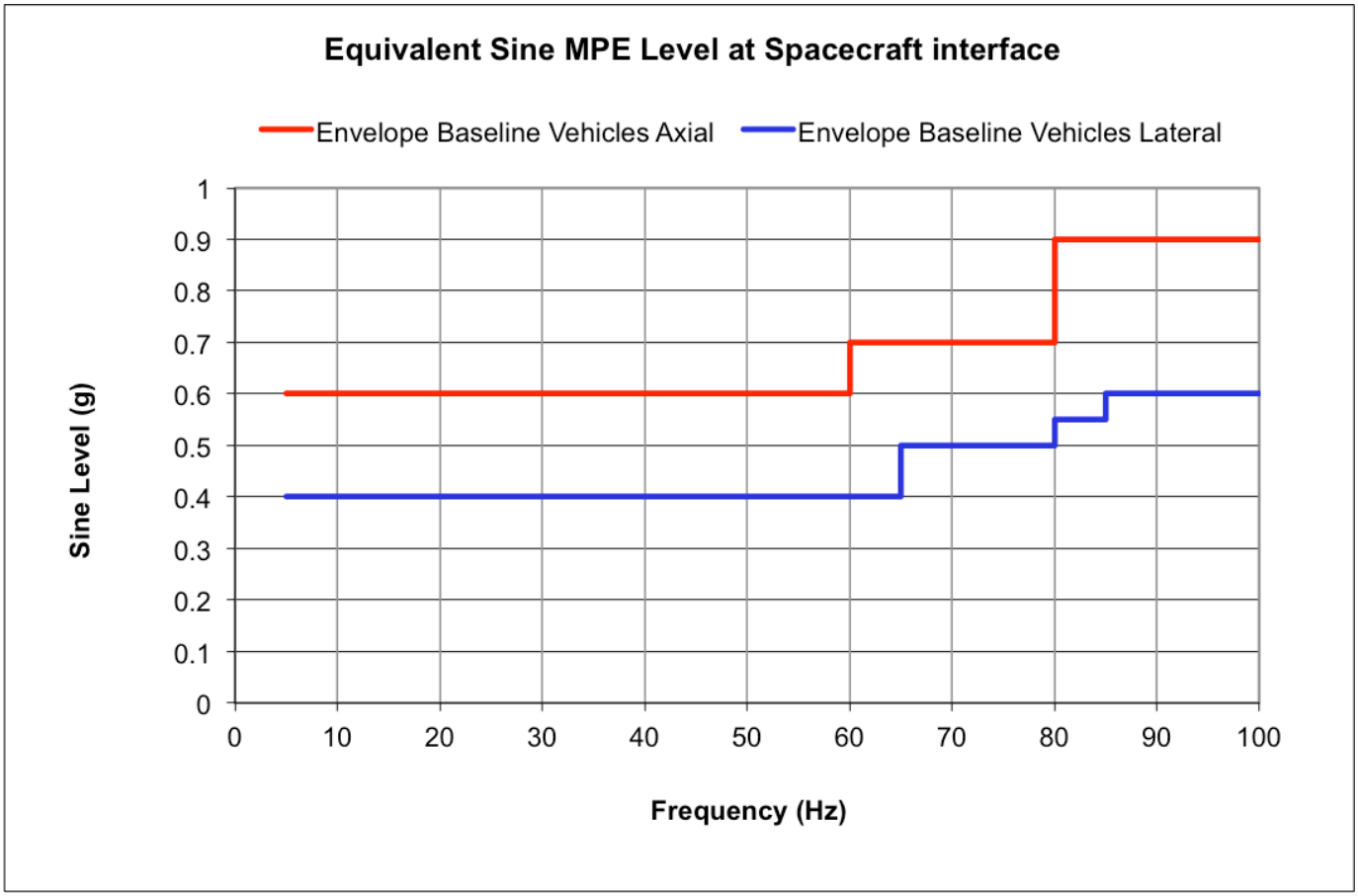
Launch Service Performance Ranges in the Intermediate Class



