

Delta force

It was the largest rocket ever launched from the West Coast of the United States.

Standing 235 feet (72 meters) tall, and generating nearly 2 million pounds (8.9 million newtons) of thrust, a Delta IV Heavy blasted off from Vandenberg Air Force Base in California on Jan. 20, carrying a classified payload for the National Reconnaissance Office.

United Launch Alliance, a 50-50 joint venture between Boeing and Lockheed Martin, is the prime contractor for the Delta IV. Boeing was responsible for the rocket's initial development in the 1990s as part of the U.S. Air Force Evolved Expendable Launch Vehicle program, the aim of which was to reduce launch costs with a new family of rockets.

For this unique National Reconnaissance Office mission, Boeing provided engineering services, flight data acquisition system installation and checkout.

The liquid-fueled Delta IV consists of a central core booster and two strap-on boosters. Final assembly of the common booster core section and other components takes place in the United Launch Alliance factory in Decatur, Ala.

This was the fifth launch of a Delta IV but the first from the West Coast. The other four launches were from Cape Canaveral, Fla.

Preparing the Vandenberg complex for the Delta IV launch took three years and required about \$100 million in infrastructure upgrades, according to United Launch Alliance. But the launch represented a milestone as it restored heavy-lift capability to the West Coast rocket range.

Vandenberg is located about 130 miles (200 kilometers) northwest of Los Angeles. ■



PHOTOS: (Right) The Delta IV Heavy soars skyward from its launch pad near the Pacific Ocean. The flames near the top of the booster on the left are from liquid hydrogen vapors being burned off and are not unusual. **ASSOCIATED PRESS (Inset)** The massive Delta IV before launch. **UNITED LAUNCH ALLIANCE**