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From: Commander, Naval Shipyard, San Francisco, California
To: Chief of the Bureau of Ships (Code 400-689)
Chief of the Bureau of Medicine and Surgery (Code 74)
Chief of the Bureau of Aeronautics (Code AB-45)
Chief of the Bureau of Yards and Docks (Code D4)
Subj: Monthly Progress Report of Radiation Laboratory for Month of
July 1947; submission of
Ref: (a) BuShips-Dated SECRET Ltr S(99) BuShips Ser. 005800 Dated
Ser. 005001 of 18 Feb 1947.
Encls: (H.F.)
(A) Radiation Laboratory Administrative Progress Report for
Month of July 1947.
(B) Radiation Laboratory Technical Progress Report for Month
of July 1947.

1. Enclosures (A) and (B) reporting progress of work at the Radiation
Laboratory for the month of July 1947 are forwarded herewith in
compliance with reference (a).

PHILIP LEMIER

Declassified
NND project # 22130
By HRM/RG/NARA date 7/31/02

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Administrative Progress Report of Month of July 1947

A. NON-SCIENTIFIC PERSONNEL

1. One additional clerk-stenographer (CAF-3), Mrs. Olive Hansen, was placed on the rolls of the laboratory during the month. Because of the increasingly heavy administrative and clerical workload, positive steps have been initiated to establish several additional clerical positions. The final administrative organization as deemed necessary at present is shown on the attached chart.
2. The situation in the Supply Unit has improved considerably as a result of the splendid work of Lt. Vicars in simplifying and standardizing laboratory procurement procedures. In the Supply Unit, also, the need for additional personnel was very strongly indicated. Consequently, additional positions have been established in this unit as shown in the attached administrative organization chart, and every effort is being made to fill them as soon as possible.
3. The position of Administrative Assistant has been approved as a CAF-9. The position will be filled as soon as a suitable candidate can be found.

B. SECURITY

1. In order to expedite clearance of personnel for employment in the laboratory, special arrangements have been made with the Twelfth Naval District Intelligence Office to make rapid station checks on all candidates. In addition, fingerprints are sent to the FBI in Washington for a central fingerprint check. Upon completion of these checks an individual can be employed in the laboratory without access to restricted data pending receipt of his CNO clearance. As soon as taken on the rolls, the necessary forms are prepared as appropriate to initiate final clearance through the Bureau of Ships.
2. After considerable discussion with Bureau of Ships representatives, it was finally agreed that requests for clearance for restricted data might be submitted to the Berkeley Area office of the Atomic Energy Commission in accordance with their procedures. Meanwhile, however, the local AEC personnel have advised that they have received instructions from Washington not to handle matters of clearance of Naval activities locally. Therefore any such requests will not be handled unless instructions to the contrary are received from the Washington AEC offices.
3. Requests have been submitted for Lt. Comdr. H. K. Skow and Lt. C. P. Carlson to have access through the local AEC office to all restricted data pertinent to their assigned positions in the laboratory. Both officers have regular CNO clearance and this should serve as a test case for local action.

(ENCLOSURE A)

C. INTERNAL ORGANIZATION

1. A complete restudy of the internal organization of the laboratory has been conducted. A revised organization chart has been prepared on the basis of this study. The new chart shows all the positions which are contemplated to carry out the laboratory program for the next year. Many of these positions will not be set up until the need for them is more definitely defined and suitable candidates become available. The organization chart as prepared will be submitted for approval in the near future.
2. With the gradual increase in the number of civilian employees of the proper type it will soon be possible to have the officer personnel working more fully in the type of work for which they were primarily assigned. Up to the present, it has been necessary as a matter of expediency and for the best interests of the laboratory to assign personnel as necessary to accomplish the work of highest priority and to fill key positions which were vacant.

D. CONTACTS WITH OTHER ORGANIZATIONS

1. A large number of representatives from other organizations both within and without the Navy visited the laboratory during the month. Among the principal visitors were the following:

Rear Admiral Jerould Wright, USN, ACNO for Operational Readiness
Rear Admiral C. J. Brown (MC), USN, Asst. Chief of the Bureau of Medicine and Surgery for Research
Captain W. S. Maxwell, USN, Chief of the Radiological Safety Section, Bureau of Ships
Captain H. G. Hickover, USN, and party of four Naval officers assigned to AEC, Oak Ridge
Comdr. D. L. Kauffman, USN, from CNO (OP36E)
Lt. Comdr. E. R. King (MC), USN, Radiological Safety Section, Bureau of Medicine and Surgery
Lt. V. F. Saitta, USNR, Code 336, Bureau of Ships
Dr. Raymond E. Zirkle of the University of Chicago
Mr. Boucher, Berkeley Area, AEC
Mr. A. B. Cutts, Bureau of Aeronautics
Mr. Sherwood Smith, Army Engineer Corps.
Mr. Lawrence of ONR, San Francisco.

