

File

Office Memorandum • UNITED STATES GOVERNMENT

Folder 14
 Box 3363
 Collected
 TO: DIRECTOR, ATOMIC ENERGY COMMISSION
 FROM: 3220
 SUBJECT: MONTHLY PROGRESS REPORT FOR THE RADIATION INSTRUMENTS BRANCH, NOVEMBER 1950
 SYMBOL: BAR:RLB

Howard C. Brown, Jr., Executive Officer,
 Division of Biology and Medicine

DATE: December 12, 1950

Robert L. Eutenhoff, Chief, Radiation Instruments
 Branch, Division of Biology and Medicine

Eutenhoff

MONTHLY PROGRESS REPORT FOR THE RADIATION INSTRUMENTS BRANCH,
 NOVEMBER 1950

BAR:RLB

720922

ARCHIVES

The Radiation Instruments Branch was directed by the General Manager's Office to investigate various radiation detection instruments for the purpose of detecting atomic weapons which might be smuggled into the U. S. aboard a ship. It is felt that the most promising instrument is one developed at Oak Ridge National Laboratory which is in the order of 2,000 times more sensitive than a Geiger counter. Experiments are being run with this instrument and it may later be tested under actual conditions at Los Alamos.

General specifications for Civil Defense Radiological Monitoring Instruments were prepared by a five man subcommittee of the Federal Civil Defense Administration's interdepartmental Radiological Safety Advisory Committee. The chief of this branch was a member of this subcommittee. These specifications were sent to approximately 150 interested companies for their use in the development of civil defense instruments. Prototype models of instruments developed will be tested by the Bureau of Standards to determine their conformance to these specifications. A listing of instruments suitable for training state civil defense units was also prepared and disseminated to the state and local civil defense offices. A consolidation of requirements for training instruments will be undertaken by the National Institute of Health. However, state funds will be used for procurement.

A study is being made to determine the feasibility of declassifying Ra-Det and making it available for public sale. Ra-Det is a monthly publication containing information on instrumentation which is distributed only within governmental organizations.

I. Procurement and Industrial Development Activities

A. Summary of AEC Procurement Activities for Period November 1, 1950 - November 30, 1950

Accessories Components Scalers Monitors Personnel Survey Total

Office of Operations
 Centralized Procurement
 Contracts or purchase orders executed
 Number of Items
 Amount

0	5	1	1	0	4	11
0	\$608.10	\$400.00	\$112.50	0	\$984.50	\$2,305.10

ORGANIZATION & MANAGEMENT
St. Brown
12/14/50

1154060

B. AEC Sponsored Research and Development

The Brookhaven National Laboratory, which was furnished funds of \$15,000 during September of 1950 for the development of a single channel pulse height analyzer, is now preparing to procure fifteen units from the Atomic Instrument Company of Boston, Massachusetts. The pulse height analyzer will conform to a design agreed upon by the Oak Ridge National Laboratory and the Brookhaven National Laboratory. Five of the instruments will be retained for use at Brookhaven and the remaining ten units will be available for distribution through the Branch appraisal program to other AEC installations.

C. Catalog

The necessity of publishing Catalog edition number 2 in two volumes because of binding difficulties has stimulated consideration of reorganizing the catalog make-up and format. The composing group of the Publishing Branch of the Oak Ridge Operations Office has been asked to assist in arriving at a redesigned catalog which will permit a single binding without sacrifice of the catalog contents.

D. Inspection and Testing

During the month of November, fifty incoming radiation detection instruments were inspected, tested, and accepted; forty of these instruments were production engineering prototypes which had previously been rejected because of manufacturing defects.

Resulting from the examinations of the Kelley-Koett civil defense ion chamber survey meters, eighteen of the twenty of these instruments received have been returned to the manufacturer for recalibration. Calibration tests using 200 K.V.P. X-rays, conducted in cooperation with National Bureau of Standards personnel, revealed that many of these prototype instruments deviated widely from the plus or minus 20% accuracy stated in the manufacturers specifications.

E. Procurement Summary

Attachment No. 1 includes a Summary of Status of Supply and Stockpile Procurement for delivery to Commission installations. Research and development contracts and Test Purchase Orders are also reported on. The latter contracts and purchase orders differ from the supply procurement in that the services of personnel are a large part of the contract commitment. Where estimated completion dates are indicated on this attachment, requested dates have been used when delivery information has not been furnished by the contracting office or the contractor.

