

OFFICIAL USE ONLY

MINUTES  
MEETING OF  
ADVISORY COMMITTEE FOR BIOLOGY AND MEDICINE

Held at  
THE UNIVERSITY OF UTAH  
SALT LAKE CITY, UTAH

April 5 and 6, 1954

44

REPOSITORY DOE History Division  
COLLECTION Tommy McCraw Classified Job #1320  
BOX No. 8  
FOLDER 12

BEST COPY AVAILABLE

711951/708976

OFFICIAL USE ONLY

ADVISORY COMMITTEE FOR BIOLOGY AND MEDICINE

April 5-6, 1954

ATTENDANCE:

Members of  
ACBM

Dr. Elvin C. Stakman - Chairman  
Dr. Shields Warren - Vice-chairman  
Dr. Charles H. Burnett  
Dr. Simeon T. Cantril  
Dr. Edward A. Doisy  
Dr. Gioacchino Failla  
Dr. Curt Stern

Staff of  
Div. of  
B&M

Dr. John C. Bugher  
Dr. Walter D. Claus  
Dr. Douglas L. Worf  
Dr. George V. LeRoy  
Dr. Joseph Butts  
Dr. Charles H. Dunham  
Mr. Howard C. Brown  
Mrs. Frances R. Montgomery

Radiobiology  
Staff of  
U. of Utah

Dr. John Z. Bowers  
Dr. E. J. Stover  
Dr. M. A. Van Dilla  
Dr. J. S. Arnold  
Dr. R. C. Bay  
Dr. A. B. Trench  
Dr. J. Dougherty  
Dr. Panit Reyonanda  
Mr. C. N. Stover

University of Utah

Dr. Bowers, Director of the Radiobiology  
Laboratory, opened the morning session by welcoming  
the Committee. He gave the background and general  
organization of the Toxicity Study which was initiated in 1950, and which  
is now being undertaken at the Laboratory. He described the research

OFFICIAL USE ONLY

OFFICIAL USE ONLY

problem as one in which studies are being made to determine the effects of plutonium on blood and bones of animals with a view toward more effective treatment of humans exposed to such radiation. He spoke of methods being worked out for more effective measurement of radioactivity within living tissues, particularly the bony structures.

Dr. Van Dilla, physicist in charge of the physical program for measuring radiation, presented the first item on the agenda by discussing the measurement of the radioactive burden of injected beagles. The decay schemes of the radium and mesothorium series were reviewed and opportunities for in vivo assay were pointed out. These occur at places in the decay series where penetrating  $\gamma$  rays are emitted and where radon is produced. The complications due to possible relocation of radioactive decay products, especially in the mesothorium series, were discussed.

Dr. Betsy Stover, biochemist who has charge of the work in analytical chemistry, spoke on the radioactive content and distribution studies and explained in detail the research in the use of radium, plutonium and thorium in dogs. The Committee was particularly interested in the plutonium and radium excretion data.

Dr. Arnold, radio-autographic specialist, told of the three questions which are of the principal concern to his group, and of the studies that are being carried forward (1) where, in relation to the various histologic structure, Pu, Ra and MsTh are deposited in bone; (2) what cells are being irradiated and the magnitude of the irradiation dose; and (3) what are the

OFFICIAL USE ONLY

local and systemic responses of the animal to the irradiation.

Dr. R. C. Bay is in charge of the vetermarian problems and the development and maintenance of the experimental animal colony. He outlined the history of the colony, reasons for selecting beagles, procurement and breeding, sanitation and toxicity studies.

Dr. Jane Dougherty presented a paper covering a period of one year on the hematological changes in dogs injected with plutonium or radium.

The meeting adjourned at 12:30 P.M.

Afternoon Session - 2:00 P.M.

Report on  
Current Events

The Chairman reconvened the meeting for the afternoon session. He asked Dr. Bugher to orient the Committee on the hearings on the application of atomic energy to agriculture held before the Subcommittee on Research and Development of the JCAE on March 31 and April 1. Dr. Bugher spoke of the responsibility of the Division for the protection of human life and health and for the extension of the fundamental knowledge of the effects of radiation on living things of all kinds.

