

This document consists of 7 No. 1 of 1 Copies, Series HR 2A *ju*

WASH-30

407716

This document consists of 7 pages
Copy No. 53 of 53 Series A

[REDACTED]

This document contains restricted data
Atomic Energy Act of 1946.
Its transmittal or disclosure of its con-
tents in any manner to an unauthor-
ized person is prohibited.

UNIQUE DOCUMENT # SAA 2000 50930000

MONTHLY STATUS AND PROGRESS REPORTS

CLASSIFICATION CANCELLED
~~BY [REDACTED]~~ WITH DELETIONS
BY A.A. SINISGALLI
BY MEMO DATE 1-4-95

FOR

JANUARY 1951 (a)

OPENNET ENTRY	
<input type="checkbox"/> Authorized for Public Release	
By _____	Date _____
Entered In OpenNet	
By _____	Date _____
<input type="checkbox"/> Not Authorized for Public Release	
By _____	Date _____

DEPARTMENT OF ENERGY DECLASSIFICATION REVIEW	
SINGLE REVIEW AUTHORIZED BY: <u>Sinisgalli 11/2/94</u>	DETERMINATION (CIRCLE NUMBER(S))
REVIEWER (ADBY): <u>HR Schmidt</u>	1. CLASSIFICATION RETAINED
NAME: <u>HR Schmidt</u>	2. CLASSIFICATION CHANGED TO:
DATE: <u>12/2/94</u>	3. CONTAINS NO DOE CLASSIFIED INFO
	4. COORDINATE WITH:
	5. CLASSIFICATION CANCELLED
	6. CLASSIFIED INFO BRACKETED
	7. OTHER (SPECIFY): <u>Cover and pp</u>

28-33 only

US DOE ARCHIVES	U. S. ATOMIC ENERGY COMMISSION
326 U.S. ATOMIC ENERGY COMMISSION	
Section: <u>1342</u>	
Number: <u>6</u>	

Issued February 26, 1951

[REDACTED]

94HDT 1775

EXTRANEOUS MATERIAL DELETED

EXTRANEOUS MATERIAL DELETED

[REDACTED]

V - BIOLOGY AND MEDICINE

Advisory Committee for Biology and Medicine (CONFIDENTIAL)

The Advisory Committee for Biology and Medicine held their twenty-fifth meeting at Hanford on January 12 and 13, 1951.

Dr. Ernest Goodpasture, a member of the Committee, and Dr. Willard Machle, of the NRC, reported on their trip to Japan and the study now in progress by the Atomic Bomb Casualty Commission of the effect upon the population of Hiroshima and Nagasaki of radiation emanating from the explosions of atomic bombs in 1945. As a result of the investigations made by Dr. Goodpasture and Dr. Machle, the unsettled international situation, and the difficulty in obtaining qualified personnel, it was the sense of the Committee that the scope of the work in Japan during the fiscal year 1952 should be reduced. ([REDACTED] section)

Biology Branch (UNCLASSIFIED)

Effect of radiation on work capacity. Experiments are proposed on the effects of radiation on work capacity. While some information is available on the rat, the current discussions have been concerned with the studies on the dog. The groups participating in the planning include representatives of the NEPA Committee, the Navy, and the University of California. The project is being set up to give information on both work capacity and longevity. The minimum level of exposure will be 100 roentgens and the maximum 300 roentgens. The exposures will be both single and intermittent doses varying both in the number of roentgens per exposure period and the period between exposures. The capacity to perform physical work will be measured at varying times following exposures.

Applied Fisheries Laboratory - University of Washington. Dr. Curt Stern, a member of the ACBM, and Dr. M. R. Zelle of the Biology Branch, spent January 15 and 16 visiting the Applied Fisheries Laboratory at the University of Washington in Seattle. While the whole research program of the Laboratory was reviewed, particular emphasis was placed upon the genetics program. The quantitative aspects of the program were considered and the preliminary cytological studies evaluated. It was felt that the rainbow trout program has succeeded in its initial objective of demonstrating genetic changes in trout following radiation exposure. However, the quantitative relation between radiation dosage and genetic changes will be difficult to determine. Dr. Stern and Dr. Zelle are preparing recommendations for future work in this field.

Medical Branch

University of Rochester research. Pilot studies on the therapy of acute radiation injury are in progress at the University of Rochester Atomic Energy Project. A large-scale definitive therapeutic program will be under way by April 1 with joint support by the AEC and the Armed Forces

U N C L A S S I F I E D

Special Weapons Project. It is expected that within 12 to 18 months the program will yield data upon which reliable recommendations for the treatment of human radiation casualties may be based.

Biophysics Branch

Participation in the Nevada tests. The health physics preparations for the nuclear tests in Nevada were reviewed and approved.

