GENERAL INSTRUCTIONS FOR SUBJECTS OF LEAD INHALATION STUDY

The reason for this study is to obtain information on the metabolism of lead which is vital to a clearer understanding and better control of industrial exposure to this metal.

The part you play in the study is of the utmost importance. The ultimate value of the work, time, and money spent by other members of the laboratory staff is directly dependent on how honestly and carefully you do your part.

In accepting this job you accept the responsibility of being a reliable subject.

Schedule

During the period of experimental exposure to lead you will be expected to spend 7 hours per day, 5 days per week (Monday, Tuesday, Wednesday, Thursday and Friday) in the chamber. Saturday mornings will be left free for necessary work outside of the chamber or for medical examinations, tests, etc.

The daily seven-hour period for occupancy of the chamber will be 8:30 A. M. - 12:00 Noon, 12:30 P. M. - 4:00 P. M. This allows the normal one-half hour for lunch and allows the periods from 8:00 A. M. - 8:30 A. M. and 4:00 P. M. - 5:00 P. M. for changing clothes, bathing and carrying out any other necessary duties or preparations for the day's work.

Necessary supplies and equipment for carrying out the day's work should be kept on hand by the subject and in so far as possible, the work schedule for the day should be anticipated in order that conferences with others outside of the chamber will be kept at a minimum. When it is necessary to communicate with persons outside of the chamber the telephone should be used. Materials, papers, etc. which cannot be obtained before entering the chamber, or which are needed before the end of the working

day, should be delivered and called for by messenger or other personnel. The subject can make arrangements by telephone for such delivery to and from the chamber.

Clothing

Clothing to be worn in the chamber will be provided by the Laboratory. The clothing is to be kept separate from the subject's regular clothing and should be laundered separately. A locker or rack for a laboratory coat (to be worn outside the chamber) will be kept at a convenient place in the large room in which the chamber is installed. This coat can be laundered with the laboratory coats of other members of the staff, i. e. in the regular laundry. The lockers are to be used (1) for the storage of the subject's street clothing during the day; (2) for the storage of clean experimental clothing; and (3) for the storage of slippers and bath robe at night.

The clothing worn within the chamber is not to be worn outside the Laboratory building, and the subject's street clothing is not to be worn inside the chamber at any time.

Miscellaneous

Approximately once a week tests will be made to determine the subject's "lead retention." This involves breathing into special apparatus for a specified time. Other tests of similar nature may be made from time to time.

It is expected that the subject will become thoroughly familiar with the apparatus necessary to determine the lead content of air and that occasionally he will be provided with such equipment with which he will obtain samples of the air of his home for lead determination.

Hygienic instructions

These instructions are intended to simulate those which should be issued in an

industrial plant in which work involving exposure to lead dust or fume is done. They are designed not primarily for the safety of the subject, but for the avoidance of minor but theoretically important types of exposure to lead other than those actually intended experimentally.

The subject should bathe at the end of each day spent in the chamber. This is necessary so that no measurable amount of lead deposited on the skin of the body or in the hair shall remain there to be carried about, distributed into the air and breathed by the subject or by others. The amount available for this purpose would be so small as to be negligible, in all likelihood, but good experimental technique calls for the avoidance of even this minute source of exposure.

It is apparent also that care should be exercised in seeing that the clothing worn in the chamber is not brought into contact with the clean clothing or with the skin of the body after bathing. The technique of handling the clean and unclean clothing and keeping these entirely separate from each other should be carried out faultlessly at all times, as a good experimental program.

When the subject leaves the chamber for lunch within the Laboratory or for any other purpose (within the Laboratory) during the course of the day's stay within the experimental room, he need not bathe and change all clothing, but should wash his hands carefully so as not to contaminate his food or any other object. This should be done after the removal of the Laboratory coat which is to be worn at all times within the chamber. This coat is to be put in its proper place when the subject leaves the chamber. Another laboratory coat, kept outside the chamber, should be put on over the other clothing worn within the chamber, so that the hands will be protected against contact with clothing worn inside the chamber. This coat must be laundered frequently.

Lunch can best be eaten in the area provided within the large room in which the chamber is installed, but not within the chamber. (Other arrangements can be made in a manner that will not disturb the experiment or discommode the subject. These, when agreed upon, are to be set down in writing.) Lunch should be taken, usually, within the Kettering Laboratory building, so as to make it possible for the subject to avoid bathing and changing clothes completely at noon, for these precautions must be taken if he goes outside the Laboratory. With the provision for washing the hands and changing the laboratory coat he can take lunch in some designated part of the Laboratory building.

The cleanliness of all lockers shall be maintained at an excellent level by the frequent use (at least twice per week) of a vacuum sweeper.

The floor, desk, chair, and all other objects within the chamber are to be cleaned daily by the subject in accordance with the instructions given under Housekeeping.

Collecting samples

So far as possible routing samples (food, feces, urine) shall be collected during the hours spent outside the chamber by the subject.

The lunch, if brought from home, should be put up in two identical packages, one of which is to be eaten, the other to be introduced into a separate jar which is properly labeled for identification. This is to be done within the room in which the lunch is taken, so that by handling the two duplicate lunches in as nearly identical a manner as possible any possible contamination of one (with hands or otherwise) will involve the other correspondingly.

When urine is to be voided into the container during the daytime (spend within the chamber) the subject should remove his inside laboratory coat, wash his hands carefully, go outside the chamber and to the place at which the container is kept, and void directly

into the container, taking meticulous precautions against any unnecessary movements of body or clothing that might distribute dust from the clothing into the air or into the container.

These same precautions should be taken in collecting a sample of feces during the daytime. All such samples shall be labeled carefully with the time at which they were collected.

Operation of the Room, Air Sampling, etc.

In general the chamber will be operated by a technician other than the subject himself. However, it is expected that the subject will become acquainted with the mechanics of operating the room and that he shall (after instruction) check periodically certain of the instruments and make minor adjustments. Also he will be instructed and requested to help in taking certain air samples within the room from time to time.

Housekeeping

In addition to the normal cleaning and dusting it will be necessary to mop the floor of the chamber each day before closing down. This is an integral part of the experiment to prevent accumulated dust from changing the established concentration. It cannot be done by janitors, and it is expected, therefore, that the occupant will do this work.

Doors

The doors of the chamber should be kept closed when they are not actually in use. The vestibule doors shall be closed immediately on entering, and not more than one vestibule door shall be opened at the same time. The emergency door should not be used other than in an emergency.

Log Book

A log book shall be kept and entries made each day the room is occupied. Time out of the chamber exceeding 5 minutes shall be duly noted in the log book. Time of

entrance and time of exit shall be entered.

In the log book, or if preferred in a record book kept in the custody of the subject, other information should be listed daily, as follows:

a. Food and beverages taken at each meal, itemized;

b. Any unusual circumstances occurring in the course of the day, the effect of which might influence the experimental results;

c. Any event or incident which actually did influence the duration or character of the exposure within the chamber that day;

d. Any error of sampling or of other behavior, any loss of sample, or failure to obtain one;

e. Any illness which influenced samples or performance, such as a cold, a digestive upset or any other physical difficulty.

(This is a confidential record, which will not be seen except by designated persons, nor used in such manner as to embarrass or penalize the subject. It provides certain highly necessary experimental data and should not be taken lightly.)