

JET might be possible if the Council would sanction in full the four-year (1977–1980) JRC research programme put up by the European Commission during the summer, much of which would go to Ispra.

The difficulty, however, was that Britain, France and Germany had made various demands for cuts in staff and expenditure on the proposed JRC programme. Germany was seeking cuts of less than 100 in staff, France was looking for cuts of around 200, and Britain had proposed a figure in excess of 300. Modifications in these demands was plainly necessary if there was to be any relaxation in the Italian demand for JET at Ispra—a demand which the Commission had itself backed on the grounds that a Community project should go to a Community centre.

The flexibility was evidently there, and the key development last week was a provisional agreement on these matters. Britain and France went to Brussels apparently prepared to pare back their demands to around 100—the number which it was thought could be lost through “natural wastage”—and eventually conceded along with Germany that the figure could be 80. This was the compromise proposal put up by the Commission after no agreement could be gained on the Commission's original compromise proposal of 50. It is damaging to Italy's hopes for Ispra inasmuch as the staff cuts, details of which obviously have to be finalised, are likely to fall most heavily on Ispra.

The agreement makes for a reduction in operating expenditure from 175 million units of account (mua) to 146 mua and so cuts the overall JRC budget for the four years to something like 346 mua. But there is a catch in all this: the agreement is conditional on

a suitable agreement being reached over JET. Thus, although the JRC research programme is at last final, little if anything can be done about it without further progress on the matter of the JET site—and on this there was little progress in Brussels.

What chinks of light there are, though, suggest that the matter is now delicately poised. Seven of the nine countries agreed last week that the site ought to be at a location with previous practical fusion and plasma physics experience. Significantly, it was France and Italy who thought this not to be relevant. France's proposed site, Cadarache, does not have fusion experience. Ispra has fusion experience and is not officially withdrawn, even though it now looks a less strong candidate with the provisional agreement on the JRC programme. The cases of both Culham in Britain and Garching in West Germany are strengthened by their experience.

The uncertainty is thus tangible. There are differences between France and the other countries on the degree of Euratom staffing that JET ought to have. But these are thought not to be insuperable. More importantly, the Council could not even agree last week on a procedure by which agreement might be reached. As a result, the Dutch chairman, Mr Brinkhorst, and the EEC Research Commissioner, Mr Brunner, are to tour the countries concerned to discuss the sites still further. If they determine that the basis for an agreement exists—the agreement when it comes will have to be unanimous—they will call for another Council meeting, provisionally scheduled for December 20.

The Community's fusion director, Mr Palumbo, has a few illusions about

that meeting, since if it takes place it would be the last one as far as JET was concerned. If it doesn't take place, he stresses, the whole project could be seriously endangered. Officials concerned with the JRC are somewhat more sanguine about the impact of a delay on the research programme, even though it is due to start in January. But the delay could be enormous. A new country takes the Council chair in January. That is Britain. And a new president takes over at the European Commission. He is from Britain. The latter change could well exacerbate any delay. Both changes could, in the present circumstances, make a difference to the outcome over JET.

No one, of course, is saying that the changes will help Culham win JET. But it was generally agreed last week that the choice had now narrowed substantially. In fact the case for Culham may well be strengthening. If Ispra is now discounted, the argument goes, that leaves Cadarache and Garching as Culham's competitors. And the rather sudden strength in the previously quietening voice for Cadarache can be discounted because it comes too late, because seven countries think experience is important and because Britain wouldn't wear it.

Garching can also be discounted, the argument goes on, because the Germans once again did not push strongly for it at last week's meeting, because it has the biggest fusion programme of the nine countries and plans its own large machine (AZTEC) anyway, and because it already has a Community research establishment. But if Germany does not get JET, what would it get? Well, speculate the cynics, watch out for a German filling the post of JET project director. □

BRITAIN

Changing the framework

A UK parliamentary committee last week published a 96-page report on university-industry relations. Chris Sherwell reports on the various institutional proposals of what could become a controversial document

WITH friends like the House of Commons Select Committee on Science and Technology, those amongst Britain's science community looking for a bit of stability in the country's science policy framework may not need enemies. For at the very time when the projected evolution of that framework seems virtually complete, the committee has published a wide-ranging report going beyond the narrowest confines of its

subject to offer proposals for further substantial changes.

The report is the result of written submissions and a score of public hearings initiated by the committee's Science Sub-committee. It follows an interim report on scientific research in British universities published in July 1975 and a second report released at the end of last year, and is “concerned with the purposes of the institutions of advanced scientific education and research”. The committee, clearly inspired by the idea that science policy should relate to the general social and economic objectives of the community, says it is essential “that we should be prepared to re-examine the organisation of science and scientific education in

terms of our current needs”.

Its recommendations regarding the framework within which British science policy is conducted may not throw the whole matter into the melting pot again. But in focusing directly on the country's capacity to conduct research and development they seem certain to fuel the arguments over whether an explanation of Britain's economic performance is to be found in the areas of innovation, investment and productivity, and hence also in the very platform of its science policy.

The most far-reaching recommendations are for the appointment of a junior minister in the Department of Education and Science (DES) with responsibility for science, for the transfer of funds from the Science Research Council (SRC) to the Department of Industry (DoI), for a review of the

relationship of basic and applied research in Britain, and for a possible new institution to replace the National Research Development Corporation (NRDC).

