

## Clinton Kills DOD Asteroid Mission ...

A small Pentagon mission to fire probes into several near-Earth asteroids was itself shot down



**Gone forever?** Veto could mean no reprise for Clementine 1.

last week, when President Bill Clinton used his new authority to veto specific portions of bills. Clinton's decision to kill Clementine 2 was part of nearly \$150 million in cuts to the 1998 Defense Department budget that Congress recently sent the president. Most of those cuts were made to military research programs added by lawmakers.

Clementine 2 was an ambitious follow-on to a 1994 mission to the moon and an asteroid sponsored by the Strategic Defense Initiative Organization. While Clementine 1 failed before reaching its asteroid target, it did gather data on possible water ice in a crater near the moon's south pole (*Science*, 16 December 1994, p. 1835). A second mission costing \$125 million has been delayed by a bitter fight between the Administration and Congress.

Some Pentagon and White House officials argued that the mission went too far afield from national security, while some Republicans in Congress backed it as a high-tech attempt to learn more about intercepting objects in space while gathering useful scientific data. The Defense Department didn't even request funding for the program in 1998, but Congress gave it \$30 million. Clinton

now has line-item veto power, and he wielded his pen against Clementine 2. But program supporters are not giving up. They hope to salvage at least part of the space mission so that it could at least rendezvous with a satellite orbiting Earth.

In the defense bill, Clinton also cut \$4 million set aside for Army research into a proton beam machine that could be used against cancer, \$10 million for Navy research into hypersonic technology that could lead to an advanced space plane, and \$2 million for toxic-waste cleanup research.

## ... But Comet Flight Gets Green Light

Although the Pentagon's Clementine 2 mission to an asteroid may never get off the ground, NASA is planning to send a spacecraft to fly by three near-Earth comets as part of its Discovery program. The space agency intends to launch in 2002 the \$154 million Comet Nucleus Tour mission, which will pass by comets in 2002, 2006, and 2008 to map their cores and analyze the

dust streaming from them.

NASA also plans to launch a spacecraft in 2001 to collect charged particles from the solar wind and return them to Earth for analysis. Called Genesis, the \$216 million mission could yield important new clues to the composition of the primordial dust cloud that formed the solar system. NASA announced the Comet Nucleus and Genesis missions on 20 October; proposals that failed to include sending orbiters to Mercury and Venus and a sample return mission from martian moons.

Two smaller science missions—each costing about \$65 million—won NASA approval last week. The first one, the High Energy Solar Spectroscopic Imager, will study particle acceleration and energy release in solar flares after its 2000 launch. The second mission is the Galaxy Evolution Explorer, which will carry an ultraviolet telescope during its 2-year mission to explore the origin and evolution of galaxies and the origins of stars and heavy elements once it goes into orbit in 2001.

## Panel Looks to ITER Alternatives

With prospects for near-term construction of the proposed \$10 billion International Thermonuclear Experimental Reactor (ITER) increasingly dim, the push for cheaper alternatives is gaining strength in the fusion community. This week a Department of Energy (DOE) fusion advisory panel recommended that researchers consider "lower cost, reduced-scope options" that could be built "on the fastest possible schedule" if the money to build ITER can't be found. Those options could include alternative designs for as low as \$2 billion, says an interim report by a panel chaired by Hermann Grunder, who heads DOE's Thomas Jefferson Lab in Newport News, Virginia.

Overall design work on ITER was completed this summer, and groundbreaking was to take place in 1998, if agreed among the U.S., European, Japanese, and Russian partners. But limited political interest, tight budgets, and questions about the design's ability to produce a self-sustaining burn have put construction plans on ice until at least 2001 (*Science*, 6 December 1996, p. 1600). The Grunder panel recommends, therefore, that the partners consider a cheaper ITER design as well as explore alternative approaches.

That doesn't sit well with ITER director Robert Aymar. He complains that the Grunder assessment contradicts past U.S. panels which firmly backed the design. "It's not in line with our plans at all," he says, adding that a redesign "would be damaging to the program."

For now, the Grunder report says, the United States should press Europe's JET and Japan's JT-60U to give U.S. researchers more access to these premier fusion facilities. The report also calls for DOE to provide between \$10 million and \$20 million to U.S. researchers for that increased collaboration.

## Researcher Will Head Poland

Polish scientists have suffered severe funding cutbacks since communism fell more than 7 years ago, but now they have a colleague who could help end their plight. Poland's new Solidarity-led Parliament this week tapped chemical engineer Jerzy Buzek, an active researcher at the Polish Academy of Sciences' Institute of Chemical Engineering, to be the new prime minister.

The 57-year-old Buzek, a longtime activist in the Solidarity trade union movement, was a compromise candidate supported by both Solidarity Electoral Action—the trade union alliance that won the most votes in last month's parliamentary election—and its new coalition partner, the Freedom Union. Buzek and other leaders will select the new Cabinet, including replacements for the two officials who are most influential in scientific research: the education minister and the head of the State Committee for Scientific Research, the main granting agency. Currently, Poland spends about one-half of a percent of its gross domestic product on research.

Buzek has published more than 50 research papers on chemical separation techniques and other subjects. An expert on methods of removing sulfur dioxide from flue gases, Buzek served as Poland's representative to two international panels on global warming. "We are pleased that someone with such deep knowledge of scientific issues will be prime minister," says Andrzej Burghardt, director of the chemical engineering institute.



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