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MINUTES
MEETING OF
ADVISORY COMMITTEE FOR BIOLOGY AND MEDICINE

Held at the

ATOMIC ENERGY COMMISSION

WASHINGTON, D. C.

MARCH 11 AND 12, 1955

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ADVISORY COMMITTEE FOR BIOLOGY AND MEDICINE

March 11 and 12, 1955

The forty-ninth meeting of the Advisory Committee for Biology and Medicine was held at the Atomic Energy Commission in Washington, D. C., on Friday and Saturday, March 11 and 12, 1955.

ATTENDANCE:

Members of ACBM	Dr. Gioacchino Failla - Chairman
	Dr. Shields Warren - Vice Chairman
	Dr. Charles H. Burnett
	Dr. Simeon T. Cantril
	Dr. Edward A. Doisy
	Dr. Curt Stern
Staff of AEC and Div. of Biology and Medicine	Dr. Willard E. Libby
	Dr. John C. Bugher
	Dr. Charles L. Dunham
	Dr. Roy E. Albert
	Dr. Paul G. LeFevre
	Dr. Bernard R. Nebel
	Dr. Paul B. Pearson
	Dr. Earl L. Green
	Dr. Willis R. Boss
	Dr. Walter D. Claus
	Dr. Douglas L. Worf
	Dr. Robert A. Dudley
	Dr. Gordon Dunning
	Dr. George D. Manov
	Dr. Paul C. Aebersold (Oak Ridge)
	Mr. Robert L. Butenhoff
	Mr. A. Tamaro
	Mr. Howard C. Brown, Jr.
	Mr. Herbert A. Stanwood, Jr.
	Mr. Ward Miller, Jr.
Mr. James F. Haggerty	
Mr. Merril Eisenbud (New York)	
Mr. Ray Jones	
Miss Elizabeth Hower	
Mrs. Frances R. Montgomery, Secretary	
AFSWP	Lt. Col. Louis E. Browning

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Friday - March 11, 1955

9:00 A.M.

The Committee assembled for a study period and to read a variety of documents concerning biological and medical problems confronting the Division of Biology and Medicine and the Atomic Energy Commission.

1:30 P.M.

Off-Site
Research
Projects

The Chairman convened the afternoon session with all members present. He asked Dr. Bugher to open the meeting by discussing the Off-Site Research Contract Proposals that had been approved during November and December, 1954 and January 1955. Dr. Bugher spoke of the vigorous work that had been performed by the Research Committee in passing on the 62 Research Proposals which carried an allocation of funds totaling \$950,076. He said that the Division's budgetary situation was relatively firm. However, it had been necessary to request an additional \$300,000 to augment the obligational authority for the oceanographic expedition "Project Troll."

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- 3 -

Dr. Green told of one contract which concerned a symposium on Population Genetics and which is to be held at the Long Island Biological Association in June with invited participants from many nations. The Research Committee was of the opinion that it would be advantageous to the AEC to assist in financing this program with an allocation of funds in the amount of \$8,500. Dr. Stern stated that he believed that this would be a worthwhile research project as it is important to the AEC to develop as much information as possible on population genetics.

The Committee then discussed three proposals concerning the field of teletherapy evaluation. Two of these proposals were in the form drawn up by the Teletherapy Evaluation Board which meets periodically in Oak Ridge and the other proposal was an independent document. The position of the Division relevant to support of the Teletherapy Evaluation Board approved projects had been discussed at a meeting of the Committee held in June, 1954. At that time the Committee recommended that the AEC support be limited to the four already approved projects in this group,

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except for projects offering something unique scientifically.

The Committee reaffirmed its previous recommendation that the prevailing policy of the Division should be continued and that each proposal for support by the AEC should be considered on its merits in relation to the Commission's current investment in the field, irrespective of whether it had the endorsement and recommendation of the Teletherapy Evaluation Board. The Committee also expressed considerable interest in the program in oceanography that the Division is proposing especially because of its relationship to the disposing of radioactive wastes in the sea. Dr. Claus stated that the Committee will be asked for comments on the project when it has crystallized.

Upon the conclusion of the discussions on the projects, the Committee expressed many favorable comments on the projects that had been selected by the Contract Research Committee for support by the AEC.

