

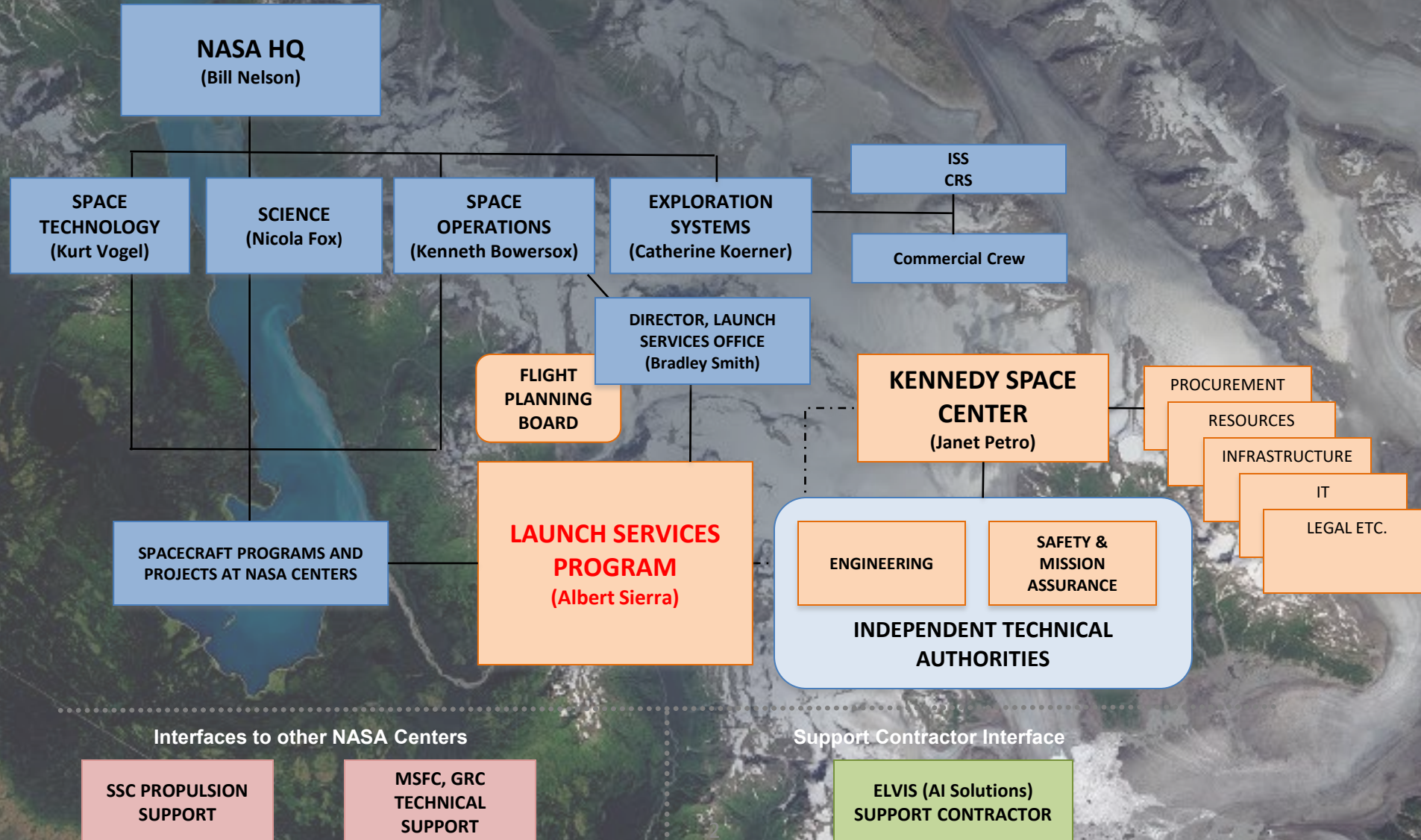


Launch Services ESE MIDEX 2023 AO

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Flight Projects Office
Launch Services Program
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Launch Services Program Relationships (NASA HQ/SOMD/KSC)

