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January 2, 1948

TO: Commissioners and Division Heads

FROM: Carroll L. Wilson, General Manager

SUBJECT: Meeting of the Advisory Committee for Biology and Medicine

The fifth meeting of the Advisory Committee for Biology and Medicine will be held January 8, 9, and 10, 1948, at 9:30 A.M., at Los Alamos, New Mexico.

Invitation is cordially extended to attend this meeting.

January 8 & 10, 1948

{ Inspection of Facilities
Discussions with Members of Staff }

January 9, 1948

AGENDA

1. Consideration of Draft Minutes of meeting of December 13, 1947.

2. Proposed List of Consultants for Cases of Illness and Injury Alleged to Result from Special Hazards:

PROBLEM: To establish a list of consultants skilled in the various aspects of medicine as they relate to Atomic Energy. These consultants are to serve, with suitable remuneration, as Advisors to the Commission or its representatives in cases which are alleged to result from special hazards. In selecting these men, geographical distribution has been considered in addition to professional ability.

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ORGANIZATION & MANAGEMENT 7
1-9-48

A list of these consultants follows:

Aub, J. C.	(Med.)	Harvard
Bale, Wm.	(Rad.)	U. of Rochester
Cantril, S.	(Rad.)	Swedish Hospt. (Seattle)
de Coursey, Elbert, Col.	(Path.)	Brooke Gen. Hospt.
Dowdy, Andres H.	(Rad.)	U.C.L.A.
Drinker, Philip	(Ind.H.)	Harvard
Friedell, Hymer	(Rad.)	Western Reserve
Hamilton, Joseph	(Internist)	U. Cal.
Hunter, Warren C.	(Path.)	U. of Ore.
Knacke, Roy C.	(Path.)	U. of Ala.
McNaught, James B.	(Path.)	U. of Colo.
Nolan, James	(Gyn.)	Wash. U.
Pendergass, Eugene C.	(Rad.)	U. of P.
Phemister, Dallas	(Surg.)	U. of Chi.
Stone, Robert S.	(Rad.)	U. of Cal.
Sturgis, Cyrus	(Internist)	Michigan
Warren, Stafford L.	(Rad.)	U.C.L.A.
Wolman, Abel	(Ind.H.)	J. H. U.

3. Publications of Division of Biology and Medicine.

The Medical Board of Review and the Interim Committee on Biology and Medicine have recommended that steps be taken to insure the dissemination of information in the fields of Biology and Medicine as they relate to Atomic Energy. At present, the Technical Information Division issues at monthly intervals, a "Guide to Published Research on Atomic Energy" which presents reprinted abstracts of material published by institutions which are not connected with the A.E.C. This guide is distributed only to A.E.C. installations and Government agencies.

The Technical Information Division also publishes "Abstracts of Declassified Documents" which is to be published twice a month and contains only material from the A.E.C. projects. It will be distributed to any institution requesting it and is routinely addressed to all A.E.C. installations and to the allied universities. A third publication is the "Abstracts of Research and Development Reports" which contains secret documents and is only distributed to A.E.C. installations.

The Atomic Energy Act of 1946 states that the dissemination of Scientific and technical information should be permitted and encouraged.

4. Projected meeting with representatives of certain medical schools and allied institutions.

The following letter has been forwarded to the addresses listed:

W. H. Wannamaker, Dean, Duke University, Durham, N. C.
W. C. Davidson, Dean School of Medicine, Duke University
Frank P. Graham, President, University of North Carolina, Chapel Hill, N.C.
W. R. Berryhill, Dean, School of Medical Sciences, Univ. of N. C.
John W. Harrelson, Chancellor, State College of Agri. & Engineering of the Univ. of North Carolina, Raleigh, N. C.

