

James Oberg

Handling Mir Misinformation

Assessing Mir hazards continues to be difficult even as the American presence there is winding down. Many new and important safety issues keep showing up by chance, which raises questions about how much remains concealed. And the news media tends to inflate reports of trouble based on the not unrealistic assumption that official statements are deliberately understated.

Decisions seem to keep being made in the absence of all relevant information (cosmonaut Valery Ryumin is going to Mir aboard the space shuttle *Discovery* to investigate safety-related features of Mir that NASA has pretended already were settled), and although NASA has thus far avoided the consequences, it is setting a bad example for future safety assessments.

The British television channel BBC-2 ran a special Horizons show April 23 about the 1997 crises aboard Mir. Called "Mir Mortals," the program involved detailed assessments of the various accidents experienced aboard the Russian space station. It included interviews with astronauts and cosmonauts involved and special graphics. Co-produced with WGBH-Nova in Boston, the show may later be seen on American television.

The program contained an astonishing assertion attributed to Vasily Tsibliev, commander of Mir during its worst months. He reported that following a collision with a Progress supply drone in June, the crew fled to a Soyuz spacecraft but found that they were unable to power it up.

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The batteries were flat and they had to wait more than half an hour until the tumbling station emerged into daylight and by chance turned the Soyuz solar panels toward the sun.

NASA's immediate official reaction was to deny it — "Categorically untrue," stated Johnson Space Center spokesman Rob Navias — and a week later, when Tsibliev's shipmate, astronaut Michael Foale, returned to Moscow, he asserted that as far as he knew, the Soyuz batteries always were fully charged. Tsibliev's statements, unambiguous as they may seem, were attributed to some sort of misunderstanding or confusion.

Yet on the same BBC program, Foale said the Russians tended to be overprotective of him, shielding him from difficulties and problems. Other Mir veterans, speaking privately, told me they did not find Tsibliev's story at all unbelievable. So what actually happened remains ambiguous.

Another shipmate, Aleksandr Lazutkin, said at a space conference in mid-April in Moscow that the Mir crew (including Foale) also fled into the Soyuz after a cable-pulling incident in July 1997, only to find again that they could not power up the spacecraft. In that incident, a cosmonaut accidentally unplugged a cable to Mir's orientation control computer, causing the station to drift out of its sun-pointing attitude and lose significant power.

Before they could use the radio or turn on the Soyuz's thrusters to orient the drifting Mir, they had to wait until its random motion turned them toward the sun. Yet no mention of this problem was ever released in Moscow or in Houston.

Thanks only to journalists' filing

of Freedom of Information Act requests, we now know a lot more about that cable-pulling incident. While it was easy to blame the Mir's loss of control on a single, simple crew mistake, the actual cause was much more complex and much more disturbing.

The truth was that the Mir went out of control mainly due to a series of erroneous responses from the Mission Control Center team in Moscow. Their inadequate performance magnified a trivial slip-up into a life-threatening crisis. This was documented in an internal memo that NASA did not even turn over to its own Inspector General's Office during a congressionally mandated inquiry into Mir safety, according to a source in the Inspector General's Office.

The catalog of major Moscow Mission Control errors is apparently growing, probably due to the continuing hemorrhage of experience and talent resulting from ludicrously low wages. Most recently, another incident during a spacewalk April 7 artificially created an emergency.

While spacewalkers Talgat Musabayev and Nikolay Budarin were struggling with installing a brace on the broken Spektr solar array, the Mir suddenly went to free drift and began turning away from the sun, threatening the power generation from its solar panels. Moscow concluded that the boom-mounted rocket pack used to maneuver Mir, a device known to be running short of fuel at that time, had suddenly exhausted its supply of fuel.

The crew was about to go into an hour-long period of no communications (the Altair relay satellite system normally used during spacewalks was tem-

porarily broken), so they were ordered to rush through the final bracing procedure and then perform an expedited entry.

They had to get back inside and rewire the station's attitude control system to regain control. This involved hurrying through the airlock procedures even though the outer hatch was already known to be dangerously warped, requiring delicate, methodical manipulations to make it work properly.

As it turned out, the rushed return — which left the crew panting so hard they could hardly talk, according to radio listeners in Europe — was a risk that never needed to be taken. The boom jet pack had actually not run out of fuel at all. U.S. astronaut Andy Thomas could have easily reset the Mir computer to solar inertial and the spacewalk could have continued. Instead, the Mir was staggering out of attitude because of another series of ground errors. Mission Control had sent up an erroneous pointing command, and the Mir's computer had rejected it.

Ground experts failed to diagnose the cause of this computer problem and jumped to the wrong conclusion. As a consequence, they ordered the crew to perform some hazardous and entirely unnecessary emergency procedures, which fortunately they got away with.

Yet subsequent accounts by media including the Associated Press and Reuters, based on statements by officials in Moscow and Houston, maintained the ran-out-of-fuel story long after the truth was known by NASA — but not shared with the public. Evidently it was deemed important to keep secret the alarmingly low level of space operations competence of our Russians partners.

The public record on real Mir safety issues continues to be inadequate and the list of things Moscow and Houston have not disclosed seems to keep on

growing. It includes:

- The stroke of luck that saved Mir during the Progress collision, when the crew would have had no idea where the leak of air out of the Spektr module was, except one of them happened to glance out a nearby porthole at the moment of contact.

Also, NASA soon knew that the errant Progress drone repeatedly hit other sections of Mir as well, but in public maintained the story that only the Spektr had been touched, according to sources who saw a videotape of Progress' approach.

- The cause of the premature ignition of the Soyuz soft-landing engine in August. According to sources at Johnson Space Center, this now is being attributed by the Russians to water condensation on wires during flight, a condition also endured by most of the rest of Mir's electronics.

- The extent of injuries during the February 1997 fire aboard Mir. This has always been downplayed by NASA, but we know from people who were on Mir that cosmonaut Valery Korzun suffered third-degree burns along the back of one hand and elsewhere. The release of on-board photographs of his injuries was conveniently refused by NASA on grounds of medical privacy.

- The on-board photograph of the post-fire medicinal cognac gathering (the release of which originally was refused by NASA officials until Freedom of Information Act requests were filed).

Inadequate, incomplete information is a recipe for improper decisions and dangerous consequences. It also creates the atmosphere of media distrust that leads to exaggeration and over-reaction.

These recent trend of U.S. adoption of Soviet-style cover-up is disturbing and must be reversed if the right decisions for international space station are to be guaranteed.