411740

[redacted]

MINUTES

ADVISORY COMMITTEE FOR BIOLOGY AND MEDICINE

Chalk River, Canada

May 8-9, 1953

REPOSITORY DOE History Division

COLLECTION Tommy McCraw Classified - Job #1320

BOX No. 8

FOLDER 12

BEST COPY AVAILABLE

718593
711880
708882

[redacted]

[redacted]
SECURITY INFORMATION

ADVISORY COMMITTEE FOR BIOLOGY AND MEDICINE

MINUTES

Chalk River, Canada

May 8-9, 1953

The Advisory Committee for Biology and Medicine of the Atomic Energy Commission and the Project Coordinating Committee (Medical Committee of the Atomic Energy of Canada Limited) held a joint conference at Chalk River, Ontario, Canada on Friday and Saturday, May 8 and 9, 1953.

Friday, May 8, 1953

10:00 A.M.

Attendance:

Advisory Committee for Biology and Medicine	Dr. Joseph T. Wearn Dr. Edward A. Doisy Dr. Elvin C. Stakman Dr. Curt Stern Dr. Shields Warren
Division of Biology and Medicine	Dr. John C. Bugher Dr. Walter D. Claus Dr. Gordon Dunning Dr. Paul B. Pearson Mr. Robert L. Butenhoff Mr. Howard C. Brown, Jr. Mrs. Frances R. Montgomery
Division of Technical Information	Mr. Duncan C. Clark
Canadian Representatives (Defense Research Board)	Dr. J. A. Dauphinee Mr. A. K. Longair Dr. E. E. Massey
Department of the Army	Colonel J. E. Andrew Lt. Colonel F. C. Pace
Department of National Health and Welfare	Dr. E. A. Watkinson

[redacted]

Attendance (Cont'd):

Atomic Energy Project	Dr. David A. Keys
	Mr. J. Lorne Gray
	Dr. W. B. Lewis
—	Dr. A. J. Cipriani
	Dr. H. B. Newcombe
	Dr. C. A. Mawson
	Dr. A. M. Moore
	Dr. S. D. Simpson
	Mr. G. W. C. Tait
	Mr. J. Neil
	Mr. R. M. Taylor
	Mr. E. M. Renton
	Dr. W. R. Skelly
	Dr. N. L. Williamson
	Dr. L. G. Cook
	Dr. G. W. Hatfield
	Mr. F. W. Gilbert
	Dr. H. Carmichael
	Mr. J. Hardwick
	Mr. F. Goulding
U.S. Liaison Office, Chalk River	Dr. D. B. Langmuir
	Mr. G. L. Mercer

Dr. Lewis, Vice President in charge of Research and Development, welcomed the Advisory Committee and stated that he and his colleagues were very pleased that it had been possible to arrange a joint meeting of representatives of the Canadian Atomic Energy Project and the United States Atomic Energy Commission. It was his belief that such collaboration will bring understanding and mutual benefits to all concerned.

The meeting opened with Dr. Cipriani presiding.

Agenda — Agenda provided to the committee by the conference was accepted.

Permissible Doses of Radiation for Military and Defense Workers — The first subject on the agenda was presented by Dr. Bugher with Dr. Claus reporting in detail on "permissible emergency doses" for (1) operational,

(2) Civil Defense, and (3) Military. Dr. Claus stated:

"1. Operational emergency levels are emergency only in the sense that they are somewhat out of the ordinary, and are contained in the low-pressure group.

a. It is often impossible to operate efficiently under the limitation of 0.3r in any one week. For several years, AEC has permitted twice this level, or 0.6r in any one week, provided the total exposure averages out to 0.3r over a period of one-quarter, or, 13 weeks. The NCRP is considering permitting as much as 0.9r in any one week, provided some penalty is attached, such as limiting the quarter's exposure to 3.0r instead of 3.9r.

