US extends recombinant DNA controls to private industry

A SERIES of moves was announced this week by Mr Joseph A. Califano, Jr, US Secretary of Health, Education and Welfare, designed to extend the guidelines currently covering federally-sponsored research involving the use of recombinant DNA techniques to all such research carried out in the private sector.

In particular, Mr Califano has directed the Food and Drug Administration to use its statutory authority to require that all recombinant DNA research submitted to satisfy regulatory requirements—for example in order to licence a new drug—comply with the guidelines that have been developed by the National Institutes of Health.

And as regards research in the private sector which would not be submitted to the FDA in this way, he has requested the Environmental Protection Agency to take all the action it can "to require that recombinant DNA research conducted by the private sector complies with the NIH guidelines."

Mr Califano also announced that he has approved final guidelines prepared by Dr Donald Fredrickson, director of NIH, that significantly revise the safety requirements for conducting recombinant DNA research.

As expected, the revised guidelines substantially broaden public representation on the Recombinant DNA Advisory Committee, which assists the NIH in administering the guidelines. It also increases public participation in the administration of the guidelines by local biosafety committees, as well as public access to information about recombinant DNA research.

Finally, since the revised guidelines require the director of NIH to determine that any proposed action under the guidelines "presents no significant risk to health or to the environment," Mr Califano has directed the NIH to formulate a balanced programme of risk-assessment experiments at NIH directly, or under NIH support.

"In my view, the more risk assessment experiments NIH carries out, the better we will be able to judge whether the guidelines—and actions taken under them—afford appropriate protection for health and the environment," he says in a memorandum to Dr Fredrickson and Dr Julius Richmond, Assistant Secretary for Health.

In a public statement announcing these various actions, Mr Califano says that the final version of the NIH guidelines, based largely on proposed revisions published in July, relax in two major respects the guidelines that were placed in effect in 1976.

The first is that the revisions exempt altogether five categories of experiments, which the NIH has concluded present no health risk. This will exempt approximately one-third of the research now covered by guidelines.

The second relaxation is a general easing of restrictions on other permissible experiments. Almost all categories of research are assigned to physical containment and/or biological containment levels at least one step lower than in the 1976 guidelines.

"Since the likelihood of harm now appears more remote than was once anticipated, the scientific community has now concluded that this downgrading is appropriate," Mr Califano says.

A number of significant changes to the proposed revisions have been introduced to the ways in which the guidelines are administered, following a review carried out by a departmental committee chaired by Mr Peter Libassi, DHEW's general counsel.

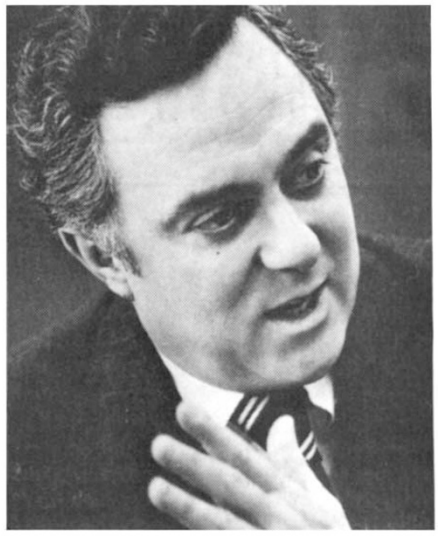
In particular, whereas the 1976 guidelines had no specific requirements for public participation, it is now specified that 20% of the members of local institutional biosafety committees (IBCs) must represent the public, and have no connection to the institution.

It is also now required that the same proportion of the Recombinant DNA Advisory Committee be "persons knowledgeable about such matters as applicable law, standards of professional conduct and practice, public and occupational health, and environmental safety". And it is recommended that one member be a "non-doctoral" person from a laboratory staff.

To take in these extra interests, the membership of the committee is to be increased to 20, and the new members are expected to be announced by Mr Califano in the near future. Furthermore all federal agencies represented on the Federal Interagency Advisory Committee will have non-voting members on the RAC.

One result of demands for increased public participation is that all important records relevant to research carried out under the guidelines must be made public. In particular, the bulk of IBC records must be made available to the public, and problems, violations of the guidelines, illnesses and accidents must be reported to NIH.

Major actions under the guidelines—such as decisions to approve on a case-by-case basis experiments that are generally prohibited, to exempt additional categories of research from the guidelines, or to permit the insertion of genes into new types of bacteria—cannot be taken without the advice of the RAC, with public and federal agency comment on the proposals.



Califano: more risk assessment experiments

In addition, the Director of NIH cannot approve any proposed actions unless he determines "that they present no significant risk to health or the environment". This implies the need for some type of risk assessment.

In a statement accompanying the final version of the guidelines, Dr Fredrickson says that one reason for distinguishing between the hazards of different organisms on the basis of phylogenetic relatedness—a subject recently debated in Britain's Genetic Manipulation Advisory Group (GMAG)—is that the more closely related the species, the more likely that polypeptide hormones or related proteins would be pharmacologically active, particularly in the case of recombinant DNA integrating into the human genome.

"This matter lies in a crucial area of risk analysis and will undoubtedly continue to be a subject of both further debate and improved understanding in the coming months", Dr Fredrickson writes.

The final guidelines also include detailed presentation of the types of responsibility to be delegated to the local biosafety committees. Dr Fredrickson says that although this will place a burden on the human and financial resources of the institution, the responsibility is better delegated than retained at the federal level.

A new proposal will allow NIH to require prior approval of all recombinant DNA research if the institution fails to comply with the guidelines.

David Dickson