National Aeronautics and
Space Administration





LSP Organizational Structure



Launch Services Program

The Launch Services Program (LSP) provides:

- Management of the launch service
- Technical oversight of the launch vehicle production/test
- Coordination and approval of mission-specific integration activities
- Mission unique launch vehicle hardware/software development
- Payload-processing accommodations
- Launch campaign/countdown management

Launch Service for this AO

- NASA provided primary launch service
 - Launch services expected to be provided under NLS II Contract
 - Domestic launch vehicle certified as category 1, 2 or 3 per NPD 8610.7D
 - For more details reference the Earth System Explorers MIDEX 2023 AO **Launch Services Program Information Summary** document in the AO library
 - Alternative Access to Space arrangements are NOT available under this AO (*Earth System Explorers MIDEX 2023 AO, Launch Services Information Summary, Page 1*)

Launch Service for this AO (cont.)

- LSP's focus will be on providing a "Launch Service Risk Assessment" in accordance with the Launch Service Information Summary and providing a Risk input based upon the level of LV compatibility for each proposed SC
- A rough definition of risk is provided below; however, these rankings are somewhat subjective rankings:
 - **LOW Risk** – Easily compatible with a number of LV providers in the contract pool; Requirements enveloped by contracted LV provider capabilities
 - **MEDIUM Risk** – Marginally compatible, the key here will be to highlight looming envelope exceedances that may eliminate some or most LV providers; Challenging orbital insertion requirements or performance needs
 - **HIGH Risk** – Not compatible with any LV providers or marginally compatible with only 1 LV provider, forcing a sole source acquisition

Launch Service Budget

- Under a NASA provided Launch Service for this AO, a standard launch service includes:
 - The launch vehicle, engineering, analysis, and minimum performance standards and services provided by the contract.
 - Mission integration
 - Launch Site Payload Processing
 - Range Support
 - Down Range Telemetry support (launch vehicle only)
 - Standard Mission Uniques – items typically necessary to customize the basic vehicle hardware to meet spacecraft driven requirements. Already budgeted for are items like:
 - Pre-ATP studies such as coupled loads and/or trajectory analysis
 - Payload isolation system
 - GN2 pure air purge prior to T-0
 - ISO 14644-1 Class 7 (Class 10K) integration environment

NASA Launch Services II Contract

- The NLS II Contract is LSP's primary method to acquire all classes of Category 2 and Category 3 commercial launch services for spacecraft customers
- NLS II Provides NASA with domestic launch services that are safe, successful, reliable, and affordable
- Provides services for both NASA-Owned and NASA-Sponsored payloads through multiple Indefinite Delivery Indefinite Quantity (IDIQ) Launch Service Task Order (LSTO) contracts with negotiated Not To Exceed (NTE) Prices
- Provides services on a Firm-Fixed-Price (FFP) basis
 - Incorporates best commercial practices to the maximum extent practical
 - Includes Standard and Non-Standard services
 - Mission unique modifications
 - Special studies
- Allows LSP to turn on a Task Assignment or Non-Standard Service at any time for analyses

NASA Launch Services Contract (cont.)