II. Technical Coordination Activities

A. Area Coordination

During the month, members of this Section visited K-25, ORNL, Y-12, OROO, NYOO, Columbia University, Brookhaven National Laboratory, Rochester University, and Western Reserve University. These visits were made in accordance with the established Branch program of periodically visiting the instrument departments of the various AEC installations to obtain and disseminate information on instrument developments. Particular emphasis was given to obtaining information for Ra-Det and discussing the Branch's program of research and development in radiation instruments.

B. Ra-Det

December Ra-Det features the final report on "An Alpha Beta-Gamma Proportional Counter Feasibility Study" performed by the General Electric Company under contract to the Atomic Energy Commission. Results of a Signal Corps testing investigation on a variety of commercial Geiger counters is also included. A complete index of Ra-Det articles, from October 1947 through December 1950, is a special department in this issue.

A study report on advisability of declassifying Ra-Det and making it available for public sale has been prepared. The report recommended that, prior to releasing the magazine, a further investigation of the anticipated consequences of such a step should be made, especially in determining the opinions of the instrument groups of the AEC installations.

C. 9th Semi-Annual Report

A draft report on the status of AEC civil defense instrument development programs was prepared for inclusion in the 9th Semi-Annual Report to Congress.

D. Research Proposals

In response to requests from the Division of Research, each of the AEC areas was solicited to determine their interest in a photographic plate scanner which will automatically count neutron tracks in photographic film. This equipment was developed at the Battelle Memorial Institute. In general there was only mild interest. The results of the inquiries have been transmitted to Dr. Kalstad of the Research Division.

[REDACTED]

A proposal has been received from National Radiac, Incorporated of New Jersey, for: (1) the development of methods for growing large diphenyl acetylene (tolan) crystals; (2) development of methods for growing large sulphur crystals; and (3) development of a furnace for growing anthracene crystals by the sublimation process. These proposals are being examined and, based on the results of the recommendations of the AEC instrument personnel, a contract may be initiated.

E. Coordination with the Military

A request has been submitted to the Signal Corps for testing quantities of the Polaroid print-out films and badges. The equipment, developed under Signal Corps contract, is particularly desirable from the view point that the film can be developed and read by the wearer in the field, requiring no auxiliary equipment.

F. Detection of Smuggled Atomic Weapons

The Branch was directed by the General Manager's Office to investigate various radiation detection instruments for the purpose of detecting atomic weapons which might be smuggled into the U. S. aboard a ship. It is felt that the most promising instrument is one developed at the Oak Ridge National Laboratory which is in the order of 2,000 times more sensitive than a Geiger counter. Experiments are being run with this instrument and it may later be tested under actual conditions at Los Alamos.

G. Greenhouse

J. C. Greene of this section has been delegated the responsibility for conducting tests on both AEC and military type survey equipment during Operation Greenhouse. This responsibility will require a considerable amount of planning and the preparation of pre-operational reports. Proportionately, more of Mr. Greene's time will be required for Greenhouse Operation during the next two months.

Enclosures:

As described in 1E above (in trip.)

1154063

[REDACTED]

NOE ARCHIVES

STATUS OF SUPPLY PROCUREMENT REQUISITIONS

Req. No.	Quantity	Instrument	Contract Issued	Company	Estimated Completion		Office Handling Contract
					Previous	Present	
51504	600 60	Dosimeters Chargers	Gen. 630 6/28/50	Cambridge Instrument Company	June 50	Dec. 50	OROO
51776	50	Probes for PeeWee Survey Meter	BOW-1516-50 5/23/50	NICC	-----	Dec. 50	Washing
51544	500	Boron-lined neutron counters	AT(30-1)419 10/28/48	General Electric Company	June 51	Dec. 50	NYOO

