breeder program, including the study of alternative fuels coupled with a 1- or 2-year delay in the Clinch River project, a severe constraint on funds for the project, and cancellation of it with a shift of funds to an expedited program for an advanced converter reactor (that is, one that does not breed more fuel than it burns, but might come close to doing so). Advanced converter reactors, sometimes called near-breeders, could stretch uranium reserves as much as five times further than present reactors; they were discussed in more detail in last week's issue (15 April, Research News, p. 284).

Some members of the steering committee took sharp exception to the idea that the Clinch River reactor would be less proliferative with a different fuel—particularly with the thorium fuel cycle suggested by ERDA, a so-called denatured concept that would dilute fissionable material to the point where it could not be used for bombs without isotope enrichment. While the denatured thorium idea might be very appealing for the present reactors, in the Clinch River reactor, it would produce too little of its intended product and too much plutonium—possibly enough for 100 bombs from each reactor each year, said four members of the steering committee.

In the absence of a final directive from the White House, the energy agency appears to be planning for a short delay in construction of the Clinch River reactor while other fuel cycles are considered, followed by a push for resumption of the original design. There is apparently some latitude to change the reactor core without introducing drastic changes in the rest of the design, but "as soon as you change the sodium coolant, you're talking about a different reactor," said one physicist. ERDA officials pointedly say that they are not even ruling out the possibility that the plant might eventually be a plutonium breeder after all.

To delay construction while proceeding with licensing might not hold up the project much, because "right now licensing is on the critical path," says Thomas Cochran of the Natural Resources Defense Council, a long-time breeder critic and member of the steering committee. The agency still needs a limited work authorization permit to begin clearing the site and bringing in support facilities. Such authorization, originally expected this summer, must be granted under the National Environmental Policy Act (NEPA), and further authorization is needed to actually begin construction. In the best of circumstances, construction of the Clinch River breeder

*The steering committee members who called for proceeding promptly with the breeder option were T. G. Ayers, chairman of Commonwealth Edison Company; M. T. Benedict, nuclear engineering professor at Massachusetts Institute of Technology; F. L. Culler, deputy director of Oak Ridge National Laboratory; J. L. Everett, president of Philadelphia Electric Company; R. V. Laney, deputy director of Argonne National Laboratory; C. D. Perkins, president of the National Academy of Engineering; C. Starr, president of the Electric Power Research Institute; and C. Walske, head of the Atomic Industrial Forum. The steering committee members who called for cessation of breeder demonstration activities were Thomas B. Cochran of the Natural Resources Defense Council; Russell E. Train, former head of the Environmental Protection Agency; Frank von Hippel of Princeton University; and Robert H. Williams of Princeton University.

Gene Splicing Preemption Rejected

Opposition by Senator Edward Kennedy (D-Mass.) and others has put an unexpected twist in the development of federal legislation to govern recombinant DNA research. A proposal that state laws in the area should be preempted by federal law has itself been struck down because of congressional and White House opposition.

The aim of the preemption clause, proposed in draft legislation prepared by an interagency committee, was to forestall the development of a crazy-quilt pattern of differing local research standards, some of them possibly stricter than the NIH guidelines. Preemption was one of the chief reasons for which the NIH and many scientists supported federal regulation of the research.

But the clause ran into trouble on political grounds. "There are political implications in preempting the states which some people would find distasteful and which a lot of congressmen would find hard to justify to their constituents," remarks a congressional staff aide.

After some hurried negotiations, Kennedy introduced the Administration's bill into the Senate on 1 April without the preemption clause. In its place is the stipulation that state or local laws will prevail if the Secretary of Health, Education, and Welfare finds that they are as or more stringent than the federal law and likely to be properly administered.

An NIH official described the new clause as an equitable compromise: "With the Secretary involved, a state cannot just go ahead and write a more stringent law on its own." Once federal legislation is in being, states may no longer see the same need to write laws of their own, the official observed.

At a hearing last week before the Senate health subcommittee, Kennedy made clear that he wanted the governance of gene splicing to be vested in a centralized authority. Secretary of HEW Joseph A. Califano assured him that in developing legislation "We headed off a number of attempts within the executive branch to fragment authority and make a list of exceptions."

Califano resisted the idea of a special commission on gene splicing, complaining to Kennedy that he already had 320 outside committees advising the department and that he was reaching the point "where nobody knows who is advising whom on what."

The Secretary added that he was troubled at having the government intrude into the area of scientific inquiry: "I am less concerned about the government being involved in [regulating] the applications of knowledge than with government involvement in the search for knowledge."

Kennedy, however, said he believed that the public should be involved not only in decisions on the application of knowledge but "at the ground level, in the scientific development as well as the application."

A similar attitude exists in the House, where a bill now in preparation may take steps to widen the range of scientific disciplines represented on the NIH committee on recombinant DNA, and to include a minority of nonscientist members.

Kennedy praised the Cambridge City Council and its citizens review board, suggesting that its actions might set a pattern for the rest of the country. He asked a witness, Governor Michael Dukakis of Massachusetts, if a local authority should be allowed to prohibit research in a facility. "I don't have any problem with that," Dukakis said—Kennedy said he didn't either—but the governor added he did not believe any community would make such a decision.

Both the House and Senate health subcommittees hope to have their bills reported out of full committee by mid-May.—N.W.