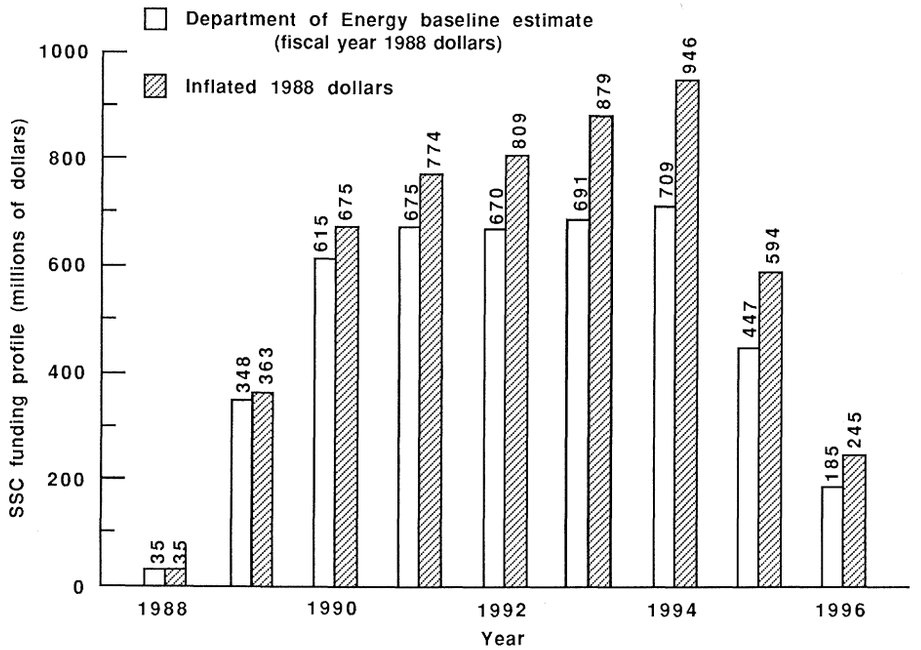

Projected SSC costs. *Congress must approve hefty budgets for the SSC in the coming years if the accelerator is to begin operation in 1996.*

of money some states are spending, Trivelpiece says, is excessive for a 200-page proposal. The problem goes beyond the paper proposal. States are expected to provide the government land with suitable geologic characteristics and rights-of-way for the SSC. But states that can afford it also may donate money, buildings, and other assistance, all of which can influence site selection.

Tension over the SSC is building in the industrial sector, too. Carl H. Rosner, president of Intermagnetics General Corporation of Guilderland, New York, wants to limit participation of foreign vendors. The Administration, however, sees broad international cooperation as a way to lower the SSC's cost. The United States might find it hard to stop European and Japanese companies from bidding on the project if their governments put up cash for the SSC.

Nevertheless, Intermagnetics, a manufacturer of superconducting wire and magnets contends it would do "critical damage to the viability of U.S. industry" in the field of superconductivity. Also vying for magnet contracts are Italy's Ansaldo, Brown Boveri of Switzerland, General Dynamics, and Westinghouse.

Still another potential problem may arise in DOE's selection of a general contractor for the project. The department has received an unsolicited proposal to manage the SSC project from Universities Research Association (URA), operator of Fermilab and parent to the SSC's Central Design Group. While it is conceivable that DOE could award the nonprofit group the contract, a controversy could develop if other companies are not permitted to compete for the prize. Martin Marietta's Harrison C. Wroton says his company has operated under the impression that such a task would be subject to competitive bidding. DOE officials say department procurement rules prohibit them from discussing the matter, but they indicate that no decision has been made yet on URA's proposal.

Despite these uncertainties and the fiscal concerns cited by members of Congress, ranking majority and minority leaders such as Roe, Johnston, Senator James McClure (R–ID), and others seem to recognize the supercollider as the next logical step in particle physics. But to sustain what political momentum the SSC has, proponents may have to compromise on the site selection timetable, if not the entire project schedule. "It looks pretty tough right now," says URA's Ezra Heitowit in sizing up the funding outlook. And things could get a lot tougher, observes Representative Jim Chapman (D–TX). "Once the site selection is made there will be less support for this project."

If there is a chance for a political breakthrough, it may not come until next year, and even then presidential politics could get in the way. But when Congress does act, says Trivelpiece, it should make its commitment "with the depth of understanding that support must be there." That commitment won't be forthcoming, says Roe, unless there is "a strong public consensus for this project to go forward." ■

MARK CRAWFORD

Superphénix Springs a Leak

Paris

Europe's fast breeder reactor development program has received a major setback with the discovery of a sodium leak deep inside the French reactor Superphénix. The cause of the leak is not yet known, and according to French officials it could take several months to diagnose and repair.

The leak has not occurred in the main cooling tank surrounding the combustible elements, but in a subsidiary tank where the fuel rods are stored temporarily during their removal from the core of the reactor.

At the end of last month, it was discovered that 20 of the 700 tonnes of liquid sodium contained in the subsidiary tank had leaked into the 15-centimeter gap separating the tank from its protective concrete casing. Subsequent measurements last week revealed that the sodium was continuing to leak into the gap at a rate of 500 kilograms a day.

On 10 April, officials from Electricité de France—France's national utility, which had covered 51% of the costs of construction of Superphénix as an "industrial prototype"—admitted that they had still not figured out the cause of the leak, and had failed to confirm earlier reports that the problem might have been caused by a faulty weld.

Even a relatively minor mechanical failure, they say, is likely to require "long and costly" repairs. If further investigation reveals the need for a major redesign of the subsidiary tank, the officials say that a replacement could cost up to $15 million. Furthermore, its design and installation could require shutting down Superphénix, which came into operation in December 1985, for up to a year.

The sodium leak has come at a difficult time for the French government, which has so far had little success in persuading either Italy or West Germany, its two main financial partners in the construction of Superphénix, to make any commitment toward the construction of its planned successor, Superphénix 2.

Electricité de France itself has become increasingly lukewarm about the immediate need for fast breeders in general and Superphénix 2 in particular, especially in light of the continuing decrease in the cost of uranium. It is calculated that electricity produced by Superphénix is currently more than twice as expensive as that produced from conventional light water reactors. Even with major technical improvements in the new design, the cost difference is likely to remain at least 45%. ■ DAVID DICKSON