326 U.S. ATOMIC ENERGY
 COMMISSION
 RG
 COLLECTION
 BOX
 FOLDER
 DBM
 3363
 15

1154064

STATUS OF PRODUCTION DEVELOPMENT PROCUREMENT REQUISITIONS

Req. No.	Quantity	Instrument	Contract Issued	Company	Estimated Completion		Office Handling Contract
					Previous	Date Present	
52201	25	Alpha-beta-gamma Survey Meter (SIC-T1)	AT(40-1)780 5/20/48	Sylvania Electric Products, Inc.	July 50	Dec. 50	OROO
52202	25	Beta-gamma survey Meter (SGM-T3)	AT(40-1)770 4/7/49	Bendix Aviation Corporation	July 50	Dec. 50	OROO
52210	100 4	Slow Neutron Dosimeter Chargers	AT(40-1)436 10/28/48	Cambridge Instrument Company	Jan. 50	Dec. 50	NYOO
52211	10	Alpha Survey Meter (Walkie Poppy)	AT(40-1)430 11/15/48	General Electric Company	July 50	Complete	NYOO
52239	10	Alpha-beta-gamma Civilian Monitor	WCX-A-1713 6/23/50	Raytheon Manufacturing Company	-----	Jan. 51	ORNL
52214	25	Filter Paper Analyzer	AT(11-1)18 4/7/49	NICC	July 50	Dec. 50	COO
52225	60	AC Poppy	AT(40-1)775 5/17/49	Raytheon Manufacturing Co.	March 50	Dec. 50	OROO
52240	25	Pocket Electrometer PIC-15A	Will be negotiated by SFOO				SFOO

1154066

STATUS OF TEST PROCUREMENT REQUISITIONS

Req. No.	Quantity	Instrument	Contract Issued	Company	Estimated Completion Date	Office Handling Contract
51767	17	MIC-15A Brown Electrometers	AT(40-1)809 1/13/50	Minneapolis Honewell Regulator Company	Complete	Washington
51783	5	Windowless Flow Counters BG-5B2A	AT(49-1)450 6/23/50	Tracerlab, Inc.	Dec. 50	Washington
51784	5	AV-13A Power Supply	BOW-513-51 10/11/50	NICC	Dec. 50	Washington
51784	5	AV-15A Power Supply	BOW-347-51 9/25/50	Victoreen Instrument Company	Jan. 51	Washington
51785	10	Alpha-Beta-Gamma Probes for RMI with BG-1A22C GM Tubes	AT(49-1)462 6/26/50	Nucleonic Corporation of America	Dec. 50	Washington
51785	5	Geiger Tubes Model GMLNNA (BG-1A22D)	AT(49-1)462 6/28/50	Nucleonic Corporation of America	Complete	Washington
51786	25	PIC-12A Dosimeters	BOW-421-51 10/25/50	Kelley-Koett Manufacturing Co.	Jan. 51	Washington
51786	25	AV-2F Chargers	BOW-421-51 10/25/50	Kelley-Koett Manufacturing Co.	Jan. 51	Washington
51786	2	SIC-25A Survey Meters	BOW-421-51 10/25/50	Kelley-Koett Manufacturing Co.	Jan. 51	Washington
51787	5	MIC-2CX2 Switch for Vibrating Reed Electrometer	BOW-389-51 9/21/50	Applied Physics Corp.	Dec. 50	Washington

1154067

STATUS OF TEST PROCUREMENT REQUISITIONS
(Continued)

Req. No.	Quantity	Instrument	Contract Issued	Company	Estimated Completion Date	Office Handling Contract
51787	5	BIC-20A Ionization Chamber for Vibrating Reed Electrometer	BOW-389-51 9/21/50	Applied Physics Corporation	Dec. 50	Washington
51790	50	PIC-18A Pocket Chamber Low Range	BOW-324-51 8/24/50	Landsverk Electrometer Company	Dec. 50	Washington
51790	5	AE-7A Charger	BOW-324-51 8/24/50	Landsverk Electrometer Company	Dec. 50	Washington
51791	8	SEX-2A Scintillation Type Survey Meter	BOW-253-51 8/11/50	General Electric Company	Jan. 51	Washington
51792	2	SIC-7B Beta-Gamma Survey Meters	BOW-423-51 10/3/50	Tracerlab, Inc.	Jan. 51	Washington
51792	5	AR-12A Mechanical Registers	BOW-423-51 10/3/50	Tracerlab, Inc.	Jan. 51	Washington
51792	30	PIC-16A Dosimeters	BOW -423-51 10/3/50	Tracerlab, Inc.	Jan. 51	Washington
51792	5	AV-22A Chargers	BOW-423-51 10/3/50	Tracerlab, Inc.	Jan. 51	Washington
51792	3	APX-6A Alpha Scintillation Probe	BOW-423-51 10/3/50	Tracerlab, Inc.	Jan. 51	Washington

