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MINUTES

ADVISORY COMMITTEE FOR BIOLOGY AND MEDICINE

FOURTEENTH MEETING

Held at

Atomic Energy Commission

Washington, D. C.

February 12, 1949

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Advisory Committee for Biology and Medicine

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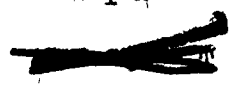
The fourteenth meeting of the Advisory Committee for Biology and Medicine of the Atomic Energy Commission was held at the AEC Building in Washington, D. C., on February 12, 1949.

Committee
Members
Present

Committee Members Present. The meeting was convened by the Chairman at 9:00 A.M. Members of the Committee present at the meeting were Dr. Alan Gregg, Chairman, Dr. Ernest W. Goodpasture, Vice-Chairman, Dr. George W. Beadle, Dr. Detlev W. Bronk, Dr. E. C. Stakman and Dr. Joseph T. Wearn. Dr. A. Baird Hastings was unable to attend the meeting.

Staff Members
of A.E.C.
Present

Staff Members of AEC Present. Members of the Commission and its staff who were present included Mr. David E. Lillenthal, Dr. Robert F. Bacher, Mr. Lewis L. Strauss, Mr. Sumner T. Pike, Dr. Shields Warren, Dr. John Z. Bowers, Dr. James H. Jensen, Dr. Lawrence W. Tuttle, Professor Harry L. Bowman, Col. S. J. Efnor, Mr. Morse Salisbury, Mr. Bennett Boskey, Mr. Robert Tumbleson, Mr. L. Joe Deal, Miss Frances Henderson and Mrs. Frances R. Montgomery. Dr. Louis H. Hempelmann, Dr. Philip Owen and Dr. Herman Wigodsky were in attendance to present specific programs.



Minutes of Meeting
of December 10-11,
1948

Report on Support
of Research
Projects

Proposals extended

Minutes of Meeting of December 10-11, 1948. The first order of business presented to the Committee by the Chairman was a discussion of the minutes of the meeting held at Los Alamos on December 10 and 11, 1948. After the reading, Dr. Wearn moved that they be accepted, the motion was seconded by Dr. Goodpasture and they were approved unanimously.

Report on Support of Research Projects. Dr. Warren reported that the following projects had been approved for support by the Atomic Energy Commission for research in the medical and biological sciences, since the meeting held at Los Alamos on December 10 and 11, 1948:

- (1) Mt. Sinai Hospital - Dr. R. Loevinger - "Measurement of Tissue Doses Due to Gamma and Beta Active Radioisotopes". - \$5,000
- (2) Purdue University - Drs. Henry Koffler and P. A. Tetrault - "The Use of Radioactive Isotopes in Studying Mold Metabolism, with Emphasis on the Assimilatory Mechanisms of *Penicillium Chrysogenum*". - \$3,550
- (3) University of Kansas - Dr. E. R. Hall - "Radium Chloride and Hemopoietic Physiology of Native Rodents" - \$11,040

Proposals extended since December 10-11, 1948 meeting:

- (1) Yale University - Dr. W. T. Salter - "Metabolism of Steroids". - \$8,000
- (2) University of North Carolina - Dr. H. D. Bruner - "Flow of Blood in Kidney" - \$777.50

- (3) University of Oregon - Dr. John B. Graham - "Response of Cells to Deep Radiation" - \$10,000
- (4) Harvard University (Beth Israel) - Dr. H. L. Blumgart - "Radioactive Therapy of Graves Disease" - \$12,000
- (5) University of California - Dr. Nello Pace - "Use of Radiocarbon in Studies on Carbon Monoxide Physiology and the Implications Concerning Respiro-Circulatory Physiology" - \$18,136

Proposals Declined

Proposals declined since December 10-11, 1948 meeting:

- (1) Tulane University - Dr. V. J. Derbes - "Rheumatic Heart Disease in Animals Using Antigens Tagged With Radioactive Iodine".
- (2) Haskins Laboratories - Drs. C. P. Haskins and A. A. Hagelstein - "An Explanatory Study of the Toxicity and Antibiotic Action of Compounds, Forming Complexes with Metals".

Status of AEC Project - Rochester

Status of AEC Project - Rochester. Dr. Louis H.

Hempelmann reviewed the program of the Atomic Energy Project at the University of Rochester in connection with his recent survey made at the instance of the Director of the Division of Biology and Medicine. He stated that the research program is largely programmatic in nature, including studies on the effects of a number of elements, including beryllium, fluoride, uranium, thorium and polonium.

The Committee advised that these studies should be continued as other Atomic Energy Commission laboratories are not equipped for this type of research.

Dr. Warren advised the Committee that the allocation to the project for Fiscal Year 1950 will be

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reduced by 25% with a corresponding decrease in personnel. This will necessitate a curtailment of parts of the research program.

The Committee was of the opinion that there had not been adequate scientific replacement of personnel since several members of the staff have left Rochester and have joined the research project at the School of Medicine of the University of California, Los Angeles.

The Committee is cognizant of the substantial investment that has been made in buildings, equipment and trained personnel, therefore, they feel that the program should be reviewed again within the next few months.