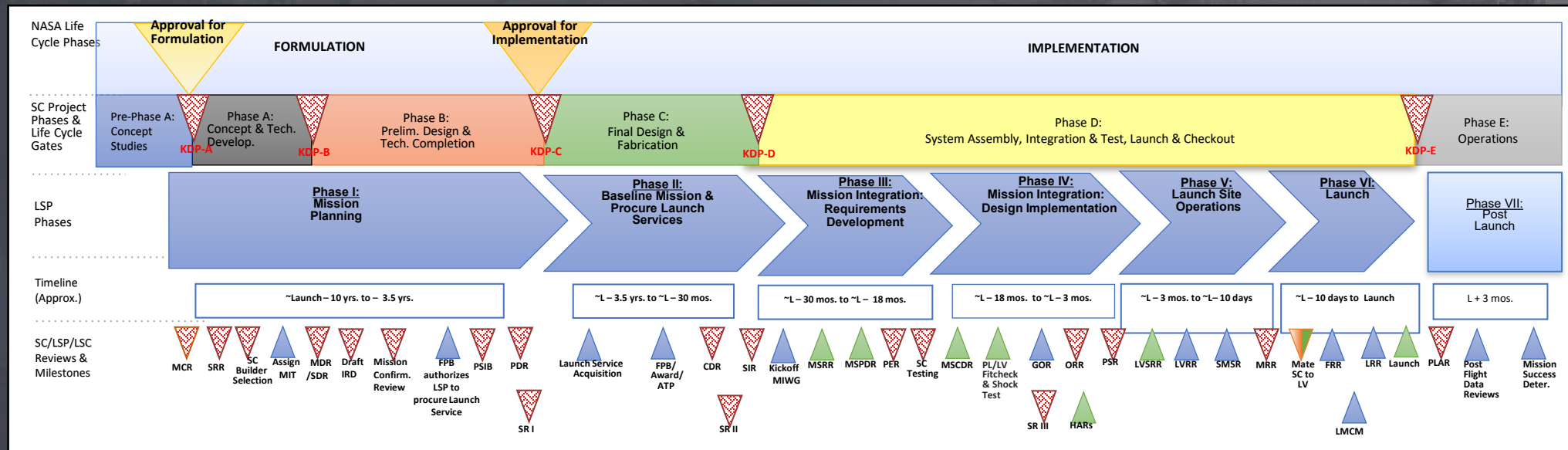
- Launch Services Risk Mitigation Policy for NASA-owned and/or NASA-sponsored Payloads/Missions can be found under NPD 8610.7. Document can be found at <http://nodis3.gsfc.nasa.gov>
 - Risk Category 1: Low complexity and/or low cost payloads-Classified as Class D payloads pursuant to NPR 8705.4
 - Risk Category 2: Moderate complexity and/or moderate cost payloads-Classified as Class C payloads and, in some cases, Class B payloads, pursuant to NPR 8705.4
 - Risk Category 3: Complex and/or high cost payloads-Classified as Class A payloads and, in some cases, Class B payloads, pursuant to NPR 8705.4
- NLS II Launch Service Schedule and Costs
 - Acquisition process typically begins at approximately L-36 months
 - Authority to Proceed (ATP) concurrent with Task Order Award at approximately L-30 months
 - Explorers Program will provide a single expendable launch vehicle as GFE (outside of PI-Managed Mission Cost) including all standard and some mission unique launch service costs.
 - Examples of costs not covered by the ESE Program include:
 - Payload-caused launch delay costs
 - Some mission unique services such as a custom payload adapters, auxiliary propulsion, or costs due to a requirement for a unique launch site may require additional funding (*Earth System Explorers MIDEX 2023 AO, Launch Services Program Information Summary, Page 35*)

Launch Delays

- Each Provider has their own unique Launch Delay Table
 - Delay terms are identical for both parties (Contractor/NASA)
 - No-fault Launch delays
 - Include: range constraints, floods, acts of God, strikes and other conditions
 - No adjustment made to mission price
 - No limit on number of days
- For the remaining delay cases grace days are based on sliding scale for both Contractor and NASA delays
 - 150 days of grace at ATP through L-24
 - Sliding down to 7 days of grace at L-10 days
- For limited launch periods (i.e., Planetary), there are no grace days available and delays outside of the defined launch period are subject to equitable adjustment

Launch Vehicle Acquisition

- The acquisition of a NASA-provided domestic expendable launch vehicle proposed for this AO will be procured and managed by the NASA/Launch Services Program (LSP) via the NASA Launch Services II (NLS II) contract.
- The LSP will competitively select a launch service provider through the LSTO process for missions utilizing customer requirements.
- LSP Program manager will select LV provider with final approval at FPB.



Spacecraft reviews in red.

Summary

It is the Launch Service Program's goal to ensure the highest practicable probability of mission success while managing the launch service technical capabilities, budget and schedule.

LSP POC for ESE MIDEX 2023 AO:

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