

major US chemical companies, says that while such tests have value as screening tools, they are too unreliable as predictors of human responses to be sufficient to warrant regulatory action.

The council recommends that emphasis should be placed both on data from animals exposed to low levels of potential carcinogens over normal life-spans, and where prior worker exposure has occurred, on human epidemiological data. It rejects the notion that it is realistic to impose a "no risk" approach to potential carcinogens, and suggests rather the development of

dose-risk data, using risk/benefit analysis to determine acceptable-risk levels of exposure.

The council also suggests that the National Academy of Sciences should set up a classification panel to examine the hazards of potential and known carcinogens, which would be responsible both for proper category assignments and for the modification of categories as relevant advances in science dictate.

AIHC believes that setting up such a panel would provide some degree of insulation from a wide variety of

"political and other pressures" to which regulatory agencies are subject, requiring such agencies to make politically-acceptable decisions and to pay "somewhat less attention" to their scientific basis.

"The classification of carcinogens is a scientific, not a regulatory question, and would be much better handled by an independent group of scientific people than by a regulatory agency" according to Dr Ellwood P. Blanchard of the Dupont Company, a member of the AIHC steering committee.

David Dickson

Dioxin meeting recommends cancer study

SINCE the release of dioxin (the isomer 2, 3, 7, 8 tetrochloro dibenzo-p-dioxin) over a populated area at Seveso in Italy on 10 July 1976, there has been fear that the chemical is a carcinogen. Few data have been available, but it is beginning to seem that the fear is justified; hence the meeting in Lyons last week hosted by the International Agency for Research in Cancer (IARC) and the US National Institute of Environmental Health Sciences. The conclusion of the meeting was that a major epidemiological survey should be established.

It is now known that there have been at least 14 incidents in different chemical plants throughout the world where workers have been exposed to chlorinated dibenzo dioxin. In two cases the public has been exposed: at Seveso and in the herbicide spraying programme in Vietnam. In the latter cases large populations were exposed to low levels of dioxin; but while these populations must be monitored to assess the public health risk associated with low level exposure, at Lyons the opinion was that little could be learned from them. If dioxin exposure was to be unambiguously related to clinical and pathological findings, the meeting argued, the chemical plant workers were the group to monitor.

Three of the industrial accidents discussed in Lyons occurred between 20 and 30 years ago. Evidence is available from one of these accidents to suggest that in recent years there has been a marked increase in certain types of carcinoma in workers exposed to dioxins.

However the importance of this finding is marred by the small numbers of workers monitored. The meeting considered that it was therefore an urgent matter for a larger population to be studied to detect trends in carcinoma incidence which would be statistically significant. It urged the

chemical companies concerned to make their records available for scrutiny. And the meeting stated in no uncertain terms that all the workers exposed to dioxin—whether they are still employed by companies or employed elsewhere—must be located. Mortality trends for this population must be collected.

Two groups reported animal studies to test the carcinogenicity of dioxin: the first directed by Dr James Allen at the University of Wisconsin, and the second by the Doll Chemical Company. Both research teams identified the dioxin as a carcinogen. But the Wisconsin team claims that the chemical is carcinogenic at a concentration 700 times lower than the level that produce tumours in Doll's study. Reasons for the discrepancy are still not clear, but it was pointed out at the meeting that the Wisconsin study is based on an extremely low number of animals.

Some of the companies involved in dioxin accidents fear further independent investigation, not wishing to run the risk of vast compensation claims. And the meeting felt that, if companies made it a condition that their participation in a dioxin workers' survey were to be treated in confidence, this wish must be respected. The view was that, wherever the blame lies, the most important task at the moment is the compilation of information; and this the IARC is willing to undertake. Dr Rodolfo Saracci of the Unit of Immunology and Bio-Statistics agreed to direct some of this work.

The IARC will act as a clearing house for data on chlorinated dibenzo dioxin—with the help of a permanent secretariat co-opted from participants at the meeting. One of its first tasks will be the production of a list of recommended clinical procedures for examining people exposed to dioxin. It will be stressed that where possible the

clinical findings should be related to body dioxin levels—the 'body burden'. This information together with the mortality data should leave the IARC better able to assess the danger to health caused by exposure to dioxins; cancer may be only one of the possible risks.

Alistair Hay

NASA chooses its space lab candidates

FOLLOWING a similar announcement from the European Space Agency (*Nature*, January 5), the US National Aeronautics and Space Administration has announced the six American scientists from whom one will be selected as a payload specialist on the first flight of Spacelab, due to be flown in NASA's Space Shuttle in 1980.

The names of the finalists are:

Dr Craig L. Fischer (40), of the Palm Desert Medical Group Inc, California; Dr Michael L. Lampton (36), of the University of California, Berkeley; Byron K. Lichtenberg (29), Massachusetts Institute of Technology; Dr Robert T. Menzies (34), NASA Jet Propulsion Laboratory, Pasadena, California; Ann F. Whittaker (38), NASA, Marshall Space Flight Center, Huntsville; and Dr Richard J. Terrile (26), California Institute of Technology, Pasadena.

Five of the ten candidates that have now been named by NASA and ESA will undergo extensive training following a final selection in early spring. Of these, two will go into space, while the other three will perform support and advisory roles in the control centre on earth. □

Government accuses nuclear industry of using propaganda

THE US Government has accused its industrial partner in its fast breeder reactor development project at Clinch River, Tennessee, of producing pam-