SMEX 10/11: AO 03-OSS-02

SMEX International Space Station Payloads Transportation and Services Information

The information in this document is applicable only to proposals submitted in response to AO 03-OSS-02: Announcement of Opportunity for the Explorer Program: Small Explorers and Missions of Opportunity.

Shuttle Use and Projected Opportunities

Under this Announcement of Opportunity, a SMEX or Mission of Opportunity payload may be launched on the Space Shuttle only as a payload for the International Space Station (ISS). ISS utilization planning includes Office of Space Science (OSS) research payloads planned for launch in the 2007 and 2008 timeframe.

Capabilities and Requirements

The Space Shuttle offers unique opportunities to launch payloads of many different sizes and weights and that may require recovery. The resources and capabilities of the Space Shuttle are shared among all payloads on a mission. Payloads need approved carriers, which, in turn, interface with the Orbiter. The size and weight and required resources limitations of ISS research payloads for this AO are provided in the *International Space Station Research Opportunities* document in the Explorer Program Library.

Environment

Launch, orbital, and landing environments are driven by a combination of the Shuttle environment, the presence of other payloads in the bay, and the payload/carrier design. Specific environments are available from the point of contact identified below.

Shuttle Safety

The proposer is required to plan and implement a system safety program that meets all Space Shuttle safety requirements imposed by the Johnson Space Center for Shuttle payloads. The controlling safety documents are (NHB) 1700.7, *Safety Policy and Requirements for Payloads Using the Space Transportation System*; and (KHB) 1700.7, *STS Payload Ground Safety Handbook*. The Space Shuttle Program typically requires 3 safety reviews. Proposers are advised that Space Shuttle safety requirements are particularly strict and may lead to unexpected design changes, additional test or analysis requirements, and associated cost increases. These can be mitigated significantly by early involvement with the Shuttle Safety Office.

Cost

For a Stage 1 proposal in response to this AO, the proposal shall include a lien against the mission cost cap for Shuttle launch services. The amount to be set aside shall be from 10% to 20% of the mission cost cap. If the payload is large (i.e. Full Truss Site) and/or requires complex integration, then the high end (20%) must be used. If the payload is small (i.e. JEM EF,

EXPRESS Pallet, WORF) and does not require complex integration, then a lower percentage (down to 10%) can be used and should be justified in the proposal. The point of contact identified below can provide case-by-case guidance on the appropriate lien.

For a Stage 1 proposal, the Shuttle launch service costs should follow the funding profile given in Table 1.

The proposal must clearly identify any Shuttle optional services and/or mission unique requirements. Cost estimates for identified optional services and/or mission unique requirements will be developed on a case-by-case basis through discussions with the point of contact identified below.

During the Phase A concept study, the actual costs and required funding profile for Shuttle launch services will be developed. These costs will be consistent with current NASA policy for Shuttle launch service costs and will be developed in conjunction with the appropriate Space Shuttle and ISS program offices.

Point of Contact

The OSS Research Program Office (RPO) for ISS utilization is the primary point of contact for all proposers interested in flying payloads on the ISS. Questions regarding Space Shuttle transportation, ISS utilization, accommodations, and interfaces should be addressed to the Research Program Manager, Chris Dunker, Goddard Space Flight Center, Greenbelt MD 20771, (301) 286-9833, fax (301) 286-1694. Email to <Steven.C.Dunker@nasa.gov>.

Table 1
Shuttle Launch Services Funding Profile

	Two Years prior to Launch	Year prior to Launch	Launch Year
Fraction of Funding	30%	40%	30%