**The Geiger Muller** (Geiger Counter) uses a gas-filled tube (cathode) surrounding a central electrode (anode) made of a fine tungsten wire. The counter detects individual particles or ions, however, too many ions will saturate the counter and it will lose accuracy.

**RSO – Radiation Safety Officer** – required for any company, education, medical or research facility that uses any form of Gamma or X-ray radiation.

**Survey Meter:** a device (ion chamber or Geiger-Muller counter) used to take a real time reading of ionizing radiation emissivity.

**Area Rate Alarms**: an alarm that sounds when the pre-set exposure rate is exceeded. The NRC requires that rate alarms be pre-set to 500 mR/hr, must be calibrated and tested annually and be +/- 20% of the true radiation dose rate to be considered calibrated and acceptable.

**Pocket Dosimeters** provide immediate indication of accumulated dose and have a 0-200 mR range value required by NRC. Dosimeters must be calibrated (zeroed) at the beginning of each shift. A pocket dosimeter serves a similar purpose to the radiographer’s film badge except a film badge records the dosage over a longer period (quarterly or annually).

**Film Badge:** The purpose of the film badge is to keep a detailed record of quarterly, annual, and lifetime radiation doses received by the radiographer. Film badges contain an actual film that is “exposed” and we read the exposure like we might read a radiograph that’s been exposed. After use, the film is removed from a packet that protects it from light exposure and developed to measure exposure

**TLD**, or thermoluminescent dosimeter is used like a film badge to keep a detailed record of quarterly, annual, and lifetime radiation doses received by the radiographer. TLD’s can be re-set and reused.

**OSLD** Optically stimulated luminescence Dosimeter is used like a film badge to keep a detailed record of quarterly, annual, and lifetime radiation doses received by the radiographer. The device that operates on the process in which a pre-irradiated (exposed to ionizing radiation) material when subjected to an appropriate optical stimulation, emits a light signal proportional to the absorbed dose.