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MINUTES

NINETY-NINTH MEETING

ADVISORY COMMITTEE FOR BIOLOGY AND MEDICINE  
U. S. ATOMIC ENERGY COMMISSION

July 19-20, 1963

Argonne National Laboratory  
Division of Biological and Medical Research  
Argonne, Illinois

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ERRATA SHEET

MINUTES - NINETY-NINTH MEETING  
ADVISORY COMMITTEE FOR BIOLOGY AND MEDICINE

Page 2 - last para. - Delete 3rd & 4th sentences and substitute with "Unfortunately, time did not permit adequate review of all parts of the program."

Page 3 - 2nd para., 3rd & 4th lines, delete "to assist programs of animal genetics at" and add the word "near" before "Argonne."

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The 99th meeting of the Advisory Committee for Biology and Medicine, U. S. Atomic Energy Commission, was held at the Argonne National Laboratory, Argonne, Illinois, on July 19 and 20, 1963. Committee members present were Drs. H. Bentley Glass, W. F. Bale, P. P. Cohen, F. J. Hodges, J. G. Horsfall, R. F. Loeb, L. D. Marinelli, C. V. Moore and James H. Sterner. Dr. E. L. Green, appointed to succeed Dr. Glass, was unable to attend. Dr. C. L. Dunham, Director, AEC Division of Biology and Medicine, and various members of his staff were also present.

The program consisted of (1) a review of the activities of the Divisions of Biological and Medical Research and Radiological Physics of ANL, (2) a joint meeting with the General Advisory Committee of the AEC and ( ) consideration of recent developments in the Division of Biology and Medicine. AEC Commissioners Ramey and Tape and Dr. Spofford English, Asst. General Manager for Research and Development, were present during the joint meeting with the GAC and during part of the Executive Session with Dr. Max Zelle, Director of the Division of Biological and Medical Research, and Dr. A. F. Crewe, Director of ANL, regarding the biological and medical program of the Laboratory, its objectives, plans and current difficulties.

Program of the Division of Biological and Medical Research, ANL

The Committee heard presentations by Dr. W. P. Norris, Toxicity of Radionuclides in Dogs; Dr. A. Lindenbaum, Therapeutic Removal of a Typical Radiocolloid, Plutonium, and its Relation to Bone Biochemistry; Dr. H. M. Patt, Problems of Granulocyte Balance; Dr. E. L. Powers, Water and Sensitivity of Cells to Radiation; Dr. W. K. Sinclair, Radiosensitivity of Cultured Chinese Hamster Cells; Dr. A. M. Brues, Proposals for Investigations of Carcinogenesis; and Dr. G. A. Sacher, External Radiation Toxicity Program: objectives; accomplishments, and projection.

The Committee was rather disappointed in the formal presentation of this program. Parts of it seemed clearly excellent; parts of it, at least in presentation, quite vague, diffuse, or perhaps unsound. Some of the strongest sections of the Division's program (radiation genetics, biochemistry, cellular fine structure and related function, and plant radiobiology) were not included in the presentation, although they were summarized in the prepared agenda documents. No doubt the unusual time of meeting, during the summer, found a number of investigators away; and a one-day presentation was inadequate for so extensive a program.

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Dr. Zelle, who as Director has had a relatively short time to reorganize the program of the Division, pointed to several major problems. One is that of the increasing preponderance of senior individuals on the staff, their long-term service, and a consequent lack of sufficient open posts for younger men. He suggested that the defect may be corrected in part by an approximate doubling of the number of temporary appointments. Another major problem is space, for which there seems to be no immediate solution. Dr. Zelle expects to request extra facilities in FY 65.

Dr. Crewe presented some of the more general possibilities for the development of programs at Argonne National Laboratory, emphasizing a) the establishment of a nearby animal breeding farm to assist programs of animal genetics at Argonne; and b) the development of meteorology, including possibly the use of the linear accelerator with its beam aimed in a vertical direction for the experimental modification of weather conditions and the construction of a new meteorological wind "tunnel" or "weather box" for studying "weather" under controlled conditions."

Program of the Division of Radiological Physics, ANL

The Committee noted the recent resignation of Dr. John Rose as Director of this Division of ANL. No successor has as yet been named.