b. For several years, the AEC has authorized the permissible dose of 3.9r per quarter for atomic test personnel, without regard for the rate at which the dose is accumulated. The same authorization has been made for workers such as welders who must work on reactors in fairly intense fields on isolated occasions. Workers from the U.S. who came to assist in rehabilitating the Chalk River reactor have operated under this permissible dose rate. The Division of Biology and Medicine is considering expressing its maximum permissible dose rate as 3.9r per 13-week period for all operations, without regard to the rate at which the exposure is accumulated, on the grounds that this rule would give the necessary flexibility to all operations under nearly all circumstances; but that its leniency is self-limiting in the sense that operators cannot use up their available exposure - potentials in large chunks and still be able to operate on a continuous basis.

c. A third semi-emergency exposure rate in this group is one recently proposed by K. Z. Morgan, though not officially recognized by NCRP or AEC. This deals with an emergency exposure to internal emitters, such that the total annual exposure to the critical organ amounts to 15.7 rem. For isotopes having long effective half-lives, Ra - Pu - Sr 90, of course, it makes little difference whether one averages the dose over one week or 52 weeks. But for isotopes of short effective half-life, very sizeable exposures might be permitted on this basis: 50 times a one-week dose of tritium, 6.8 times a one-week dose of carbon-14, 15.3 times a one-week dose of phosphorous-32. This is an interesting concept in its various implications.

d. For emergency monitoring teams composed of AEC and contractor personnel, we at one time set up limits of 10r

for persons regularly working with radiation, and 25 r for persons not ordinarily exposed. Although not rescinded, these levels are probably archaic.

e. An emergency operating exposure is one proposed by Dr. Failla's Subcommittee on Permissible External Exposure, of the NCRP. This proposal would permit one exposure of 25r in the lifetime of a person, without limiting his availability for exposure to 0.3r per week. Compensatory measures would be desirable but not obligatory.

"2. Civil Defense permissible emergency exposure has been set at 25r per week for a total of 8 weeks. This dose is believed to be readily permissible under dire emergency, and particularly for people of the class who would compose civil defense teams: adults in good physical condition and who are not ordinarily exposed to radiation in the course of their work.

Acceptable levels of contamination of drinking water and food by fission products have been suggested by the Division of Biology and Medicine, and have been accepted by both Civil Defense and the Military.

Safe levels of contamination were calculated on the assumptions that:

1. All activity may be calculated as due to Sr^{89}.
2. 0.7 rep/day is a safe exposure to the bone, with a maximum accumulated exposure of 50 rep.
3. That all the Sr^{89} is in 1/10 of the skeleton.

Acceptable levels were then calculated as 25 times the above safe levels, on the basis of an estimate that the safety factor is at least 200.

Beta-Gamma activity,	10 days use:	0.09 μc/cc (10^{-7} lifetime)	
	30 days use:	0.03 μc/cc	
Alpha activity,	10 days use:	0.005 μc/cc	"
	30 days use:	0.0017 μc/cc	

"3. For military usage, the Division of Biology and Medicine has suggested the following:

a. Q. At what acute exposures of troops to gamma rays will they become ineffective as troops?

A. 50r will not appreciably affect their efficiency as a fighting unit. 100r will produce in occasional individuals nausea and vomiting, but not to an extent

that will render the force ineffective as a fighting unit. Such troops should be given, as soon as possible, a period for rest and individual evaluation. 150r or more can be expected within a few hours to render a group ineffective as troops, through a substantial incidence of nausea, vomiting, weakness, and prostration. Mortality will be low, and recovery of physical fitness may be expected. Field officers may expect that if substantial numbers of their men receive substantially more than 100r, there is grave risk that their commands will rapidly become ineffective as fighting units.

Q. What dosage will render an aircraft crew inefficient - that is, unable to complete a mission?

A. To crews previously unexposed to such levels, doses up to 75r will not be detrimental. Doses in excess of 75r, combined with the human stresses associated with military aviation missions in wartime, are considered to increase seriously the odds against successful completion of a mission.

Q. How often may an aircraft or submarine crew accept an exposure of 25r per mission and still be a reasonable risk for subsequent missions?

