

# Nuclear waste bill now in sight

## But critics fear stop-gap stores will last

Washington

Congress is now closer than ever to passing a nuclear waste management bill, but its terms seem likely to be much more appealing to the atomic industry than to environmental groups, both of which, in a strange alliance, have for years been calling for a legislative solution to the growing mass of spent commercial fuel.

The Senate has already passed a bill that the industry is satisfied will end the uncertainty plaguing the government's waste disposal programme. In the absence of legislative directions, each administration has been free to set its own policy, usually inconsistent with that of the previous administration.

The environmental lobby, on the other hand, is worried that the Senate bill and its counterparts now under consideration in the House gloss over the serious technical problems of waste management in favour of political expediency.

At present, 8,000 tonnes of spent commercial fuel is in temporary storage at reactor sites. By the end of the century, the figure is expected to reach 72,000 tonnes. The ultimate solution, everyone seems to agree, is to dispose of it in deep geological repositories. This solution is provided for in all versions of the bill.

The bone of contention, however, has become whether the federal government should in addition provide some form of interim storage. According to the Atomic Industrial Forum, which represents the nuclear power industry, roughly half a dozen reactors will run out of on-site storage space by 1985; the problem will be widespread by the 1990s. The industry is thus very pleased that the Senate bill provides for stop-gap storage to cover any delays in a permanent repository.

The environmental groups see something more sinister going on. The interim storage envisaged in the Senate bill will be of two kinds. The first is "away-from-reactor" (AFR) storage, which is essentially the arrangement used at reactor sites: spent fuel elements are simply stacked in a water-filled "swimming pool" which absorbs the radiation and heat. The environmental groups charge that AFR is a way for the industry to avoid the licensing procedure required to expand on-site storage. The second kind of facility is "monitored retrievable storage" (MRS), which is only vaguely defined. The chief worry among the environmental groups is that MRS will become the *de facto*

permanent solution.

Brooks Yeager of the Sierra Club says that the Senate bill virtually guarantees that. It sets "not just ambitious, but unmeetable deadlines" for the construction of a geological repository. "They want to arrive at the issuance of a construction permit by the end of the decade. That's seven years faster than the Department of Energy's plans for construction in order to resolve all the technical problems." The timetable may also guarantee that the choice of sites will be limited to the three at which the Department of Energy has already begun tests — the Hanford

Reservation in Washington state, the Nevada test site and a group of sites along the Gulf of Mexico.

Professor Henry Kendall of the Massachusetts Institute of Technology, who is active in the Union of Concerned Scientists, a group critical of US nuclear policy, agrees that building an MRS facility "basically means you don't have confidence in permanent disposal". He says that what is needed is time to make a careful hydrological study of the actual site.

These worries seem to be backed up by a recent study by the Congress's Office of Technology Assessment (OTA). The

## British research — no cure yet

would be self-defeating.

British university research is in trouble, but only the universities themselves can work their way out of it. This is the chief conclusion of the much delayed report of the committee under Sir Alec Merrison, vice-chancellor of the University of Bristol, set up two and a half years ago to brood about financial support for university research and published this week (Cmd 8567, HMSO, £4.35).

The report comes down squarely in favour of the British dual-support system, whereby the University Grants Committee (UGC) provides universities with the basic wherewithal for research and the research councils provide extra funds (but no overhead) for particular projects. But the committee also says that "the system has been under strains for several years".

One of the committee's chief proposals is that universities should more deliberately channel part of the funds they receive from the UGC into areas of research in which they consider themselves to be strong, for which purpose it says that British universities should set up research committees to supervise the internal allocation of funds. But the committee also says that as a stop-gap, the research councils should be prepared to "meet costs they would not normally meet" (a euphemism for paying overhead) or think of moving people doing good work in unfavourable circumstances to other places.

The essence of the committee's support for the continuation of the dual-support system is its repeated reaffirmation of the belief that if universities were not provided with funds that can be spent on their own discretion on research projects that would not normally win research council support, genuinely innovative ideas would never see the light of day. It considers but rejects on the same grounds that UGC support for research should be linked directly with the volume of financial support provided by the research councils, while it considers that if UGC were to earmark any but a small proportion of its university support for specific projects, the resulting rigidity

The chief targets for the committee's advice are the universities, which are told that in the long run — "the prospects for achieving any significant shift in the near future are next to impossible" — they must be prepared to spend more of their resources on research rather than teaching, that they should "concentrate research funds into selected areas", look at the problems occasioned by academic tenure, find ways (with the help of the research councils) of bringing in "new blood" and be prepared to form associations with other universities for more effective prosecution of research. Both partners in the dual-support system are asked to be more sensitive to researchers' need to travel.

The research councils are given two principal tasks — to adjust the support provided for graduate students more regularly in tune with the increasing cost of living and to "study" the balance between their support of research in universities and in their own establishments. In a memorable sentence, the report says that "we are not satisfied that the balance of research council expenditure between such support and the work of their own institutes is in all cases right".

The committee's belief that university research is in trouble is based on statistical evidence that the committee says should be improved. The data do, however, show that the decline in research support from universities' own budgets goes back to the early 1970s, and that between the beginning and the end of that decade the average sum of money available to university departments per head of academic staff employed declined by 28 per cent in real terms.

These and supporting figures appear to have prompted the only note of near-acerbity in the committee's report — that while the British Prime Minister has repeatedly stated that the science budget has been protected, "the health of university scientific research does not depend only on the science vote". ●