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MONTHLY STATUS AND PROGRESS REPORT

FOR NOVEMBER 1949

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A Report Submitted

by the

New York Operations Office

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December 9, 1949

W. E. Kelley, Manager

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MONTHLY STATUS AND PROGRESS REPORT

FOR NOVEMBER, 1949

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VIII. HEALTH AND SAFETY DIVISION

Washington Designated Research Contracts

With the negotiation of a research contract with John Hopkins University a year ago, the NYOO Health and Safety Division (then the Medical Division) initiated the handling of research proposals on request of the Washington Division of Biology and Medicine. Most of these proposals were for basic or fundamental research, but a few were for programmatic or applied research. The table on the following two pages lists the contracts which have been negotiated during the first year, with very condensed descriptions of the work proposed. They are arranged by the effective date of the contract, which ranges from November 15, 1948 to January 1, 1950.

In addition to the contracts listed in this table, a contract was negotiated with Cornell University (Hamanoff) to study effects of radiation on the development of the embryo. This contract was signed by the University but later cancelled at the request of the principal investigator.

The only request for contract on hand and not negotiated is with the Georgetown University (Geschickter). We are awaiting further information from the proposed contractor.

At the request of the Washington Office, the following amounts were or will be added to the University of Rochester Contract No. W-7401-Eng-49 for the indicated purposes: $15,305 (Bale) - Radiation Sickness; $87,250 (Pearse) - Flash Burns; $20,000 (Hodge) - Zirconium Toxicity; $9,000 for Dr. Bele's service to the Washington Office as Consultant on waste disposal; and $35,000 (Howland) - Acute radiation therapy studies.

Experience thus far has been that most contractors regard favorably AEC arrangements for supporting research. A good many are enthusiastic, especially since they have contracts with other agencies that use more conventional types of contract. Most contractors, including hospitals, are willing to cooperate toward the joint support of fundamental projects. There are of course some exceptions, and it is believed that the announcement of a definite policy by the Commission will be of assistance in future negotiations.

Civilian Defense Type of Instrumentation

In response to a request from the Washington Office, the NYOO Health and Safety Division has been working on the design of a simple, calibratable, fool-proof civilian type of instrument for use in connection with disaster planning. A bread-board model of a Geiger counter instrument was set up. This device utilizes no special component except the Geiger counter tube, which must be adequately desensitized to operate in a 1 roentgen per hour field. The power supply utilizes $2\frac{1}{2}$-volt flash light cells with an operating life time of at least 60 to 100 hours per set of cells. Because of the simplicity of the circuit and the lack of vacuum tube type of electronics, it appears that this counter might also be suited to educational applications. It is not the intention of NYOO to develop this instrument as a regular project in the Health Instruments Laboratory. It is hoped, however, that other groups may be interested in working on such an instrument.

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The problem of civilian defense instruments was discussed with representatives of Brookhaven National Laboratory on November 29. Agreement was reached on the characteristics of an ideal instrument. Some of the major points were:

1. The instrument should be developed for use by such persons as air raid wardens.

2. Its cost should not exceed $25. per instrument.

3. If battery power is required, flash light batteries or their equivalent should be employed.

4. It should weigh not more than 15 pounds, and preferably 5 or 10.

5. The instrument should read gamma rays at the level of 1 Mev.

6. Presumably the instrument would be used for establishing isodose lines for 1 r/hr and .1 r/hr.

7. The instrument should have a shelf life of 2-3 year except for batteries, should operate 2-3 days continuously, should be provided with failure indication, and must be otherwise very rugged.

8. Accuracy should be 20%, but 50% would be acceptable.

At this meeting it was pointed out that Brookhaven might cooperate with NYOO on some phase of the program, either by working on the Geiger counter instrument or by investigating a scintillation counter instrument. The latter type appeared interesting since the power supply proposed seemingly would be suitable for photomultiplier use. It was agreed that BNL would look into such a scintillation counter.

After the conference with BNL, the possibility of securing suitable Geiger counter tubes and suitable voltage regulator tubes was discussed with the Amperex Electronics Corp., Brooklyn, N.Y., the Electronic Products Corp., Mt. Vernon, N.Y., and Allen B. DuMont Laboratories, Passaic, N.J. The attention of the Allen B. DuMont Laboratories was called to the possibility of developing an indicator utilizing cathode ray tube "magic eye" principles.

