

**DISCOVERY AO**  
**LAUNCH SERVICES INFORMATION SUMMARY**  
*April 19, 2004*

*Text added July 1, 2004*

**Domestic ELV Launch Services Ground-Rules/Policy**

All domestic Expendable Launch Services proposed for this AO will be procured and managed by NASA/KSC via the NASA Launch Services (NLS) contract. Domestic launch services that are procured directly by the PI/proposed team will not be considered for this AO

NLS launch services includes the Launch Vehicle (LV), associated standard services, non-standard services (mission unique options), all engineering and analysis, and minimum performance standards. NASA launch services also provide technical management of the launch service, technical insight into the LV production/test, coordination and approval of mission-specific integration activities, mission unique LV hardware/software development, payload-processing accommodations, and the launch campaign/countdown management.

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 from NASA will be managed in accordance with NPD 8610.23, Technical Oversight of Expendable Launch Vehicle (ELV) Launch Services. These NPD's can be accessed through the URLs:

[http://nodis3.gsfc.nasa.gov/displayDir.cfm?Internal\\_ID=N\\_PD\\_8610\\_007A\\_&page\\_name=main](http://nodis3.gsfc.nasa.gov/displayDir.cfm?Internal_ID=N_PD_8610_007A_&page_name=main)

[http://nodis3.gsfc.nasa.gov/displayDir.cfm?Internal\\_ID=N\\_PD\\_8610\\_023A\\_&page\\_name=main](http://nodis3.gsfc.nasa.gov/displayDir.cfm?Internal_ID=N_PD_8610_023A_&page_name=main)

**Foreign Launch Vehicles**

Proposals that include Foreign Launch Vehicles will only be considered if the launch service is provided as a contribution and consistent with the following:

Contributed foreign launch services are permitted for payloads that do not contain nuclear power sources or nuclear materials. Non-U.S. launch services for payloads containing nuclear materials of any kind are prohibited. Proposals assuming contributed foreign launch will be evaluated on a case-by-case basis for consistency with NPD 8610.7. The proposal must clearly address the flight history of the foreign LV and mitigation plans for technical risk. These mitigation plans should be structured to meet the same intent as NPD 8610.7. Any costs associated with mitigation plans/technical insight must be identified and accounted for in the cost proposal. In addition, the proposal must address export control and technology transfer issues, consistent with NASA policy.

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**Launch Vehicle Information/Configuration/Performance**

NASA/KSC Launch Services Program has developed an on-line payload planner's guide for NASA missions. This web site contains information relevant to NASA-procured launch services. The information provided includes all available NLS LV configurations, standard/non-standards services, and payload fairing envelopes and environments. This planning tool can be found at the following web address: <https://elvppg.ksc.nasa.gov/live/default.asp?proxyID=-1>.

Access to this site requires a self-determined password, which is activated by the site administrator at KSC. A user can request access/password activation by going to the site and following the directions provided on the log-in screen as well as providing the required information. Access to this web site can typically be activated within 24-48 hours during the week. For questions, contact NASA/KSC/ELV. This web site contains no information on foreign LVs.

The Offerors should select the minimum ELV configuration(s) that meets their requirements including adequate performance margins. As a reference tool, the NASA/KSC Launch Services Program has developed an on-line tool to assist in determining LV performance. This tool is publicly accessible at the following web address: <http://elvperf.ksc.nasa.gov/elmMap/index.html>.

The vehicle performance information reflects figures consistent with the NLS contract requirements. All of these figures reflect separated Spacecraft mass and each have associated ground-rules/assumptions (including the adapter-type). For variations from that which is found on-line, contact NASA KSC Launch Services Office for an assessment. The Offeror should specifically state in the proposal the Expendable Launch Vehicle (ELV) configuration(s) that meet their requirements for this mission. This web site contains no information on foreign LVs.

**Nuclear Launch Approval**

For missions using nuclear materials, the NASA/KSC Launch Services Program is responsible for managing the development, coordination and technical content of the LV Databooks. The costs for the mission unique databook(s) and other LV-related items (e.g., range requirements for the LV, FTS system, event sequence diagrams, etc.) have been accounted for in the noted nuclear missions cost figures. These costs are only applicable for missions that are using nuclear materials on-board.

**Launch Service Costs**

Table 1 provides launch service cost figures for candidate launch services for evaluation purposes of this AO Based on the Offeror's selection of the individual ELV configuration(s) that meet their technical requirements, the Offeror should use the respective launch service class dollar figures in the overall mission cost.

Funding estimates are stated in real-year dollars and assume a launch no later than **December 2009**. For cost estimates for launches in years other than 2009, please contact NASA/KSC/ELV

**DISCOVERY AO  
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for a different estimate. The funding profiles provide for the launch service, nominal allocation for mission unique launch vehicle modifications/services, mission integration, launch site payload processing, and the LV-related tasks for the nuclear launch approval process. The estimated costs for nuclear launch approval covered in these figures include items such as LV data-books, launch site accommodations for nuclear materials, material handling/logistics by DOE, and Range Safety requirements associated with the LV.

**Evaluation Criteria**

Attachment 1 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 expected in the proposals regarding the launch service.

