

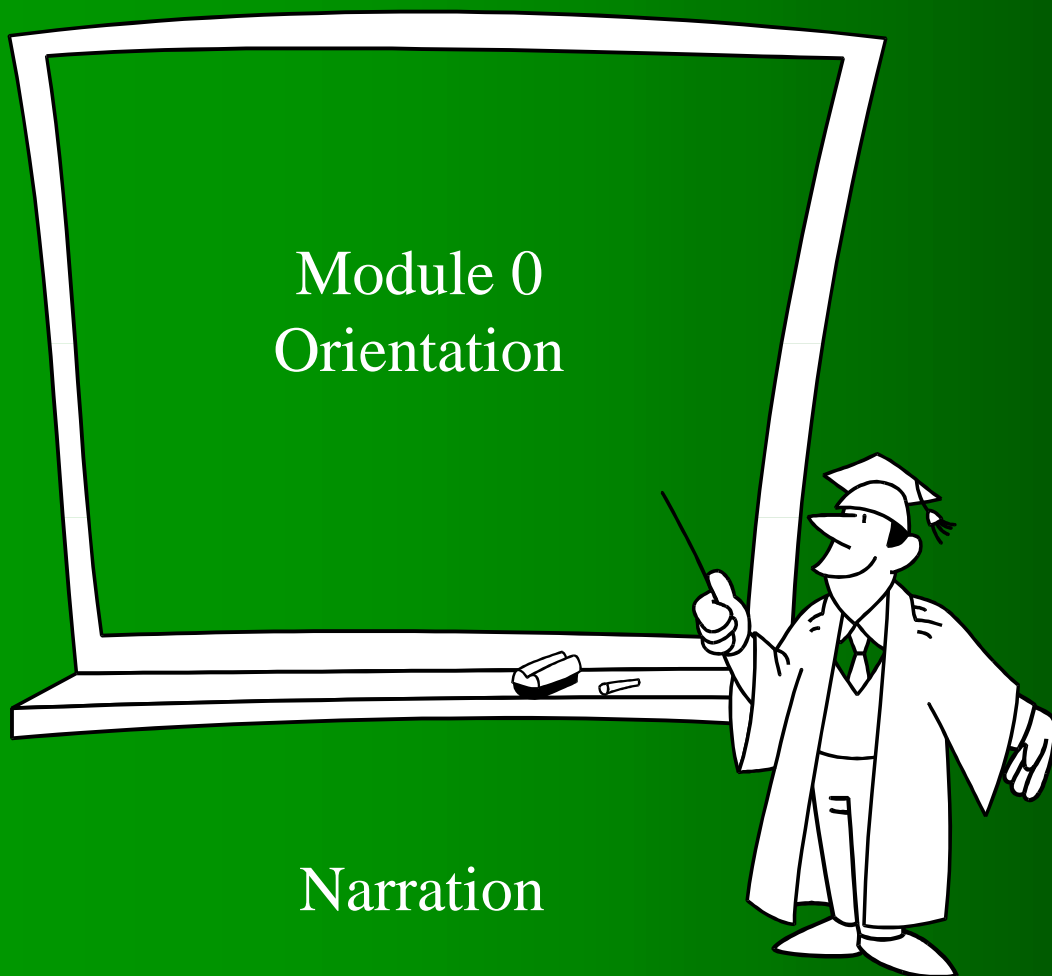


Radiation Control Office  
Radiation Safety Training

Module 0 - Orientation

# Directions for this Course

Module 0  
Orientation



Narration

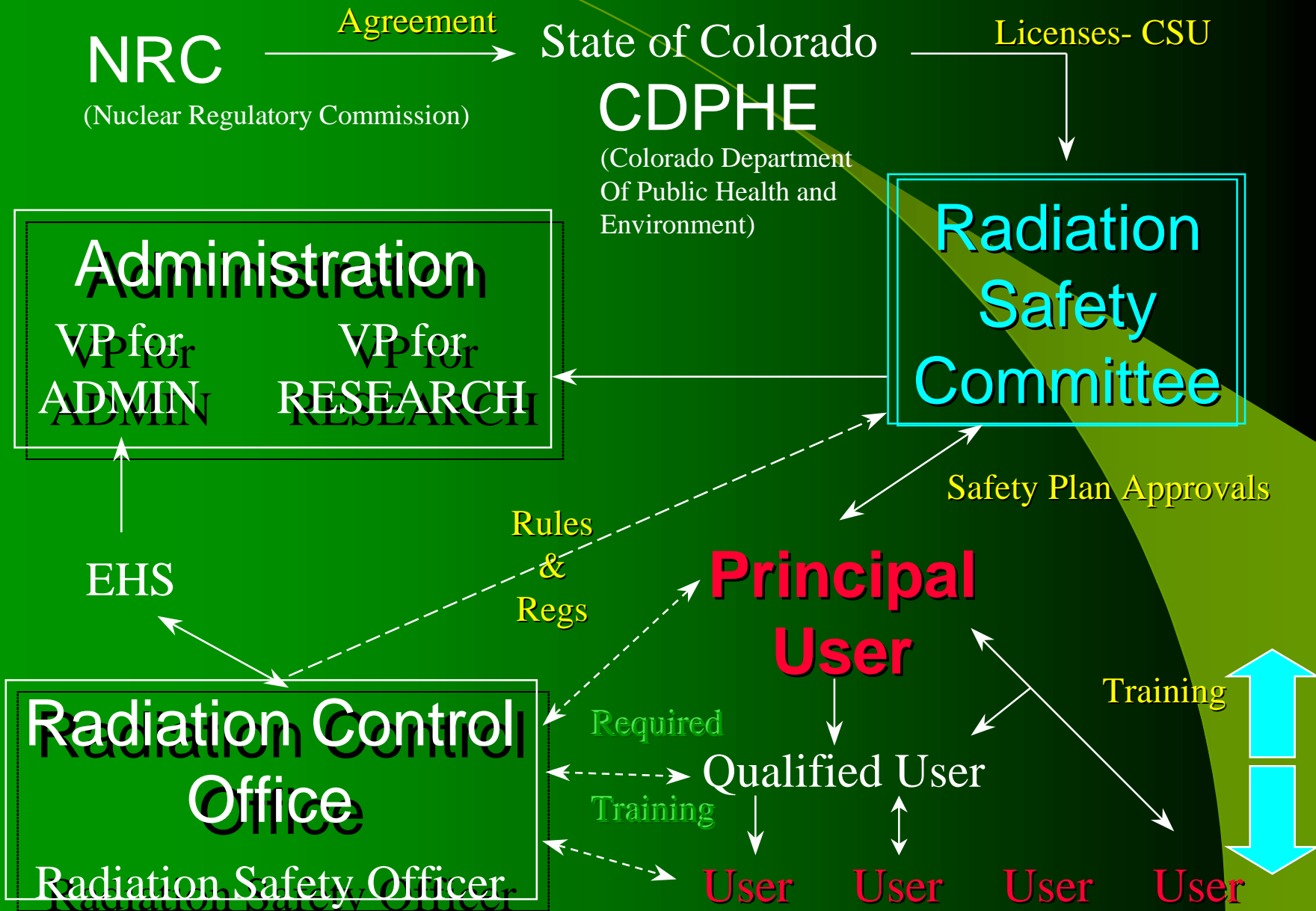


# OUTLINE

- RADIATION SAFETY PROGRAM ORGANIZATION
- REQUIRED RULES REGULATIONS AND REPORTS
- RADIATION USE AND STORAGE LOCATIONS AT CSU
- POSTINGS AND WARNINGS
- HEALTH EFFECTS
- ALARA
- PROTECTIVE DEVICES
- REPORTING RESPONSIBILITIES
- REQUIRED FORMS



