

Ionizing Radiation

a radiation monitor may complete 30 to 50 such surveys per month

An over-all figure of 5 radiation-safety monitors for every 300 persons actively working with radiation may be a good starting point to estimate the required number of monitoring personnel. It should be realized that the degree of activity (high-level or low-level) and the quantities employed (large or small) will determine the ratio to be used in a specific case.

Employees who are regularly assigned film badges may have their film packets processed and read weekly or less often. If more than a week elapses before unusual readings are investigated, details of exposure may be difficult to ascertain. If employees are issued direct reading pocket dosimeters, this difficulty may not arise. Although the film badge checking service may be purchased, the handling of film badges, dosimeters, and associated records still requires manpower.

Bio-assay samples for radionuclides are scheduled according to the potential exposures. On the average, two to three such analyses per year per exposed employee should be planned. In addition, a sample should be obtained from every newly hired and terminating employee. Some people may be sampled at infrequent intervals. Employees with low probability of exposure should be sampled at least yearly.

The environment of the plant property, including soil, water, air, plants, and animals, should be analyzed to establish the prevalence of naturally occurring radionuclides. The purpose of this work is to record a continuing history of trends in the local levels of radioactive materials. It is unnecessary if only tracer quantities of radionuclides are in use.

For example, five radiation-safety men (for monitoring duties *only*) will be needed for every 300 workers who are working with radiation. Additional men will be needed for *other* radiation safety work. These men can divide their duties as follows:

- 02 Personal exposure work (handling film badges—not including costs of processing film)
- 12 Instrument repair and maintenance
- 02 Waste pickup and handling
- 14 Decontamination work, handling con-

taminated materials

30 Total men for other work

Thus, in this case, 80 radiation-safety men (not including supervisors or overhead employees) will be needed.

Survey equipment will be required for routine work. Two or three portable instruments per surveyor (monitor) should be provided for low- and high-level measurements. The special equipment needed for bio-assay and background laboratory work should be procured by the person who is to make the analyses.

Nonionizing Radiation from Electronic Equipment

The "Radiation Control for Health and Safety Act of 1968" amends the Public Health Service Act to include control of "electronic product radiation." This includes all radiation—whether it be ionizing, nonionizing, electromagnetic, particulate, sonic, ultrasonic—resulting from the operation of an "electronic circuit." Among other things, the bill

- 1 Authorizes the U S Department of Health, Education, and Welfare (HEW) to set performance standards to control radiation from electronic products
- 2 Directs HEW to consult with industry, various associations, government agencies and labor in prescribing standards, and to consult with a Technical Committee prior to prescribing standards
- 3 Authorizes limited in-plant inspection by HEW based on findings as to safety
- 4 Requires HEW to review and evaluate industry testing programs
- 5 Requires manufacturers to affix a certification of conformance to applicable standards pursuant to testing programs not disapproved by HEW
- 6 Requires a manufacturer to repair a defect which relates to safe use, replace the product or refund the money, subject to HEW regulations