

NASA Set to Launch Probe to Pluto

This needs to be an everyday occurrence if the US is going to do anything in space.

NY Newsday (AP)
January 17, 2006

A piano-sized space probe neared the end of its countdown Tuesday for a mission to Pluto, the solar system's last unexplored planet, and to study a mysterious zone of icy objects at the outer edges of the planetary system.

Even though the scheduled afternoon liftoff was intended to make New Horizons the fastest spacecraft ever launched, the distance involved means scientists won't be able to receive data on Pluto until at least July 2015, the earliest date the mission is expected to arrive.

"To make a decision to work in the field of space science is almost the ultimate in delayed gratification," NASA administrator Michael Griffin said at a news conference Tuesday.

The launch window was pushed back Tuesday by a few minutes because of concerns about wind gusts and a drain valve on the rocket's tank. NASA wanted a few more minutes to test the valve and watch the winds, which were approaching the upper limits of what is acceptable for a launch.

A successful journey to Pluto would complete an exploration of the planets started by NASA in the early 1960s with unmanned missions to observe Mars, Mercury and Venus.

"What we know about Pluto today could fit on the back of a postage stamp," Colleen Hartman, a deputy associate administrator at NASA, said earlier. "The textbooks will be rewritten after this mission is completed."

The launch also drew attention from opponents of nuclear power because the spacecraft is powered by 24 pounds of plutonium, whose natural radioactive decay will generate electricity for the probe's instruments.

Pluto is the only planet discovered by a U.S. citizen, though some astronomers dispute Pluto's right to be called a planet. It is an oddball icy dwarf unlike the rocky planets of Mercury, Venus, Earth and Mars and the gaseous planets of Jupiter, Saturn, Uranus and Neptune.

"My dad would be absolutely thrilled to see this," said Annette Tombaugh-Sitze, whose father, astronomer Clyde Tombaugh, discovered Pluto in 1930. Members of the Tombaugh family, including Tombaugh's 93-year-old widow, Patricia, planned to watch the launch at the Cape Canaveral Air Force Station.

Pluto is the brightest body in a zone of the solar system known as the Kuiper Belt, made up of thousands of icy, rocky objects, including tiny planets whose development was stunted by unknown causes. Scientists believe studying those "planetary embryos" can help them understand how planets were formed.

"Something, and we don't understand what ... stopped that process of growth and left us with this fantastic relic, this forensic evidence of planets that were arrested in the midstage of growth," said Alan Stern, the \$700 million mission's principal investigator.

An Atlas V rocket was programmed to speed New Horizons away from Earth at 36,000 mph, the fastest launch speed on record. The craft will reach Earth's moon in about nine hours and arrive in 13 months at Jupiter, where it will use the giant planet's gravity as a slingshot, shaving five years off the 3-billion-mile trip.

Some NASA safety managers had raised concerns about a rocket fuel tank since a similar test tank failed a factory pressure evaluation. The decision was made to fly since the flight tank was in pristine condition and had no signs of any defects like the ones found on the test tank, said NASA launch director Omar Baez.

Thirty anti-nuclear protesters showed up recently to oppose this mission's plutonium-powered generator, compared to hundreds who protested the launch more than eight years of the Cassini mission to Saturn, which carried 72 pounds of plutonium.

The two Mars rovers, Spirit and Opportunity, sent up in 2003, had much smaller amounts of plutonium, which also was used on six Apollo flights.

NASA and the Department of Energy estimated the probability of a launch accident that could release plutonium at 1 in 350. As a precaution, the agencies brought in 16 mobile field teams that can detect radiation and 33 air samplers and monitors.