# Colorado State University Radiation Safety Program Organization



# CDPHE - Rules & Regulations

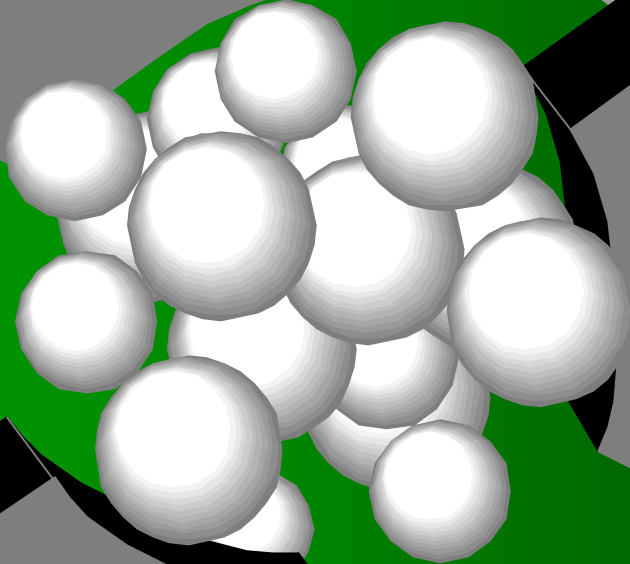


- shall be kept informed of the storage, transfer, or use of sources of radiation
  - shall be instructed in the health protection problems associated with exposure to radiation
  - shall be instructed in precautions or procedures to minimize exposure
  - shall be instructed on the functions of protective devices
- 
- shall be instructed in, the applicable provisions of these regulations and licenses
  - shall be instructed of their responsibility to report promptly any condition which may cause a violation of the Act, these regulations, and licenses or unnecessary exposure to radiation or radioactive material
  - shall be instructed in the appropriate response to warnings
  - shall be advised as to the radiation exposure reports
  - If you are exposed to more radiation, then you are required to have more training



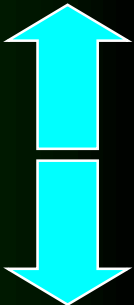
**All of this is outlined in your Radiation Control Manual**

# RADIATION CONTROL Manual



Colorado  
State  
University

- Purpose
- Policy
- Responsibilities
- Basis for Radiation Protection Programs
- User Definitions and Responsibilities
- Project Approvals
- Radiation Safety Training
- Acquisition of Radiation Sources
- Radioactive Waste Management
- Control and Monitoring of External and Internal Exposures
- Laboratory Radiation Safety Evaluations
- Transportation of Radioactive Materials
- Emergency Procedures
- Bibliography
- Glossary
- Index



# Main Campus Sources

Dispersible Radioisotopes used for Research



Dispersible Radioisotopes used for Biological and Environmental Research are the Most Common Forms of Radioactive Materials at Colorado State University