A. 25r per mission, at least 8 missions at weekly or longer intervals. More missions may be feasible, but personnel should be carefully checked. 200r may substantially reduce the life expectancy of the irradiated individuals.

b. For crews of sampling air craft during tests, we have suggested that exposures be limited to 20r during any one test series, and that these same individuals should not be so exposed again, although this exposure is not to prevent their participating in radiation work at the usual level of 0.3r per week. This suggestion is in line with #1 (e) above.

c. Permissible doses of mixed gamma rays and neutrons for aircraft crews is under experimental study, using monkeys and chimpanzees. Data are not presently available."

A general discussion followed with the suggestion made that some uniformity in bio-assay measurements must be developed and that bio-assay procedures will have to be standardized if permissible internal doses are to be sufficiently meaningful.

Industrial health measures in Uranium Mines

Dr. Claus reported on permissible exposure in uranium mines with the discussion primarily focused on the Colorado Plateau area. He stated that the uranium mining industry in the Colorado Plateau consists of numerous small mines, probably over a 1,000, most of which are under lease to small operators and are worked by two, three or four miners. The U. S. Public Health Service and the Colorado Public Health Service in conjunction with the Atomic Energy Commission has for several years been conducting a survey of the mines and mills to evaluate the health hazards in the industry. Preliminary studies showed that in mining uranium ores the primary health hazard is probably that created by the presence of radon and its immediate daughters condensed on dusts in the mine atmosphere. He stated further that it was the AEC policy that radiation exposure of individuals employed as a result of AEC operations shall be kept below levels of substantial hazard. A careful re-evaluation of the dangers associated with radon therefore appeared worthwhile.

In connection with the discussion on ventilation in mines, the Canadians brought out that their principal concern was how the AEC is tackling the problem of high radon concentration. Dr. Cipriani said that there is a desperate need for an instrument that can be taken into the mines so that a measurement can be taken simply - - without the operator being an electronic engineer.

Dr. Bugher replied that "our problem is different because we have no concentration of uranium of any magnitude". This has lead to a type of mining which isn't actually comparable to that in Canada or the Belgian Congo. We have small mines with a few men, or maybe with only one man. "Therefore, ventilation is a question of cost."

Dr. Cipriani stated that there had been three or four cases of cancer in employees of a mine. However, it has been determined that there was only one case that could be attributed to working in the mine.

Dr. Dauphinee propounded the question of whether radon is a hazard. Dr. Claus advised that it was proposed that a study would be made of several known stable populations in areas surrounding mines to find out if high levels of radon in the mines is a contributory cause of cancer.

Dr. Warren referred to the sputum test for cancer and said that indications were that if you have a negative test, you have a 95% chance of not having a bronchial cancer. It has been found that this test is more effective than x-ray.

Meeting Adjourned The meeting was adjourned at 11:30 A.M. for the purpose of making a tour of the laboratories and facilities.

Tour of Chalk River Laboratories. The Committee was conducted on a tour of the laboratories which included an inspection of the reactor and the new hospital.

Many favorable comments were expressed on the far-reaching investigations that are under way and of the profound accomplishments that were revealed.

In connection with the inspection of the reactor, the Committee was impressed with the apparent dispatch and efficiency with which the engineering problems involved in the repair of the reactor are being met. The tour was concluded at 3:30 P.M.

Meeting reconvened — Dr. Wearn, acting as Chairman, reconvened the conference at 3:40 P.M.

Permissible Doses of Radiation for Military & Civilian Defense Workers — The Chairman asked Mr. Butenhoff to open the afternoon discussions with a report on Permissible Doses for Radiation for Military and Civilian Defense Workers. He stated that the position of the AEC with respect to the instrumentation programs of Federal Civil Defense Administration and the U. S. Department of Defense is that of serving in a consultatory or advisory capacity without direct responsibility for these programs. He explained the differences in the programs of the two agencies and stated that attention in both the Department of Defense and Federal Civil Defense Administration has been focused on two general classes of instruments -- the dosimeter which registers the total accumulated exposure to ionizing radiation and the survey instrument which measures the intensity of the radiation or the rate at which the radiation dose is being received.

Mr. Butenhoff pointed out that both the military and civil defense have restricted their dosimeter requirements to instruments which measure only gamma radiation and x-rays. It is felt that although it may be desirable in some cases to measure beta and other radiations, a gamma dose measurement is all that is generally required.