STATUS OF TEST PROCUREMENT REQUISITIONS
(Continued)

Req. No.	Quantity	Instrument	Contract Issued	Company	Estimated Completion Date	Office Handling Contract
51794	2	SIC-24A Zeuto	BOW-420-51 9/28/50	NICC	Jan. 51	Washington
51794	5	SGM-4E Alpha-Beta-Gamma Survey Meter	BOW-420-51 9/28/50	NICC	Jan. 51	Washington
51797	1	MGM-22A Area Monitor	BOW-1637-50 6/20/50	Radiaphone Co.	Complete	Washington
51800	10	BE-4A Photomultiplier Tubes	BOW-399-51 9/21/50	Radio Corporation of America	Jan. 51	Washington
51800	10	BE-5A Photomultiplier Tubes	BOW-399-51 9/21/50	Radio Corporation of America	Jan. 51	Washington
51802	1	BG-1B26A Probing Needle Counter	BOW-412-50 9/25/50	Victoreen Instrument Company	Jan. 51	Washington
51803	1	CGM-26A1 Binary Scaler	BOW-325-51 8/24/50	Nucleonic Corporation of America	Jan. 51	Washington
51803	1	CGM-26B3 Decade Scaler	BOW-324-51 8/24/50	Nucleonic Corporation of America	Dec. 50	Washington
51805	37	BFT-1A Neutron Thermometers	BOW-217-51 8/2/50	NICC	Feb. 51	Washington
51806	25	SIC-31A Civilian Defense Survey Meters	AT(49-1)451 6/19/50	Tracerlab, Inc.	Dec. 50	Washington

STATUS OF TEST PROCUREMENT REQUISITIONS
(Continued)

Req. No.	Quantity	Instrument	Contract Issued	Company	Estimated Completion Date	Office Handling Contract
51806	20	SIC-32A Civilian Defense Survey Meters	AT(49-1)458 6/22/50	Victoreen Instrument Company	Dec. 50	Washington
51806	20	SIC-33A Civilian Defense Survey Meters	AT(49-1)459 6/22/50	Kelley-Koett Manufacturing Co.	Dec. 50	Washington
51806	20	SIC-34A Civilian Defense Survey Meters	AT(49-1)459 6/22/50	Kelley-Koett Manufacturing Co.	Dec. 50	Washington
51811	20	SIC-26A Civilian Defense Survey Meters	BOW-216-51 8/2/50	NICC	Feb. 51	Washington
51813	2	SIC-45B Survey Meter	BOW-631-51 11/7/50	Special Instruments Laboratory	Jan. 51	Washington
51814	10	SIC-19C Survey Meter	BOW-215-51 8/2/50	Signal Corps.	Indefinite	Washington
51816	50	PIC-19A Dosimeters, Low Range	BOW-324-51 8/24/50	Landsverk Electrometer Company	Jan. 51	Washington
51816	5	AV-23A Chargers	BOW-324-51 8/24/50	Landsverk Electrometer Company	Jan. 51	Washington
51818	20	SGM-53A Survey Meters AN/PDR-27	BOW-291-51 8/17/50	Department of Defense	Indefinite	Washington
51820	10	CGM-35A Scalers	AT(49-1)650 9/1/50	Radioactive Products	Feb. 51	Washington

1154070

STATUS OF TEST PROCUREMENT REQUISITIONS
(Continued)

Req. No.	Quantity	Instrument	Contract Issued	Company	Estimated Completion Date	Office Handling Contract
51821	20	Photomultiplier Tubes BE-5A	BOW-422-51 9/29/50	Radio Corporation- of America	Dec. 50	Washington
51823	5	Electrometer, MIC-19A	BOW-713-50 11/13/50	Loudon Instruments, Inc.	Dec. 50	Washington
51826	1	Oscilloscope, AT-14B	BOW-630-51 11/6/50	Tecktronix, Inc.	April 51	Washington
51826	10	Radiation Monitor, MIC-20A	Being Negotiated	General Electric Co.		Washington

1154071