# Other Main Campus Sources



Cesium-137 source  
Used for Campus Instrument Calibrations



Cabinet X-Ray Machine



Sealed Source (SS) Used for Instrument  
Quality Control in Laboratories





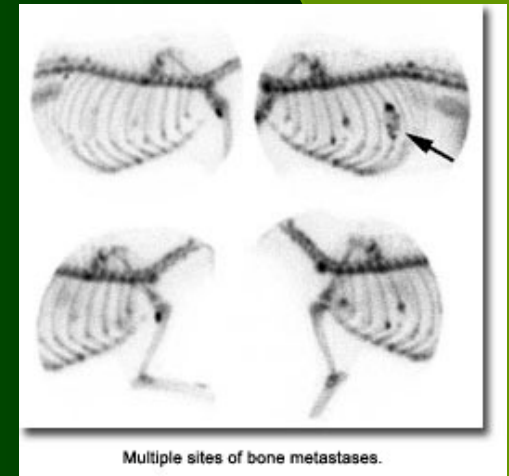
# Veterinary Teaching Hospital Sources



Animal X-Ray Machine



Nuclear Medicine  
Use of  
Dispersible  
Radioisotopes



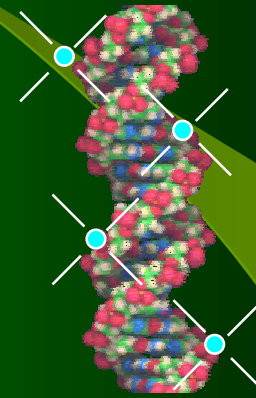
# Locations of Use



# Health Effects of Radiation

Ionizing Radiation can directly and indirectly damage DNA

*Radiation*



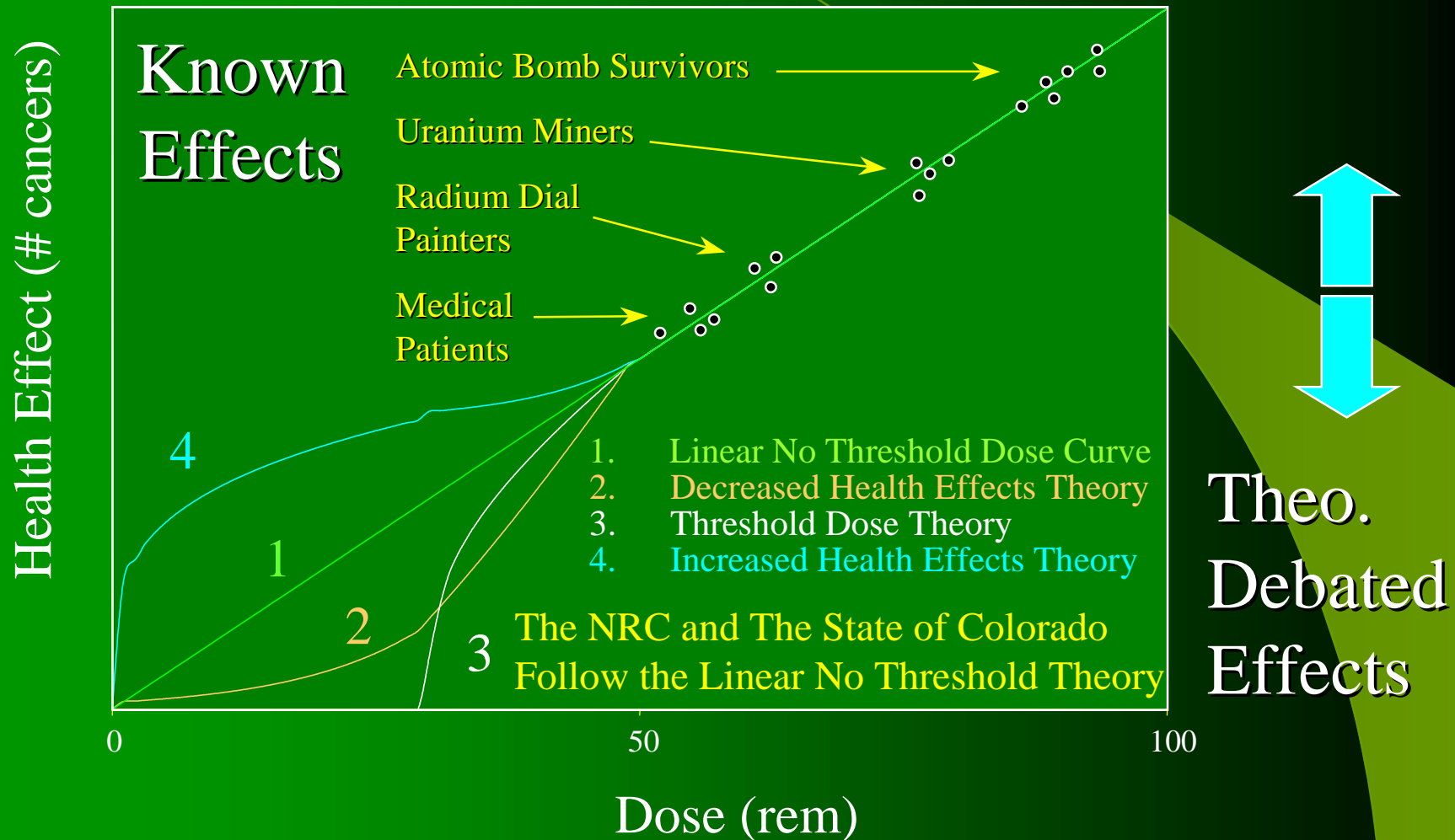
*DNA  
Double  
Helix*

Depending on the kind of radiation, the total dose, the rate of dose, etc., the health effects vary widely, but in general:

- **Biochemical** effects are seen in SECONDS
- **Cell division** effects are seen in HOURS
- **Gastrointestinal** and Central Nervous System effects may be seen in a matter of DAYS
- **CANCER** may be seen in YEARS
- **Genetic** Effects may be seen in OFFSPRING



