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NOTES	Pg. 8/13	
FOUND BY/DATE FOUND	K. HOLMES	11/29/94

722621

BERKELEY: RADIATION LABORATORY

May 21, 1948

President Robert S. Sproul
Administration Building
Campus

Dear President Sproul:

The committee which you appointed to recommend steps considered necessary for health protection in departments of the University utilizing radioactive isotopes and other sources of radiation, has continued its consideration of the University's problem. Since the committee's report of March 1, 1947, it has become evident that the problem is continuously growing in magnitude to the point that full-time attention is required - in other words, that the problem is no longer so wieldy that it can be handled adequately by a committee of individuals. Attached there is a tabulation of a survey conducted by the committee which indicates the growth in the use of radioactive materials by University departments in the years 1946 and 1947, and in this year to date.

Also attached you will find a more detailed statement by the committee with a recommended minimum budget indicating the personnel needed to administer the work with reasonable adequacy.

There are a number of considerations which prompt the committee's recommendations. These are discussed in greater detail in the appendices to this letter but they may be summarized as follows:

1. The increasingly-widespread use of radioactive isotopes in the University departments creates problems of health protection to students and faculty. It also creates problems of contamination to laboratory rooms and apparatus, and an increasing problem of disposal of hazardous wastes, affecting the community at large.
2. There is a need for a health protection and medical program which will assure the safeguarding of the health of individuals who are exposed to radiation. While the work of a University health physics group may be tied in with that of a comparable group in the Radiation Laboratory organization, the most effective service by the University health physics group will be rendered if it has the status of a University administrative department.
3. University departments utilizing radioactive materials may be expected to bear a portion of the expense of the program, particularly to the extent that they require protection equipment and special services.

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The committee respectfully urges that the problem is one which is continuing and, in its continuation, growing. Radioactive materials can become such effective tools that there is hardly a research department in the University which cannot make effective use of radioactivity in pursuing the answers to research problems. The new research methods are inviting but, for its own protection, the University must give consideration to the most effective means at its disposal for protecting its students, faculty and facilities, and for safeguarding its relations with the community surrounding its campuses.

Respectfully,

COMMITTEE FOR THE SAFE USE OF RADIO-ISOTOPES

By _____
John H. Lawrence, M. D.

- Dr. Joseph G. Hamilton
- Dr. I. L. Chaikoff
- Dr. David Greenberg
- Dr. Earl Miller
- Prof. Roy Overstreet
- Dr. Robt. S. Stone

[Handwritten signatures and names over the list:]
 I. L. Chaikoff
 David M. Greenberg
 Earl Miller
 Roy Overstreet
 Robt. S. Stone with reservation

JHL:ajh

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BERKELEY: RADIATION LABORATORY

I

SURVEY RESULTS - USE OF RADIOACTIVE MATERIALS
AT BERKELEY, SAN FRANCISCO AND DAVIS

The following data were gathered from questionnaires sent from the various scientific departments of the University, exclusive of the Radiation Laboratory. The table below shows the increase which is occurring in the use of radioactivity at Berkeley, San Francisco and Davis campuses. The table indicates the number of individual radioactive isotopes, the numbers of investigators using these materials, and the approximate quantities of radioactivity which have been used in the years 1946 to date.

	No. of departments using Radioactivity	No. of Radio-active Isotopes Used	No. of Investi-gators Using Radio-isotopes	Amount of Radio-activity Used, in Curies
1946	10	15	53	1.89
1947	13	32	84	6.46
1948	18	40	136	11.86

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BERKELEY: RADIATION LABORATORY

II

The Committee considers that the total problem of radiation protection in the University is of such magnitude that it can be handled only by a protection group adequately staffed and adequately trained in required special techniques.

The problems to be undertaken by such a group include those of contamination of new and old University laboratories, and the accompanying problem of contamination of equipment; the disposal of radioactive wastes by way of sewers, the atmosphere, etc.; and the necessity of monitoring and checking these facilities and operations as well as the shipment of radioactive materials to and from University departments.

Contamination of laboratory facilities may well be costly to overcome since the presence of contamination may interfere with other experiments even though it does not create a serious health hazard. A small degree of contamination may render laboratories or apparatus unsuitable for further experimentation with other active materials.

The problem of radioactivity in the past has not been particularly great because only a few men were working with small amounts of radioactive material and the problems of contamination and waste disposal were not of great consequence. This is no longer true. Not only is the number of experimenters increasing but their work involves the increased use of longer-lived isotopes so that the problem is not only growing in size but also in complexity. Certain dangerous substances require the use of special handling equipment, and arrangements must be made for disposal of waste either by burying underground or by disposal at sea. Both methods require special precautionary measures.

Experience in the Radiation Laboratory has indicated most of the steps necessary to establish an adequate program of health physics. This experience has indicated the extreme advisability of placing the entire responsibility in the hands of a group who have the necessary qualifications rather than placing the responsibilities on individuals whose principal interest and activity is the pursuit of teaching and research work. It is true that there are few scientifically-qualified men who are willing to devote their attention to the more or less routine problems of health-physics, health chemistry and medical supervision, but they can, and should be, developed to give a University program proper direction.

Medical Program

It may well be that a medical program as rigorous as that which exists in the Government-supported work in the Radiation Laboratory is not necessary in University departments, but funds and facilities for certain physiological determinations and clinical tests are needed in order that there may be safeguards to the health of persons using radioactive materials. Film badges and pocket meters to measure dosage of radiation, and periodic blood counts, are necessary to guard against inadvertent and habitual over-exposure. These costs

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II (continued)

properly should be borne by the departments using radio-isotopes, so that these have not been included in any budget estimate.

A well-coordinated medical program requires adequate records centrally controlled in order that meaningful information may be accumulated. The committee recommends that:

1. There be established a University health physics group to handle the radiation hazard problem on the Berkeley, San Francisco and Davis campuses, and that a similar group be set up on the Los Angeles campus.
2. The health physics group should be composed of a physician, a physicist and a chemist, with adequate technical assistance and budget for instruments, supplies, office, etc.
3. The health physics group should be responsible directly to the President of the University.
4. To serve in an advisory capacity, there should be an all-University committee on health physics. The committee would consist of qualified men from the various campuses and would serve to assist the program in a consulting capacity on questions of methods, standards and policy.

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III

BUDGET

The following budget is considered by the committee to be the minimum necessary to initiate a University health physics program at San Francisco, Berkeley and Davis. It is considered sufficient only for the first year; it takes no account of costs at Los Angeles nor does it make provision for expansion of services and facilities.

Salaries

1 Health Physicist	\$7,500
1 Health Chemist	7,500
1 Medical Physicist-Physician	7,500
3 Technicians or Monitors	9,000
1 Secretary	<u>3,000</u>

Total \$34,500

Purchase of instruments, supplies and equipment 7,500

Maintenance of instruments 3,500

Laboratory, clinical and special tests for personnel 4,000

Transportation expense 1,500

Total \$51,000

The committee believes that the work of this group might well be coordinated and joined with the work of the similar group now operating in the Radiation Laboratory in Government-supported research, so that the Health Physicist, Health Chemist, and Medical Physicist-Physician, might be responsible for health protection inside and outside the Radiation Laboratory and their salaries divided accordingly.