

# Astronauts may have to abandon space station

Kenneth Chang

Astronauts will abandon the International Space Station (ISS), probably in mid-November, if rocket engine problems that doomed a Russian cargo ship last week are not diagnosed and fixed.

Even if unoccupied, the space station can be operated by controllers on the ground indefinitely and would not be in immediate danger of falling out of orbit.

Three Russian astronauts, two Americans and a Japanese are living on the space station.

## 'What's safest for crew'

"We're going to do what's the safest for the crew and for the space station, which is a very big investment of our governments," said Michael T. Suffredini, manager of the space station programme for National Aeronautics and Space Administration (NASA), during a news conference on Monday, August 29. "Our job is, as stewards of the government, to protect that investment, and that's exactly what we're going to do."

The \$100 billion station has been con-

tinuously occupied for over a decade.

Last Wednesday, an unmanned Russian cargo ship known as the Progress, which was carrying three tons of supplies to the space station, crashed in Siberia. Telemetry from the rocket indicated that a drop of fuel pressure led its computer to shut down the third-stage engine prematurely five-and-a-half minutes into flight.

The Soyuz rocket that lifts the Progress is similar to the Soyuz rocket that takes astronauts to the station, and officials want to make sure they understand what failed on last week's launching and are confident it will not occur again.

Two unmanned launchings of Soyuz rockets are likely to occur before the next set of three crew members head to the space station. That launching had been scheduled for September 21.

The loss of the Progress is of little immediate impact. One of the Russian astronauts is running short of clothes and might have to borrow some from NASA, Mr. Suffredini said.

The current crew has plenty of supplies and could remain in space longer.

What expires, however, is their return trip.

Two Soyuz capsules, each with seats for three passengers, are currently docked to the space station. But the capsules are certified to last only 200 days in orbit, because hydrogen peroxide for the spacecraft's thrusters degrades over time.

The return of the first capsule has been pushed back a week, to September 15, giving NASA and the Russian space agency more time to study their options. Delaying much more than that would run into a safety rule, that the capsules land during the day. The next opportunity would be in late October, beyond the 200-day limit.

The Russians could study whether the capsule's condition could allow a longer stay, but Mr. Suffredini questioned whether that would be wise.

"When you've already been handed one significant challenge, maybe you shouldn't put another one on top of it until you sort that one out," he said.

The other three crew members would return in the second Soyuz capsule in

mid-November. If the problem with the Soyuz rocket had not been resolved, the station would then be empty.

## Experiments

Some experiments like the Alpha Magnetic Spectrometer, a particle physics experiment installed last year, would continue operating without human oversight. But other research would get short shrift until the full crew of six returned to the station.

While all of the day-to-day operations can be handled remotely, mission controllers may not be able to handle emergencies that might endanger the space station. "There is a greater risk of losing the ISS when it's unmanned than if it were manned," Mr. Suffredini said. "The risk increase is not insignificant."

With the retirement of NASA's shuttles, the Soyuz rockets will be the only way for people to go to the space station for several years at least. The Soyuz, dating to the 1960s, has been a reliable workhorse for the Russian space programme. — © New York Times News Service