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**326 US ATOMIC ENERGY COMMISSION**

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April 20, 1970

Dr. Glenn T. Seaborg  
 Chairman  
 U. S. Atomic Energy Commission  
 Washington, D. C. 20545

Dear Dr. Seaborg:

The Advisory Committee for Biology and Medicine held its 133rd meeting at the AEC "H" Street office on March 13 and 14, 1970. ACBM members present were Drs. Cohen, Moseley, Bale, Haagen-Smit and Stout. Also in attendance were Dr. John Totter, Director of the Division of Biology and Medicine and members of his staff, Dr. S. English and representatives of other AEC Divisions and Offices.

The meeting began with an executive session attended by Drs. Totter and English. Dr. Totter reviewed the Commission's interest in having advice on environmental matters with particular reference to the scientific validity for current radiation safety standards. Because of current attacks on the guides of the Federal Radiation Council and the National Council on Radiation Protection and Measurements, information was presented by Dr. Totter on the proposal that a large scale, low dose exposure experiment with mice be conducted. It was pointed out that a proper study would require a million mice and an annual budget of \$10,000,000, representing over 10 percent of the present DBM budget. Dr. Totter informed the ACBM on the distribution of budget cuts within the DBM and Drs. Totter and English discussed proposed cuts in the biomedical program at the Lawrence Radiation Laboratory at Livermore.

In the open meeting which followed Dr. Moseley presented his observations on determination and use of radiation protection standards. He called attention to serious errors, mainly in the direction of underestimation, of dose measurements of early studies which cast serious doubt on the validity of interpretations derived from retrospective studies. Thus evidence was presented that some radiologists had been exposed to annual doses as high as 900R before adequate regulations for the use of x-ray equipment were established.

In a discussion on the current attacks on the FRC guidelines, Dr. Burr referred to current efforts by FRD to reexamine its standards and his experience as a witness in a public hearing held by the City Council of New York on legislation to ban nuclear power reactors.

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Dr. Edington provided the ACBM with a critique of Dr. Arthur Tamplin's presentation of the 136th meeting of the American Association for the Advancement of Science in Boston on genetic hazards of radiation. The basic errors in Dr. Tamplin's interpretation and his selective use of partial data were pointed out.

The ACBM then met with you and Commissioner Johnson in a closed session which also included Drs. English and Totter and Mr. Hollingsworth. The matters discussed at this meeting are, of course, known to you and served as a basis for a later discussion by the ACBM.

The ACBM then resumed its open meeting with reports from various AEC staff members as follows: 1) Rocky Flats, 2) Legislation affecting the nuclear power industry, 3) Federal Water Pollution Control meeting and thermal problems, 4) public information activities of AEC in relation to nuclear power reactors, 5) present status of the Rulison trial, and 6) radon contamination of houses in Uravan and Grand Junction.

At its meeting on March 14, the ACBM was briefed by Dr. Totter on the recent JCAE hearings with particular reference to the food irradiation program and the centralization at Argonne National Laboratory of the study of records of radium dial workers. Dr. Goldstein summarized the Medical Branch review of the UCLA program, which was followed by an interim report of the ACBM ad hoc Committee.

Commissioner Larson attended a portion of this meeting and informed the ACBM of his impending visit to the Atomic Bomb Casualty Commission. In response to a question by Commissioner Larson, the Committee expressed the view that ABCC was continuing to provide important and useful information and thus deserved continued support.

The meeting was concluded in executive session. The ACBM again expressed its concern for the need for expanded support for the DBM in order that it might be able to meet the anticipated and continuing demands for more basic information, yet to be developed, in our understanding of the basic biological effects of radiation. It is the view of the ACBM that while it is satisfied with the scientific basis for present safety standards as related to operation of nuclear power reactors, continuing concern about and long range biological studies of predicted incremental increases of low levels of radionuclide output from power reactors will need to be taken into account. This is particularly urgent in view of the likelihood of a rapid increase in the number of power reactors in this decade. While engineering efficiency may improve to the point where no problem exists, the ultimate answer demanded by the public is that of the highest possible degree of biological safety. The proposal by J. Lederberg that

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a long range study on the efficiency of DNA repair in cells of the human and other species under a variety of conditions of radiation exposure is one type of study which merits consideration and possibly financial support by DBM, if additional funds could be obtained.

The ACBM appreciates having the opportunity to discuss matters of urgent biomedical interest with members of the Commission.

The 134th meeting of the ACBM will be held at Battelle-Northwest Laboratory, Richland, Washington on May 7 and 8, 1970.

Sincerely yours,

Philip P. Cohen, M.D.  
Chairman, Advisory Committee  
for Biology and Medicine

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