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Research Projects Dr. Louis Browning of the Armed Forces Special
AFSWP
Weapons Project summarized the research program in the medical field that the Department of Defense is supporting. He stated that each of the services has a different philosophy of the manner in which they let their contracts. The Army has the majority of its funds in civilian institutions with only about one-third of its total funds in Army laboratories. The Navy does all of its work at Navy laboratories and the Office of Naval Research which comes under the Navy Department gives all of its contracts to civilian institutions. The Air Force does much of its research at its Laboratories in Chicago and at the School of Aviation Medicine. Dr. Failla suggested that it would be well to coordinate the work ^{with projects} of the AEC to avoid too much duplication, especially with research on effects of ionizing radiation. Col. Browning said that this was being done to a certain extent.

Dr. Cantril reminded the Committee that Mr. Corsbie brought up at a previous meeting the problem of obtaining further information on

blast effects and the Committee had agreed that such research was essential. Dr. Cantril inquired whether the Armed Forces are conducting research on blast. Col. Browning replied that very little work is being done at the present, probably not more than \$50,000 has been expended for research on blast effects. He stated further, that the Department of Defense concurs wholeheartedly in the FCDA studies and they feel that the studies that are being conducted on shelters should be continued and extended. Dr. Cantril brought out that beyond the problems of shelters, there was the problem of physiology and pathology of blast effects.

Dr. Dunham said that more work is being done now under AEC contract to the Lovelace Foundation directly in conjunction with the 1955 series of tests in Nevada and at Sandia where studies are being made on direct blast effects and missile effects.

Use of Low- Dr. Bugher introduced Dr. Willard Libby, member of the
Level
Counting
Techniques Commission. Dr. Libby stated that he had observed and participated in the development of methods for measuring smaller and

smaller amounts of radioactivity with ease and accuracy and that it had occurred to him that this development certainly makes possible the utilization of isotopes in healthy people without in any way endangering their health. Therefore, it makes possible a widespread use of isotopes for diagnostic purposes. His remarks included statements on the usefulness of isotopes for culture of radioactive plants containing radiocarbon and the usefulness of isotopes in low concentration in ordinary medical practice. Dr. Libby said that there remains much to be done in the development of the uses of isotopes - - as a matter of very high priority in the general program of promoting in every way that the Commission can - - the peacetime applications of atomic energy.

The lack of interest in developing more sensitive instruments by the instrument companies was brought to the attention of the Committee.

Dr. Libby stressed his willingness to enthusiastically support a program of seeking new every-day uses of isotopes for the

average doctor in the every-day practice of medicine.

The Chairman expressed his thanks and those of the Committee to Dr. Libby for his presence at the meeting and for his very interesting presentation on the Use of Low-Level Counting Techniques.

High-Activity
Cobalt

The status of the availability of high-activity cobalt

for medical therapy was presented by Mr. Haggerty. We learned that to date a total of 30,400 curies having an average activity of 41.1 curies per gram have been produced in the Materials Testing Reactor at Idaho. Requests outstanding total approximately 22,000 curies, and each has been pending for at least one year. A higher priority has been given the cobalt presently in the Reactor (22,000 curie potential) with the expectation of completing irradiation by December of this year. Mr. Haggerty stated further that the distressing thing is that it is likely that there will be no high activity cobalt available during 1956 and also the first half of 1957 under the present planning. The Committee felt that this was a most discouraging picture in view of

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the interest generated during the past two years relative to the use of isotopes for peacetime application.

We concur in the view held by the Division of Biology and Medicine that the production of high activity cobalt must be increased *to fulfill the requirements.* to approximately 50,000 curies per year. Apparently, if the AEC falls short of this goal, the Atomic Energy of Canada Limited will capture the lead in supplying cobalt for medical purposes at an international level.

Isotope Division
Oak Ridge
Dr. Paul C. Aebersold

Dr. Aebersold, Director of the Isotope Division of Oak Ridge, presented a status report of the

activities of that Division. He spoke of the Licenses under the new Atomic Energy Act in which the AEC has been given authority to license all materials for both possession and use. He explained further the difference between a general license and a specific license which the new Act permits and spoke on the Exporting of Isotopes to Persons Outside of the United States.

The question of licensing physicians to handle isotopes even

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though they are licensed to practice medicine was discussed. Dr. Aebersold brought out that it would be discriminatory to exempt physicians from obtaining a license unless it was felt that physicians as a class had more understanding of the safe handling of radioisotopes than scientists as a class or industrialists as a class.

