Other Radiation Sources

- Radiation Producing Machine
  - Any device capable of producing ionizing radiation when the associated control devices are operated, except devices which produce radiation only by the use of radioactive material.
- Enclosed System
  - A radiation producing machine which satisfies the requirement that all areas with exposure rates greater than 0.25 mR/hr are enclosed within an interlocked barrier.
- Open Systems
  - Any other radiation producing machine that does not fit the definition for an enclosed system. Examples are x-ray diffraction and radiography units, particle accelerators, electron microscopes, tokamaks, and high voltage rectifiers operating above 10kV.

Other Radiation Sources

- Safety Precautions
  - Follow manufacturer's or instructor's instructions
  - Follow Standard Operating Procedures
  - Do not alter the equipment in any way
  - Always wear the proper personal protective equipment

Other Radiation Sources

- Sealed Sources
  - Radioactive material permanently fixed or bonded to prevent release of radioactive material under the most severed conditions which are likely to be encountered under normal use and handling
  - Even though sources may be considered “low level” sources please handle as little as possible.

Other Radiation Sources

- Sealed Sources
  - Examples:
    - H3 – gas sealed, luminous articles
    - P32 – Self luminous light source
    - Co57- Check sources
    - Co60 – Industrial, radiotherapy, clinical therapy, sterilization, gauging
    - Ni63 - Gauging
    - Kr85 – Opthamalic applicators, thickness gauge, check sources
    - Sr99 – Bone mineral analyzers, seeds, Industrial radiography, calibration, brachytherapy, teletherapy
    - Cs137 – Industrial radiography, clinical therapy, Lightning conductors
    - Ir192 - Neutron sources, well logging moisture gauges
    - Ra226 – Foil thickness measurements, lightning conductors, smoke detectors

Radiation Safety Resources

- The University of Vermont , UVM Risk Management and Safety: Radiation Safety.
- Idaho State University , The Radiation Information Network.
- Iowa Department of Health and Human Services , Bureau of Radiological Health.
- U.S. Environmental Protection Agency , Radiation Protection.
- Iowa State University Environmental Health and Safet y, Radioactive Materials Safety Manual.