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Associated Press

Col. John E. Blaha of the Air Force, Discovery's pilot, loading film into a camera aboard the space shuttle yesterday. An electrical problem threatens to shorten Discovery's flight by a day.

Space Shuttle Problem Could Cut Flight Short

By WILLIAM J. BROAD
Special to The New York Times

CAPE CANAVERAL, Fla., March 14 — Space agency officials said today that a problem with the space shuttle Discovery's electrical system might force the winged spaceship to land a day early, on Friday.

The trouble is with a tank supplying hydrogen to the shuttle's fuel cells, which make electricity for use throughout the spacecraft. A sensor reported unusually high pressure Monday in one of three tanks that supply the fuel cells, and it was turned off. The orbiter is now relying on the other two tanks.

Experts at the National Aeronautics and Space Administration said they were unsure whether the pressure was high or the signal was false.

"The hydrogen tank is exhibiting a pressure signature that we haven't ever seen before," Granville Pennington, a flight director at the Johnson Space Center in Houston, said at a televised news conference.

Scientific Activities Unaffected

As a precaution, the astronauts switched off some electrical devices on board the spaceship to conserve power, Mr. Pennington said. The items included several lights, a guidance unit and various radios and computers.

NASA officials said this had not affected any of the scientific activities or payloads aboard Discovery. Mr. Pennington said the tank problem posed no danger to the astronauts.

Engineers were studying data from the spaceship, trying to fathom what caused the unusual reading. If they determine it is merely a sensor problem, the craft could complete its five-day mission.

If the problem cannot be solved, and the shuttle can use only two of its three electrical system tanks, it would land on Friday, a day early. The orbiter is always managed so that it has enough fuel for two extra days in case bad weather repeatedly blocks a landing, and it would have to land early to maintain that two-day margin.

The space agency said it could wait as late as Thursday to make a decision about how to deal with the tank problem.

The three tanks that supply the fuel cells are filled with pressurized super-cool hydrogen and oxygen, at 420 and 285 degrees Fahrenheit below zero re-

spectively. In the fuel cells, hydrogen and oxygen react chemically to generate 28 volts of electricity. Within each tank there is a pressure vessel for oxygen and hydrogen, the one for hydrogen measuring 46 inches in diameter. Each oxygen or hydrogen pressure vessel has two pressure sensors.

Mission Called Success

Mr. Pennington said that if the orbiter did land a day early, it would not significantly affect the mission.

"I think that we could pretty well say we'll get a majority of all the experiments," he said. "I think the primary

A sensor shows high pressure in a tank for the cabin power system.

part of the mission has been accomplished, and that's the important thing."

He stressed that no decision had yet been made to end the mission early. "Right now," Mr. Pennington said, "we're still planning to land on Saturday, unless that changes, based on engineering data." He said the shuttle is scheduled to land at 9:34 A.M. Eastern standard time at Edwards Air Force Base in California.

The deployment of a giant \$100 million communications satellite Monday was considered the mission's main goal. Today the satellite reached its position in an orbit 22,300 miles above the earth and was reported to be operating perfectly.