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Four Astronauts Will Be on Emergency Standby, Ready to Rush to the Rescue of Next Shuttle

By MARCIA DUNN
The Associated Press

Mar. 19, 2005 – What if the next space shuttle winds up in trouble, too? What if, like Columbia, it's damaged at liftoff and the astronauts are up in space with a maimed rocketship? Could they be saved? When Discovery is launched in a few months, a four-man rescue squad will be standing by.

It's a plan for the unthinkable.

"It's a place where we don't want to go. We're training for a mission we never want to fly," says the team's commander, Air Force Col. Steven Lindsey.

A rescue mission which might require the president's approval is fraught with complexities:

A second launch would have to be done hastily without all the usual tests, possibly putting the rescue shuttle Atlantis and its crew in harm's way.

The astronauts on the first shuttle, Discovery, would hole up at the international space station. Designed to house three people, it would be crammed with nine. And everyone would hope the station's often-broken oxygen generator would do its job.

Discovery would have to be pushed off by remote control into the ocean to make room for Atlantis at the space station.

If all worked as planned, Atlantis would return to Earth holding an

unprecedented 11 people.

And even if NASA managed to pull off this nightmare scenario, it would likely mean an end to the shuttle program five years before its time.

Never before in 44 years of human spaceflight has NASA gone to such lengths to have a spaceship ready to rush to another's assistance.

At Kennedy Space Center, hundreds of employees are toiling 24/7 on this possibility. Discovery can't lift off unless Atlantis is ready to fly one month later. It is a self-imposed requirement for the next two shuttle flights and goes beyond the list of recommendations from the panel that investigated the Columbia accident.

And so it is that Atlantis and Lindsey's minuteman team stands poised. If Discovery goes up in mid-May as planned, NASA says it could launch Atlantis as quickly as mid-June, a month sooner than scheduled.

"I'm ready to do it and I figure probably in that one-month period, I wouldn't go home anymore, probably sleep in my office," says Navy Cmdr. Mark Kelly, Lindsey's co-pilot.

If seven friends were up in space and needed to get home, Kelly says, "I'm willing to take a lot of risk to do that, and I understand that, and it's not a decision I will have to make later. I've already made that decision."

It is this cool steadfastness and unwavering ability to focus on the ordinary mission a service call to the space station in mid-July as well as a nightmarish one, that makes Lindsey, Kelly, Piers Sellers and Air Force reservist Michael Fossum seem as though they've stepped out of "The Right Stuff."

As it turns out, the four were not hand-picked because of their larger-than-life flying skills or lightning-fast thinking.

They just happened to be next in line for launch.

All four are in their 40s with children. All but Sellers is an engineer; he has a Ph.D. in biometeorology. All but Fossum have flown before in space.

Lindsey and Kelly are former test pilots, and Kelly whose identical twin brother, Scott, is also an astronaut flew combat in Operation Desert Storm more than a decade ago.

The British-born Sellers joined the crew a half-year late, replacing an astronaut who was yanked for undisclosed medical reasons.

As Lindsey sees it, the odds of Discovery being gouged by foam debris from the fuel tank at liftoff and its seven astronauts being stranded

at the space station, are very low given all the improvements in the two years since the Columbia tragedy.

"I'll tell you what, if we aren't absolutely as confident as we possibly can be that we have fixed the tank, which is our primary rationale to go forward, then we have no business in launching," he said.

Lindsey has promised his wife and three children if he senses anything unsafe for this mission or any other, "I'll walk, I won't fly."

Earlier this month during a simulation of Discovery's upcoming flight, NASA's mission managers held a dry run of the debate that would take place if Discovery were damaged on liftoff. In the make-believe scenario, the shuttle was struck at launch presumably by breakaway foam insulation just as Columbia was.

With the clock running, flight managers had to decide whether the craft could make it home with patches or whether the astronauts needed to move into the space station and await rescue. The managers opted for patch work.

"Hopefully, the probability is so low that we are just covering ourselves, belt and suspenders," the shuttle deputy program manager, Wayne Hale, said during the simulation.

In real life, back in January 2003, no one knew that a chunk of foam had punched a sizable hole in Columbia's left wing. NASA knew the foam hit somewhere, but discounted the possibility of catastrophic damage and, after being proved wrong, contended there was nothing they could have done to save the crew even if they had known about the damage.

The Columbia accident investigators didn't buy that. An exhaustive study found that contrary to NASA's initial claims, the space agency could have launched another shuttle to rescue the seven astronauts who ended up perishing on their way back to Earth.

If Atlantis is called upon for rescue, launch director Mike Leinbach says he would use the same engineering and weather criteria he always uses to get that shuttle off the pad. But from a personal perspective, the countdown would be unlike anything before.

"It would just be another one of those, I don't want to say, empty feeling like I had the day that Columbia didn't come home," Leinbach says. "It's impossible to describe the emotional feeling that everyone would have launching the rescue mission. But we would do it if so told."

NASA's main concerns, for now, are getting Discovery ready for a mid-May launch and Atlantis ready for a possible mid-June emergency launch, and keeping the space station running without more major

breakdowns.

Being stuck at the space station and awaiting rescue would have its own problems. One of Discovery's astronauts, Andrew Thomas, who lived aboard Russia's space station Mir seven years ago, says it's the psycho-social aspects that would concern him most.

"What would we do on a day-to-day basis?" Thomas asks. He points to history for the answer. Successful missions in tough situations have hinged on crew members constructively working on their own day-to-day survival. "You just have to look at what Shackleton did," Thomas says.

In the classic survival tale, Sir Ernest Shackleton in 1915 guided his crew of 27 back to safety after their ship became trapped in the ice of Antarctica. To keep up morale, he staged concerts, holiday celebrations and sports matches.

A piano keyboard is up on the space station, "and maybe one of us could learn to play the piano while we're there," Thomas says with a chuckle. "You remember that movie, 'Groundhog Day?' That's what the Bill Murray character did when he was caught in sort of a supposed never-ending cycle."

But then Thomas turns serious again: "It would be a stressful situation."

He is convinced the astronauts could be saved, but the danger would be the premature death of the shuttle program, which is to be phased out in 2010.

"It would be hard for me to imagine that were there another major failure like this that Congress would not look askance at the shuttle program and say, 'Hey, we're done with it.'"