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MONTHLY STATUS REPORT
DIVISION OF BIOLOGY AND MEDICINE
Month of June 1951

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Research Projects Approved During June 1951

The following research projects were approved for negotiation or renewal during the month:

	No. of Projects	Amount
Biology	21	$ 235,761.77
Biophysics	5	375,000.00
Medicine	16	690,504.00
Total	42	$1,301,265.77

Summary of Direct Research Contract Program, F. Y. 1951

During the fiscal year just ended, a total of 303 proposals for the conduct of research in the life sciences were received in the Division.

Listed below is a breakdown by activity of the proposals approved during the fiscal year:

Branch		Number		Amount	
Medicine		50	new projects	$ 898,182	
		67	renewals	1,597,525	
Biology		54	new projects	594,415	
		72	renewals	852,602	
Biophysics		4	new projects	61,584	
		10	renewals	567,072	
	Totals	257		$4,571,380	
SUMMARY		108	New Projects		$1,554,181
		149	Renewals		3,017,199
	Totals	257			$4,571,380
		36	projects declined		
		10	projects pending consideration		
	Total	303			

DEPARTMENT OF ENERGY DECLASSIFICATION REVIEW
SINGLE REVIEW AUTHORIZED BY: AA Sandstrom 11/2/94
DETERMINATION (CIRCLE NUMBER(S))
1. CLASSIFICATION RETAINED
2. CLASSIFICATION CHANGED TO:
3. CONTAINS NO DOE CLASSIFIED INFO
4. COORDINATE WITH:
5. CLASSIFICATION CANCELLED
6. CLASSIFIED INFO BRACKETED
7. OTHER (SPECIFY):
REVIEWER (ADD): NAME: ML Kostmayer DATE: 11/7/94

GPO 16—65741-

OFFICE ▶
SURNAME ▶ [redacted]
DATE ▶ 11/22/3363/20/94

DOE ARCHIVES

Biology Branch ([redacted])

Radiation Field Completed - The field at Brookhaven National Laboratory is designed to study the effects of gamma radiation from Co-60 on plant growth and the rate of mutations. The plant species being studied are chiefly those of economic importance such as corn, potatoes, tomatoes, cotton, beets, etc.

Tritium Toxicity [redacted] - Increased emphasis is being placed on tritium toxicity. In the Biology Division at Hanford Works, it was found that the initial biological half-life in mice for tritium oxide in body water was about 1.1 days, for tissue-bound tritium about 3 days. Thirty-two days after the final injection, 90 percent of the tritium in the animal was in the bound state with a half-life of approximately 30 days. [redacted]

Genetics - At a Cold Spring Harbor Symposium held on June 1 - 15, 1951, for which the subject was "Genes and Mutations," Mrs. Alexander Hollaender, William Baker, and E. H. Anderson of the Biology Division at Oak Ridge presented their data on the effects of oxygen tension on X-ray induced killing of bacteria, induced mutations in Drosophila and bacteria, and induced chromosomal aberrations in Drosophila. In addition, they presented their very recent data upon the protective effect of certain chemicals which were discovered in the large-scale screening experiments utilizing bacteria now under way in the Biology Division at Oak Ridge. Dr. Russell, also of the Biology Division, presented an up-to-date summary of his X-ray induced mutation study in mice. Dr. Russell's data are the only reliable quantitative data on the rate of induced mutations in a mammalian species and are extremely important in relation to the question of estimating the human genetic risks associated with atomic energy. Dr. Norman Giles, now of Yale University, reported his work on induced reverse mutations in Neurospora which was done during his three years' sojourn in the Biology Division at Oak Ridge.

Phosphorus Metabolism - A symposium on phosphorus metabolism was held at the McCollum-Pratt Institute at Johns Hopkins University in Baltimore on June 18, 19 and 21. Nine of the speakers are working on projects supported at their respective institutions by the Division of Biology and Medicine or in the National Laboratories. Much of the work reported centered around the metabolism of carbohydrates and the nucleic acids.

Medical Branch

Committee on Fellowships in Industrial Medicine - Dr. A. G. Hammer, Head of the Department of Occupational Health, Graduate School of Public Health, University of Pittsburgh, has been appointed Chairman of the Committee on AEC Fellowships in Industrial Medicine for the next year.

Dr. James H. Sterner, Medical Director, Eastman Kodak Company, and Consultant to this Division, resigned as chairman but will continue to serve as a member of the Committee, along with Dr. Robert A. Kehoe, Director, Kettering Laboratory of Applied Physiology, University of Cincinnati; Dr. Philip Drinker, Professor of Industrial Hygiene, School of Public Health, Harvard University; Dr. Henry A. Blair, Director, Atomic Energy Project, University of Rochester; and Dr. Shields Warren (Ex Officio Member).

Atomic Bomb Casualty Commission - At a Commission meeting held on June 25, 1951, the operation's budget for F. Y. 1952 for the ABCC was approved in the amount of $1,300,000 (AEC 319/8). A three-year contract will be negotiated by the NYOO with the National Academy of Sciences for the operation of the ABCC, to be financed by annual supplements of one-year duration.

