VII. NONIONIZING RADIATION MONITORS

Survey Meters and Personal Monitors

Application and Principle of Operation

Radio Frequency (RF) survey meters are used to measure both electric and magnetic fields from RF sources. RF meters must be selected based on the frequency of the radiation that is to be measured. Meters typically have interchangeable probes for measuring electric and magnetic fields. Some meters and probes are capable of performing spatial and temporal averaging for multiple frequencies and displaying measurement results in percent of exposure from guidelines recommended by one of several consensus standards.

RF personal monitors are used to measure personal RF exposures. These monitors are worn on the belt and continuously log personal exposures and provide an exposure result using a shaped frequency response.

Induced currents from RF exposure can be measured using a clamp-on induced current meter. Induced currents in the arms and legs can be measured using these devices.

Calibration

No field calibration is available. The CTC arranges for annual calibration.

HRT Availability

Narda 8860

The Narda 8860 personal RF monitor is used to monitor occupational exposures to RF sources within the frequency range of 100 kilohertz (kHz) – 100 gigahertz (GHz). The user can select from multiple alarm settings. The unit continuously logs RF exposure levels and reports results based on a shaped frequency response. Note that the exposure limit for microwave radiation in general industry, see 29 CFR 1910.97(a)(2)(i), is a 6-minute STEL, and that the primary effect of microwave radiation exposure is heating of body tissues, with the most sensitive organs being the eyes and testes.