The Committee agreed with Dr. Aebersold that assistance should be asked of the medical schools to give better training courses in use of isotopes.

Mr. Brown discussed the procedure for obtaining a subsidy for purchase of isotopes and summarized the staff paper that is for consideration by the Commission concerning the Proposed Subsidy on the Radioisotopes Program. This program is for the AEC to support biomedical research by subsidizing 50% of the cost of radioisotopes to be used in medical research, therapy research and agricultural research.

Saturday - March 12, 1955

Current Activities - Dr. Failla convened the meeting for the second
Atomic Bomb
Casualty
Commission day and asked Dr. Bugher to open the discussions

by bringing the Committee up to date on the activities of the Division.

The first item for discussion was proposed modification of the Atomic Bomb Casualty Commission Program in Japan. He stated that it is important to the Atoms-for-Peace Program to continue the long-term study of the Japanese survivors as well as vital for the AEC research program.

In this connection he brought out that it would be advantageous both to the United States and to Japan to establish a radioisotope distribution center in Japan and to construct a medical research reactor in conjunction with the Medical School at Hiroshima.

Mr. Brown provided the meeting with a report explaining details of certain changes recommended in the organization and the program of the ABCC in Japan. The Committee withheld comments.

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Atoms-for-Peace Dr. Bugher summarized the Atoms-for-Peace Program.
Program

The Committee was extremely pleased to learn of the developments in the Program and especially that the agenda for the conference at Geneva had been amended to include discussions on biological and medical problems as they may relate to utilization of nuclear energy.

In connection with the Technical Cooperation Program, Dr. Bugher stated that British representatives and the representatives of the AEC who would be attending the International Conference are planning to hold a conference in England in advance of the Geneva Conference to discuss matters relating to uptake of fission products in soils, plants and animals.

Dr. Dudley told of his recent visit to England to try to promote sample collection for Project Sunshine and to discuss information the British had developed from their own activities in the field of Sunshine and Gabriel.

Marshallese Dr. Bugher informed the Committee of the second medical survey of the Marshall Island inhabitants that would soon be underway.

This survey would be under the guidance of Dr. Eugene P. Cronkite who headed the original medical party and who has left the Navy and joined the staff of the Brookhaven National Laboratory.

Spring Test Series Dr. Dunning briefed the Committee on the pro-
Nevada Proving
Ground cedures and the criteria now accepted by the
AEC for protecting the public during nuclear weapons tests at the Site.

Project Troll At the meeting held at Hanford Operations Office on January 15, 1955, Dr. Pearson and Mr. Eisenbud reported on the "extremely successful United States - Japan Conference on Radiobiology in Tokyo." At this conference the Japanese had presented data collected by the SHUNKOTSU MARU and these data had been analyzed by the New York Operations Office, and suggested that the activity from the CASTLE series which had fallen into the Pacific Ocean or drifted out from the Lagoon was not being diffused evenly. The Committee had expressed the

view that it would be provident to initiate immediately another oceanographic survey to assess and verify the Japanese findings.

Mr. Brown, Mr. Eisenbud and Dr. Boss reported further on implementing and getting "Project Troll" underway. A U. S. Coast Guard vessel was obtained for this Marine Biological and Oceanographic survey.

The Committee was deeply concerned with the effect on public relations if the results of the data collected from "Project Troll" were withheld from the public until after the completion of the mission, and the effect on our relations with Japanese scientists if an announcement of the fact of a mission is not made prior to the time the TANEY reaches Tokyo (approximately April 8, 1955)

Therefore, the following resolution was approved unanimously by the Committee with the request that it be forwarded to the Chairman of the AEC.

[REDACTED]

"The Advisory Committee for Biology and Medicine notes with approval that it is intended to declassify the forthcoming results of "Project Troll."

"The Advisory Committee for Biology and Medicine recommends that this declassification be made effective prior to the arrival of the vessel in Japan.

"The Advisory Committee for Biology and Medicine recommends further that a public statement about the study be made at that time."

Project Wigwam A status report was made on "Project Wigwam". A full discussion ensued and upon its conclusion the Committee recommended that the following statement be transmitted to the Chairman of the AEC:

"The Advisory Committee for Biology and Medicine has learned that "Wigwam" is not to be announced in advance and feels that this change from AEC policy will seriously undermine public confidence here and abroad. Health, safety and public confidence in related AEC policy, including also the safe conduct of weapons tests is a concern of the ACBM.

