ccnnoo: Librarv, ARL
Dr. P. Stroup, ARL
Mr. Eugene Epstein, U.S.A.E.C., N.Y. Operations Office
Dr. L.M. Foster, ARL

PM Klevin
EE. Epstein
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May 21, 1962

U.S. Atomic Energy Commission
Division of Licensing and Regulation
Washington 25, D.C.

Attention: Mr. James R. Mason
Chief, Isotopes Branch

Gentlemen:

Reference is made to Item 17 under the "Conditions" section of our AEC License No. 37-7653-2(D64) wherein it is stipulated that changes in the written administrative instructions entitled "Radiation Protection Procedures, Alcoa Research Laboratories" shall have prior approval of the Isotopes Branch.

We are submitting for your approval a revision of the administrative instructions wherein the value "100 millirems" has been inserted in place of "300 milliroentgens" in Items 2(B) and 7. No other changes in the instructions have been made.

Please find attached a copy of the revised radiation protection procedures for your inspection.

Very truly yours,

ALUMINUM COMPANY OF AMERICA
Alcoa Research Laboratories

John E. Lewis
Physical Chemistry Division

JEL:jg

Enclosure

RADIATION PROTECTION PROCEDURES
Alcoa Research Laboratories
(Revised May 10, 1962)

1. The Radiological Safety Officer, Mr. John E. Lewis, is ultimately responsible for all radiological safety of these Laboratories. All new procedures, particularly when there is even a remote danger of ingestion or inhalation of radioactive material, should be cleared with the Radiological Safety Officer. The Radiological Safety Officer will advise where special protective apparel, such as inhalators or gloves, are required. The extent of shielding and safe working distances proposed in a given project should be approved by the Radiological Safety Officer.

2. Survey and Monitoring Procedures

   A. Isotope Shipments

      All incoming shipments should be surveyed to ascertain the safe working conditions before and after removal from shipping containers and during the working period as required.

   B. Personnel Monitoring

      Dosimeter pens and film badges are to be worn by all personnel. Accurate records of dosimeter pen readings must be kept, and cumulative weekly exposure should not exceed 100 millirems (mrem). Film badges are to be replaced bi-weekly unless otherwise indicated.

3. Work Area and Personal Cleanliness

   General good housekeeping is mandatory in all radiochemical work. Work area should be free from equipment not required for the current experimental program.

   A. Chemical Work

Fume hoods, absorbent cloth, rubber gloves, laboratory coats, and other safeguards are to be employed as determined by consultation with the Radiological Safety Officer.

B. Non-Chemical

It is important to be aware of chemical reactions, mechanical operations, or other phenomena which might put radioactive material out of control.

4. Location of Work

All hazardous operations with radioactive isotopes are to be carried out in the radioactive tracer laboratories, using its special equipment as required.

5. Internal Radiation Hazards

A. Ingestion

Ingestion of active material is exceedingly dangerous. It should be avoided at all costs. If accidental ingestion is suspected, inform the Radiological Safety Officer of full particulars and consult the Laboratory physician for remedial measures.

Note: Ingestion may take place by transfer of active material from work surfaces, containers, etc., to hands, cigarettes, clothing, food, or any material which you normally handle. On this basis, it is necessary to prohibit smoking, drinking, or eating in a vicinity which may be contaminated with radioactive material.

B. Inhalation

This hazard is as serious and as difficult to detect as ingestion. Use adequate ventilation and forced drafts where necessary to prevent active gases, dust, or fumes from being inhaled. Where a dangerous inhalation is suspected, contact the Radiological Safety Officer and the Laboratory physician.

6. Procedure in Case of Radioactive Spill

A. Notify the Radiological Safety Officer.

B. Stay out of the area, prevent other traffic through the area, do not spread the contamination.

C. All further action concerning the spill is to be supervised and directed by the Radiological Safety Officer.

7. External Radiation Accident

Report to the Radiological Safety Officer when an external radiation accident has occurred. For purposes of this discussion, a radiation accident will include any dosage within one week in excess of 100 millirems (mrem). Avoid any further exposure to the radioactive source until qualified clearance has been obtained.

8. Storage and Transport of Radioactive Materials

A. Long-Term Storage

In locked radioactive storage rooms, only.

B. Short-Term Storage

In locked room unless completely impracticable. If storage in locked room is not practicable, material must be properly labeled and shielded so as not to present a radiation hazard.

C. Transport

All transfer and moving of radioactive materials must be done in shielded containers as required. The responsible person must be especially careful to anticipate hazards which might result from spilling, breakage, or decomposition.

9. Disposal of Radioactive Isotopes

All radioactive material, including anything which may

have been contaminated, must be monitored before disposal and if found active must be placed in marked and covered disposal containers to be shipped to Oak Ridge National Laboratory. Questionable materials are to be referred to the Radiological Safety Officer. Liquid wastes are to be concentrated by evaporation and/or solidified with plaster of Paris. The Radiological Safety Officer should be consulted before discharging radioactive gases or fumes into the atmosphere or radioactive materials into the public sewer system.

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