

SPACE STATION SCIENCE

Congress Orders Halt To Planned NASA Cuts

Researchers upset about cuts to space station research have found some allies in Congress. A powerful House panel that sets NASA's budget last week ordered the agency to halt its plans to gut nearly 40% of the orbiting facility's science program. It also added money to rescue one set of experiments and asked President George W. Bush for a "clear and unambiguous statement" on the role of research aboard the orbiting lab. The move sets the stage for another confrontation between Congress and the new Administration over who should pay for the station's skyrocketing price tag.

This spring, the White House refused to request additional funding to meet an overrun of more than \$4 billion on the \$60 billion facility, ordering NASA to find the money within the program's own strained budget. That prompted NASA to scale back the number of crew members planned for the station as well as its budget for research equipment. Researchers quickly claimed that those moves would cripple science aboard the orbiting lab (*Science*, 23 March, p. 2291).

NASA Chief Scientist Kathie Olsen says the agency intends to spend, through 2006, 36% less on research facilities than the \$4.4 billion in its original plans. Some areas, such as fundamental biology, would take up to an 80% cut. In 2002 alone, the \$452 million planned for facilities would sink to \$284 million, according to Olsen. She adds that the changes amount to a shortfall of only \$70 million to \$75 million in research-related efforts in 2002, in part because a new round of delays in launching station hardware means there's no rush to build some of the experimental facilities. But Olsen insists the cuts don't mean a reduced commitment to science: "Research remains central on the station—I am adamant on this."

The House panel moved last week to ease the problem by adding \$35 million for fluids and combustion research, which accounts for a small portion of planned 2002 station research funding. Much of that program is run by the Glenn Research Center in Cleveland. The panel also added \$275 million for work on a crew return vehicle to carry six persons—the number needed to support the station's ambitious scientific agenda—provided the Administration includes funding for the vehicle in its 2003 budget planning.

The committee has asked for a comprehensive plan on the station by 1 March 2002, and it told NASA to suspend its plans to cut research until Congress decides the number of crew members. The agency is

astrobiology. SWAS was designed to measure water, oxygen, and carbon in gas clouds around the galaxy, but a gap in the observing schedule seemed best filled by a star called CW Leonis, one that should have had practically no detectable water anywhere near it. Instead, SWAS detected 10,000 times more water than the star could have been giving off. The only way to make that much water is by vaporizing it from a billion icy comets at once, SWAS researchers concluded. "Nothing but comets comes close to the amount of water SWAS is seeing," says SWAS team member David Neufeld of Johns Hopkins University in Baltimore. "We believe we are witnessing the apocalypse that will engulf our solar system in 6 billion years."

CW Leonis, it appears, is consuming a belt of small, icy bodies orbiting it just as Kuiper Belt objects (KBOs) orbit our sun beyond Pluto and Neptune. KBOs become active comets only when one swoops near the sun, but CW Leonis, running low on nuclear fuel, has ballooned out to the distance of Jupiter from our sun and blazed to 5000 times its normal luminosity. That would vaporize the ice of bodies orbiting 10 to 100 times the Earth-sun distance from CW Leonis, SWAS researchers



Nearing the end. The star CW Leonis has swollen to engulf any nearby planets and is vaporizing an entire belt of comets.

say, turning each into an active comet with a fuzzy, glowing head and streaming tail.

"If their interpretation is correct, instead of just finding huge planets around other stars, we're finding comets," says astronomer Tobias Owen of the University of Hawaii, Honolulu. "A lot of us believe these icy bodies are fundamental building blocks of planets. It's nice to know they're out there. It helps the prospects of finding planets, planets with the [gases] that make atmospheres and oceans"—and that could sustain life.

—RICHARD A. KERR



Growing pains. The expanding station—and its higher price tag—leaves less room for research.

setting up an independent panel to review NASA's scaled-back station plan, with a report due by the end of the year. NASA is also searching for cheaper alternatives to keep research on track, including use of the space shuttle for extended periods.

In the meantime, NASA's international partners are having their own problems. A Japanese centrifuge to conduct a host of biological experiments has been delayed repeatedly because of technical problems and won't be available to researchers until late 2008. Such distant dates frustrate would-be station researchers. "It's just so discouraging," says Patricia Russell, executive director of the American Society for Gravitational and Space Biology.

—ANDREW LAWLER

SMITHSONIAN INSTITUTION

New Panel Will Redirect Science

The Smithsonian Institution took a long-awaited step this week, selecting 18 researchers to help guide this conglomerate of 16 museums, a zoo, and a half-dozen research centers through a reorganization of its scientific research. The institution has been in turmoil since early April, when institution scientists and the public got wind of Smithsonian Secretary Lawrence Small's plans to cut some research efforts and revamp others. The Smithsonian's Governing Board of Regents decided in early May to convene this panel to help quell the outcry and chart a less controversial course for future scientific endeavors (*Science*, 11 May, p. 1034; 13 July, p. 194).

The panel includes biologists, astronomers, geologists, anthropologists, and paleontologists—a half-dozen of whom are Smithsonian staff members. Chaired by Jeremy Sabloff, director of the University of Pennsylvania Museum of Archaeology and Anthropology in Philadelphia, the pan-

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