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## Science & Technology

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# U.S. budget axe targets NASA, fusion

by Marsha Freeman,

The proposed future cuts in the fiscal 82 budget announced by President Reagan on Sept. 24 could cripple the nation's major science and technology programs. As yet it is unclear whether the Congress will redo the 1982 budget to bow to the President's request.

In the first round of cuts announced last spring, both the space and fusion programs were cut back from the Carter budget request but survived with a small real increase that at least kept pace with inflation.

The additional twelve percent cut that is now mandated by the Office of Management and Budget would wipe out those increases and set back, not only future projects, but some already under development and construction in both the National Aeronautics and Space Administration (NASA) and the fusion program.

### Fusion under the gun

After the 1980 Magnetic Fusion Energy Engineering Act was passed by Congress one year ago, the goal was set for an operational engineering device by 1990 and a demonstration reactor by the turn of the century. A budget level to begin the engineering design phase of fusion work was projected to require \$525 million in FY 82.

After the first round of cuts in the spring, the fusion budget stood at the level of \$460 million, to which about \$14 million was added by Congress. Now the OMB is requesting that \$50 million be cut from the \$460 million, which will bring the fusion budget back down to nearly where it stood in FY 81. In constant dollars the program would not even keep up with inflation.

Sources in the fusion community report that they are not only concerned that the engineering design phase cannot get off the ground at that budget level, but that crucial experiments which have been previously authorized will not be built and one already under

construction will be scrapped.

The Fusion Materials Irradiation Test facility being built in the state of Washington is the only experiment under way to test new materials for future fusion power plants under simulated fusion conditions. The Reagan administration has threatened to cancel the project. There is also concern that the Elmo Bumpy Torus (EBT) proof-of-principle experiment, which was approved by Congress last year to test a different magnetic fusion configuration than the mainline Tokamak device, will not be built.

According to the staff of the Senate Appropriations Subcommittee on Energy and Water Development, programs that survived the first round of cuts with increases are the "prime candidates" for cuts this time around. These include fusion, the Clinch River breeder and some water projects. It is also possible that the defense programs in the Department of Energy will be cut back.

### Will the Shuttle survive?

The projected NASA budget is equally gloomy. The first Reagan cuts reduced the \$6.7 billion Carter request by over \$600 million. According to the Senate staff, the OMB will ask anywhere from 6 to 12 percent more be sliced out.

This could result in a further \$300 to \$700 million cutback.

President Reagan has threatened that he will veto the FY 82 NASA appropriations bill if the Congress does not adhere to the new cuts. Senator Harrison Schmitt (R-N.M.) and other congressional space-program supporters have not yet seen the details of the proposed cuts and have not formulated their response.

If the NASA reduction is on the order of \$300 million, it is likely that all of the space science projects will be eliminated. This would include the Galileo mission to Jupiter, the Venus Orbiting Imaging Radar mission, and the followon work in the manned space program for an orbiting space station.

If the proposed reduction is over a half billion dollars, there is no way the Space Transportation System, or Shuttle, can escape the ax. The Shuttle program is already running into cost overruns for the FY 82 budget year, and it is possible that the number of flights could be cut significantly and scheduled scientific missions may be eliminated.

The office of the White House science adviser is carrying out a review of NASA programs, looking into the role of the Defense Department in space. A mooted attempt to defray some of the Shuttle costs through expenditures by the DOD will anger the Congress, since the civilian space program is to be kept separate from the military applications according to the law that established NASA in 1958.