Thurman D. Kitchin, President, Wake Forest College, Wake Forest, N.C.
C. C. Carpenter, Dean, School of Medicine, Wake Forest Col., Winston-Salem, N. C.
Walter H. Moursund, Dean, School of Medicine, Baylor Univ., Houston, Tex.
W. V. Houston, President, Rice Institute, Houston, Tex.
Dr. Robert L. Stearns, President, Univ. of Colo., Boulder, Colo.
Ward Darley, Dean, School of Medicine, Denver, Colo. (Univ. of Colo.)
Dr. Caleb F. Gates, President, Univ. of Denver, Denver, Colo.
Harry K. Newburn, President, Univ. of Oregon, Eugene, Ore.
David W. E. Baird, Dean, School of Medicine, Univ. of Ore., Portland, Ore.
Dr. Peter H. Odegard, President, Reed College, Portland, Ore.
Dr. August Leroy Strand, President, Oregon State College, Corvallis, Ore.

"In line with its policy of intensive exploration of the Channels whereby atomic energy may be applied for the benefit of mankind, the Atomic Energy Commission has recently constituted a Division of Biology and Medicine. This Division and its Advisory Committee are deeply concerned with the shortage of trained personnel, both for practical control and application and for basic research. To meet, in part, this shortage, the Commission now has under consideration a proposal to institute a series of fellowships at the post-doctoral level for physicians, biologists and physicists interested in biology or medicine. Less intensive training for Bachelors of Science would also be envisaged.

"In the course of our consideration of possible fellowship training programs, various institutions have been considered for the establishment of training facilities on a regional basis. It is felt that six groups of institutions may be particularly suited to carry on this training:

1. Duke University, School of Medicine and College of Arts and Sciences; University of North Carolina School of Medicine and College of Arts and Sciences; North Carolina State College of Agriculture and Engineering of the University of North Carolina and Wake Forest College, School of Medicine and College of Arts and Sciences.

2. University of Rochester, School of Medicine and Dentistry.

3. Baylor University, School of Medicine and Dentistry and Rice Institute.

4. University of Colorado School of Medicine and University of Denver, School of Engineering.

5. University of California (Los Angeles), School of Medicine.

6. University of Oregon, School of Medicine, and the University of Oregon, Reed College and Oregon State College.

"A training program has already been undertaken by the University of Rochester, and tentative arrangements have been made for one at the University of California, Los Angeles.

"You will note that the groups of schools have been considered in relation to possible cooperative effort between schools of Medicine and Departments of Physics and Mathematics, and in relation to geographical location.

"In order to explore further the various aspects of such a training program, it would be appreciated if you or some other representative of your institution could attend a conference which is to be held at the office of the Atomic Energy Commission, 19th Street and Constitution Avenue, Washington, D. C., on January 21, 1948, at 10:00 A.M. The conference is expected to last until mid-afternoon. The Commission will be glad to defray your expenses."

5. Use of Army Institute of Pathology for Central Registry and Respository of Medical and Biological Materials Relating to Atomic Energy.

PROBLEM: It is highly desirable that a central unit be designated for the preservation of medical and biological materials relating to these aspects of atomic energy. The Army Institute of Pathology is uniquely fitted for such a program in view of its competency, location, physical facilities and reputation.

RECOMMENDATIONS: It is recommended that the Advisory Committee for the Division of Biology and Medicine approve the designation of the Army Institute of Pathology as the central registry and repository of Medical and biological materials relating to atomic energy.

6. Sabbatical leaves for staff members at the various institutions.

PROBLEM: The natural isolation of many of the important research facilities of the AEC causes a lack of communication between scientists. It is felt that for the benefit of the research workers, as well as for the good of the Atomic Energy Commission, it would be advisable to institute a program for sabbatical leaves whereby the various workers will be allowed to spend an adequate period of time in work at the other institutions.

RECOMMENDATION: It is recommended that the Commission authorize its contractors to grant non-cumulative leaves in the amount of six months every three years to senior scientists working in Biology and Medicine for the furthering of their research in universities or other institutions approved by the Division of Biology and Medicine.

7. Selection of Temporary Chairman during Dr. Gregg's Absence:

Dr. Alan Gregg will leave this country in the near future for a visit to Europe and a Temporary Chairman is needed to act in his absence.