2. Personnel of the Radiation Laboratory make frequent visits to members of the faculty of the University of California in order to gain advice and discuss the laboratory's program with recognized authorities in the field. This practice is being encouraged strongly as it is the only apparent means of obtaining necessary basic information immediately for the formulation of a properly organized program. It is planned to extend these contacts both at the University of California and at other similar institutions as soon as additional clearances are forthcoming and as the workload permits.

E. CONSULTANTS

1. Additional efforts were made during the month to consummate arrangements which

have been pending for several months to obtain the part time services of qualified scientists of the University of California to act as consultants for the laboratory. A final conference was held with Dean Stewart who is acting director of research at Berkeley. The University refuses under any circumstances to consider a blanket contract for the purpose, however, on the basis that the work of the laboratory is applied research, whereas, the University must involve itself only with basic research except in time of national emergency. Dean Stewart did state, however, that the University would not attempt to block efforts to negotiate personal service contracts with individuals for the same purpose. Several of the required persons have been approached on this basis and have expressed willingness to assist in this manner. Therefore, steps will be initiated to obtain authority to negotiate personal service contracts with consultants.

2. Efforts were made to obtain the services of Dr. Wright Langham of Los Alamos Scientific Laboratories on a temporary basis to aid in organization and establishment of the laboratory. A letter was prepared to Dr. N. E. Bradbury, Director, on this basis. Although no reply has been received as yet, it is understood that Dr. Langham will be assigned to the Radiation Laboratory for a period of about two weeks commencing 20 August. During this period Dr. Langham will remain on the rolls and in the pay of Los Alamos Laboratories.

3. It is increasingly evident that the laboratory must have frequent and free access to scientists who have been trained in the Manhattan Project and have a broad understanding of the general nature of the problems and are intimately familiar with those men who have developed data currently in existence and with the nature and extent of their work in the field. This can best be done by securing the services of some of these individuals on the staff of the laboratory to guide and train others. Farring this possibility, the next best solution is to form an advisory board of such men who will be interested in the Navy's problems in this field and will mentor and assist the laboratory's efforts.

F. LABORATORY PROCEDURES

1. The first group of laboratory research projects has been reduced to written form and is now being prepared for submission to the Bureaus. These written projects will serve to provide an immediate general picture of the research program, will provide a ready means for referring to a particular investigation, will be used for setting priorities and will keep all interested agencies advised of the nature and scope of the work in hand.

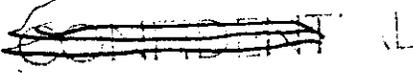
2. The format of laboratory reports and the procedures for submission to date have been very ragged and not in accordance with established standards. This has been the result of an effort to forward the information as soon as possible rather than accept the undue delays which would have resulted in attempting to place this additional load on already inadequate personnel. This situation will be remedied as soon as the scientific and administrative staffs are sufficiently rounded out.

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Technical Progress Report for Month of July 1947

A. FACILITIES

1. The processes of procurement of necessary equipment for the laboratory have been improved and expedited tremendously as a result of the special studies conducted. Special authority has been granted by the Twelfth Naval District to effect direct purchase by the Shipyard Supply Officer of all items for the laboratory up to \$500.00 in value without processing through the Navy Purchasing Office. This procedure saves as much as seven weeks in some cases in the letting of contracts. Further, by arrangement with Navy Purchasing Office, requisitions for urgently required laboratory items in excess of \$500.00 in value receive special handling to expedite procurement.
2. A thorough survey of all activities in the area holding surplus supplies is being made. This has resulted in immediate procurement without cost of many needed items such as office furniture and equipment, safes, duplicating machines and the like.
3. With the realization that funds would not become immediately available for the modification of Bldg. 351, it was essential that prompt action be taken to increase the facilities of Bldg. 506 to accommodate the contemplated laboratory program for the next 12-18 months. Plans have therefore been prepared and submitted for increase in facilities in this building, conversion of all possible space to working areas and movement of all activities which can be physically separated without detriment, to space available in other buildings. The Radiological Health and Safety Section has been shifted to the Dental Clinic, the Laboratory Monitors will be moved to the Decontamination Center (Bldg. 507), and the animal breeding colony will be located in Bldg. 507.
4. In accordance with the suggestion of the Bureau of Ships, a study has been conducted to determine whether a portion of Bldg. 351 can be converted with present funds and occupied immediately by some of the laboratory activities, as soon as the present occupants vacate, with the balance of the move to be completed when the entire project is approved. This study has indicated that the most desirable solution of this problem is movement of the Physics, Electronics and part of the Biological groups to the fourth floor and mezzanine of Bldg. 351. Plans and estimates are currently being prepared on this basis and a formal request for approval will be submitted upon completion of the study. This solution is the optimum one for the following reasons:
 - (a) The activities selected can be moved with the least disruption of work and with the minimum of alterations required.
 - (b) The activities mentioned are located in the selected areas in the tentative final plans.