Arrangements were made with the Hanford, Argonne, Brookhaven, and Oak Ridge Laboratories to set up air monitoring stations in 15 different locations, covering the entire United States. These studies were made in addition to the Los Alamos studies which were confined to a 500-mile radius from the site, and to Air Force studies made from planes. A summary of the results will appear after the tests.

Two members of the Biophysics Branch attended the Nevada tests, for the purpose of observing the operations and to study the results of the monitoring operations. These studies have given first-hand information on the behavior of radioactive products from the explosions, and contribute to our ability to estimate health hazards from such bursts.

Arrangements were made through the Branch for the participation in the monitoring activities of a representative from each of the 18 AEC emergency monitoring teams. It is the expectation that the knowledge and experience gained by these representatives will be communicated to the other members of the teams.

Levels of radioactivity in water and food that can be permitted under emergency conditions following an A-bomb blast or other nuclear explosion were formulated to furnish guidance under such conditions. If the water is to be consumed for 10 days, it was calculated that it could contain as much as 0.09 microcuries of beta-gamma radioactivity per cubic centimeter of water, or 0.005 microcuries of alpha activity per cubic centimeter. Should conditions require that the contaminated water be consumed for 30 days following the explosion, the permissible concentrations would be 0.03 microcuries of beta-gamma activity or 0.0017 microcuries of alpha activity per cubic centimeter of water.

It is emphasized that these are not peacetime permissible limits of radioactivity for either long-term or short-term consumption. Responsible officials can utilize these values during periods of emergency, however, with the conviction that water with a radioactive content less than these limits can be used with no real hazard. The values can be considered as applying to food as well as water. Emergency radiation monitoring teams will find it possible to measure these concentrations of radioactivity with their standard equipment.

These emergency values have been accepted by the Federal Civil Defense Administration for issuance by it.

~~SECRET~~

Health physics conference. The Biophysics Branch sponsored through Argonne National Laboratory a health physics conference on January 16, 17, and 18. This was the first time that a meeting has been held solely for the purpose of discussing the health physics (radiation protection) problems encountered within the AEC installations. The meeting had a two-fold purpose, namely, to encourage an exchange of ideas and thoughts on mutual problems and to provide the latest information on the various research and development programs. There were approximately 175 persons in attendance at the meeting representing all of the AEC operations offices and the majority of their contractors. (End of UNCLASSIFIED section.)

~~(SECRET)~~

A representative of the Branch, in cooperation with the Division of Research, attended a meeting at Argonne National Laboratory on Friday, January 19,

~~DELETED~~

It was agreed that the proposed experiment had some merit and should be undertaken provided the Hanford representatives satisfied themselves that there would be no health hazard to people or environment from the operation. ~~SECRET~~

Civil Defense Liaison Branch (UNCLASSIFIED)

Emergency permissible levels of radiation. Emergency permissible levels of radioactivity in food and water, prepared for use by AEC emergency radiation monitoring teams in event of atomic disaster, were dispatched to Managers of Operations on January 3 for distribution to the 18 teams. These levels were previously furnished to NSRB and FCDA for use in the national civil defense program.

On January 24 further information relating to permissible levels of radiation was given FCDA. This consisted of the standards for chronic exposure to external radiation and to internal emitters (the Harwell values agreed upon by Great Britain, Canada, and the United States) and permissible emergency exposures for AEC monitoring team personnel, established as follows:

1. 10 r - for those individuals expected to receive exposures in the course of their regular duties as AEC personnel.
2. 25 r - for those individuals not expected to receive exposure in the normal course of their duties.

Loan of radiation detection instruments and sources for civil defense training purposes. On January 5 a joint memorandum of the Directors of Research and Biology and Medicine to the Director, Isotopes Division, OROO, outlined the agreed-upon administrative and financial arrangements to govern the loan of radioactive isotopes for civil defense

[REDACTED]

training. Costs of this program will be met from funds available to the Division of Biology and Medicine.

During the month loans of instruments and/or sources were arranged through the operations offices and the Isotopes Division, OROO, with approval of the FCDA, for civil defense training courses to be given by Ohio State University, University of Nebraska, Iowa State University, the cities of Milwaukee, Wisconsin, and Berkeley, California, and the State of Connecticut.

Slides from "The Effects of Atomic Weapons." In response to requests for training material from graduates of the radiological monitoring courses held last year, Brookhaven National Laboratory has arranged for the production of a set of 72 slides of selected figures, charts, and photographs from "The Effects of Atomic Weapons." Information concerning procurement of slides has been furnished interested AEC organizations, the NSRB, and the FCDA.

Radiation Instruments Branch

The AEC-sponsored programs for the development of instrumentation techniques for possible civil defense use were summarized in a letter sent to the FCDA on January 9. The purpose of the letter was: (1) to inform the FCDA of the status of these programs, (2) to determine if they were interested in having the AEC instrumentation groups further concern themselves with civil defense instrument development, and (3) to request their advice relative to taking certain AEC developed prototypes through a commercial engineering phase.