He commended Dr. Pearson for organizing the agenda and for assembling the splendid group of outstanding scientists to partake in the discussions.

Dr. Bugher further stated that the Subcommittee expressed a great deal of enthusiasm in the programs pertaining to biology and they suggested that a similar hearing be held concerning the contributions of

atomic energy to medicine.

House Appro-  
priations  
Committee

Dr. Bugher spoke of the hearings held before the House Appropriations Committee on the AEC 1955 budget estimates and explained that it is proposed that the budget for the Division of Biology and Medicine be reduced by \$435,000 or to \$26,565,000. He stated that the Committee does not intend to hamper any productive research project as they felt research is one of the most important facets of the atomic energy program. However, they were of the belief that there are always fringe items which research scientists would like to investigate which have a comparatively slight possibility of producing useful results. Dr. Bugher brought out that this is the type of project that the Committee thought should be eliminated in order to accomplish the budget objective.

Dr. Bugher advised the Committee that he was hopeful that the reduction of funds would be restored at the hearings before the Senate Appropriations Committee on April 7, 1954.

Review of Research  
Projects Approved  
During Dec., Jan.,  
Feb. and Mar.

Dr. Bugher opened the over-all discussions on the twenty-six new projects which had been approved by the Research Committee during December 1953, January, February and March, 1954, with a total allocation of funds of \$284,569.

Dr. Butts presented the ten biology projects explaining the proposed research in detail and in conjunction with Dr. Worf, reviewed the four-

OFFICIAL USE ONLY

teen medical projects. Dr. Worf spoke of the two projects assigned to the Radiation Instruments Branch. The Committee interjected many questions pertaining to the planned research, especially the budget estimates. They were particularly interested in the project at the Utah State Agricultural College wherein under the guidance of Dr. Lorin E. Harris a study will be made on the "Effect of Radioactive Elements and Radiation in Ewes Maintained on Different Levels of Nutrition". In this connection several herds of stock in the vicinity of the NPG and Cedar City, Utah, will be studied so as to relate management practices with lamb production. 1/

Atomic Bomb  
Casualty  
Commission

Dr. Bugher reported on the current status of the Atomic Bomb Casualty Commission program in Japan. He spoke of the termination of the current genetic program and with the re-orientation of a new program to concentrate on data on sex-ratio. The aim of the genetic program is to investigate the sex-ratio among new born children in Hiroshima and Nagasaki in relation to parental exposure to the atomic bombs.

In connection with the discussion on genetics the Committee agreed unanimously that the analysis of the genetic data should be made in the United States and at the University of Michigan, under the direction of Dr. James Neel.

Dr. Bugher reviewed the accomplishments that have been made in the Departments of Medicine and Pediatrics at Hiroshima under the direction of Dr. W. C. Moloney.

---

1/ A copy of the new off-site research contract proposals is attached as Appendix A.

OFFICIAL USE ONLY

Executive  
Session  
ABCC

The administrative requirements of the prime contract were discussed in Executive Session.

The following motion was made by Dr. Stern, seconded by Dr. Failla and it was approved unanimously:

"The Advisory Committee appreciates and is in full sympathy with Dr. Bugher's concern with the efficient and sound administration of the Atomic Bomb Casualty Commission".

After a full discussion it was suggested that Dr. Warren and Dr. Bugher should confer with Dr. Bronk, President of the NAS regarding the ABCC contract and its administration before entering into a renewal for the fiscal year 1955.

Executive  
Session  
U. of Utah

Dr. Claus led the discussion of the radiobiology studies at the University of Utah and requested the views of the Committee as to the expansion of the program.

The Committee was favorably impressed with the enthusiasm and the intellectual honesty of the staff working on the project. However, they were of the opinion that the project should not be expanded or enlarged too extensively at this time - possibly fifteen to twenty percent.

It was suggested that instead of expanding the program consideration might be given to starting a similar program elsewhere. Also, inasmuch as the program will be continuing over a span of years at the

OFFICIAL USE ONLY

Radiobiology Laboratory and in order to hold the interest of the staff-- that they should be given an opportunity to work on other problems in conjunction with their work on the project; i.e., teaching, etc.