(c) Occupancy of the fourth floor can be accomplished with the least interference later from alterations to the balance of the building.

(d) Since the activities to be moved will be engaged for some time in a greater proportion of unclassified work, the security problem is simplified.

(e) Personnel outside the laboratory working on the building's remaining alterations will not have to pass through the fourth deck and mezzanine.

5. Planning for space allocation in all of Bldg. 351 is proceeding for purposes of completing architectural surveys. However, it is desired that further observations of other similar laboratories and discussions with experienced personnel be conducted prior to preparation of final detailed plans and specification for the new facilities and equipment. In this connection, visits were made to six University laboratories in this area to obtain the latest information regarding the design of animal breeding colonies and housing facilities. A great deal of practical information was gathered which will be of help in designing the proposed new animal quarters. In addition, one of the biologists was sent to a University animal colony for three days to gain added experience.

6. Animal cages and material necessary for animal maintenance and care have been ordered. The breeding colony when completed will provide about one thousand mice, five hundred rats, one hundred guinea pigs, one hundred rabbits and ten dogs per month. Breeding has already commenced on the rats sent from Bethesda in order to provide a suitable strain for toxicological studies. A card filing system has been established to keep a complete life history of all rats in the colony.

7. The first small neutron source has been received. Preliminary conversations have been made with regard to obtaining a cloud chamber on loan from the University of California. Arrangements have also been made to obtain an alpha proportional counter on the same basis.

B. SCIENTIFIC PERSONNEL

1. During the month scientific personnel reported for duty in the laboratory as follows:

Mr. Richard H. Davis	P-2 Physicist	11 July
Mr. Masato Tanabe	P-1 Chemist	29 July
Dr. Francis R. Holden	P-5 Chemist	21 July
Miss Elinor Shapiro	P-2 Chemist	30 July

Mr. Davis, upon reporting for duty was found to have the initial stages of tuberculosis. He was granted a leave of absence for six months. Mr. William Lee, listed last month for reporting for duty this month, decided not to accept employment. Dr. Holden has been assigned to the Physiological and Health Physics Section to work on the radioactive dust health hazard problem.

2. Other scientific personnel are expected to report for duty as follows:

Mr. Donald F. Mastick	P-4 Chemist	15 August
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Mr. Jacob D. Graves
Mr. Frank W. Brown

P-4 Physicist
P-4 Physicist

10 Sept
5 August

Mr. Mastick is an experienced radiochemist formerly employed at Los Alamos. He will be placed in charge of all the radiochemical analysis work at the laboratory to relieve Lt.(jg) Morton for Clinical Research. Mr. Graves, now at Oak Ridge, has been working on isotope identification after the manner of Bloch at Stanford University. Mr. Brown, now at Radiation Laboratory, University of California, has been engaged in development of improved Geiger Counters.

3. Scientific personnel to whom offers of employment have been made are as follows:

Dr. Julius Roth	P-3 Chemist
Mr. Gonzalo Segura	P-3 Chemist
Dr. Eugene Huffman	P-6 Chemist

Dr. Roth has recently completed requirements for a doctor of philosophy at Stanford University. Mr. Segura has been employed at SAM Laboratories and Oak Ridge. Dr. Huffman has been associated for a number of years with MED and AEC as a radiochemist. He is now at the Radiation Laboratory, University of California and serving on a national board for declassification of AEC documents.

4. Scientific personnel under active consideration for positions at the laboratory are as follows:

Mr. V. Lawrence Parsegian	P-5 Physicist
Dr. Joseph W. Hickman	P-5 Chemist
Dr. Ted R. Norton	P-5 Chemist
Dr. Wesley E. Shelberg	P-4 Chemist
Mr. Justin J. Shapiro	P-3 Biologist
Dr. Jerome J. Howland	P-5 Chemist
Mr. Donald C. Moore	P-4 Physicist
Dr. Alfred Marshak	P-6 Biologist
Miss Dorothy Axelrod	P-4 Biologist
Mr. Eugene Tochilin	P-3 Physicist
Dr. Edward B. Sanigar	P-5 Chemist

5. Recruiting of physicists is proceeding satisfactorily. Except for the difficulty of obtaining qualified radiochemists, recruiting of chemists is considered satisfactory. The recruiting of personnel for the biological sciences has been taken in hand by Lt. Comdr. R. A. Conard and Lt. C. H. Hine, and it is expected that by the end of August the situation in this respect will have improved significantly. It is hoped that the temporary association of Dr. Wright Langham with the laboratory will lead to improvement in the recruiting of radiochemists and personnel in the biological sciences.

