Environmental Health Perspectives
Vol. 28, pp. 301–302, 1979

Commentary

International Commission for Protection Against Environmental Mutagens and Carcinogens (ICPEMC)

The International Commission for Protection against Environmental Mutagens and Carcinogens (ICPEMC) was founded (*1–8*) in January of 1977 as a result of a meeting organized by the Institut de la Vie in June of 1976. ICPEMC is sponsored by the Institut de la Vie, and is affiliated with the International Association of Environmental Mutagen Societies. During its first year the Commission established a formal organizational structure and recruited a score of members from academia, research institutes, and industry with extensive experience in the fields of mutagenesis and carcinogenesis: Dr. F. H. Sobels (The Netherlands), Chairman; Dr. F. J. de Serres (USA), Vice-Chairman; Dr. P. H. M. Lohman (The Netherlands), Secretary; Dr. B. E. Matter (Switzerland), Treasurer; Dr. M. Marois (France), Vice-Chairman for liaison; Dr. P. Oftedal (Norway), President IAEMS; Dr. H. S. Bennett (USA); Dr. N. P. Bochkov (USSR); Dr. H. Böhme (GDR); Dr. B. A. Bridges (UK); Dr. J. Clemmesen (Denmark); Dr. J. W. Drake (USA); Dr. N. P. Dubinin (USSR); Dr. A. Hollaender (USA); Dr. J. D. Jansen (The Netherlands); Dr. C. Ramel (Sweden); Dr. V. Ray (USA); Dr. R. J. Šràm (Czechoslovakia); Dr. T. Sugimura (Japan); Dr. K. Sundaram (India); Dr. L. Tomatis (France); Dr. A. C. Upton (USA); Dr. F. Vogel (FRG).

Mankind suffers every generation from genetic disease resulting from damage inflicted on the genetic material by natural processes. Increasing human exposure to numerous man-made chemicals, many of which are of great benefit to mankind but some of which are potentially dangerous to human heredity, raises the question as to what extent mankind might be at risk. For instance, it is clear from laboratory studies that some chemicals do have the potential to damage human genetic material. It is also clear that damages in the genetic material are associated with heritable genetic disease, birth defects and cancer.

The primary objective of ICPEMC is to identify and promote scientific principles in the fields of environmental mutagenesis, carcinogenesis and genetic toxicology. To implement this aim, ICPEMC will develop statements that may serve as basis for guidelines and regulations in the national or international context, with the object of minimizing or preventing deleterious effects in man due to the interaction of chemicals with genetic material. Firstly it will prepare critical evaluations of the current body of knowledge that may serve as a basis for establishing priorities for further research or possible regulatory action. Secondly, substances and situations will be identified that may entail significant genotoxic hazard to man.

Thorough and time-consuming studies will be necessary to achieve these tasks. To this end, ICPEMC has thus far formed five committees, whose membership is nonoverlapping with that of the Commission itself. Each Committee is responsible for reviewing a specific area within the next few years.

Committee 1, chaired by Dr. B. J. Kilbey (UK), is charged with reviewing the development, validation, application and comparison of short-term screening systems for identifying and characterizing chemical mutagens. Basically this committee will select criteria by which to judge the suitability of any particular test for use in screening chemicals for mutagenesis. Subsequently it will apply these criteria to the evaluation of existing tests as well as any new ones put forward in the future.

Committee 2, chaired by Dr. D. Clayson (USA), will study the relationships between carcinogens and mutagens. It will evaluate the validity of the various short-term genetic tests, their predictive value for carcinogenicity at both the qualitative and quantitative levels, and the extent to which they may replace chronic animal bioassays.

Committee 3, chaired by Dr. E. Poulsen (Denmark), will prepare an ongoing registry of national

regulatory principles and actions. It will collect information on a worldwide basis on guidelines and legislation in relation to mutagenicity testing of chemicals.

Committee 4, chaired by Dr. M. F. Lyon (UK), is charged with the evaluation of risk estimate procedures of mutagenic chemicals and to develop practical exposure limits. The Committee will use the extensive work already carried out on the genetic hazards of radiation as a basis for estimating the genetic hazards of chemicals. A group of test chemicals will then be selected and an attempt will be made to estimate the genetic hazards posed by these substances on the basis of the system used for radiation.

Committee 5 will shortly be constituted to consider epidemiological approaches to the possible mutagenic consequences of exposure to environmental agents.

ICPEMC will also establish smaller Task Groups composed of Commission members themselves and charged with the preparation of ICPEMC statements and proposing priorities. To date the following are already at work:

Task Group 1 will consider and make preliminary analyses of chemicals or situations involving a possible mutagenic risk with a view to presenting to the Commission a list of high-priority candidates for further consideration in the Commission and its Committee.

Task Group 2 will be responsible for developing recommendations concerning currently optimal mutagenicity testing strategies. Preliminary proposals will be submitted to the Commission in the Spring of 1979.

Task Group 3 is concerned with proposing specific recommendations for a scientific approach to the monitoring of populations or groups accidently exposed to large doses of a suspected mutagen. This group submitted its first draft proposal to the Commission in April, 1978. It is expected that the final statement will be submitted to scientific journals later in 1978.

In performing its tasks ICPEMC recognized the expertise of other bodies in its fields of interest and seeks to cooperate with them whenever possible. Liaison with the International Agency for Research on Cancer (IARC), the International Commission on Radiation Protection (ICRP), the World Health Organization (WHO) and the United Nations Environmental Program (UNEP) have already been initiated.

Contacts and requests for information should be sent to the Secretary of ICPEMC, Dr. P. H. M. Lohman, Medical Biological Laboratory TNO, P. O. Box 45, 2280 AA Rijswijk. The Netherlands.

P. H. M. LOHMAN
Medical Biological Laboratory
TNO
P. O. Box 45
2280 4A Rijswijk
The Netherlands

REFERENCES

1. Sobels, F. H. The founding of the "International Commission for Protection Against Environmental Mutagens and Carcinogens" (ICPEMC). In: Progress in Genetic Toxicology, D. Scott, B. A. Bridges, and F. H. Sobels, Eds., Elsevier/North-Holland, 1977, pp. 117–121.
2. Sobels, F. H. The foundation of the "International Commission for Protection Against Environmental Mutagens and Carcinogens." Mutation Res. 46: 311 (1977).
3. International Commission for Protection Against Environmental Mutagens and Carcinogens. J. Natl. Cancer Inst. 58: 1877 (1977).
4. The foundation of the "International Commission for Protection Against Environmental Mutagens and Carcinogens." Genetics 85 (3): (1977).
5. The foundation of the International Commission for Protection Against Environmental Mutagens and Carcinogens. Cancer Res. 37: 2312 (1977).
6. The foundation of the "International Commission for Protection Against Environmental Mutagens and Carcinogens" at Research Triangle Park, January 1977. Biol. Zbl. 96: 735 (1977).
7. The foundation of the "International Commission for Protection Against Environmental Mutagens and Carcinogens" at Research Triangle Park, January 1977. Genetika (USSR), in press.
8. Sobels, F. H. The foundation of the International Commission for Protection Against Environmental Mutagens and Carcinogens, Research Triangle Park, January 1977. Environ. Health Perspect. 19: 321 (1977).