**NASA ELV Launch Services Point of Contact for Additional Information**

Additional information including concerning smaller or larger launch vehicles, performance quotes, mission integration inquiries, and costs may be obtained from:

**Norman M. Beck, Jr**  
**Advanced Planning Manager**  
**NASA Launch Services Program**  
**Code VA-A**  
**Kennedy Space Center, FL 32899**

**Phone: 321-476-36 17**

**Email:** Norman.M.Beck@nasa.gov

**July 1, 2004**

The Discovery Program Director has announced a change to the Discovery 2004 AO's launch no-later-than date, from December 31, 2009, to June 30, 2010. The revised payment schedule for the new launch date is below.

Discovery 11 Pricing with June 30, 2010						
						Rev. 1
<ul style="list-style-type: none"> <li>- All costs are estimated in real-year dollars (order year = L-30) based on current NLS contracts information.</li> <li>- There are no launch penalty cost assumed in budget</li> <li>- Assumed launch date of June 30, 2010.</li> </ul>						
<u>Launch Veh.</u>	<u>Launch Site</u>	<u>FY07</u>	<u>FY08</u>	<b>NOA \$M</b>		<u>Total</u>
				<u>FY09</u>	<u>FY10</u>	
-						-
Delta II 232X	CCAFS	1.0	30.0	32.0	17.0	\$80.0

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Delta II 242X	CCAFS	1.0	30.0	32.0	17.0	\$80.0
Delta II 292x	CCAFS	1.0	33.0	36.0	20.0	\$90.0
Delta II 292XH	CCAFS	1.0	37.0	40.0	22.0	\$100.0

**TABLE 1**

**Launch Services Cost Figures**

**Small Launch Service Class (Non-Nuclear)**

For specific information on Small Launch Service Class vehicles, please contact the Launch Services Program identified above.

**Medium Launch Service Class (Non-Nuclear)**

<b>Discovery 11 Pricing Exercise</b>							
- All costs are estimated in real-year dollars (order year = L-30) based on current NLS contracts information.							
- There are no launch penalty costs assumed in budget							
- Assumed launch date of December 31, 2009. <span style="float: right;">Rev. 2</span>							
		<b>NOA \$M</b>					
<u>Launch Veh.</u>	<u>Launch Site</u>	<u>FY06</u>	<u>FY07</u>	<u>FY08</u>	<u>FY09</u>	<u>FY10</u>	<u>Total</u>
Delta II 2320	CCAFS	0.6	15.9	23.5	33.4	0.4	\$73.8
Delta II 2325	CCAFS	0.6	16.5	24.5	34.3	0.5	\$76.4
Delta II 2420	CCAFS	0.6	16.1	23.9	33.8	0.5	\$74.9
Delta II 2425	CCAFS	0.6	16.8	24.9	34.8	0.6	\$77.7
Delta II 2920	CCAFS	0.6	17.6	26.2	36.0	0.7	\$81.1
Delta II 2925	CCAFS	0.6	18.3	27.1	37.0	0.8	\$83.8
Delta II 2925H	CCAFS	0.6	20.9	31.0	40.9	0.8	\$94.2

**NOTE:**

- The funding profiles provide for the launch service, nominal allocation for mission unique launch vehicle modifications/services, mission integration, launch site payload processing, range safety, and launch vehicle telemetry and communications.
- Delta II configuration designations 2XXX shown here and 7XXX shown in the AO represent differences in naming convention only (e.g. Delta II 7925 is the same as Delta II 2925).

**Nuclear Missions-Additional Launch Costs to Basic Launch Service**

The estimated additional launch costs for Nuclear Launch Approval for the launch vehicle covered in the figures below include items such as LV Databooks, Launch site accommodations for nuclear materials, material handling/logistics by DOE, and Range Safety requirements associated with the LV.

<b>FY06</b>	<b>FY07</b>	<b>FY08</b>	<b>FY09</b>	<b>Total</b>
<b>\$2M</b>	<b>\$4M</b>	<b>\$3M</b>	<b>\$2M</b>	<b>\$11M</b>

# Attachment 1

## AO Proposal Evaluations KSC ELV Launch Services Evaluation Input

Proposal Name: \_\_\_\_\_  
Proposal #: \_\_\_\_\_  
Evaluator POC: \_\_\_\_\_  
Phone: \_\_\_\_\_  
Email: \_\_\_\_\_

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### **Technical Evaluation:**

**Overall Assessment** – given the ground rules in the AO, is the proposed LV concept feasible for this application?

Yes       No       Yes with comments – see details below

**LV Performance:**       Area of Concern

Proposed LV configuration: \_\_\_\_\_

Proposed Mass-to-Orbit Requirements:

Mass:  kg      Apogee:  km      Perigee:  km      Incl:  deg

Does the proposed LV configuration have adequate performance capability?       Yes       No

If yes, how much performance margin is available?       kg       %

Comments/Issues/Concerns: \_\_\_\_\_

**LV-to-SC Interfaces:**       Area of Concern

Payload Fairing Envelope – adequate envelope for proposed SC?       Yes       No       Unclear

Proposed Mechanical Interface (LV/SC Adapter)?

Standard Interface       Custom Adapter Req'd       Unclear

Mission Unique Modifications Required?

Yes       No       Unclear

Comments/Issues/Concerns: \_\_\_\_\_

**LV Cost Assessment:**       Area of Concern

Is LV cost profile consistent to that given in the AO LV Appendix?

Yes       No       Unclear

If mission unique mods have been identified, have they been properly accounted for in cost profile?

Yes       No       Unclear

# Attachment 1

## AO Proposal Evaluations KSC ELV Launch Services Evaluation Input

Comments/Issues/Concerns:

Area of Concern

Comments/Issues/Concerns – general in nature and/or with other sections of the proposal: