How LOFT Stayed Afloat at DOE

Just because the French, the Germans, and the Soviets are trying to build more efficient nuclear reactors, the Administration and—apparently—the Senate seem to think this is no reason for the United States to get swept up in the fad.

U.S. research on efficient fuels is being dropped, despite its potential for reducing uranium needs and radioactive waste shipments. Supporters of the program say that it is seen as a luxury and a threat to the breeder reactor.

If the Administration's plan survives, the money that might have been spent on fuel efficiency research may be poured into another project which some senators apparently regard as more important. It involves running safety tests primarily for foreign concerns in an international program to be carried out at an aging federal research plant in Idaho, known as the Loss of Fluid Test Facility or LOFT. It competes with the fuel efficiency program for funding.

On 16 June, the Senate Appropriations Committee endorsed a White House budget proposal for 1984 that ends new funding for nuclear fuel efficiency research. The rationale was given earlier in a letter from the Department of Energy (DOE) Secretary Donald Hodel, dated 18 March. In it he said the industry should do this kind of work without government help: "We agree that extended burnup [the fuel efficiency program] is good for nuclear power; we believe that it is largely a commercial reality and, therefore, does not require additional federal support." The Senate Appropriations Committee agreed, and the full Senate is likely to concur in a floor vote soon. The House, on the other hand, gave DOE $9 million to continue this work, which began in 1976 and is within reach of its goal of proving a 40 percent increase in fuel efficiency. Proponents say an increase of 20 percent has been achieved already.

Westinghouse official Peter Murray says that cutting $9 million "kills the program or stretches it out until it is basically killed." If that happens, the fuel vendors "might continue the effort, but on a very low level." Under the accelerated House program, the public would begin to benefit "as early as 1990, when utilities would start to save very heavily in spent fuel generation." Fuel vendors like Westinghouse have no incentive to push the program, Murray says, for they reap none of the savings. These go instead to the consumers and the DOE, who are jointly saddled with the spent fuel problem.

According to a fact sheet prepared by Murray, the extended burnup program could reduce spent fuel discharges by 12,000 metric tons between 1990 and 2000, representing an "extremely" cost effective achievement for about $10 million in new expenditures. Murray also says the program poses no threat to the breeder, since it would postpone the "need date" by only 3 to 5 years.

The $9 million difference between the Senate and House bills will have to be worked out on the Senate floor or later, when the two sides meet in conference.

Critics of LOFT say the foreign manufacturers would never dream of spending what this project will cost to do the tests themselves. The 1984 cost is $15 million, with a potential expense for cleanup of radioactive debris later on of over $100 million. In the final experiment planned at LOFT, fuel would be stressed to the breaking point. This would contaminate the system and require a decommissioning many times more expensive that would be required now, a cost not included in the current appropriation. One of the advocates of the LOFT program in the Senate explains that no one can be sure yet whether the experiment will actually be carried out.

The American industry, has been indifferent to the LOFT program and has not pressed for funding. The Nuclear Regulatory Commission (NRC), responsible for U.S. safety research, says it has no further need for the facility. The NRC's scientific advisers long ago reached this conclusion, urging that the plant be shut down as a drain on the research budget. In the House, nuclear advocates and opponents agreed to close LOFT next year, allowing only $2 million in the 1984 budget for decommissioning the plant. Its mission seemed at an end.

It seemed that way until one fan of LOFT spoke up. This was Senator James McClure (R–Idaho), ranking member of the subcommittee that drafted the DOE research budget in the Senate. He is also a native of LOFT's home state—Idaho. McClure saw a unique future in a facility which the regulators, the industry, and many congressmen had come to regard as being at a dead end.

One measure of LOFT's uniqueness is the unusual mixture of opponents it has spawned. Led by the conservative, Senator Gordon Humphrey (R–N.H.), six senators endorsed a letter to the chairman of the Appropriations Committee on 13 June asking that LOFT be closed and that the extended burnup program be funded instead, at a level of "at least" $9.5 million. In addition to Humphrey, the signers were William Cohen (D–Maine), John Glenn (D–Ohio), Gary Hart (D–Colo.), Charles Percy (R–Ill.), and Paul Tsongas (D–Mass.). Although the request was turned down, it was interesting in that it was backed by senators from different regions with very different ideologies.

One of the steadiest backers of the fuel efficiency program is Representative Richard Ottinger (D–N.Y.). His aide Gerald Brubaker explains why federal support may be necessary. First, the improvements now in sight could reduce fuel demands 40 percent, reducing fuel sales by the same amount. Vendors may not be enthusiastic about paying for this research, especially since sales are already slack and discretionary funds are scarce. Second, until the new fuels have been fully tested, vendors will not want to peddle them, nor will utilities want to burn them in commercial reactors. The risks are too large. Third, since the utilities must pass along to consumers any savings gained by more efficient operation, they have no economic incentive to speed the development of efficient fuel systems. For them it is equally comfortable to wait.

Brubaker finds it puzzling that this pronuclear Administration "just won't take 'yes' for an answer" when it comes to funding a program that will make conventional reactors more attractive. The U.S. government may not be interested, he notes, but fuels manager R. Holzer of Germany's Kraftwerk Union Aktiengesellschaft wrote in a recent paper that the "improvement and optimization of fuel cycles and plant economics" will be the "main item of interest" in the 1980's.—**ELIOT MARSHALL**