

is common to set aside "active areas" in which work with radiation or radioactive materials is done. Special requirements or services may then be supplied only to those directly involved in the work.

Film badges and dosimeters should be issued to all personnel working in areas where surveys with appropriate instruments indicate actual or potential exposure. The question of whether or not an employee should be repeatedly issued film coverage can be better answered after the actual experience of a group of such employees has been analyzed.

Repeated "zero" exposure may be reason to discontinue issuance. But finding a group in which even one positive result occurred at random may be reason to cover the whole group. It may be decided to require coverage as a matter of protection against unwarranted claims, as a matter of company policy.

Such employees as are issued film badge (and/or dosimeters) should be required to wear a film badge that is developed and replaced at regular intervals determined by the radiation level in the area. Pocket dosimeters (several types including pocket alarms are available commercially) may be worn to indicate exposure during any part of the film badge period. The film badge is read to establish the validity of a discharged dosimeter. The pocket dosimeters should be read and reset by means of a charger at the end of each partial period they are used to measure (Fig 44-22 shows a radiation detection device. Fig 44-23 gives an exploded view of a radiation film badge.)

Management may have film badges and dosimeters serviced, films developed, and exposure records maintained as a part of plant operations. Depending upon the work load, it may prove more economical and provide better control and protection for a plant to purchase this service. Several film badge service companies are available. In either case, all monitoring records should be retained by management. Legal counsel will advise on what steps should be taken to ensure that such records will be admissible in court cases.

It is not wise to allow a person to work alone with large quantities of radioactive materials or on the off-shift since adequate help will not be available to cope with spills,

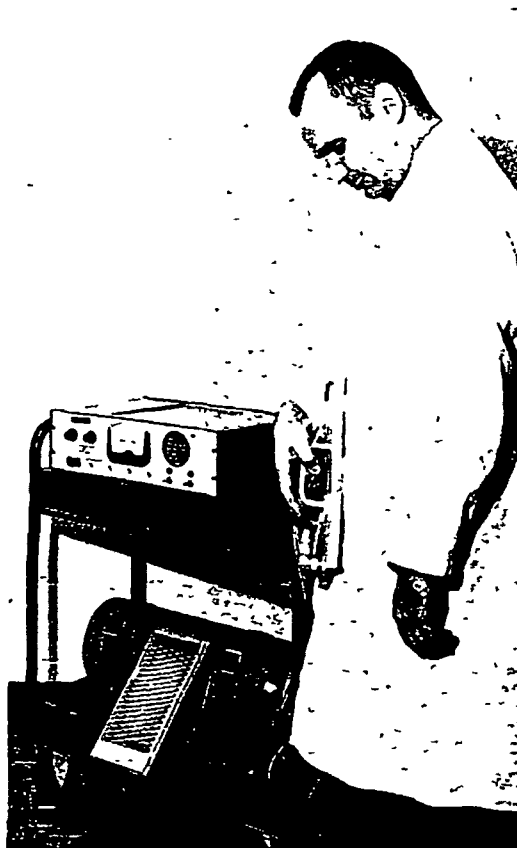


FIG 44-22 — Mobile personnel monitors at Argonne National Laboratory are provided throughout the facility for personnel working with radioactive materials. The instruments shown are designed to be used by a radiation worker to monitor his hands and clothing.

Courtesy Argonne National Laboratory

losses of material, or injuries involving radioactivity.

Adequate rules covering special clothing, bathing facilities, and protective equipment are required. Wearing contaminated clothing outside the control limits must be prohibited. If there is danger of ingestion of radioactive material, then smoking and eating should be limited to "clean" areas.

Medical examinations

Applicants for work with radiation devices and radioactive substances should have a