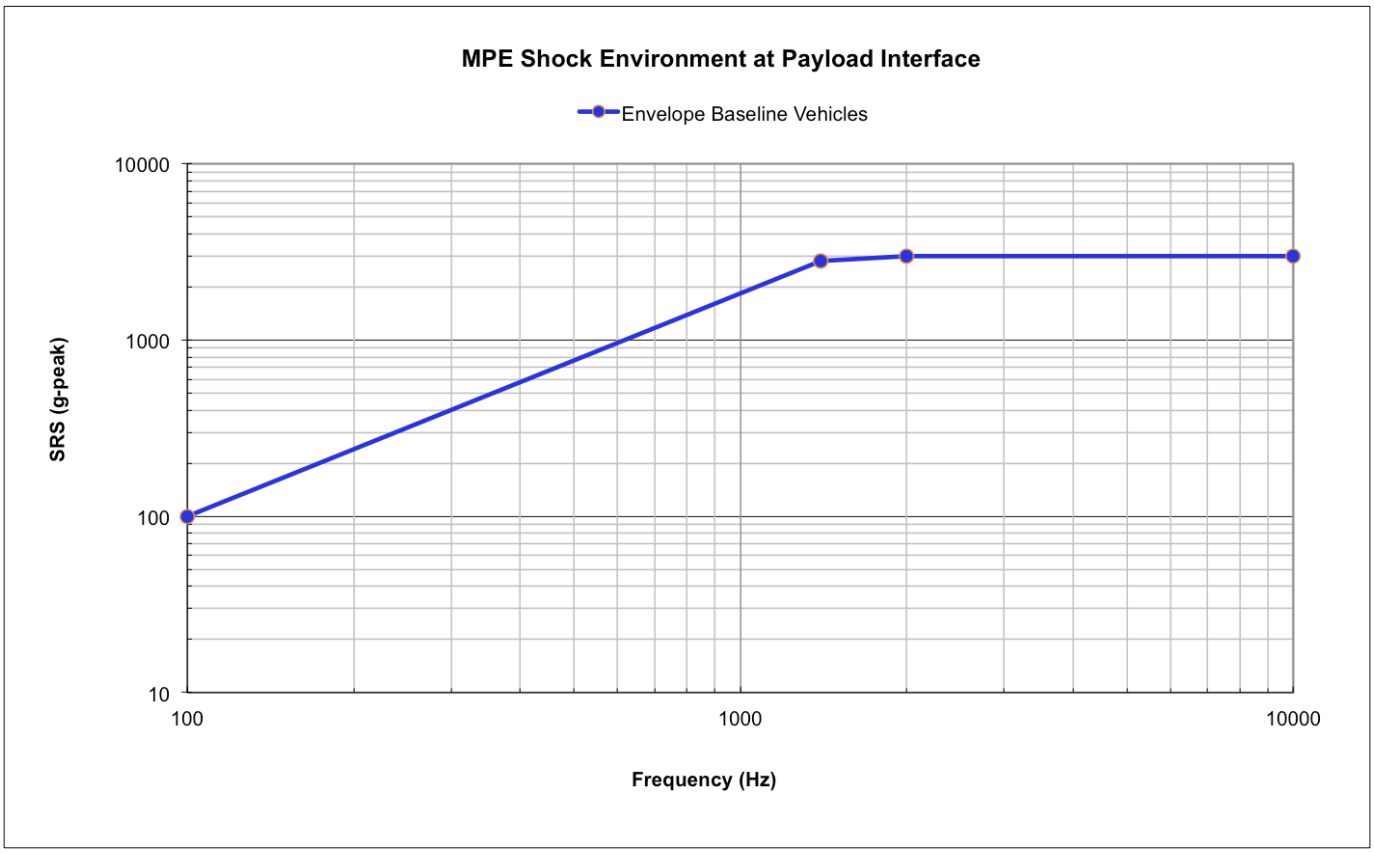


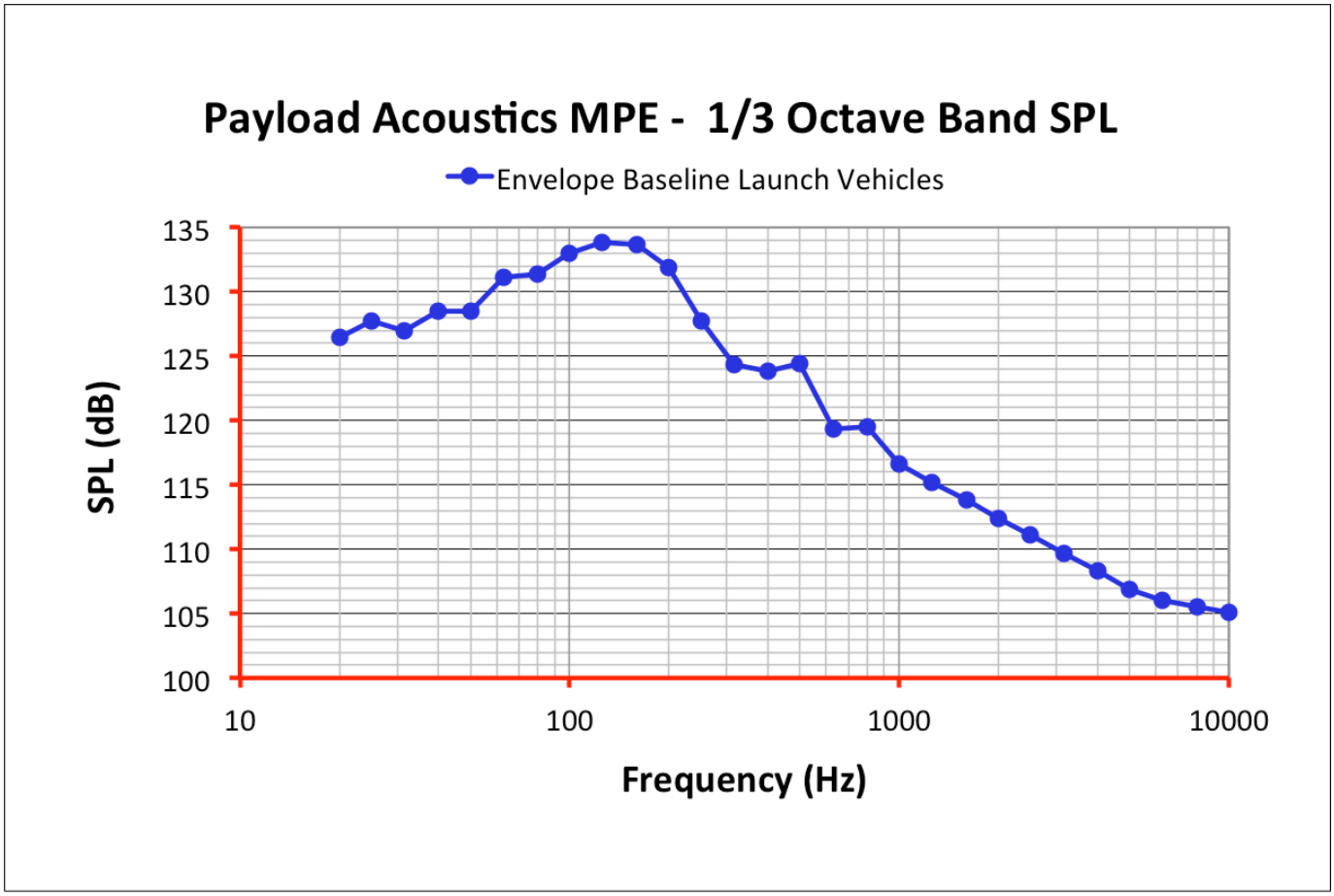
Attachment 2





Attachment 2





4m Payload Fairing Envelope:
Figure 1 below shows a static payload fairing envelope that will ensure compatibility with all current potential launch vehicle configurations.

