OLD WORLD

Nuclear Industry and the Select Committee

THE British Government is to make a statement on the reorganization of the nuclear power industry, and on the type of reactor Britain is to build next, before Parliament rises on August 9 (crises permitting). Mr Tom Boardman, Minister for Industry at the Department of Trade and Industry, said as much before the Select Committee on Science and Technology last week. But he would not promise firm decisions. "I hope to be able to present matters more clearly" was all he would say.

Nevertheless, there is a prospect that the nuclear power industry is due for a radical reorganization. At present it consists of two consortia, British Nuclear Design and Construction Ltd. and The Nuclear Power Group Ltd, with British Nuclear Fuels providing the fuel. "Few would defend the consortia", Mr Boardman said, "and there is general agreement that there should be a change". Merging of the two consortia seems the likeliest course, particularly as Mr Boardman added that "there are not likely to be enough home orders [for nuclear power stations] to keep competition between the two going". The Central Electricity Generating Board agrees to the proposed merger, Mr Boardman indicated, although in evidence to the select committee in 1966 and 1967 the CEBG had insisted that competition in the supply of reactors was vital.

But if Mr Boardman conceded that the consortia are likely to be merged, he would not say how this is to be done. Without actually denying rumours that Sir Arnold Weinstock of The General Electric Co. Ltd., the dominant shareholder in the larger of the two consortia, is to reorganize the nuclear industry, Mr Boardman stated categorically that the rumours did not stem from his department, and that neither Sir Arnold nor anybody else has as yet a remit from the government. Patently, the select committee hoped that whoever got the job it would not be Sir Arnold—he would, the committee felt, be a "mistake".

The committee also held that buying reactors from the United States—a policy that the committee fears Sir Arnold would follow—would be "disastrous". Did Mr Boardman agree? Mr Boardman did, but it soon became plain that he would only regard it as disastrous if American light water reactors were bought to the ex-

clusion of all other types; Britain could still develop the High Temperature Reactor (HTR) and fast breeder, he said, hastily pointing out that this is simply one of the alternatives before the government and not necessarily the one that will be chosen.

Mr Peter Vinter, chairman of the Department of Trade and Industry's thermal reactor review committee, who

appeared with Mr Boardman before the select committee agreed that "disastrous" would not be the right word for buying American so long as Britain continues to develop its own reactors. Buying PWRs (pressurized water reactors), Mr Vinter said, would open up export markets which are not available to Britain at present, although he added a caveat that fuel for ex-

SOVIET SCIENCE

Soft Landing

from our Soviet Correspondent

THE Soviet probe, Venus-8, soft-landed on the illuminated side of Venus on Saturday, July 22. This probe, of identical mass (1,180 kg) and, apparently, of identical external design to the previous probe, Venus-7 (see figure), which made the first soft landing on the planet on December 15, 1970, seems to have an improved transmitting apparatus which enabled the probe to transmit for 50 min compared to 23 min for the first probe. The experiments on Venus-8, however, differed in intent from those of its predecessor which, unlike Venus-8, landed on the dark side of the planet.

Dr M. Ya. Marov, director of the Venus-8 scientific programme, interviewed in *Pravda* (July 23, 1972), said that the principal interest is the difference in physical conditions on the day and night sides of the planet. From radio astronomical observations, he said, an atmospheric temperature difference of only about 1° C is thought to exist; if the Venus-8 observations confirm this difference (which is negligible for surface temperatures of the order of 500° C), such a result would be highly significant for any theoretical model of the Venusian atmosphere, because it would imply both a very high specific heat and intensive processes of gas-mixing. Large differences may possibly occur, however, at high altitudes and it is therefore important to obtain a temperature and pressure profile for the atmosphere.

Another entirely new project is an experiment designed to determine how much sunlight reaches the surface of the planet. These results are expected to raise further questions on the mechanism of the penetration of sunlight through the cloud-cover, the effect of this penetration on the temperature gradient of the atmosphere, and if sunlight does

penetrate to the surface, the possible effects of "superdiffraction" produced by the enormous atmospheric pressures at the surface.

Another experiment described by Dr Marov is one to measure trace gases (nitrogen, water-vapour and oxygen) in the 97% CO₂ Venusian atmosphere. Although the four preceding Venus probes provided data for these gases, it would seem that Soviet planetologists are not entirely satisfied with the results, and require further confirmation, particularly for the lower levels of the atmosphere which are not amenable to spectroscopic study from Earth.

So far, official releases state little more than that during descent and after landing the experiments worked satisfactorily, and that detailed data will be published in due course. They do, however, mention one detail not indicated by Dr Marov—that in addition to its atmospheric observations, Venus-8 also transmitted information on the nature of the Venusian surface.

Soviet Venus-7 probe: 1, Solar panel; 2, Stellar orientation sensor; 3, Protective panel; 4, Correcting motor unit; 5, Pressure system nozzles; 6, Cosmic particle counter; 7, Solar orientation sensor; 8, Orbital section; 9, Radiator cooler; 10, Wide beam antenna; 11, Narrow beam antenna; 12, Pressure control unit; 13, Compressed nitrogen tank; 14, Descent stage.