

ity in regulatory decision-making: in other words for risks and benefits to be properly weighed before a chemical is banned or restricted. The committee also argues for more public disclosure of the principles behind regulatory decisions, for public discussion of issues as they arise, and for independent advisory committees to share the burden of regulation with government administrators. Like every other committee which has reported on the matter (and there have been several over the past decade), the PSAC committee also calls for more research into the health effects of environmental chemicals. In particular, it calls for a greater role in environmental research to be assigned to the National Institute of Environmental Health Sciences.

The committee reckons that one of its most important recommendations is that the Administrator of the Food and Drug Administration and the head of the Environmental Protection Agency should each have an advisory board to assist in major regulatory decisions. Such boards would consist of two classes of members: some would be appointed by the administrator from a list suggested by the National Academy of Sciences, and the rest would be drawn from the general public and appointed by the President. The idea would be for the boards to prepare reports and analyses at the administrator's request, and they would also be able to produce reports on their own initiative. Such an arrangement would be analogous in some respects to the Committee on the Safety of Drugs in the United Kingdom, except for the fact that the boards' reports would be made public—a far cry from the obsessive secrecy that surrounds the work of the British committee.

The PSAC report also comes up with the usual recommendations for increasing public participation in, and knowledge of, regulatory issues and decisions. It also makes the obvious—though frequently overlooked—point that the most widespread and damaging effects of exposure to chemicals come from the consumption of alcohol, tobacco and drugs. Programmes designed to protect public health should thus be directed chiefly at reducing consumption of those chemicals, the committee argues.

A more controversial part of the report is concerned with the Delaney Amendment. Although Dr Tukey said last week that the committee does not specifically disapprove of the Delaney Amendment, it is clear that the amendment is not exactly regarded as the epitome of good regulatory policy. What the committee chiefly objects to is the inflexibility that the clause imposes on the administrator of the Food and Drug Agency.

The amendment, which takes its name

from John Delaney, a New York Congressman who is noted for little else, imposes an absolute ban on adding any chemical to food if it has been found to be carcinogenic to animals. The clause has always irked many food manufacturers, because it has led to the banning of chemicals on the basis of what they consider to be unrealistic tests. On the other hand, many cancer scientists have supported the clause because they argue that it should be government policy to reduce public exposure to carcinogens as much as possible. The PSAC committee adopts the position that the Administrator of FDA should have the ability to set safe levels of chemicals in food, on the basis of dose-response studies.

Publication of the report is timely, not only because some of the fiercest and most bitter battles between the federal government and the public continue to take place over the regulation of food additives, drugs and other chemicals in the environment, but also because the energy crisis is forcing the government to backtrack on environmental laws which are designed to protect people against harmful pollutants. Moreover, some trade unions in the United States are taking an increasingly keen interest in the exposure of workers to chemicals in the workplace. The Chemical and Atomic Workers Union, for example, recently held a long strike against the Shell Oil Company over working conditions, in which questions of exposure of workers to carcinogenic chemicals played a large part. Such disputes are clearly going to increase.

Soyuz-13

From our Soviet Correspondent

THE programme of the Soyuz-13 flight (December 18-26, 1973) seems to have been a multipurpose one, combining routine tests of the hardware, astrophysical and geophysical observations, and preparations for possible long term space flights in the future.

The emphasis given to further checks of the on-board systems, to new methods of manual and automatic control, and to autonomic navigation systems, seems at least partly aimed at maintaining the confidence of the United States participants in the forthcoming Soyuz-Apollo linkups. Indeed, one new navigation project involving observations and photographs of luminous effects before sunrise and after sunset, beyond the line of the horizon, can only be relevant for such orbital missions.

The medical checks, which include the new Levkaya apparatus to monitor cerebral circulation during weightlessness, in conditions of rest, and also after graduated exercise with a special expander with a pull of 30 kg at a rate of thirty times a minute, may also be

directed in the first instance towards the joint project, although such data will obviously be of wide application in space medicine.

Similarly, for home consumption (for undercurrents of discontent at the cost of the Soviet space programme still emerge from time to time, mainly in the form of black humour), considerable press coverage has been given to the spectroscopic investigations of earth resources and pollution—now dignified by the name "cosmic ecology". Although this is one of the routine tasks of the Kosmos satellites, it is difficult to see the cost effectiveness of using a manned station for the purpose.

The most interesting feature, however, is that this short term flight has taken over two projects first envisaged for the Salyut station, one astrophysical and one biological. The Orion II telescope (an improved version of the Orion carried by Salyut) was used to carry out extensive ultraviolet spectroscopy of the Sun and stars. The new system includes a wide-field meniscus telescope capable of ultraviolet photography of stars down to magnitude 9.5 or 10.

The other experiment taken over from Salyut is the Oasis enclosed environment recycling system. Oasis originally contained higher plants such as flax and Peking cabbage. The new version, Oasis II, is a microorganism system which consists of two interconnected cylinders. The first cylinder contains bacteria which feed on hydrogen produced by electrolysis, whereas the other contains bacteria which break down urea, absorbing oxygen generated in the first cylinder and liberating carbon dioxide which is then used by the bacteria in the first cylinder. Although only a small scale version has been developed, the Oasis system is considered significant in the development of recycling systems for long duration space flight.

Energy largesse

The Administration's budget, which will be unveiled later this month, will contain some \$1,570 million for energy research and development in the United States, according to Roy L. Ash, Director of the Office of Management and Budget. In an interview with a wire service reporter, Ash said that the Administration has accepted the spending proposals for the 1974-75 financial year contained in the energy research and development plan drawn up last month by the Chairman of the Atomic Energy Commission. The energy research budget next year will thus be some \$700 million above the budget for this year. It will be interesting to see where the money comes from.