

sion on this point, the authors suggested in their briefing that the loose tubes probably did the damage that triggered the accident.

Aside from the problem with metal debris, the NRC inspectors noticed few mechanical failures during this accident. There were some foul-ups, however. The main process computer shut down for 16 minutes during the crisis, for unknown reasons. Two valves stuck open. Recorders that indicate whether valves are open or closed failed to operate.

The report also noted some nonmechanical failures. The chief of these was that the specified procedures for dealing with a leak of this type did not explain how to cope with the bubble that developed in the top of the reactor vessel. In fact, the procedures gave unhelpful instructions. Being clever, the operators at Ginna quickly grasped what was wrong and improvised their own solutions, or as the report puts it, their "deviations from procedures." Thus they brought the plant under control within 4 hours of the first sign of a leak.

The small amount of radioactive steam that escaped at the peak of the crisis presented almost no risk to the general public, the NRC report concluded. The worst exposure a person outside the plant might have received was about 15 millirems. For comparison, a medical x-ray gives the average adult patient about 103 millirems.—*Eliot Marshall*

Scrap NSF, Slash NIH, Conservatives Urge

A coalition of right-wing groups has proposed an alternative budget that, among other things, would eliminate the National Science Foundation (NSF) and cut support for the National Institutes of Health (NIH) by 50 percent. The proposal is an attempt to keep the Reagan Administration, which the groups helped elect, to a hard-line conservative economic agenda. The alternative budget would cut domestic spending by 30 percent and boost defense spending by 20 percent.

The proposals for NSF and NIH were not spelled out in detail, but an official of the National Conservative

Political Action Committee, one of the leaders of the coalition, said that "a lot of this research, if it really is beneficial, should be done in the private sector." He added: "Federal tax dollars are just keeping professors employed."—*Colin Norman*

GAO Ignores Flaw in Concept of Space War

The General Accounting Office (GAO) in a secret report* to Congress has urged the Pentagon to speed the development of laser battle stations. There is just one problem. The authors of the report did not address the question of whether a nuclear blast in space might knock the battle stations out of action.

The much-publicized report, an unclassified digest of which has been made public, told Congress that "a constellation of laser battle stations in space has the potential to provide a credible air and ballistic missile defense system for the United States." To implement the goal, it suggested the armed services establish an Aerospace or Space Force.

Not mentioned in the report, according to GAO officials, was the issue of nuclear survivability. Nevertheless, a single nuclear blast in outer space would instantly set up an electric pulse of up to a million volts per meter in hundreds of satellites and battle stations, zapping their solid-state circuits and ending their ability to wage war. The mechanism behind the threat is simple. In space, radiations from a nuclear blast travel unimpeded over vast distances at the speed of light. When radiations strike a metal object, they knock out electrons and create a strong electric pulse (*Science*, 12 March, p. 1372).

"We did not go into the issue of nuclear effects too much," says Bernard D. Easton, the GAO official who headed the report team. "We looked at survivability to some extent, but not much in the nuclear area." In particular, Easton said the group did not address the survivability issue raised by the electric pulse from nuclear radi-

*DOD's Space-Based Laser Program: Potential, Progress, and Problems (C-MASAD-82-10, General Accounting Office, Washington, D.C., 26 February 1982).

ations. Asked why, he said, "I really can't say any more. You are getting into areas that are classified."

Perhaps Easton was taking his lead from President Reagan, who on 2 April signed an Executive Order that for the first time makes the "vulnerabilities" of systems, installations, projects, or plans relating to the national security candidates for the classification category of Top Secret.

—*William J. Broad*

Trial Set for Louisiana's Creationist Law

The trial of the nation's second creationist law has at last been scheduled for 26 July in Baton Rouge, Louisiana. If the law is judged to be unconstitutional, as in the recent decision in Arkansas, future legislative initiatives by creationists are likely to be brought to a complete halt.

A long list of plaintiffs, including legislators, educators, and religious leaders, is asking for a declaratory judgment that the "Balanced Treatment" law is constitutional.

The defendants, which include the State of Louisiana Department of Education, the State Superintendent of Education, the Board of Elementary and Secondary Education, and the Orleans Parish School Board, are to be represented by the American Civil Liberties Union (ACLU). The ACLU will be hoping to repeat its success in Arkansas, this time aided by New York law firm Paul, Weiss, Rifkin, Wharton, and Garrison.

Although the wording of the Louisiana law differs from that in Arkansas, the ground covered in the trial is likely to be very similar to the case heard in Little Rock. Meanwhile, it is still possible that the Louisiana case will never reach the court. "We will move for summary judgment," says Jack Novik, lead counsel for the ACLU, "and the judge may be able to come to a decision based on written material, and this of course includes the Arkansas decision."

A tangle of lawsuits and motions by both sides makes the Louisiana situation far more complicated than the one in Arkansas, and it could well be that the trial will not begin as scheduled in July.—*Roger Lewin*