

# A budget catastrophe for fusion and NASA

by Marsha Freeman

Action is more or less complete on the fiscal 1982 budget, as Congress wraps up its revisions on President Reagan's budget request. Unfortunately, the manic, zero-hour passage of the overall budget by the House July 3 was symptomatic of the unthinking action taken on the nation's science programs.

Throughout the budget cycle exercise, there was never a rational discussion of the rôle that our advanced energy, space, and science programs play in ensuring economic recovery. The very programs that would stimulate high-technology industry, create new industries and jobs, and revitalize education and the cities were in fact, cut in the name of economic recovery.

Programs such as magnetohydrodynamics and the high-temperature gas-cooled nuclear reactor were considered medium-term technologies whose development would be paid for by industry if they were thought important enough to develop. The fact that both these advanced energy technologies will take at least a decade to bring to demonstration readiness or commercial use, and will not be underwritten by industry, did not discourage Office of Management and Budget Director David Stockman from excising them.

Programs that even more certainly would disappear without government funding, which include most importantly fusion energy and the NASA space program, did not fare well, either.

On fusion, the lack of policy direction from the new Secretary of Energy, James Edwards, allowed Carter holdovers and misinformed policy-makers to run roughshod over the near-unanimous mandate of both the House and Senate last year for the fiscal 1982 fusion budget to be increased by 25 percent. The \$525 million level mandated in the Magnetic Fusion Energy Engineering Act of 1980 was reduced to \$460 million by the upper echelons of the DOE, even against the OMB, which was willing to put more money into fusion.

This reduced level will mean that one or two important projects are unlikely to be started in this next budget cycle and, above all, the next-step device engineering

design work will not go ahead on schedule.

The 1980 law specifies that a Fusion Engineering Device (FED) be on line by 1990, at the latest. To meet this deadline, design work must begin in earnest next year. The Office of Fusion Energy and the scientists in the program are trying to make the most of the money that will be appropriated by Congress to upgrade FED design work.

The cutbacks in funding have undermined the country's ability to go full steam ahead with the engineering program mandated in the fusion act. But even more potentially damaging has been the effect of the cuts on the morale of the scientists, congressman and public supporters of fusion, who worked for a year to get a bill passed that would commit the nation to an all-out fusion effort. Now they have seen this accomplishment nearly vanish in the vagaries of hysterical budget decisions.

## Self-defeating NASA cuts

For NASA, the Reagan budget cuts are even more nonsensical and dangerous. The entire rationale for the cuts was the desire to help balance the budget to restore the nation to economic health. Yet the civilian space program has been the most significant engine for economic development in peacetime.

In the decade of the 1960s, which saw whole revolutions in technology, the creation of new industries and skilled jobs was accelerated by the relatively small investment made through NASA in our scientific, technical, and educational capabilities. The real measure of economic health, the rate of growth in productivity, which reflects the rate of introduction of new and more efficient technologies, was on the increase during the Apollo period.

Combined with some military investment, the civilian space program during this period represented a national commitment to scientific discovery, technological excellence, and the future of our next generations. Now the Reagan administration is proposing the near phase-out of this mainspring of technologically primed economic health.

Unlike other government agencies, most of NASA's programs are medium term, spanning 5 to 10 years from design to operation; therefore, the agency plans its activities on a five-year basis. OMB director Stockman's projections for NASA funding to 1986 would cut the agency by \$800 million over the period, without considering inflation.

Some legislators and NASA supporters offer the excuse that the agency will have to suffer some cuts this year, like everyone, but will be supported once the economy gets back on the track. But, a five-year phase-out of NASA is the public goal of OMB director Stockman, and has been on the agenda of the Club of Rome and allied organizations since NASA's inception.