ALPHA Radiation Safety Program

Andrew Edwards, ARSO
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RADIATION SAFETY TRAINING

- Onsite Safety Staff
- Training time
- Requirements
- Purpose
- Regulatory Basis
- Standard Operating Procedures
- Personnel Dosimeters
- Shipping Irradiated Samples
- Other Safety Issues
The ONSITE SAFETY STAFF at the Center for Exploration of Energy and Matter

Andrew Edwards
➢ Accelerator Radiation Safety Officer

Randy Evans
➢ Occupational Safety Coordinator for Research Safety

Charles Nelson
➢ Radiation Safety Specialist
TRAINING TIME

• Question: How long is the training?
• Answer:
  - It depends on the individual being trained and the understanding of the material presented. 20 minutes +
  - Also, we request that users of the facility take the online training before arriving to help facilitate the training process.
REQUIREMENTS TO WORK IN “RESTRICTED AREAS”

• Attend a Radiation Safety Orientation or Complete the Online Training
• Read the ALPHA Radiation Safety Manual
• Complete the Operational Procedure Review
PURPOSE OF TRAINING

TO INFORM WORKERS OF:

• Locations of potential radiation hazards
• Health risks due to radiation exposure
• Principles and procedures for minimizing radiation exposure
• Responsibility for reporting unsafe conditions
• Procedures for responding to emergencies or unusual events that may involve radiation exposure
REGULATORY BASIS

- Indiana Administrative Code - 410 IAC 5
  Indiana State Department of Health

- Code of Federal Regulations - 10 CFR 19
  U.S. Nuclear Regulatory Commission
STANDARD OPERATING PROCEDURES

- Entering, working in, and exiting interlocked areas
- Altering safety systems
- Surveying parts for activation
- Handling radioactive parts
- Machining radioactive parts
- Using radioactive sources

NCRP Report No. 144, *Radiation Protection for Particle Accelerator Facilities*
PERSONNEL DOSIMETERS

• Issued to individuals likely to receive an external dose of 0.5 rem or more in one year

• Must be worn when working in restricted areas

• Must be stored properly

• Must be returned promptly for analysis
SHIPPING RADIOACTIVE MATERIALS

• 49 CFR 100-185 for DOT regulations, IATA for air transport

• “Limited Quantities” of radioactive materials – 49 CFR 173.421

Certification through Dangerous Goods International (DGI) for radioactive materials shipping
OTHER SAFETY ISSUES

- Use of lasers
- “Open” high voltage circuits
- Energized capacitors
- Chemicals
- Powders
- Use of x-ray equipment
- Energized magnets / health problems
• Questions?

• Comments?