A draft of a report summarizing Department of Defense-sponsored projects in radiation detection instrumentation has been completed and is being presently reviewed by the responsible military agencies prior to reproduction for AEC internal distribution.

A paper on "The Role of Instrumentation in Civil Defense" was presented at the winter general meeting of the American Institute of Electrical Engineers held in New York City on January 22-26, 1951. (End of UNCLASSIFIED section.)

[REDACTED] As was noted in the November report, the Radiation Instruments Branch has been directed by the General Manager to investigate various radiation detection instruments.

~~DELETED~~

A meeting was held jointly with members of the Division of Military Application and the Research Division on January 31, 1951, to discuss with a Dr. Elwood S. Gilfillan, Jr., of the Old Dominion Research and Development Corporation of Arlington, Virginia, his ideas on how this problem could be dealt with. As a result of this meeting, he was invited to submit a proposal covering a feasibility study.

[REDACTED]

DOE

UNCLASSIFIED

Research Projects Approved During January, 1951

The following 16 projects totaling \$293,013 were approved for negotiation or renewal during January, 1951.

Biology

University of Idaho - \$12,528 (1 yr.) - Drs. T. S. Buchanan, W. K. Ferrell, and E. E. Hubert - "A study of absorption and translocation of mineral elements in diseased and healthy western white pine by the use of radioactive materials"

Johns Hopkins University - \$4,496 - Drs. Robert Ballentine and Wm. D. McElroy - "The interrelationship of cobalt-proteins and vitamin B-12" (Supplement to present contract to make total of \$10,764 for 6-15-50 to 6-15-51)

Johns Hopkins University - \$16,173 (1-yr. renewal) - Drs. Wm. D. McElroy and Carl P. Swanson - "Modification through the use of supplementary environmental factors of the frequency of gene and chromosome changes induced by X rays, ultraviolet light and mustard nitrogen"

Louisiana State University and A & M College - \$2,590 (1 yr.) - Drs. John F. Christman and Virginia Williams - "The effect of biotin on acetate"

Michigan State College - \$6,308 (1 yr.) - Drs. R. U. Byerrum and C. D. Ball - "Transmethylation in plants"

Utah State Agricultural College - \$4,615 (1-yr. renewal) - Dr. Clyde Biddulph - "The use of radioisotopes in the study of reproduction"

State College of Washington - \$7,992 (1 yr.) - Drs. C. O. Stanberry and F. J. Viets - "The zinc nutrition of plants in calcareous soils"

State College of Washington - \$3,524 (1 yr.) - Dr. H. Bayard Milne - "The effect of X rays upon the optical specificity of papain"

Biophysics

Idaho State College - \$14,198 (1 yr.) - Drs. Carl W. McIntosh and A. E. Taylor - "Determination of quantities of certain radioactive material in ground water and soil of areas in and adjacent to the Reactor Testing Station"

Medicine

University of Georgia - \$7,587 (1-yr. renewal) - Dr. S. A. Singal - "Effect of nutritional deficiencies on the synthesis of nucleoprotein and phospholipid"

DOE ARCHIVES

U N C L A S S I F I E D

Georgetown University - \$8,000 (1-yr. renewal) - Dr. Charles F. Geschickter - "Study of the distribution of bivalent metallic ions as influenced by chelating compounds"

Harvard University - \$83,653 (1-yr. renewal) - Part I - Drs. A. K. Solomon and S. J. Gray - "Isotope technique research; use of isotopes on medical problems"; Part II - \$14,177 (1-yr. renewal) - Dr. A. Baird Hastings - "Use of isotopes to study the metabolism of organic substances in mammalian tissues"; Part IV - \$23,563 (1-yr. renewal) - Dr. C. Aub - "Study of metabolic activities of living organisms by means of suitable isotopes"

Harvard University, Medical School, Howe School of Ophthalmology - \$16,481 (1 yr.) - Dr. David G. Cogan - "Stereophotography of anterior segment of eye with special reference to crystalline lens"

Harvard University Medical School - Massachusetts General Hospital - \$30,150 (1 yr.) - Dr. William H. Sweet - "The use of thermal and epithermal neutrons in the treatment of neoplasms"

University of Minnesota - \$23,792 (1-yr. renewal) plus \$3,186 for last period of present contract - Dr. Samuel Schwartz - "Synthesis of hemoglobin in bone marrow and multiplication of blood cells. Studies in chemical hematology"

Northwestern University - \$10,000 (1-yr. renewal) - Drs. John A. D. Cooper and Howard L. Alt - "The diagnostic and therapeutic use of radioisotopes in experimental medicine; radiobiology training program"

UNCLASSIFIED

EXTRANEOUS MATERIAL DELETED

EXTRANEOUS MATERIAL DELETED