"Because of the unfavorable public and international reactions and consequences to previous withholding of information until it was forced to public knowledge, which will in this project be renewed with continuing detriment to the Weapons Testing Program, the public relations of the AEC and the international relations of the United States and because at a time when the President's "Atoms for Peace" program is being implemented by an important International Conference, the anticipated public and international censure of "Project Wigwam" when accomplished without prior knowledge and consultation will severely place in jeopardy the position of the United States in the forthcoming conference.

"The ACBM therefore urgently recommends that:

- (1) In the current planning stage of "Project Wigwam," the interested fishing agencies, the Governments of adjacent nations, and the American public be informed; and
- (2) That all due precaution against possible hazards during and after the test be maintained."

Conference on
Genetics
Nov. 19-20, 1954

Dr. Green gave a summary of the Conference on Genetics held at the Argonne National Laboratory in November,

1954. The purposes of the Conference were to review the present status of research in all the areas of genetics and to furnish guides for the development of AEC's research program in genetics. (A copy of the report on the Conference is available in the files of the Division)

University of
Tennessee
Research
Program

Dr. Pearson oriented the Committee on the University of Tennessee research program. He told of Dr. Stakman's

visit to the project and of his recommendations to the effect that every effort should be made to enable the University of Tennessee to operate both the laboratory and the farm section of the site as a single unit, and to carry on research that could be integrated with the overall university program. Plans were formulated for the Committee to visit the research project at the University of Tennessee at the time the Committee holds its meeting in Oak Ridge early in May, 1955.

Industrial Medicine
Fellowship
Program

Dr. Albert briefed the Committee on the current status of the industrial medical fellowship program. He said that there have been 21 persons who have entered the program. Of these 21 men, 17 have finished their academic year. Of these 17, only 6 have finished their in-plant training program. That is the second year. Out of the program there are 3 who are actually in industrial medicine. Two of them are in the atomic energy program itself. Two other individuals have gone on to further training in industrial medicine. Dr. Albert reported that it is proposed that a letter will be sent to a variety of industries, calling attention to the fact that fellowships are available through the Atomic Energy Commission and that it would be advantageous to the industry if they are contemplating entrance into the atomic energy field to have one of their junior medical members trained in this specialty.

On-Site Liaison
Summary

Dr. Nebel stated that the Office of On-Site Liaison for the Medical Branch was established July 1, 1954. To date, all on-site

medical projects in this country have been visited. Visiting procedure:
In all cases the Project leader or leaders were asked to arrange time
for scientific discussions with individual staff members of each research
unit or section. Thus on an average not more than six investigators
were seen in one day. After each visit a report has been filed to con-
vey not only the current results of a given investigator but also his
plans and their integration with the overall program of research in
biology and medicine. The Contract Research Committee is given a verbal
report including a brief budget review after each visit.

Scientific Man-
power -
Dr. Failla

Dr. Failla provided the Committee with a report on
scientific manpower of the nation. He stated that it
is important not only to increase the scientific manpower of the nation
but also to improve its quality or at least maintain it at the present
level. Therefore, it is necessary to attract, choose and train young
men and women of innate ability and aptitude in the field of science.
In this connection, Dr. Failla said one thing that the Commission could
do, for instance, would be to establish nuclear energy clubs in high

schools that would attract young people. He stated further that teachers do not get the recognition that they deserve and that we should "glamorize" the teacher and make it more profitable for him to be one--whether he does any research or not. Many suggestions were offered as to ways and means of overcoming the shortage of scientific manpower.

Draft Minutes - The Chairman presented the draft minutes of the meetings
Dec. 3-4, 1954
&
Jan. 13-14, 1955 held at the University of California in Los Angeles on December 3 and 4, 1954 and at the University of Washington in Seattle, Washington and the Hanford Operation Office on January 13, 14 and 15, 1955 for review. A few minor changes were suggested. With the corrections made the Minutes were approved unanimously.

Next Meeting It was voted to hold the next meeting of the Advisory Committee for Biology and Medicine at the Oak Ridge Operations Office on Thursday, Friday, and Saturday, May 5, 6, and 7, 1955.

[REDACTED]

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