## Sea Launch Successfully Delivers DIRECTV 1-R Satellite to Orbit

Sea Launch, the multinational, ocean-based launch services company, officially began commercial operations today with a stellar launch of the new DIRECTV 1-R direct broadcast satellite.

From the equatorial launch site at 154 degrees West longitude, the Sea Launch Zenit-3SL rocket lifted off from the Odyssey launch platform at approximately 8:28 p.m. Pacific Daylight Time. All systems performed nominally during flight and the 7,600-pound DIRECTV 1-R satellite, built by Hughes Space & Communications (HSC), was successfully delivered to geostationary transfer orbit approximately 62 minutes after lift-off.

"Today's successful launch culminates an outstanding year for everyone involved with the Sea Launch program," said Allen B. Ashby, Sea Launch president. "Having our first commercial launch go as successfully as our demonstration launch speaks volumes for the teamwork and dedication that have helped bring the Sea Launch system to fruition. We are now undisputedly in the launch services business."

DIRECTV 1-R is a Hughes HS 601HP satellite, a body-stabilized model and the 50th in the HS 601 family to be launched. It features more than 7.5 kilowatts of total power, to operate 16 high-power Ku-band transponders for service to all 50 states. Besides building the satellite, Hughes arranged for the launch services in order to deliver the spacecraft in orbit.

"This was a landmark mission - the 50th launch of an HS 601 satellite, and the fourth successful HSC launch this year," said Tig H. Krekel, President and CEO of HSC. "It provides our customer, DIRECTV, with much-needed extra capacity. And it establishes Sea Launch as a viable launch vehicle, one that we plan to use for at least 13 more satellites."

Following liftoff, the Russian- and Ukrainian-built Sea Launch rocket rose from the Odyssey and headed downrange to the east, before disappearing from view on its ascent to geostationary transfer orbit. Sea Launch mission control, and flight and ground data, indicated that all systems onboard the three-stage Sea Launch rocket performed nominally, with successful separation of the DIRECTV 1-R payload from the Block-DM upper stage occurring at approximately 9:30 p.m. Pacific Daylight Time.

Once signal acquisition is complete and the DIRECTV 1-R satellite becomes operational at 101 degrees West Longitude, it will play a key role in expanding capacity and delivering local broadcast network channels to DIRECTV customers in major metropolitan markets across the country.

"Sea Launch is very proud to have been selected to launch the DIRECTV 1-R satellite by Hughes and DIRECTV," Ashby said. "I want to personally thank these pioneering companies for their demonstrated confidence in the Sea Launch system."

The Sea Launch concept provides commercial satellite customers such as DIRECTV, with the most direct and cost-effective route to geostationary transfer orbit without requiring a change in flight inclination. Launching from the equator also affords value-added operational benefits including increased performance, high launch availability and reduced launch infrastructure costs. From the ocean-based launch site, the robust Sea Launch Zenit-3SL rocket can lift a heavier spacecraft mass or place a payload into a higher perigee, helping satellite operators to attain a longer satellite service capability.

For Sea Launch, the successful launch of DIRECTV 1-R punctuates a tremendous year for the venture including a two-for-two launch success record heading into the millennium. Sea Launch milestones in 1999 included the completion of an extensive sea trial program involving both launch support vessels and the highly successful launch of a demonstration payload on March 27. Preparations are now underway at the Sea Launch Home Port in Long Beach Calif., for the company's next commercial satellite launch in the first quarter of 2000.

Building on proven performance and flight-tested hardware, Sea Launch combines the world's best aerospace and marine capabilities to provide satellite and end-user customers with superior value, performance and fully integrated commercial launch service capabilities. The Sea Launch global partnership includes Boeing Commercial Space Company, Kent, Wash., (provides spacecraft integration and the payload fairings); Kvaerner Maritime a.s., of Oslo, Norway (the vessel builder); RSC Energia of Moscow, Russia (provides the Block-DM upper stage and its integration with the launch vehicle); and KB Yuzhnoye/PO Yuzhmash of Ukraine (provides the first two stages of the launch vehicle and launch support operations).

With the successful launch of DIRECTV 1-R, the Sea Launch manifest currently stands at 18 confirmed launches.

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