Biophysics Branch [redacted]

A meeting on June 28 and 29 at Los Alamos reviewed the radiation safety criteria for the coming fall test. Tentative agreement has been reached on radiological monitoring following the test. The Los Alamos group will be responsible for covering an area within a 50 mile radius of the test site with the Division of Biology and Medicine responsible for the long-range monitoring of the fall-out.

At the request of the Commission and the General Manager, the Biophysics Branch has been reviewing the problem of radioactive contamination from fall-out in the light of Greenhouse and Ranger data. It is anticipated that this review will be completed prior to the fall tests.

Radium Symposium - A symposium sponsored by the NYOO on Radium and Radon toxicology was held in New York on June 13 and 14, 1951, to exchange information and discuss ideas regarding the measurement of radium and radon in the human body. It was decided that no changes in maximum permissible levels of exposure would be made at this time.

Civil Defense Liaison Branch

Proposed United Kingdom Conference - By invitation from the Government of the United Kingdom, conveyed by the Secretary of State, the AEC has been asked to consider jointly with other interested Federal agencies and with those similarly concerned in the United Kingdom, the administrative and scientific problems related to food aspects of civilian defense. It is proposed that the conference be held in London in late October or early November of this year.

The Commission reply stated that within the limits of AEC qualification and within the limits of unclassified information, the Commission will be glad to participate in the conference. Dr. Warren was designated as AEC representative for the proposed conference.

Collaboration with FCDA ([redacted]) - During the month, several meetings were held by representatives of the Division with FCDA personnel. The Civil Defense Liaison Branch is undertaking to accumulate and transmit to FCDA all information from research activities of the Commission which bear on civil defense problems. Also made available recently to FCDA are the National Bureau of Standards' reports and papers of research on shielding against ionizing radiation and the first volume of the "Report of the Joint Commission for the Investigation of the Effects of the Atomic Bomb in Japan."

On June 29, a further meeting was held with FCDA personnel to discuss specific AEC assistance to FCDA in its test program. It was decided that FCDA would resubmit for formal Commission action a revised proposal for testing backyard-type shelters. ([redacted])

Cooperation with Disaster Planning Coordinator - Budget estimates received from the field installations in connection with the AEC shelter program have been reviewed. Also reviewed were a draft of a statement dated June 26, 1951, entitled "Selection of Shelter Design" and plans illustrating four basic types of shelters presently under consideration. These shelters have been accepted by the Civil Defense Liaison Branch on a tentative basis for purposes of estimate. In order to assure the maximum return on the shelter investment, it would be advisable to consider the following factors:

1. Capacity
2. Siting
3. Salvage Value
4. Attack Considerations

Loan of Instruments and Radioactive Isotopes - During the month, arrangements were made for loan of radiation detection instruments for civil defense training purposes to the Utah State Civil Defense Agency, and for loan of radiation sources for the same purpose to the Texas State Department of Health and the District of Columbia and Maine Civil Defense agencies.

Radiation Instruments Branch

A meeting was held on June 15, 1951, between representatives of Radio Corporation of America, Carbide and Carbon Chemicals, Division of Union Carbide, and the AEC to discuss the continuation of the research contract with RCA for the development of special tubes. Progress is being made in the development of a large photocathode surface photomultiplier tube and special tubes for use in pulse height analyzers.

Field Coordination - The instrumentation facilities at the Oak Ridge National Laboratory and K-25 were reviewed. K-25 is presently modifying their "Sampson" instrument to provide for a remote beta-gamma probe. This instrument will have beta-gamma sensitivities approaching those of the ordinary beta-gamma

Geiger counter survey meters and the "Cutie Pie" type survey meters. In addition, the "Sampson" operates as a non-discriminating alpha air ionization chamber. A second K-25 instrument of particular interest is a water monitor for soft betas and gammas. It is capable of detecting radioactive concentrations as low as 10^{-9} microcuries per cc.

Civil Defense Instruments - A civil defense type survey meter made by Tracerlab, Inc., was inspected. This instrument appears to meet most of the FCDA specifications and Tracerlab plans to have it in production within a few months.

A representative of Consolidated Engineering Corporation visited the Branch to discuss the need for quality independency in their "Genatek" instrument. With some modifications in its present design, the instrument may be quite useful in AEC laboratories and plants as an inexpensive substitute for the more expensive quartz fiber dosimeters.

Instrument Appraisal Program - During the month of June, ninety-one radiation detection instruments valued at $6,710.00 were received in stock and thirty-six instruments valued at $3,065.00 were shipped to AEC areas for inspection and evaluation. During the Fiscal Year ending June 30, 1951, a total of 1807 instruments valued at $155,259 were received and 1648 instruments valued at $142,387 were shipped to operations offices.

Personnel

New Appointments:

Mr. Robert L. Corsbie, Chief, Civil Defense Liaison Branch - Architect
Dr. Forrest Western, Biophysics Branch - Health Physicist
Dr. Gordon Dunning, Biophysics Branch - Physicist
Dr. Harold Plough, Biology Branch - Geneticist

Dr. Gioacchino Failla has been appointed a member of the Advisory Committee for Biology and Medicine to replace Dr. Detlev W. Bronk whose appointment terminated on June 30, 1951. Dr. Bronk will continue to serve as a consultant to the Division of Biology and Medicine