RESEARCH CONTRACTS NEGOTIATED BY NYOO HEALTH AND SAFETY DIVISION

Contract No.	Institution	Investigator	Subject	AEC Support	Contractor Support
498	Johns Hopkins University	Wolman	Sanitary Engineering Research	22,524*	2,800**
505	Columbia University	Werner	Thyroid Physiology	5,200	**
529	Mt. Sinai Hospital	Feitelberg	Tissue Dose Measurements	5,500	**
557	Long Island Biological Association	Demerec	Dynamics of Laboratory Populations under Irradiation	43,000	**
591	Marine Biological Laboratory	Packard	Fellowship Training	6,000	--
609	Harvard University	Hastings	Basic Medical and Biological Research	271,124***	--
621	Massachusetts Institute of Technology	Eliassen	Sanitary Engineering Research	50,000	Programatic
580	Connecticut Agricultural Experiment Station	Horsfall	Therapy of Plant Disease by Nuclear Radiation	8,000	8,000
663	University of Pennsylvania	Wilson	Isotopic Carbon Compounds Used in Biochemistry	10,700	4,480
667	Mass. General Hospital	Means	Biology of the Thyroid	22,680	8,620
675	Harvard University	Ham	Mechanism of Destruction of Red Blood Cells	10,828	5,122

* This, the first contract, has been renewed, and the figures are given for two years.

** These four contracts were the first Washington Office designated contracts to be negotiated. At first budgets were not arranged in double columns as they now are. Contributions by the contractor were generally obtained in the form of a lower overhead rate and support of the principal investigator. These factors are now explicitly inserted along with other contractor support in a second column.

*** This is a two year contract and the figure given is for two years.

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RESEARCH CONTRACTS NEGOTIATED BY NYOO HEALTH AND SAFETY DIVISION (CONTINUED)

Contract No.	Institution	Investigator	Subject	AEC Support	Contractor Support
698	Harvard University	Sognnaes	Metabolism of Teeth	11,708	532
699	Harvard University	Gates	Effect of Irradiation on Embryo Rats	10,363	1,719
730	Mass. General Hospital	Sweet	Metabolism of Brain Tumors	11,880	12,170
733	Peter Bent Brigham Hospital	Moore	Trauma, Depletion and Repair	18,282	8,934
757	Harvard University	Kinsey	Affects of Neutron on the Ocular Lens	19,122	Programatic
780	N. Y. Medical College	Copley	Radiation Hemorrage	13,528	6,380
746	Mt. Sinai Hospital	Sobotka	Etiology of Drug Eruptions	6,530	4,019
777	Institute for Cancer Research	Medes	Origin and Fate of Irradiation	12,000	38,493
787	Memorial Hospital	Rawson	Toxic Effects of Irradiation	40,000	41,472
788	Boyce Thompson Institute for Plant Research	McNew	Mechanics of Protecting Plants from Fungus Diseases	13,500	15,800
793	Harvard University	Cogan	Production of Cataracts by Neutrons	15,592	Programatic
799	Memorial Hospital	Woodard	The Effects of Irradiation on Bone	2,700	4,725
806	Mt. Sinai Hospital	Feitelberg	Effects on Sewage Contamination of Radioactive Waste Disposal	11,146	Programatic

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IX. PUBLIC INFORMATION

NYOO provided three schools with atomic energy exhibits. A plastic "mousetrap" atomic reactor, a Geiger counter with amplifier, a uranium ore source, and the Westinghouse School Service Charts were loaned to Summerville High School, N.J., Public School No. 96, Bronx, N.Y., and Columbia Grammar School, NYC. In addition, a lecturer from the AEC New Brunswick Laboratory took part in the Summerville program, and a speaker from NYOO appeared at the Columbia Grammar School.

Twenty showings of films on atomic energy were arranged, and seven showings of the new March of Time film on atomic energy were held for NYOO personnel.

Plans are being worked out with the Mayor of Newark, New Jersey, for an Atomic Energy Week during 1950. The Mayor will call a meeting early in December of civic leaders and educators in Newark and its environs to carry out such a program. NYOO will represent the Commission at this meeting.

A meeting was held with Mr. Richard Robin of the General Electric Company Nucleonics Department and Prof. Sidney Roth relative to the holding of a New York University Seminar on Atomic Energy next January in the GE auditorium in New York City. General Electric Company has agreed to the proposal.

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