A textbook touchdown

Atlantis pays unexpected visit to desert

By DON JERGLER
Valley Press Aerospace Writer

EDWARDS AFB -- Fighting increasing head winds and looming cloud cover, astronauts guided space shuttle Atlantis to "a belated but textbook touchdown" at Edwards Air Force Base at 12:33 p.m. Tuesday.

Shortly after arriving, the shuttle's crew was ushered by NASA Dryden Flight Research Center personnel to the flight science facility for medical checkups and to take congratulatory calls from President George W. Bush and NASA's chief administrator Dan Goldin.

Atlantis' arrival at Edwards places two shuttles in the Antelope Valley at once, marking the first time in more than four years there has been more than one orbiter in the high desert at one time.

Columbia, the fleet's oldest orbiter, has undergone upgrades at Air Force Plant 42 in Palmdale and is scheduled to depart Saturday for its ferry flight back to Florida.

Due to thickening cloud cover and precipitation, mission control waved off both landing windows at Kennedy Space Center in Florida on Tuesday in favor of fairer weather at Edwards. High winds at Kennedy thwarted shuttle landings there Sunday and Monday.

Edwards' weather worsened slightly throughout the day, with winds increasing and once-scattered clouds beginning to clump and take on a darker hue, but mission control gave the go-ahead for the first landing window at Edwards.

See TOUCHDOWN on A5
TOUCHDOWN:
Landing completes 102nd shuttle mission

From A1

Shuttle pilots fired the craft's braking rockets at 11:27 a.m., bringing the shuttle out of its 173-nautical-mile orbit.

The shuttle approached over the Pacific Ocean and crossed the California coast north of Long Beach. Residents from Los Angeles to the high desert reported hearing the double boom exclusive to shuttle re-entries as Atlantis crossed the transonic barrier.

By the time Atlantis began its runway approach, head winds had kicked up to 20 mph, with crosswinds estimated to be nearly 11 mph.

An instant before landing, shuttle pilot Ken Cockrell was forced to bank the 100-ton machine quickly to the right to compensate for the crosswinds in a final centering adjustment and Atlantis' wheels bounced off Edwards' runway No. 2-4.

The drogue chute was quickly deployed, forcing the shuttle to a stop in what mission control at Johnson Space Center in Texas called a "belated, but textbook touchdown."

The landing was the 47th at Edwards and the completion of the 102nd shuttle mission.

Tuesday's landing marked the second time in a year a shuttle has landed at Edwards.

In October, Discovery landed at Edwards on a return trip from the international space station after two consecutive days of bad weather in Florida forced mission control to scrub landing plans at Kennedy. That was the first time in four years a shuttle had landed at Edwards.

According to NASA, the winds at Edwards were higher than expected but within safety parameters.

"They were brisk, but they were within limits," Dryden spokesman Alan Brown said, adding that the winds required "just a minor little adjustment to get the shuttle lined up under the centerline of the runway."

Crosswinds for shuttle landings are limited to 18 mph.

The 5.3-million-mile mission STS-98 was the fifth space shuttle trip to the international space station. The elapsed time of the mission was 12 days, 21 hours and 21 minutes, by NASA's count.

The shuttle delivered and installed the Destiny laboratory module. The aluminum 28- by 14-foot module is essentially a laboratory in space, providing an area for conduction experiments in cancer and diabetes research, and studies on materials.

The shuttle crew was scheduled to stay overnight in the Valley and depart for Johnson Space Center in Houston today.

Aboard the space station, expedition one Cmdr. Bill Shepard, pilot Yuri Gidzenko and flight engineer Sergi Krikalev spent the day activating additional systems aboard the Destiny laboratory.