The civil defense organization divides its dosimeter requirements into three categories, - (1) personal dosimeters, (2) organizational dosimeters and (3) training dosimeters. According to FCDA definitions, the personal dosimeters are those that might conceivably be worn by every man, woman and

child and could be purchased by anyone desiring such an instrument. Those dosimeters would correspond to what the Canadians and English call a "Flash Dosimeter". Their primary purpose would be to measure the exposure due to the initial burst of radiation from an atomic explosion. They would, therefore be high range instruments.

Organizational dosimeters would be worn by members of an organized civil defense unit and would be purchased by the government. These dosimeters would be used to measure residual radiation exposure and would have ranges sufficient to cover the established permissible emergency dosages.

The civil defense training dosimeters are high sensitivity dosimeters with 200 mr full scale and, as the name explains, they are used for civil defense training where unnecessary exposure to radiation is to be avoided.

The military dosimeter requirements roughly parallel those of civil defense, but nomenclature is different. The three general classes corresponding to the civil defense classes are (1) administrative, (2) tactical and (3) technical. The military administrative dosimeters might be worn by each soldier to measure large dosages. The tactical dosimeters would be worn by military personnel performing missions in contaminated areas. The technical dosimeters are used in military laboratories and for training. The attached chart (Attachment#1) will summarize the desired operational characteristics of these dosimeters. (Various types of dosimeters were shown and described).

Both the FCDA and the DOD are going toward smaller size, lighter weight instruments for use as survey meters. Many developmental contracts have been let to develop instruments which will read from about 0.02 up to 500 r/hr. (Many of these instruments were shown and described.)

The latest decontamination agents for human use — Dr. Taylor of the Chalk River Project opened the discussion and remarked that the "history of decontamination had been quite varied." Recommendations have been made for the use of soap and water, complexing agents and detergents mixed with bacteriacidal substances. It has also been recommended that soap and water should be omitted.

Dr. Bugher brought out that the Canadians had had unusually broad experience in studies on decontamination and that they had really enlarged the knowledge of the general approach and also the general accomplishments.

After a full discussion the conference agreed that the most practical treatment for human decontamination was soap and water and that diluted hydrochloric acid should be used on contaminated wounds. As an aid to this problem, it was suggested that the Handbook on Decontamination which has been published by the National Bureau of Standards should be referred to.

Electrolyte administration in the acute radiation syndrome — The conference considered the problems relating to the two subjects.

Specific treatment for radiation sickness — Dr. Bugher summarized two reports, i.e., "The treatment of the Acute Radiation Syndrome with Aureomycin and Whole Blood" --work now under investigation at the University of Rochester and "A study of combined thermal radiation burn and X-irradiation Effects on Mice" -- work being carried on at the Army Medical Research Laboratory at Fort Knox. He read into the record an excerpt from a letter from Dr. Joe W. Howland, Chief of the Medical Division of the AEC project at Rochester, N. Y.

". . . . .We do have a lot of information on electrolyte administration in the acute radiation syndrome. As far as the dog is concerned, there is no definite shift in the electrolyte balance at any time up to the end stages and there is no indication for the need for electrolyte. With the rat there may be, depending upon diet, a preliminary engorgement of the bowel with fluid containing excess amounts of sodium. This is followed by an acute water hunger and increase in fluid intake for the first three days. However, during this period of time there is no acute or sudden washing out of chloride. It is possible that administration of sodium chloride orally to rats during this period of time might serve to encounter the acute weight loss during this period. However, I would sincerely doubt whether salt administration would be beneficial as a long term gain. In the experiments which we have conducted there has been no improvement in mortality.

Again, as regards electrolytes, we have found that administration of excess amounts of electrolyte does cause water logging of the individual animal. Certainly this would not be beneficial to the radiated animal and we are not encouraging it as a definite therapeutic measure. I might add that the administration of a completely smooth diet will serve to reduce the total amount of gastro-intestinal hemorrhage by at least fifty per cent. We have studies going along this line and will have more to report in the near future".