— It was further suggested that efforts should be made to bring forth a closer relationship between the Medical School at the University of Utah and the Laboratory.

After a full discussion it was brought out that the staff should be encouraged to strengthen the pathology work and that strontium should be added to the studies.

Tuesday, April 6, 1954, 9:00 A.M.

Tripartite  
Conference

The Chairman reconvened the meeting for the second day of two-day session.

Dr. Bugher informed the Committee of the activities of the Tripartite Conference wherein representatives of the United States, Canada and the United Kingdom met in Washington on February 15 through the 19th to discuss mutual biological and medical problems as they relate to atomic energy. He spoke of the Tripartite exchange of information under TPC(Area 2) and of the additional topic which had been added to the agenda "Biological Effects of Atomic Weapons".

The abstracts of the program presented by the United Kingdom were passed for review.

OFFICIAL USE ONLY

The Committee reiterated their previous views that such conferences are very useful as they contribute to a mutual understanding of the three nations on atomic energy problems, and that when feasible they should be held from time to time.

A complete set of the transcript of this meeting is available in the Division of Biology and Medicine.

Dr. Bugher reviewed the Gabriel Program.

Research  
Program

Mr. Brown reported that Mr. Alfonso Tammaro has been appointed Assistant General Manager for Research and Industrial Development. In this position he will assist the General Manager in coordinating and directing the AEC programs currently under the direction of the Directors of Reactor Development, Biology and Medicine, and Research, and the Office of Industrial Development. Mr. Brown also reported on the reorientation of the NYOO and of the added responsibilities that the Division of Biology and Medicine will assume.

Minutes of Meeting held at Savannah River, Feb. 12-13, 1954 and of Meeting held Mar. 13, 1954

The Chairman presented the minutes of the meeting held at the SROO on February 12-13, 1954, for consideration. After reading, the minutes were approved unanimously. The Chairman then presented the minutes (Reported to the Commission) of the special meeting held on March 13, 1954. Study of the Nevada Proving Grounds report.

The report was approved unanimously.

OFFICIAL USE ONLY

Fall-out  
Problems

Dr. Bugher led the discussion on the exposure to radioactive fall-out on March 1, 1954 of inhabitants of two atolls in the northern Marshall Islands together with members of the JTF. He spoke of the special medical team under the direction of Comdr. Eugene P. Cronkite which has been responsible for the medical care and study of the persons exposed.

Dr. Dunham followed by reporting on his recent visit to the test area. He said that medical and scientific information is being developed within the area and that it is more complete than would now, in any case, be possible to derive from the 23 FUKURYU MARU patients. Dr. Bugher brought the Committee up to date on the injured Japanese fishermen as well as the effect of Pacific tests on commercial tuna fishing.

Dr. Claus explained the pattern of the fall-out in the test area.

Next  
Meeting

It was agreed that the forty-fifth meeting of ACBM should be held at the AEC in Washington, D. C. on June 25 and 26, 1954.

Letter  
of Thanks

The Chairman suggested that a letter of thanks be forwarded to Dr. Bowers for the many courtesies extended to the Committee at their meeting at the University of Utah. Also, that enthusiastic appreciation be extended to individual members of his research staff for their scientific contributions to the project.

The morning session adjourned at 12:30 P.M.

OFFICIAL USE ONLY

Afternoon Session, 2:00 P.M.

A visit was made to the Radiobiology Laboratory to inspect the facilities and to view the work of the project which the beagles are an integral part.

The dogs are coming to the aid of the scientists in helping solve one of the great problems suddenly thrust forward by the advent of atomic fission. Precisely how much can a human being tolerate in daily doses, such as would be encountered by those working in atomic installations, or in one big dose, such as that released by an atomic blast, it is important that toxic levels of radiation be established.

The dogs are housed in some of the most up-to-date kennels in the country attached to the new radiobiology laboratory which is an addition to the Cancer Research Building at Fort Douglas.

The radiobiology laboratory was built at a cost of approximately \$230,000, all of which was provided by the AEC.

After the survey of the facilities the Committee expressed the view that the monies expended for the laboratory were well spent and it is believed that much scientific knowledge will be gained from the research project.