# Dose Response Model



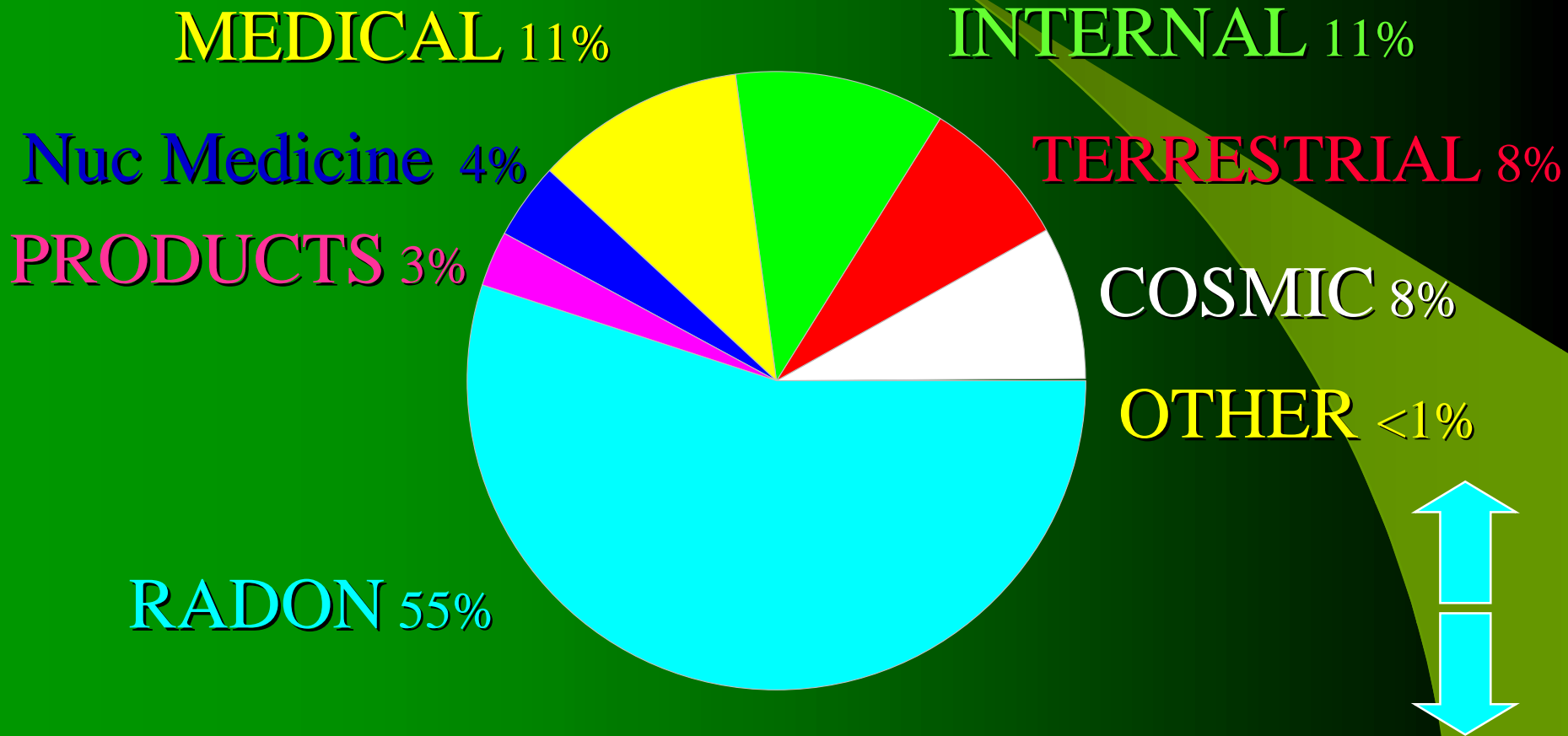
# Radiation Dose in Perspective

- Health effects are seen only when dose exceeds **10 rem** and at a high dose rate
- Occupational radiation doses are monitored and limited to **5 rem**
- For 95% of the Radiation Users at CSU, doses are **too low to measure**



# Background Radiation Dose

Average Background Dose in U.S. is ~360 mrem.

