Sea Launch Vessels Near Completion In Russian Shipyards; Joint Venture Turns Focus To Pacific And First Launch

Through a series of VIP and press tours, the Sea Launch Company today celebrates completion of the two unique vessels that it will use to launch commercial satellites into space from equatorial waters in the Pacific.

"These VIP and press events," reports Allen B. Ashby, Sea Launch president and general manager, "mark a critical milestone in the Sea Launch program. The construction phase of the program is almost complete, and the operations phase is about to begin. The vessels will depart for Long Beach in the coming weeks, where full-scale preparations for our first launch are underway."

Ashby adds, "Literally thousands of people in Russia, Ukraine, Norway, Scotland, and the United States have been working for more than three years to bring Sea Launch to this milestone, making it one of the world's leading examples of international cooperation in space."

The *Sea Launch Commander* has just completed final fitting here in the Kanonersk Shipyard and is now at the Port of St. Petersburg loading the first Sea Launch rocket. While in St. Petersburg, more than 600 tons of electronic and mechanical support equipment for mission control were installed. This 650-foot-long ship, a floating rocket assembly plant and mission control center, was constructed in the Kvaerner Govan Shipyard in Glasgow, Scotland, and was christened there in September 1997.

The *Odyssey* is a self-propelled, semi-submersible launch platform from which satellites will be boosted into orbit on board Sea Launch rockets. Originally modified from an oil drilling platform at the Kvaerner shipyard in Stavanger, Norway, it has been docked in the Kvaerner yard in Vyborg, Russia, since May 1997. There, 3000 tons of automated rocket handling equipment have been installed.

"At one point," Ashby said, "a workforce of more than 1200 people, mostly from Russia and Ukraine, was assigned to the launch platform."

The Home Port for both vessels will be in Long Beach, California, the operational headquarters for Sea Launch. After additional testing at sea, the *Sea Launch Commander* will depart for Long Beach, with arrival set for July. Too large to transit the Panama Canal, the *Odyssey* is tentatively scheduled to arrive at the Home Port in mid-to-late August.

The *Sea Launch Commander* will carry the first two flight Zenits and Block DM's - which have been fully tested and accepted by the venture.

Sea Launch's first launch, scheduled for later this year, will boost a next-generation Hughes HS 702 communications satellite into geostationary transfer orbit. Designated Galaxy XI, the satellite will become part of the PanAmSat network, serving customers throughout the western hemisphere.

To date, Sea Launch has firm contracts for 18 launches - thirteen with Hughes Space & Communications of Los Angeles, California, and five with Space Systems/Loral of Palo Alto, California.

Says Ashby, "Building on the proven heritage of our rocket components, the unique contribution of each partner enables Sea Launch to provide affordable, reliable, and convenient satellite services."

The four Sea Launch partners are:

Boeing Commercial Space Company (40 percent share) of Seattle, Washington, is responsible for construction of the Home Port, customer marketing and support, payload accommodations, spacecraft integration, and mission operations.

Boeing began construction of the Home Port in August 1996 on a 16 acre site within the Port of Long Beach, with the key facility being a state-of-the-art satellite processing center in which spacecraft are tested, fueled, and encapsulated in the Boeing-built fairings. Today, the work is essentially complete. The Home Port occupies a former U.S. Navy facility - and is an excellent example of the successful conversion of a former defense site to commercial use.

RSC Energia (25 percent share) of Moscow, Russia, is responsible for the Block DM upper stage, launch vehicle integration, automated launch processing equipment, and launch support. The venerable Block DM has flown 144 times with 97 percent reliability. Sea Launch versions feature updated, redundant avionics. Powered by liquid oxygen and kerosene, the Block DM offers multiple restart capability.

Kvaerner Maritime a.s. (20 percent share) of Oslo, Norway, built the *Sea Launch Commander* as a new vessel and transformed the *Odyssey* from a North Sea oil platform to a launch platform. Over the life of the program, Kvaerner along with

Barber Marine of Norway will be responsible for all Sea Launch maritime operations.

KB Yuzhnoye/PO Yuzhmash (15 percent share) of Dnepropetrovsk, Ukraine, builds the Zenit rocket which serves as the first two stages of the Sea Launch vehicle. Zenit's horizontal integration and highly automated operations are enabling features for Sea Launch: The vehicle is transported from its environmentally controlled hangar on the *Odyssey*, erected, fueled, and launched - all via automated remote control.

"Sea Launch is having a direct impact on employment," Ashby said, "in the United States, Russia, and Ukraine."

In California Sea Launch will employ approximately 200 people in the Home Port and ship operations. In Seattle, Sea Launch employs approximately 300 people in engineering and manufacturing.

Sea Launch generates significant employment for Russian and Ukrainian vendors building rocket motors, electronic equipment, rocket structure, plus related hardware and software elements. Direct employment there is expected to exceed 10,000 when Sea Launch is in full operation.

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