8. Follow-up Study on Patients who have Received Radioactive Isotopes.

PROBLEM: A continuing problem is that of the effect of radiation on living human tissues. In the radioactive isotopes program a number of patients have received varying amounts of radiation and as such represent a group which should be studied from time to time to detect any deleterious effects that may become manifest. Studies would include a physical evaluation, a complete blood count, urinalysis and other indicated studies.

RECOMMENDATION: That the Advisory Committee for Biology and Medicine recommend an allocation of $50,000 for use in a follow-up study on patients who have received radioactive isotopes.

9. Research Projects for Consideration:

a. General statement by Interim Director of Division of Biology and Medicine.

b. University of California School of Medicine - Dr. Robert Stone

PROBLEM: Dr. Robert Stone is Professor of Radiology at the School of Medicine, University of California, and was Medical Director of the Metallurgical Laboratory at the University of Chicago for the Manhattan District. He has made extensive studies on the effects of total body radiation.

Dr. Stone has proposed that the Atomic Energy Commission

finance the construction of a building and an instrument at the University of California Hospital for the study of radio-biological effects of high energy radiations. He is particularly interested in the effects of high energy beta particles such as might be obtained from a betatron or an electrostatic generator and energies of the order of thirty-five million volts. Such a program would require enough financing to set up an instrument at about $75,000 to $100,000 each plus building to house the instrument, experimental laboratory and animal housing.

RECOMMENDATION: It is recommended that the Advisory Committee for Biology and Medicine approve a grant for _____ to be allocated to the University of California School of Medicine for a one-year period beginning February 1, 1948.

10. Massachusetts Institute of Technology - Harvard Medical School.

PROBLEM: Since 1940, there has been in progress a joint study by physicians of the Peter Bent Brigham Hospital and the Harvard Medical School and physicists at the Radioactivity Center of the Massachusetts Institute of Technology. This group has made many important contributions on the role of iron, zinc and other metals in the metabolism of human erythrocytes and leukocytes and it is studying the alterations of these processes in blood dyscrasias. Recent developments emphasize the importance of zinc in the white blood cells in relation to leukemia.

RECOMMENDATION: It is recommended that the Office of Naval Research be notified that funds in the amount of $73,650 are available to be allocated to Massachusetts Institute of Technology and Harvard University for support of a research program under the direction of Drs. John Gibson III, Joseph Aub and Robley Evans.

10A - Harvard U - Biophysics research program

11. California Institute of Technology – Dr. George Beadle:

PROBLEM: The primary objective of this research would be to elucidate the nature of radiation induced gene and chromasomal changes. The investigation would be divided into three parts, the first, to use Neurospora Crassa in a study of those genes that control specific chemical reactions concerned with metabolism including the biosynthesis of biologically significant compounds. The second part of the investigation will study in detail the nature of radiation-induced mutational changes in Drosophila Melanogaster both genetically and cytologically.

The third division aims to learn as much as possible about the hereditary changes produced in Indian corn by various types of high energy radiations. It will compare these with changes that occur spontaneously and that may be induced by other mutagenic agents to make use of such hereditary modifications in increasing our understanding of the hereditary mechanism at a basic level, and to develop methods by which induced chromosomal aberrations may be used in physiological studies and in corn improvement.

It is requested that the A.E.C. entertain request for support of Parts Two and Three.

RECOMMENDATION: It is recommended that the Office of Naval Research be notified that funds in the amount of $47,498 are available to be allocated to California Institute of Technology for support of a part of the program on the Genetics and Cytological Effects of High Energy Radiation. These funds are allocated for "A Study of Radiation Induced Gene and Chromosomal Mutations in Drosophila" and "A Study of Radiation-Induced Gene and Chromosomal Mutations in Zea Maize."

12. Other Projects Under Consideration:

    a. Sloan-Kettering Institute.

    b. Washington University - Dr. Robert A. Moore.
       (Letter to Dr. Franklin McLean)

13. Further discussion of post-high school fellowships.

14. Consideration of the Health Physics and Biology Program in relation to Revised Operations at Oak Ridge.

15. Other Business