

Of Shuttles And Shenzhou

August 11 2005

The safe return of the shuttle Discovery and her crew has brought relief to spacewatchers around the globe. But NASA's human spaceflight program remains mired in concerns over the safety of any subsequent shuttle missions, and the possibility that NASA's orbiter fleet could be grounded for a long time.

The future of human spaceflight in a post-Shuttle NASA is also being debated, as lawmakers and the general public are certain to demand greater oversight of further activities. NASA would like to return to the moon by 2018, and will probably do so if it is given adequate levels of support. But the current status of human spaceflight by NASA is probably more uncertain than at any point in the past 20 years.

Uncertainties over NASA's future have immediate impacts on NASA's international partners, who are involved in both the Space Shuttle and the International Space Station. Some international partners face the possibility that if shuttle missions are cancelled or severely curtailed, modules and hardware built by NASA's international partners may never reach the station.

One recent entry to the human spaceflight arena has largely been immune from influence by such problems. China has launched an astronaut into orbit, and is preparing to launch two more in a few weeks. Despite some technology transfer from Russia, the Shenzhou program has largely proceeded in an independent form, using indigenous hardware.

Chinese authorities have previously indicated that they are interested in forming international partnerships for their human spaceflight program, but these have apparently produced no firm commitments at the present.

If NASA changes course again, or appears unable to plot a sustainable course, space agencies may find themselves unwilling to yoke their own programs to NASA's. Such problems were already appearing long before Columbia was destroyed, as cost overruns and delays plagued the International Space Station.

China seems to have been publicly silent about any potential change in Shenzhou mission planning during the Shuttle's return to flight. Some minor details on the upcoming Shenzhou 6 mission were revealed, along with a report on progress in selecting China's first group of female astronauts.

But it would be difficult to avoid concluding that, behind closed doors, the Chinese are considering how NASA's woes could influence their own standing in human spaceflight.

So far, China has pursued its human spaceflight program at a relaxed pace. The pace was sometimes so relaxed that observers wondered if the program had been terminated. China was not involved in a "space race" with either the USA or Russia, and would carry out its missions at an independently determined schedule.

But the dynamics of the international scene have changed dramatically, and are still far from being settled. In short, China could be reconsidering its options for international co-operation, and its own position in the spaceflight hierarchy.

What could China do? It is unrealistic to suggest that China's human spaceflight program could equal, or overtake, those of our planet's two

other human spaceflight powers, at least in the short-term.

But China could certainly use the current climate to forge stronger international partnerships for both its uncrewed and its human spaceflight programs. Collaboration with Europe on projects such as the Galileo navigation system has been strong. Is it unreasonable to speculate that European astronauts could be earmarked for future Shenzhou missions?

Nations that have participated in the International Space Station could find themselves unable to access the station in the near future, if the shuttle is grounded and Soyuz is overbooked with Russian cosmonauts, NASA astronauts and the occasional tourist. Shenzhou will probably not be sent to the ISS in the near future, but it does offer a means of getting astronauts into space.

China is also working on a small space station module, and has suggested that a larger space station could be built in the future. Such plans could be accelerated if international interest and funding is poured into the program, much as NASA found itself recruiting international partners to share the cost of ISS.

So, the potential does exist for a parallel International Space Station program to develop, with China as the "anchor tenant". Chinese hardware could be supplemented with equipment from current ISS partners, including, quite possibly, grounded modules that were originally slated for the US-led International Space Station.

Shenzhou spacecraft would carry crews to the station. The European-built logistics carrier, originally developed for ISS, could also support the new station.

How likely is this scenario? It's probably too ambitious to plan, let alone

execute, at the present. The uncertainties that make it possible to consider such wild schemes also make it difficult to commit to anything.

But it's probable that China is considering a gradual strengthening of its international ties, with a view to funding its spaceflight program through external contributions, and increasing the geopolitical value of Shenzhou.

It could also offer spaceflight opportunities to nations in Asia that have not previously participated in space activity, just as the Soviet Union did with the Interkosmos program. Such flights would probably not be sold commercially, but would appear as sweeteners for trade or strategic deals.

Making any further predictions is difficult, as China is facing a potentially turbulent future in the near-term. Geopolitical dilemmas ranging from the stagnating North Korean problem to concerns over Taiwanese independence could sour international relations, even with nations that have co-operated with China in the past.

Unsettled social and economic conditions in this rapidly transforming nation have the potential to rally public support behind human spaceflight, or destroy it.

At the moment, everyone is keeping their cards close to their chests. But the situation cannot remain hazy forever. NASA and the US Government will need to clarify their position on the Shuttle, the International Space Station and future spaceflight activities.

When that happens, a string of other deals could fall into place. Events over the next twelve months could determine the future of global human spaceflight for the next twenty years.

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