Medical Directors'
Meeting - University
of Rochester

Medical Directors' Meeting - University of Rochester -

Dr. Bowers reported on the meeting of the Laboratory and Medical Directors held at Rochester on January 12 and 13, 1949. The prime interest of the group was the over-all program at Rochester which permitted them to evaluate the problems being studied in comparison to the work being carried on in other laboratories. These Information Meetings are held hereafter at the various areas and the next meeting has been scheduled for April 11 and 12 at Oak Ridge.

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Status of
Particle
Proble

Status of Particle Problem. The Director of the Division of Biology and Medicine reported on the particle problem at Hanford and Oak Ridge. The sand filters that have been installed at Hanford have proven to be approximately 99.7 efficient. Immediate hazards are not of as great concern, however, there is a need for continuing study which will include a determination of the health hazards involved.

Dr. Warren further stated that Dr. Hodge of Rochester was cooperating with groups at Hanford and Oak Ridge in studies on the effects of particles when inhaled.

Dr. Warren requested the views of the Committee on the advisability of supporting research in the causative factors in pulmonary malignancy because of its importance in the atomic energy field. The problem was discussed at length. It was moved by Dr. Bronk, seconded by Dr. Wearn and unanimously approved that it would be desirable to use cancer research funds when available for studies on cancer of the lung.

Plans for
Eniwetok
Experiments

Plans for Eniwetok Experiments. Dr. Warren asked for suggestions from the biological, medical and biophysical standpoint for future tests, with particular emphasis on projects that could not be carried out in existing laboratories .

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The Committee plans to submit suggestions as to material to be used in such experiments.

Civil
Defense
Planning

Civil Defense Planning. Dr. Warren presented the Civil Defense Planning Program as outlined in the "Hopley Report" and solicited the views of the Committee concerning "if a civil defense program is set up on a voluntary basis will it function in light of an atomic catastrophe?"

Subsequently the following recommendation was submitted by a subcommittee composed of Dr. Gregg, Dr. Wearn and Dr. Stakman and approved by the full Committee to be forwarded to the General Manager for his consideration.

"The people of the United States naturally look to the Atomic Energy Commission for precise information regarding atomic energy, urgent requests for such information are being made, and it should therefore be understood that one of the important obligations of the Commission is to disseminate the information.

The Advisory Committee for Biology and Medicine recommends that the Atomic Energy Commission select and appoint a staff member to give his entire attention to collecting the necessary information and to studying the relations and activities of the Atomic Energy Commission in relation to agencies concerned with defense of the civilian population and the training of appropriate personnel to handle disasters due to atomic warfare.

The identity, programs and personnel of groups concerned with Civilian Defense should be determined and listed. The type and range of information that the Atomic Energy Commission can release to such organizations should be determined and formulated, and insofar as is not clearly inconsistent with national interest, the Atomic Energy Commission should disseminate facts regarding the extent and limitations of atomic energy, this dissemination having as its purpose allaying extravagant fears and creating a consciousness of real dangers.

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We believe that a well and truly-informed public is the best guarantee of effective organization and maintenance of disaster relief. We would, therefore, recommend that the above-mentioned staff member pursue a long term study of the relationships with civilian defense agencies, in order to improve them and stimulate their organization as well and as soon as possible."

In connection with the Civilian Defense discussion, both Mr. Lilienthal and Mr. Pike spoke of the issuance of the Weapons Effect Handbook that is in process of preparation at Los Alamos. It was their suggestion that the Commission would appreciate the views of the Advisory Committee for Biology and Medicine on the desirability of this Handbook, how best to transmit it to the people and the most suitable way to translate it for various audiences.

Progress in
Public
Education

Progress in Public Education. Mr. Salisbury presented an outline on matters of interest in the biological and medical field that are to be released in furtherance of the educational program. Specifically, he stated that the following material was in process for publication as well as other means of disseminating educational material:

- (1) Report on waste disposal.
- (2) Report on reactor development (Hazards of day to day operation of catastrophic occurrences).

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- (3) Weapons Effects Handbook (Chapters on radiological effects and Civilian Defense)
- (4) Special report on biological and medical work - Sixth Semiannual Report to Congress
- (5) Employees Handbook on atomic energy which will include a program summary of the health physics, biological and medical work.

Effects of
Attacks on
AEC Installations

Effects of Attacks on AEC Installations. Mr. Harry L. Bowman, Professor of Civil Engineering at Drexel Institute of Technology and Consultant to the Division of Biology and Medicine, summarized his recent report to the Commission on the effects of the sudden release of atomic energy on AEC building and the surrounding area and means of minimizing these effects. He further reported that he was planning to make a similar survey on the Hanford facilities late in March and would report his findings to the Committee at its April meeting.

A full discussion followed on the possible release of these studies to the public and of the advantages to be gained thereby.

Status of
RW Program

Status of RW Program. Lt. Col. S. J. Efnor reviewed the present status of the radiological warfare program being conducted jointly by the Atomic Energy Commission and the National Military Establishment. This program includes weapon development, protection, detection and

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decontamination, RW agent production capabilities and biological aspects. Colonel Efnor stated that the program goal points toward field tests on an operational scale using megacurie amounts of RW agents on square mile targets of animals and instruments by the end of calendar year 1950.

