Current Topics in Radiation Safety
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Objectives

• Introduce Current Compliance Issues at Iowa State University

• Reasons for Completing Annual Radiation Safety Training

• Answer Your Questions
Compliance Issue

• Committee Approvals

  • Institutional Review Board (IRB)
  • Institutional Biosafety Committee (IBC)
  • Institutional Animal Care and Use Committee (IACUC)
  • Radiation Safety Committee (RSC)

All research at Iowa State University using radiation must be reviewed and approved by the Radiation Safety Committee.

IRB, IBC and IACUC do not approve radiation use
Compliance Issue

• Each protocol using radiation must be approved by the RSC.
  
  • Researchers are not approved to use radiation in services provided to other laboratories unless the specific approval has been reviewed and approved by the RSC.
  
  • Research Centers
    • Centers will document operations, user training, etc.
    • EH&S will audit annually

  Academic course, shared instrument labs, ambitious researchers
Annual Radiation Safety Training

- Why is training required annually?
  - 641—40.111(136C) Instructions to workers
    - Storage, exposure, radiation effects, etc.
  - Protection of workers and the general public
  - 100 mRem dose limit to general public (non rad lab workers)
    - Both internal and external exposures
      - 1.6 mCi 3-H
      - 40 uCi 14-C
      - 12 uCi 32-P
      - 0.6 uCi 90-Sr
      - 0.8 uCi 125-I
Lessons

- Lost/Missing/Stolen Sources – Source Management
  Potential Misuse: over exposures, dirty bombs, etc.
  Public Relations Nightmare
  Social Media, News Media, etc.
  Compliance Response(s)
  Tort Claims

Examples:
- MIT researcher intentionally poisoned with 32-P (one drop, 579 uCi)
- Alexander Litvinenko, Russian KGB, 50 mCi (10 ug 210-Po)
- Pregnant NCI researcher poisoned with P-32

Could this be your lab? What would you do?
Questions?