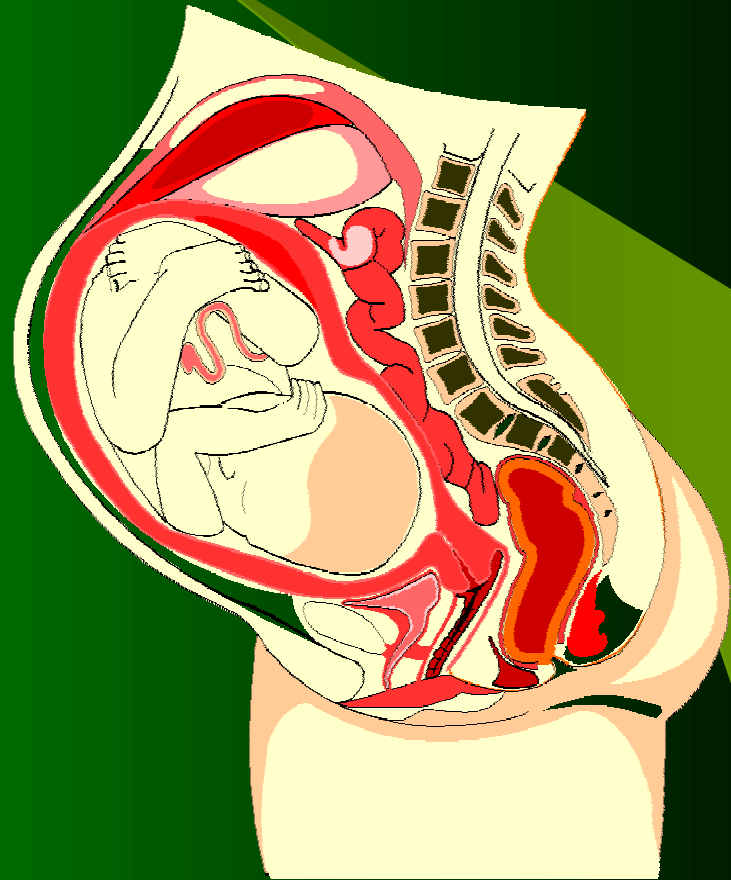


*Average Background Dose In Colorado it is ~ 450 mrem*

# Radiation Effects for Embryo

## Declaration of Pregnancy for Occupational Mothers

- Rapidly dividing and non-specialized cells are more sensitive to radiation
- Birth defects have been observed
- Dose limit to embryo / fetus is **500 mrem** for the gestation period
- Avoid substantial variation during the gestation period