C. LABORATORY RESEARCH AND DEVELOPMENT WORK

1. The following projects were completed during the months

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- (q) Analysis of sand from sandblasting of U.S.S. PARCHE following sandblasting of hull.
- (r) Production scale decontamination of U.S.S. PARCHE.
- (s) Radiological surveys of CRITTENDEN, GASCONADE, NEVADA, PENSACOLA, and HUGHES.
- (t) Modification of 263 survey meter to provide for tropicalization, cabinet humidity indication and other operational characteristics to make suitable for tropical conditions.
- (u) Adaptation of mechanical counters to provide greater flexibility in counting, by addition of a micro-switch mechanism under development.
- (v) Design and prototype fabrication of a sound-proof, non-microphonic amplifier container for a scaler instrument.
- (w) Design and manufacture of a dust contamination collection instrument.
- (x) Modification of X-325 counter for use as a hand monitoring device.
- (y) Special monitoring, boxing and loading for shipment to NAMC Philadelphia of one TBM-3E from INDEPENDENCE.

D. SERVICE WORK

1. Maintenance requirements on 263 survey meters increased markedly during the month and were far in excess of anticipated needs. The short life of GM tubes, as well as chambers, has been a major contributing factor to 263 meter maintenance. Electronic maintenance of scalers, linear amplifiers, cathode ray oscilloscopes and other instruments has required moderate specialized attention. Procurement of component parts and other necessary materials for twenty-two specialized electronic instruments for the laboratory has been initiated.

2. Safety monitoring for the Shipyard crews on the INDEPENDENCE was conducted during the month. This consisted of monitoring for personnel opening up and inspecting compartments, instituting necessary fire prevention measures, and arranging for removal of gasoline. Radiological surveys will not commence until monitors can be made available from other assignments of higher priority. Monitoring of the CRITTENDEN has been completed and the final report is in preparation. The GASCONADE monitoring is about 85% complete. Samples of representative materials from the ship will be cut out as soon as removal of fuel oil has been completed. Sandblasting on the first third of the PARCHE is about completed. This work was temporarily halted during the last week of the month because of the large number of sandblasters on leave. Safety monitoring was conducted for a large number of official visitors on target vessels at this Shipyard and at Mare Island. This included three days with the Life Magazine photographer.

3. All samples received to date from target vessels have been inventoried and properly marked for identification. In addition, a system has been established whereby an index of all samples in card form is maintained. These cards contain all identifying data and permit a running inventory of samples.

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4. Preliminary plans have been prepared for modifying the Decontamination Center to eliminate deficiencies and to afford closer control of spread of contamination.

5. The Radiological Safety Section has been functioning satisfactorily. Certain violations of safety precautions have been noted and are being corrected. The Decontamination Center is being redesigned and weekly inspections by Lt. Carlson of the center and of the ships are being instituted so that these violations will not occur. Initial physical examinations of fifty-nine (59) personnel for work on ex-target vessels were completed during the month. Monthly recheck examinations were given all personnel working on ex-target vessels.

6. During the month, Lt. Carlson and Lt. Morrison satisfactorily completed a course "Medical Aspects of Nuclear Physics" at the Medical Center, University of California. The training of pharmacist mates as radiochemistry technicians is proceeding satisfactorily.

7. Investigations in the field of medical-physics during the month included the following problems:

- (a) Tests of sensitivities of Dupont Type A and Type B Dental Film compared to Eastman Type K film badge.
- (b) Comparisons of high-sensitivity film for weak beta-gamma radiation.
- (c) Comparison of dosages from personnel film badges worn for intervals of one day and one week.
- (d) Test of the Eastman Type B Densitometer for use in Photographic Dosimetry.
- (e) Search for a densitometer of high sensitivity for low density film badges.
- (f) Establishment of reproducible simulations of actual shipboard conditions in the study of radioactive dust hazards. Dr. Holden, who has been assigned to the dust problem, has made many valuable suggestions and improvements.
- (g) Test of Weston Model 877 Densitometer for use in Photographic Dosimetry.