

## **NASA Advisory Council Recommendation**

### **Re-Acquiring Reliable and Affordable Mid-Range Launch Vehicle Services 2011-02-07 (SC-02)**

#### **Recommendation:**

The Council recommends that NASA take urgent action to re-acquire reliable and affordable mid-range launch services (Taurus XL to Delta II class) to enable access to space by its Earth and space science flight missions.

#### **Major Reasons for the Recommendation:**

There is a crisis in access to space in Earth and space science. The current stable of mid-range launch vehicles are either not reliable (Taurus XL has failed in 3 of 4 last launches), or uncertified (i.e., Minotaur, Taurus II, and Falcon 9), and launch failure does NOT change the certification level!

#### **Consequences of No Action on the Recommendation:**

There are NASA Science Mission Directorate (SMD) flight missions in development for which there are no reliable launch vehicles available. These will be delayed at significant cost.

#### **NASA Response:**

NASA concurs. Our first action has been to convene the Mishap Investigation Board for the Taurus XL/T9 Glory Mission in order to understand the cause of the launch failure and set the stage for the necessary corrective actions that would allow the Taurus XL fleet to return to flight. The Launch Services Program (LSP) has also begun work with the U.S. launch industry, along with the Air Force and the National Reconnaissance Office, to assess the potential implications of the Taurus XL failure to other launch systems both within and external to the Orbital Sciences Corporation (OSC). In addition, NASA has recently opened its "on-ramp" period to allow new providers the opportunity to become a part of the NASA Launch Services II (NLS II) contract and to allow existing providers to offer additional launch vehicles. OSC has indicated that they plan to on-ramp their Taurus II launch vehicle, and United Launch Alliance (ULA) has indicated their intent to on-ramp their Delta-II launch vehicle. However, in the case of the Delta II, there are only five remaining Delta-IIs left in inventory, and ULA has no plans to restart production. The key to meeting the future medium launch service category requirements will be demonstrated flight performance of the SpaceX Falcon 9 and the OSC Taurus II under the Commercial Orbital Transportation Services agreements and the International Space Station Commercial Resupply Service contracts. Flight data from these vehicles from their early development and initial resupply flights will guide the LSP in the conduct of the certification processes for these launch vehicles to gain their category 2 and 3 launch vehicle certifications.

Enclosure