A full discussion ensued. Mr. Longair inquired whether any specific treatment can be used effectively in radiation sickness. Also, whether there is any use in controlling the nausea and vomiting and whether the use of sedatives would be helpful and if there is anything that could be used to control diarrhea?

Dr. Warren replied that from the x-ray therapy standpoint nausea can be controlled by psychotherapy, and administration of glucose and Vitamin B. In connection with the studies on diarrhea, it was brought out that the animals died from radiation sickness without any noticeable diarrhea. Dr. Stern said that with a severe electrolyte loss, replacement therapy would be needed.

Studies are being continued on these problems and they will be discussed at a subsequent meeting.

Meeting adjourned — The conference adjourned at 5:15 P.M.

Saturday, May 9, 1953

9:00 A.M.

Effects of radiation sickness plus concomitant lesions

Dr. Bugher opened the morning session and led the discussion on the effects of radiation sickness plus concomitant lesions. He reviewed the information gained from the Japanese experiences from the bombs used at Hiroshima and Nagasaki with particular emphasis placed on the combination of radiation injury plus thermal injury.

Discussion was focused on whether a patient's prognostic position is made much worse from radiation injury if he has thermal injury also. Dr. Bugher stated that experimental work has been going on and it could all be summed up with wherever there is additional injury through other routes than radiation itself, including thermal injury, blast, infection and fatigue, allof these result in more severe radiation illness and higher mortality. In addition to the Japanese experience, evidence has been accumulated in studies in rats with thermal injury plus irradiation in which the combined injuries resulted in higher mortality.

Dr. Dauphinee spoke of Canadian investigators using pigs as the experimental animal. One group of pigs was subjected to flash burn, another to radiation at 400r and a third were subjected to both flash burn and radiation. The mortality of pigs with irradiation was only 10% and combined it was 90%. This was effectively reduced by treatment with aureomycin. It was brought out that in event of an explosion, the combined injuries will be much more severe than either injury by itself.

Dr. Warren pointed out that the burn does not seem to make the radiation damage worse but it is the irradiation reaction that makes the trauma worse.

Discussion was then centered on the use of antibiotics in combinations or the use of a single antibiotic for the treatment of patients with irradiation injuries. After a full discussion--it was the sense of the conference that more benefits would be derived from the use of a combination of antibiotics if they are available.

Unclassified data on fallout of radioactivity following U. S. atomic detonations

Dr. Bugher oriented the conference on the fallout of radioactivity following U. S. atomic detonations. He described the Nevada Proving Ground and stated that there had been about thirty detonations and that they represent an activity in weapons development. Various medical and biological experiments have been carried on in conjunction with the detonations. He described also the shelters and houses used in the experiments and the effects of the blast upon them.

Dr. Dunning reported in detail on the various phases of fallout. He stated that fallout radioactivity following test detonations is recorded by a monitoring system which extends half-way round the world. Its principal purpose is that of protecting test personnel and the public by determining the radioactivity deposited in various localities by fallout. The monitoring system also provides information regarding the relation of fallout to weather conditions, the type of burst and properties of the radioactive cloud. In addition, the collected data are used for the guidance of industries which

are sensitive to minute increases above normal background radiation. Monitoring also provides meteorologists with a new method of studying the movement of large masses of air at varying altitudes. Mobile teams of the national monitoring system operate out to 500 miles. Various instruments are used by monitors to take samples of radioactive dust and to measure its activity. Dr. Dunning explained the factors that are considered in arriving at a decision to detonate a nuclear device at Nevada - the most important of these is the forecasting of weather conditions. Country-wide fixed stations have been established by the U. S. Weather Bureau, including stations in Canada.

Health & Safety Aspects of Argonne Incidensts Involving Over-exposure of Personnel, excluding Reference to Design of Experimental or Reactor Assembly

Dr. Warren summarized the unclassified parts of a report from the Argonne National Laboratory entitled "Technical Review of ZPR-1 Accidental Transient - - The Power Excursion, Exposures & Clinical Data" (ANL -4971)

This incident involving exposures of four persons is of unique importance in determining human tolerances. The complete data from the studies will be published in the open medical literature as soon as possible.