Atomic Bomb
Casualty
Commission

Atomic Bomb Casualty Commission. Dr. Philip Owen summarized the research program and activities of the Atomic Bomb Casualty Commission. He stated that temporary laboratories have been completed at Hiroshima and Kure and that permission has been obtained from SCAP to build a permanent laboratory and acquire land on a lease basis from the Japanese.

Housing and acquiring of qualified personnel continue to be major problems. Dr. Owen further reported that relationships have improved with the National Institute of Health, however, they are in no position to provide competent professional personnel but are able to provide a certain number of administrative personnel. At the present time there are approximately fifty American persons employed by the Atomic Bomb Casualty Commission, fifteen of which are classified as professional. Lt. Colonel Carl F. Tessmer, Director, Atomic Bomb Casualty Commission, is establishing relations with various universities and they are displaying interest in

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supplying consultants to work in the laboratories.

It is anticipated that the moneys allocated to the Atomic Bomb Casualty Commission for the Fiscal Year 1949 are sufficient to carry on the present program inasmuch as there has been a delay in the construction program. Estimates for Fiscal Year 1950 are now in process of preparation and will be submitted to the Atomic Energy Commission at an early date.

The question of having the Atomic Bomb Casualty Commission program integrated with an existing Japanese medical institution or made a part of a present U. S. Government agency operating in Japan was discussed.

Dr. Herman Wigodsky told of his recent visit to Japan, explaining the hardships encountered in the housing problem, food situation and lack of personnel for genetic and other research studies.

Cyclotron-
induced
Cataracts

Cyclotron-induced Cataracts. Dr. Owen reviewed the Radiation Cataract Survey which was made by an ad hoc committee set up by the Division of Medical Sciences of the National Research Council at the instance of the Division of Biology and Medicine. Dr. Owen stated that the Committee has arranged for questionnaires to be sent to all high-voltage laboratories of the country where comparable exposure risks might have incurred and from





these questionnaires a considerable body of preliminary data became available. These data, though incomplete, disclosed a small number of individuals in addition to those already known to be afflicted, presenting similar lesions.

The Division of Biology and Medicine will be kept advised of future studies through the Division of Medical Sciences, National Research Council, of the obvious hazards that are existing to men working with cyclotron-produced radiation.

Semiannual
Report to
Congress

Semiannual Report to Congress. Dr. Warren advised the Committee that the Commission was interested in having the Division of Biology and Medicine the focal point for the next semiannual report to the Congress. He presented several problems in research for the Committee's consideration for inclusion in the report and suggested to them that each member supply a list of possible subject matters for discussion that would be interesting to be included in this report. He further suggested that special emphasis be placed on things that have been discovered in fields of biology and medicine which were not known before the Atomic Energy Commission and the Manhattan Project began operation and which are of real value to medicine.





Free
Isotopes

Free Isotopes. Dr. Warren announced to the Committee that the Commission had for consideration the recommendation of the Division of Biology and Medicine, with the concurrence of the Advisory Committee for Biology and Medicine, that radioactive gold as well as Cobalt 60 be included on the list of isotopes for free distribution from the Isotope Distribution Branch at Oak Ridge.

It was expected that the Commission would approve the recommendation within the next two weeks.

Waste
Disposal
Meeting

Waste Disposal Meeting. Dr. Jensen reported on the Seminar on Waste Disposal which was held on January 24 and 25. The purpose of the Seminar was to acquaint the members of the various engineering and waterworks organizations with the procedures and safeguards as well as some of the problems involved in the disposal of radioactive wastes.

The Division of Engineering, jointly with the Division of Biology and Medicine, sponsored the meeting which was attended by representatives from the American Waterworks Association, Federation of Sewage Works Association, Conference of State Sanitary Engineers, Conference of Municipal Engineers.

Journal of
Radiobiology

Journal of Radiobiology. Dr. Bowers discussed a letter



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received from Dr. L. T. Coggeshall, biological scientist of the University of Chicago, in which he recommended that a Journal of Radiobiology be established, and he suggested that for a few years it would require financial support of the Atomic Energy Commission.

Dr. Bowers stated that the Atomic Energy Commission is now sponsoring free distribution of abstracts in biophysics, biology and medicine in a journal entitled "Nuclear Science Abstracts", as well as supplying supplements to existing journals in these fields. Accordingly, it was concluded by the Committee that the Division of Biology and Medicine should not support a Journal of Radiobiology.

Deputy
Director

Deputy Director. Dr. Warren announced the appointment of Dr. John Z. Bowers as Deputy Director of the Division of Biology and Medicine. Dr. Bowers will continue to act as Chief of the Medical Branch.

Next
Meeting

Next Meeting. The next meeting of the Advisory Committee for Biology and Medicine was set for Friday and Saturday, April 8 and 9, 1949, at the Brookhaven National Laboratory, Upton, L.I., New York.

The meeting was adjourned at 5:00 P.M.

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