The proposal for a minister emerges from a discussion of education and training of engineers and applied scientists, for which the report argues most strongly. Among other things the committee also says the concept of Special Institutions for Scientific Education and Research (SISTERS) should be "revived and implemented", and urges the DoI and SRC to devote greater attention to the "teaching company" idea—a recommendation which post-dated by a couple of days an announcement of a £500,000 scheme for three such companies to improve university-industry links. But the idea of a Science Minister will look curious to many, and not just because it is an old idea that was dismissed when the present policy framework was worked out.

The minister, the report says, "should be principally concerned with scientific and technical education at all levels of the education system, and with the activities funded from the Science Budget". That seems unlikely to find much favour among those who relate the need for a minister to the amount of money he would handle, and still less likely if the biggest money-eater in the Science Budget, the SRC, ought according to the committee to have some of its funds transferred elsewhere.

The argument for that transfer—perhaps the most contentious proposal—is straightforward. The direction of a country's basic research, it goes, affects its capacity to do applied research which is geared to national needs. Traditional academic criteria directing basic research cannot guarantee that capacity, even with unlimited money; with declining funds, a research council system which uses such criteria is a luxury. Knowing this, the argument goes on, the research councils talk in terms of national needs and are put in an intolerable position; the SRC, whose support for applied research (unlike other research councils) is not subject to the ameliorating effects of the customer-contractor principle, suffers especially.

Thus, proclaims the report, "there is a good case for the transfer of a proportion of the Council's funds to the Department of Industry, which is the natural 'customer' department for the applied research supported by the SRC". The idea is to let the SRC take the decisions it is qualified to take, and not review research needs in terms of inadequately-defined national priorities. Those priorities should be determined by those responsible—the commissioning departments acting through their

ministers in Cabinet.

The proposal for a review of the relationship of basic and applied science is similarly related to the existing framework of science policy. In the three years up to April 1976 during which funds previously disposed of by research councils were transferred to the relevant departments under the customer-contractor arrangements, other organisational changes went ahead. Departments acquired chief scientists, and the emerging task of coordination between departments fell to an inter-departmental committee of chief scientists and permanent secretaries. The position of Chief Scientific Adviser to the government fell away, but the Cabinet's Central Policy Review Staff in turn had a chief scientist attached to it.

In addition another entirely new body was also created. Known as the Advisory Council for Applied Research and Development (ACARD), it was designed as the equivalent in applied research to the Advisory Board for the Research Councils (ABRC) in basic research; it is chaired by the Lord Privy Seal. Welcoming ACARD, the committee says it should "review the relationship between government-supported applied R&D and government-funded basic research as a matter of urgency". In particular it should "examine the operation of the customer-contractor relationship and of the ABRC to ensure that effective machinery exists for relating basic science policies to long term departmental R&D strategies". ACARD's reviews should be published, and the Lord Privy Seal ought also to make annual reports to parliament, the committee says. It does not consider whether ACARD is the appropriate body to conduct such examinations.

The committee claims it is not making sweeping recommendations for changes in the organisation of government R&D. Among its other proposals is one that the government undertake "a thorough review of the level and nature of the research undertaken in their own establishments" and attempt to transfer to universities and polytechnics "work of a more basic nature, not requiring major physical research facilities, wherever this is possible". Another is that encouragement be given, for example, to bringing higher education and industry into closer alignment; the committee says there is a good case for devising financial incentives "possibly in the form of generous tax allowances" to encourage companies to place research contracts with universities.

The most controversial points it makes in this area, though, are likely to be those concerning the NRDC. The committee says "urgent attention"

should be paid by the government to the "mis-match between the activities of the SRC and NRDC", and "urgent action" should be taken to correct it. It recommends a number of changes which, if implemented, would make the NRDC less concerned with producing a financial return from the results of research and more able to give advice and assistance. The functions it proposes for NRDC, says the Committee, may well be better performed "by a new institution without the accumulated scepticism and indifference which NRDC's policy and activities appear to have generated in some quarters"; as it is, the NRDC activities are "in no way conducive to encouraging the exploitation of academic research".

Last week the head of NRDC, comparatively unexcited by the report, said he would have been surprised if there hadn't been some adverse criticism, particularly as the committee provided an ideal forum for complaint. He happily acknowledged that there was some truth in the report's comments on NRDC but thought many of the criticisms were unjustified, adding that NRDC expenditure in relation to higher education institutions would have to be perhaps quadrupled if the right service was to be given, and more than a simple change in the NRDC's terms of reference was involved.

The SRC had not by the beginning of this week made any plans to issue a statement on the committee's report. Whatever the reaction to it inside universities and industry, it seems clear that its real impact will depend ultimately on how the Select Committee itself is viewed as an institution. The committee's members are hoping now for a parliamentary debate on the subject, which seems the only viable means by which its recommendations can be urged upon the government short of some positive response from outside. □

● A team of about 10 scientists would be adequate for British biological warfare research, a junior Defence Minister, Mr Gilbert, said in a parliamentary written reply last week. A reduction in military research in the Microbiological Research Establishment at Porton Down, Salisbury, had been on the cards since the announcement of a review of its spending in the March 1976 White Paper on Defence. Mr Gilbert's announcement means that the establishment's future depends on its civil work, at present under study by the government's Central Policy Review Staff and the National Institute for Biological Standards and Control, who hope to report before the end of the year. Up to one third of the establishment's running costs are currently met by revenue from its civil work.