Adjournment

At the conclusion of this discussion the joint conference adjourned.

Appreciation of the Committee

Dr. Wearn expressed the appreciationof the ACBM for the opportunity to visit the Atomic Energy Project of Canada. He said that the committee all felt that the conference had been not only informative but also greatly stimulating. Dr. Wearn thanked the Canadians also for their gracious hospitality.

The meeting adjourned at 12:30 P.M.

	ARMY	NAVY	FCDA	ENGLISH
Name:	Administrative	Administrative	Personal	Flash Dosemeter
	Indicate when 50, 100, 200 and 600r have been exceeded	10-600r	To 600r	25-800r
Accuracy	± 20% or, if step device, ± 20% of step values	± 20%	± 20% or ± 50r whichever is less	To show below 25r, 25-75r, 75-150r, 150-300r, 300-800r, 800/
Wave length dependency characteristic	Within accuracy specified, from 80Kev-5Mev	Within accuracy specified from 80 Kev-2Mev	No reduction in practical use as a result of wave length dependency	No marked dependency, 0.2-5.0 Mev
Type indication	Non-self reading	Non-self-reading	Not necessarily self-reading	Not necessarily self-reading

Name:	Tactical	Tactical	Organizational	Individual Dosemeter
Range	15-600r	Less than 100r, Between 100 and 300r, above 300r	0-20r and 0-100r	0-5r and 0-50r
Accuracy	± 20% from 5% of full scale	Does not apply	± 20% from 10% of full scale	15% from 40% of full scale
Wave length dependency characteristic	Within accuracy specified, from 80Kev-5Mev	No effect on indication, from 80Kev-2Mev	0.5-1.5 Mev is negligible, 75-500Kev low (factor of 2 max.)	Within above limit, from 0.2-2Mev
Indication	Self-reading	Self-reading	Self-reading, Reading operation not to destroy record or instrument	Self-reading

SATURDAY AFTERNOON, 1:30 P. M.

Meeting Convened — The Chairman convened the meeting with the members of the committee and the staff of the Division of Biology and Medicine in attendance.

Plans for Eniwetok Biological Station — Dr. Pearson reviewed the plans for the Eniwetok Biological Station. He stated:

"The Advisory Committee at its meeting of March 14, 1953 authorized Dr. Bugher to formulate a plan for a biological station at Eniwetok. Progress in this direction since the last meeting is as follows:

1. About 100 letters have been sent to biologists regarding plans for a biological station, advising as to probable facilities, and asking for an indication of investigators who would wish to carry out studies at Eniwetok during the next year and a half. About 30 replies have been received, all favorable to the establishment of the station.

Thirteen institutions have indicated serious interest in utilizing the station. Definite programs under responsible investigators have been proposed by the following institutions:

U. S. National Museum
Philadelphia Academy of Natural Sciences
Chicago Natural History Museum
University of Wisconsin
University of Southern California
California Polytechnic Institute
Stanford University
University of Washington
College of Medical Evangelists
Louisiana Polytechnic Institute
University of Kansas
Rutgers University
University of Hawaii

The proposed studies include marine ecology, plant communities of coral islands, fish including poisonous fishes, marine borers, and to show animal relationships by serological investigations.

2. The program would consist of three major divisions:

A. Ecological studies related to atomic tests. Dr. H. S. Ladd, of the U. S. Geological Survey, who has carried out extensive ecological and geological studies at Bikini and Eniwetok at our request has outlined studies and suggested competent investigators. Detailed plans await authorization of the laboratory building.

B. Surveys of accumulation of radioactive fission products by plants and animals by the University of Washington Applied Fisheries Laboratory. This continues our program of past years previously operating from Seattle. Costs will be borne by the University of Washington project and will not exceed previous allocations.

C. Marine biological programs to be carried out by university investigators. These will not be supported by AEC funds except as they relate to a biological test program. In such cases individual university contracts will be set up in the normal manner.

3. Laboratory

A. Laboratory construction. Construction of a small, one story, aluminum structure for use as a biological laboratory is planned. Authorization for construction at Eniwetok will be required in view of stringent regulations governing construction in FY 1953. Meanwhile, sketches of facilities suitable for approximately eight investigators are being prepared for later submission to the AEC Engineering Office at Eniwetok. Temporary laboratory quarters will be available during the period of construction.

