

says that a simulator designed to train operators specifically in the control of PWRs should be operational before the reactor is commissioned. The CEGB is again happy that it can satisfy this request. The difficulty is, as the report points out, that no-one knows exactly how the reactor will behave in extreme fault conditions, so a simulation of such events can only be approximate.

NII has welcomed the ACSNI report as a valuable input to its own examination of the CEGB case, but says that all the areas mentioned by ACSNI are currently receiving attention anyway. The inaccessibility of detailed current CEGB safety proposals is one major headache for objectors at the inquiry. **Tim Beardsley**

US energy research

Cuts demand

Washington

The Office of Management and Budget (OMB), still putting the final touches to the President's budget for fiscal year 1984, has proposed substantial cuts in research spending on fossil and solar energy and energy conservation. The OMB proposal, which is still subject to an appeal by the new Secretary of Energy, was leaked last week by congressional sources.

The proposed cuts are similar to those proffered by OMB for the past three years and which Congress has chosen to ignore. In addition to eliminating all demonstration projects and all federal government involvement in service programmes (for example grants to communities to provide insulation of residences), the cuts would hit the following research areas:

- Fossil energy. Research on combustion, coal liquefaction and gasification, and coal clean-up would be cut from the current level of approximately \$300 million (as

approved by the House and Senate appropriations committees for fiscal year 1983) to \$106 million, the same level that the President requested for 1983. Most of these funds go to research contracts with industry.

- Solar energy. Long a target of Reagan Administration budget-cutters, solar research would also be held to the level of the 1983 request, \$72 million. Congress is heading for an appropriation of \$180 million for 1983. The Department of Energy itself had asked for \$87 million for fiscal year 1984.

- Conservation and renewable energy. OMB wants a limit of \$36 million on this programme which has already been severely cut by the removal of all non-research components. Of the \$383 million appropriated by Congress for conservation in fiscal year 1982, \$156 million was for research; the Department of Energy (DoE) requested \$51 million for fiscal year 1984.

DoE is reported to be planning an appeal, at least for the fossil and conservation budgets. The final budget will be released in January. **Stephen Budiansky**

Soviet economy

Size costs dear

Last week, an article in *Pravda* by N. Kulagin, a hitherto obscure researcher at the N.A. Voznesenskii Financial-Economic Institute in Leningrad, evoked a flood of speculation in the West that, under its new leadership, the Soviet Union might reverse its traditional bias towards larger and more comprehensive industrial enterprises. Such an article is a standard method of launching a new policy trend, without going as far as to condemn the old.

In this case, under the title "It is hard to be universal", Kulagin compares the Soviet preference for 'gigantic

multiprofile plants" with the development in the West of small specialized factories which cooperate with major industry by providing specialized components and services.

The large Soviet enterprises, each with its own staff of repairmen, instrument makers and transport-workers, is, Kulagin pointed out, wasteful of resources — in the Soviet machine building industry, for example, some 38 per cent of staff are engaged in such ancillary work, compared with only 11 per cent in the United States.

The type of centralized planning practised in the Soviet Union, as well as the vast investment originally needed to bring a number of sectors up to world level, undoubtedly has had much to do with the preference for gigantic plants. Such factories produce not only the goods specified in the State Plan, but also a large part of the components and auxiliary equipment they require. As Kulagin points out, these cause considerable difficulties but do not show up in the total output figures of the plant, thus making nonsense of the economic indicators.

Furthermore (a point not developed by Kulagin) if a "giant" industrial plant in Leningrad needs say, bolts with special performance parameters, it will commission some Leningrad institute to do the appropriate research, while a plant in Vladivostok, needing a precisely similar bolt, will commission the appropriate institute there. The duplication of research is considerable, particularly because, officially, Soviet scientists are not supposed to discuss their unpublished results with colleagues from other institutes. The introduction of small-scale plants, each specializing in the production of specific components, as advocated by Kulagin, could cut research costs considerably.

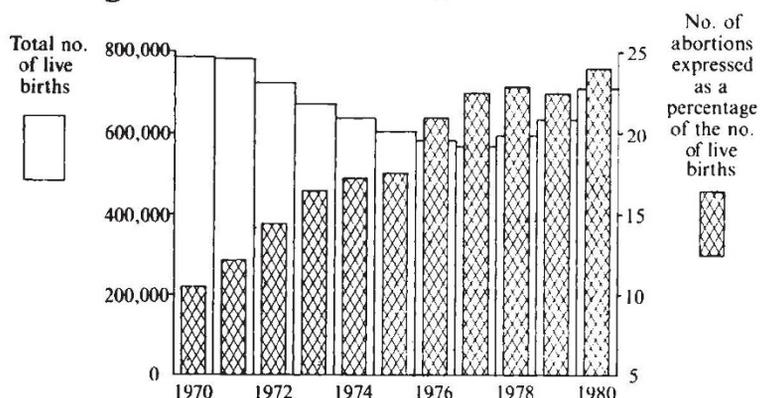
The implementation of the latest results of research and development — the major bottleneck in the modernization of Soviet industry — could also be carried through more effectively, in a network of small-scale plants, since the individual shut-downs for retooling could be better staggered.

And, perhaps most important, according to Kulagin, the costs of components made in one's "own" factory are frequently double what they would be from a "specialized" factory.

The concept of a changeover to smaller production units is not — in spite of the commentators last week — entirely new. The trend has slowly been taking shape over the past ten years, and several planning conferences have been held on the theme, one of which proposed the formation of a special Ministry of Interbranch Production to run the small component-producing plants. This has so far, however, failed to materialize, owing to bureaucratic difficulties inherent in the transfer of plants from one ministry to another.

Vera Rich

Increasing abortion rate in Britain



The annual number of abortions performed in England and Wales has risen from 82,730 in 1970 to 159,503 in 1980. In 1979 25 per cent of abortions were performed on women aged under 20 although only 9 per cent of all mothers fall inside this bracket. Not surprisingly, 60 per cent of the abortions were performed on women of between 20 and 34 — the age bracket which includes 85 per cent of mothers. The highest abortion rate is for women over 45 where the number of abortions actually exceeds the number of births. Source: *Health and Personal Social Services Statistics for England 1982* (HMSO: £7.50).