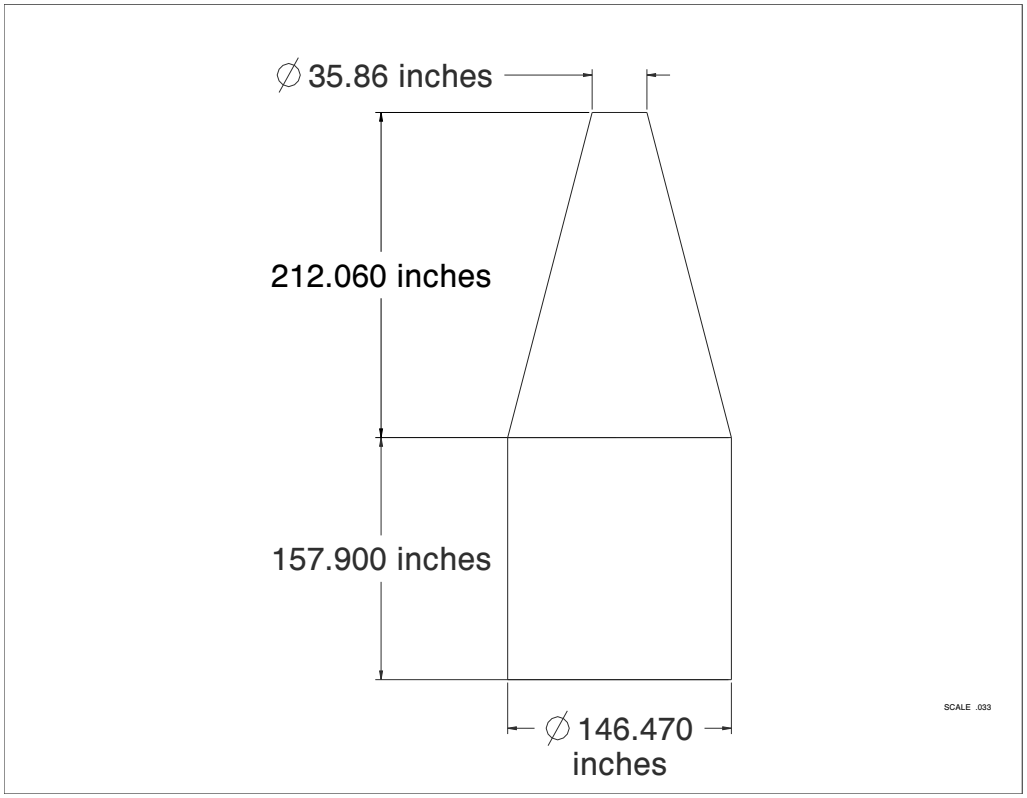


Figure 1: 4m Static Payload Fairing Envelope

Attachment 3

AO Evaluation Form

Launch Services Program

Proposal Name: _____

Proposal #: _____

Evaluator POC: _____

Phone: _____

Email: _____

Launch Service Technical Evaluation:

Overall Assessment: - Given the ground rules in the AO, is the proposed launch vehicle (LV) concept feasible for this application? (☐Yes or ☐ No)

Comments:_____

_____

LV Performance: Area of concern (☐Yes or ☐ No)

Proposed LV configuration: _____

Proposed Launch Date: _____

Launch Period (MM/DD/YYYY to MM/DD/YYYY): _____/____/_____ to _____/____/_____

Launch Window (On any given day of the launch period Minutes:Seconds): _____ : _____

Orbit requirements: Apogee: _____ km Perigee: _____ km Inclination: _____deg.

High Energy requirements: C_3: _____ km^2/sec^2 DLA: _____deg RLA: _____deg

Proposed LV Performance: _____

Mass (including reserves) Dry Mass: _____ kg Wet Mass: _____ kg

Dry Mass Margin: _____ kg _____ %

Wet Mass Margin _____ kg _____ %

Formulas:
Mass Margin kg = LV Performance – S/C Mass (including reserves)
Mass Margin % = [(Mass Margin kg)/ S/C Mass (including reserves) kg] X 100

LV Performance Comments/issues/concerns:

_____

_____

Launch Service Cost Assessment: Area of concern (☐Yes or ☐ No)

Is there additional funding for any mission unique modifications/services? (☐Yes or ☐ No)

LV Integration: Area of concern (☐Yes or ☐ No)

Does the proposer have experience in LV integration? (☐Yes or ☐ No)
LV to Spacecraft Interface: Area of concern (☐Yes or ☐ No)

Attachment 3

Proposed Payload Fairing (PLF) _____

Spacecraft (S/C) Dimensions: Radial:_____ m Height _____ m

Any intrusions outside of the PLF usable dynamic volume? (☐Yes or ☐ No)

Mechanical Interface:

Standard Adapter: _____ Custom Adaptor: _____

Electrical Interface:

Standard _____ Pin(s) Connector(s): (☐Yes or ☐ No)

Mission Unique requirements:

Instrument T-0 GN_2 Purge: (☐Yes or ☐ No)

T-0 S/C Battery Cooling: (☐Yes or ☐ No)

Planetary Protection Requirements: (☐Yes or ☐ No)

Contamination Control Requirements: PLF: (☐Yes or ☐ No) LV adapter: (☐Yes or ☐ No)

Cleanliness Level: _____ other: _____

Unique Facility Requirements: (☐Yes or ☐ No)

Pad: _____

S/C Processing Facility: _____

S/C Environmental Test Plans

Environmental Test Plan/Flow described: (☐Yes or ☐ No)

Test Levels provided: (☐Yes or ☐ No)

Test Schedule provided: (☐Yes or ☐ No)

Comments/issues/concerns: _____
_____

Spacecraft Schedule: Area of concern (☐Yes or ☐ No)

Adequate timing of: Launch Service Integration Start Time: (☐Yes or ☐ No)

S/C Environmental Test Program: (☐Yes or ☐ No)

Delivery of Verified S/C Model: (☐Yes or ☐ No)

S/C ship date: (☐Yes or ☐ No)

S/C to LV integrated Operations: (☐Yes or ☐ No)

Missions with Radiological material Area of concern (☐Yes or ☐ No)

List the Radiological Sources: _____

Are unique facilities required to store/process the Radiological Sources? (☐Yes or ☐ No)

Any LV modifications required for additional safety or Launch approval? (☐Yes or ☐ No)