B. Laboratory operation. The University of Hawaii Marine Laboratory by virtue of its geographical location and experience in marine biology, might perform a very useful supervisory function during the initial period of construction and outfitting and during normal operations. This group is willing to cooperate in this, and a suitable arrangement is now being worked out.

The Committee reiterated their previous views as to the merits of initiating the biological research at Eniwetok. They strongly recommended that a building be constructed to house the new laboratory for this work.

Upon a motion by Dr. Stakman, seconded by Dr. Doisy, and unanimously approved by the Committee, it was voted that moneys not to exceed $30,000 be set aside for the construction of a laboratory building and for the

biological research program at Eniwetok.

Minutes of Meeting held at the Argonne National Laboratory, March 8 & 9, 1953

The Chairman presented the draft minutes of the meeting held at the Argonne National Laboratory on March 8 & 9, 1953 for consideration. The minutes were unanimously approved.

Discussion on interchange of information with Canada

A discussion was held on whether it would be feasible to have an interchange of information with Canada on matters of interest relating to atomic defense information. The committee unanimously endorsed the suggestion that more frequent conferences should be held with the Canadians for the purpose of establishing better relations by collaborating on mutual problems as they relate to atomic energy.

Executive Session

The Committee considered nominees for membership of the Advisory Committee for Biology and Medicine to replace Dr. Wearn, whose appointment terminates on June 30, 1953.

The nominees are:

(1) Dr. Charles H. Burnett
Professor of Medicine
University of North Carolina
Chapel Hill, North Carolina

(2) Dr. Simeon T. Cantril
Director, Tumor Institute of Swedish Hospital
Seattle, Washington

(3) Dr. Paul Beeson
Professor of Medicine
Yale University
New Haven, Connecticut

After a full discussion it was the recommendation of the Committee that an appointment to the Committee should be proffered to Dr. Burnett with such appointment to become effective upon notice of his clearance.

The selection of a nominee to replace Dr. Alan Gregg, whose resignation as a member of the ACBM became effective May 1, 1953, will be considered at a subsequent meeting.

It was voted unanimously that a letter of appreciation and thanks should be forwarded to Dr. Gregg for his services as Chairman of the ACBM from September 1947 to May 1953 and that it should be made part of the minutes of this meeting. (Letter attached as Appendix A).

Film Badges, Chalk River — In connection with the film badges used on entering the classified area in Canada, individual photographs were taken of each person for the film badges. The badges were processed and returned to each individual within a few minutes. The suggestion was made that the AEC might profit by making a survey of this procedure, inasmuch as there is such a delay in getting an individual picture badge at the Washington Office of the AEC.

Next Meeting — The thirty-eighth meeting of the ACBM is scheduled to be held at the Cancer Research Institute, Boston, Massachusetts, on June 26, 27 and 28, 1953.

Adjournment — The meeting adjourned at 3:00 P.M.

APPENDIX "A"

[redacted]

June 5, 1953

Dr. Alan Gregg
c/o General Delivery
Stanford, P. O., California

Dear Dr. Gregg:

It is with full hearts that we are writing to you upon your retirement as Chairman of the Advisory Committee for Biology and Medicine.

We wish to express our regrets on your leaving, and at the same time extend our appreciation and affectionate good will for the splendid service you have rendered as our Chairman. Over the years we have been grateful for your manner of conducting the Committee's business and for your leadership and diplomatic skill. Your rare gift of humorous expression and the wisdom acquired through your wide experience brought to every decision a sense of fairness and balance. We will all miss your personal presence and unfailing support.

We hope that you will enjoy your new home in California and that an increase in the flexibility of your schedule will permit the writing and other activities which you have for so long felt to be imperative. We all join in wishing you continued good health and the opportunity to do the things most interesting to you.

On behalf of the Advisory Committee for Biology and Medicine as a whole, I am,

Sincerely yours,

Joseph T. Wearn, M.D.
Acting Chairman

[redacted]