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HEALTH REPORT

L. Hempelmann

The general health of the population at Los Alamos seems to have improved during the past month with the disappearance of the epidemics of upper respiratory infections. A complaint now more prevalent among the technical area personnel is general fatigue, which is to be expected in the months following winter. Many feel that their efficiency has been impaired by this symptom.

RADIATION PROBLEM

This is essentially the same as before except in Building W where the short tank is again in operation. In the past, this has been one of the strongest sources of radiation in this laboratory. With the added shielding of one-half inch sheets of lead on either side of the tank, the intensity of radiation has been cut down by a factor of ten in some places. The working areas in this building are exposed to less radiation than before especially since it is now the policy of the W group to run one machine at a time because of electrical interference.

On the whole the radiation problem still seems well under control. There is some laxity of personnel, particularly in the W group and among people working with natural sources, in recording daily exposure. Our greatest radiation problem at the present time concerns exposure to natural sources. Because of the borrowing of these sources by members of the laboratory without informing either Mr. Graves, who is in charge of the sources, or Dr. Hempelmann,

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it is quite difficult for the Health group to know the whereabouts of the sources and the uses to which they are being put.

Now that plutonium is coming to this laboratory in larger amounts, a new and very serious radiation hazard confronts us. The danger from the ingestion or inhalation of this material is comparable to that from radium. Since it is expected that pounds of this material will be handled in the dry form, the anticipated hazard to personnel working with the material is obvious. This problem is most serious in Building D, and their Safety Committee has taken the following steps to combat the hazard.

Three committees have been appointed to handle the following aspects of the problem:

1) to draw up rules and recommendations for handling the material, and to enforce these rules. This committee consists of Mr. Popham, Mr. Dunlap, and Dr. Hempelmann. A copy of the rules and recommendations is attached to this report. Mr. Popham is in charge of monitoring the building and of decontamination of badly contaminated zones. The monitoring program will go into effect about March first and will consist of analyzing dust for alpha activity in all rooms in which the material is being handled. The method used at the present time is to select several areas six inches square in each laboratory, wipe them clean with a moist one inch square of filter paper, and count the alpha particles from this dust. In addition to this form of monitoring, the noses of all persons in contact with the material are swabbed at the end of the day and these swabs are counted for alpha activity. Arrangements are to be made to get special janitor service to use special precautions in cleaning

up the building, these janitors will be supervised by this committee. Efforts are being made to secure a squad of individuals for decontamination of badly contaminated laboratories;

2) to investigate the design of alpha counting instruments for surveying desk tops, hands, and the air of laboratories. This committee will be in close communication with the instrument group at the Metallurgical Laboratory in Chicago;

3) to investigate hoods and dry boxes for the use of the material in the dry form.

In line with this same problem, a group of individuals in Building D who became aware of the dangers of this material have asked that the present extra-hazardous insurance be changed so as to cover the type of delayed injuries which are apt to arise in this type of work. This has been referred to Mr. Oppenheimer and Mr. Dow.

CHEMICAL HAZARDS

No cases of uranium poisoning have been revealed by the weekly routine urinalyses. It is anticipated that the uranium hazard will decrease as the rules regarding plutonium are put into effect in Building D. The shop for machining uranium is being built in Building C and will incorporate the safety features advocated by the Chicago Health Group. A Deersham electrostatic precipitator has been obtained to survey the uranium dust hazard in this shop as well as for use in Building D.

The mercury vapor detector which was ordered one month ago still has not arrived. It is particularly urgent now since an accident in Mr. Lipkin's laboratory has resulted in the spilling of large quantities of mercury on the floor.

The chemical hazards of personnel exposed to trinitroglycerin and pentolite are still present at Anchor Ranch where the ventilation continues to be inadequate. Monthly examinations are done on the personnel. They receive milk daily as advocated by large powder concerns. Efforts are still being made to improve the ventilation at Anchor Ranch. This feature of Site S has been considered carefully in the plans and will probably cause no trouble.

GENERAL HAZARDS

No progress has been made in obtaining a safety engineer for the project.

An emergency cart for Omega has been installed with instructions for use and for reporting accidents.

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HEALTH SAFETY RULES

(For Chemistry and Metallurgy Division)

UNCLASSIFIED

GENERAL

1. Cleaning rags and other contaminated materials shall be disposed of in special trash containers marked with red bands.

2. Coveralls or approved laboratory smock and cap (when available) are to be worn whenever working with the material.

3. An approved respirator or gas mask must be worn during operations requiring the exposure of the dry material to the air and during wet operations involving spray or splatter.

4. No work with the material shall be done in the halls or on desk tops.

5. All operations on dry materials shall be done in a dry box, any exception to this must have the approval of the group leader.

6. If the material is spilled,

   a. Hold breath
   b. Turn on hood fan
   c. Get out of room
   d. Close door
   e. Notify Mr. Popham (Room D-210) as soon as possible, assume a "red state" to exist, and post a notice (obtainable in Room D-210) to this effect on the door.

"BLUE STATE"

1. If the highest count obtained in a room is between 100 and 500, it is strongly recommended that no smoking, eating, or drinking be done in the room until the count is reduced below 100.

2. If the highest count obtained in a room is 500 or above, smoking, eating, and drinking are forbidden in the room until the count is reduced below 500.

"RED STATE"

1. If the highest count obtained in a room is between 1,000 and 5,000, it is strongly recommended that work be stopped and the room be decontaminated.

2. If the highest count obtained in a room is over 5,000, work must be stopped immediately (no exceptions), all occupants must evacuate the room immediately (no exceptions). Work cannot be resumed in the room until written permission is given by the Health Safety Committee.

Any questions concerning the practicability or effectiveness of these rules should be discussed with Dr. Hempelmann or Mr. Popham.

UNCLASSIFIED

Safety Committee

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ACCIDENT REPORT

Fingers cut.....4
Fingers twisted.....1

Hands cut.....2

Burns.....2

Sprains.....2

Strain (sacroilliac).....1

Foreign Bodies in Eyes.....1
13

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