Three formal presentations of work going on in the Division were made: Measurements of Organic Liquid Scintillation Solutions (Dr. I. B. Berلمان); Lead-210 (Radium D) in Man and His Environment (Dr. R. B. Holtzman); and Atmospheric Neutron Background (Mr. H. A. May). The Committee felt that it gained an all too brief insight into a diversified program of great interest and value. Some of the meteorological developments, current and future, have been referred to above, in connection with Dr. Crewe's remarks to the Committee.

Meeting with the General Advisory Committee

Dr. Manson Benedict, Chairman, GAC, reviewed briefly the organization and recent activities of his committee. The GAC has 3 major sub-committees: Research, Reactors, Weapons. Dr. Benedict cited examples of topics considered at their current meeting such as the impact of a partial test ban on further perfection of weapons, the status of various nuclear reactor developments, and the expansion of activities in high energy physics. Dr. Glass, in describing ACBM activities, noted in particular the Committee's constant concern about fallout studies, the health and safety aspects of reactors, and of the Commission's program generally, In regard

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to fallout studies, Dr. Glass pointed out that the responsibility for meteorological aspects were delegated primarily to DBM, and this seemed to be an area in which there could be greater interplay with the GAC.

After Dr. Benedict raised the question of standards for radiation exposures, a general discussion followed of the rationale underlying standards and the mechanisms for their evaluation. The GAC was briefed about the operation of the National Committee on Radiological Protection, and there was some discussion of the desirability of a Federal Charter for the NCRP. Dr. Glass stated that the standards for protection seemed to be quite adequate in terms of existing information. Commissioner Ramey noted that the basis of the standards was not particularly well covered from a social viewpoint; the way in which this could be accomplished was discussed briefly.

The ACBM's concern about the safety of radioactive devices was discussed, particularly with reference to the desirability of routine safety testing, for example, of shipping containers, by some central agency. A suggestion to this effect has been transmitted to the Commission. However, the ACBM is not certain that the importance of this matter is fully appreciated. The GAC indicated that it might be useful if copies of ACBM reports to the Commission could be sent to their membership.

Dr. Glass summarized the ACBM position about the desirability of "Hiroshima-Nagasaki replicas." ACBM has not yet crystallized an opinion and various aspects of the problem were discussed with the GAC.

The GAC has suggested a more active role of the Commission in civil defense, an area of considerable interest to the ACBM. The future program of the Technical Analysis Branch of DBM is a related matter. The general topic will be discussed in depth at the October meeting of the GAC; the Chairman of ACBM will be invited to participate.

Members of the GAC and ACBM expressed the view that this first meeting of the two committees was fruitful and suggested that other joint meetings be held with some regularity.

Recent Developments

Dr. Dunham presented items of general information about the budget, the Technical Analysis Branch Program (a staff paper has been submitted to the General Manager), and the Knapp report on I<sup>131</sup>, which is being evaluated by an ad hoc committee under the chairmanship of Wright Langham.

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Dr. Liverman presented briefly the present status of the carcinogenesis and centrifuge programs at the Oak Ridge National Laboratory, which are supported jointly by DBM and the National Cancer Institute.

Commissioner Ramey discussed about the general "fallout" program and specifically about the related AEC-sponsored activities. He stated that ACBM had reviewed the proposal prior to its adoption and that the concern to the Committee for a new program, would be discussed.

✓ The basis for the program was discussed by Dr. E. R. Anderson to establish a central laboratory of all pertinent data, concerned with the development of the Livermore development. In addition to the more permanent laboratory will be conducted elements on enzyme chemistry as the part of the AEC staff.

Nevertheless, the procedure followed for the responsibility, and the Committee reaffirmed the statement pertaining to the Livermore proposal in the Minutes of its 98th meeting. The ACBM position will be transmitted to the Chairman of the AEC. //

The draft Minutes of the previous meeting of ACBM were approved with several amendments suggested by the membership.

Dr. M. B. Russell, University of Illinois, will be invited to serve on ACBM to succeed Dr. Horsfall, who is retiring from the Committee. The present meeting was the last one to be attended by Drs. Glass and Marinelli, who are also retiring members.

The next ACBM meeting is scheduled for September 13 and 14 at AEC Headquarters, Germantown and the "H" St. Office.

Respectfully submitted,

Harvey M. Patt, Scientific Secretary  
Advisory Committee for Biology and  
Medicine

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*No reference made  
to LPH in letter 1/27/59  
on 99th meeting*

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