

## Firm Offers to Finance a Space Shuttle

The Space Transportation Company, a group of eight investment bankers and venture capitalists, has started talks with high officials in NASA about building a space shuttle orbiter with private funding. The orbiter would cost roughly \$1 billion.

NASA is taking the concept seriously, and has encouraged the group to make a formal proposal. STC president Klaus Heiss says such a proposal, reflecting the first round of discussions, could be ready in 2 to 6 months.

Heiss is a familiar figure at NASA. His own firm, ECON, participated in the original economic analyses of the space shuttle in the early 1970's. STC itself was organized by William Sword, Inc., an investment banking firm in Princeton, New Jersey.

NASA currently plans a total of four shuttle orbiters. Heiss—and most other observers—believes that the agency will need at least five orbiters to handle the projected launch traffic. "We see no problem with the market," he says. A fifth orbiter would also ensure continuity of service should one of the first four be lost or damaged in an accident.

But a decision has to be made soon, says Heiss. If the order for the fifth orbiter is not placed within the next 6 months or so, Rockwell International and its subcontractors will begin to shut down their production lines. Reopening them later on would drive the cost of a new orbiter from \$1 billion to \$1.5 billion or even \$2 billion. NASA's budget has always included an option for a fifth orbiter, but it now appears that the option will be dropped in the forthcoming fiscal year 1983 budget.

STC is offering to raise the \$1 billion privately and place the order now. Once the orbiter is built (about 1986), STC will turn it over gratis to NASA or to whomever is operating the shuttle at that point. (The agency is considering turning the whole shuttle system over to private management once it becomes operational.)

In return, STC would become the sole ticketing and marketing agent for all commercial and foreign users of the shuttle system. "We think it's important to put the space enterprise on

a commercial basis," says Heiss. "We believe, and NASA agrees, that marketing requires an entity with money at risk, who will aggressively go out and pursue the clients."

Heiss is confident that such an operation can both recover the costs of the orbiter and produce an attractive return. STC has had serious expressions of interest from large insurance companies and investment banks. "Getting the first \$100 million will be the big hurdle," he says. "After that it's all downhill."

To minimize political controversy, STC is confining its solicitations to American firms, says Heiss. But he adds that the idea generates tremendous interest among investors in Europe, Japan, and the Arab states.

—**M. Mitchell Waldrop**

## Armageddon Closer

Two prominent elders of science and technology have issued unusually chilling warnings about the arms race in recent weeks.

Admiral Hyman Rickover, in a virtuoso farewell performance before the Joint Economic Committee on 28 January, warned that "we will probably



**The word from the admiral**

destroy ourselves" in a nuclear war. He said he was "not proud" of his role in creating the Navy's fleet of nuclear submarines, which he called a "necessary evil." "I would sink them all," he said. Rickover said he thought nuclear reactors as well as weapons ought to be outlawed. "I do not believe

nuclear power is worth it if it creates radiation."

Meanwhile, another grim forecast has come across the Atlantic from Lord Solly Zuckerman, longtime science adviser to British governments. In announcing his new book, *Nuclear Illusion and Reality*, Zuckerman said the use of theater nuclear weapons in Europe would inevitably escalate to full-scale nuclear war. He predicted eventual world war if the arms race is not curbed.—**Constance Holden**

## Congressman Wants Millar, Head of NIOSH, to Move

Representative David Obey (D-Wis.) is demanding that the director of the National Institute for Occupational Safety and Health (NIOSH) move to Rockville, Maryland, alleging that J. Donald Millar has attempted "to run the agency over the telephone" from his Atlanta office.

Last year the Reagan Administration ordered that institute headquarters be transferred from Rockville to Atlanta so that NIOSH would be closer to its parent agency, the Centers for Disease Control. Congress balked at the idea and blocked funds for the transfer. Millar, who had made his home in Atlanta, remained there although most of NIOSH's administrative staff are still located in Rockville.

An Obey staff aide said, "You can't have a headquarters without people." In a recent letter to Surgeon General C. Everett Koop, Obey said that Millar should follow orders as a commissioned officer in the Public Health Service Corps and move to Rockville.

Millar says that he has a letter from the Surgeon General's office that assigns him to Atlanta. "I'm not committing any disobedience." He does not deny that much of the institute's business is conducted over the telephone, but he also notes that he has spent 60 percent of his time on the road, visiting the institute's branches located in several cities.

The real question that lingers is whether Congress will continue to block funds to move the rest of NIOSH's Rockville staff. The answer should become clearer at budget hearings for the institute that are scheduled for March.—**Marjorie Sun**