# Protecting the Embryo/Fetus

- The only way to protect the embryo/fetus from excess radiation is to **protect the mother**
  - “Belly” badge for the baby is issued
  - Bioassay for radioactive material intake is initiated and repeated monthly
- Dose to baby is measured/ estimated and reported
- Historically, pregnant women were not allowed to work with radiation
  - Loss of position and Loss of pay
- To protect her baby, **a mother must voluntarily, in writing, declare herself pregnant**
  - Present to *Principal User/Supervisor* and to *the Radiation Control Office*
- Additional information is available through the Radiation Control Office
- Confidential discussions with RSO about radiation risks to embryo/fetus
  - Even if just planning to get pregnant
  - Arrangements may be made to discuss with female radiation health professional





# ALARA

**A**

As

**L**

Low

**A**

As

**R**

Reasonably

**A**

Achievable

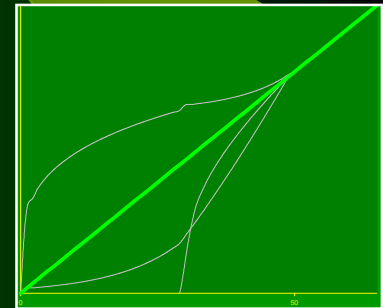
## Philosophy

Radiation doses are kept as low as possible

Stems from Linear-No-Threshold dose model

ALARA program required by Federal and State regulations

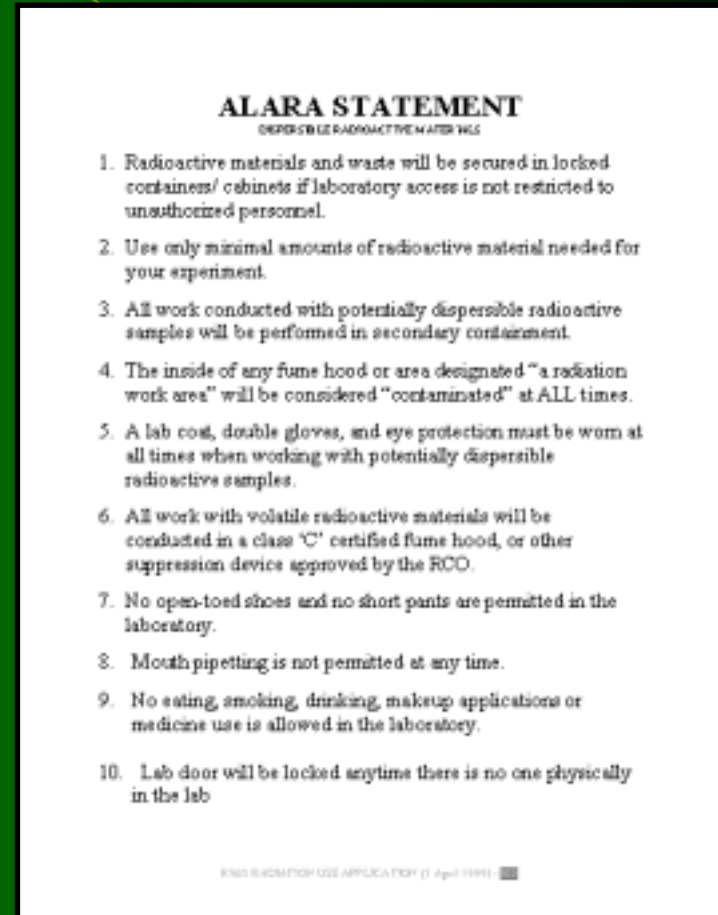
LNT Model



# ALARA Requirements

*Find this posting in your lab*

- Each laboratory or approved radiation use must have an individual ALARA program
- ALARA rules **must be posted** and taught to each radiation user
- What is “**Reasonably Achievable?**” Consider the following factors:
  - Dose Limits, Regulations, Social Impacts, Economic Impacts

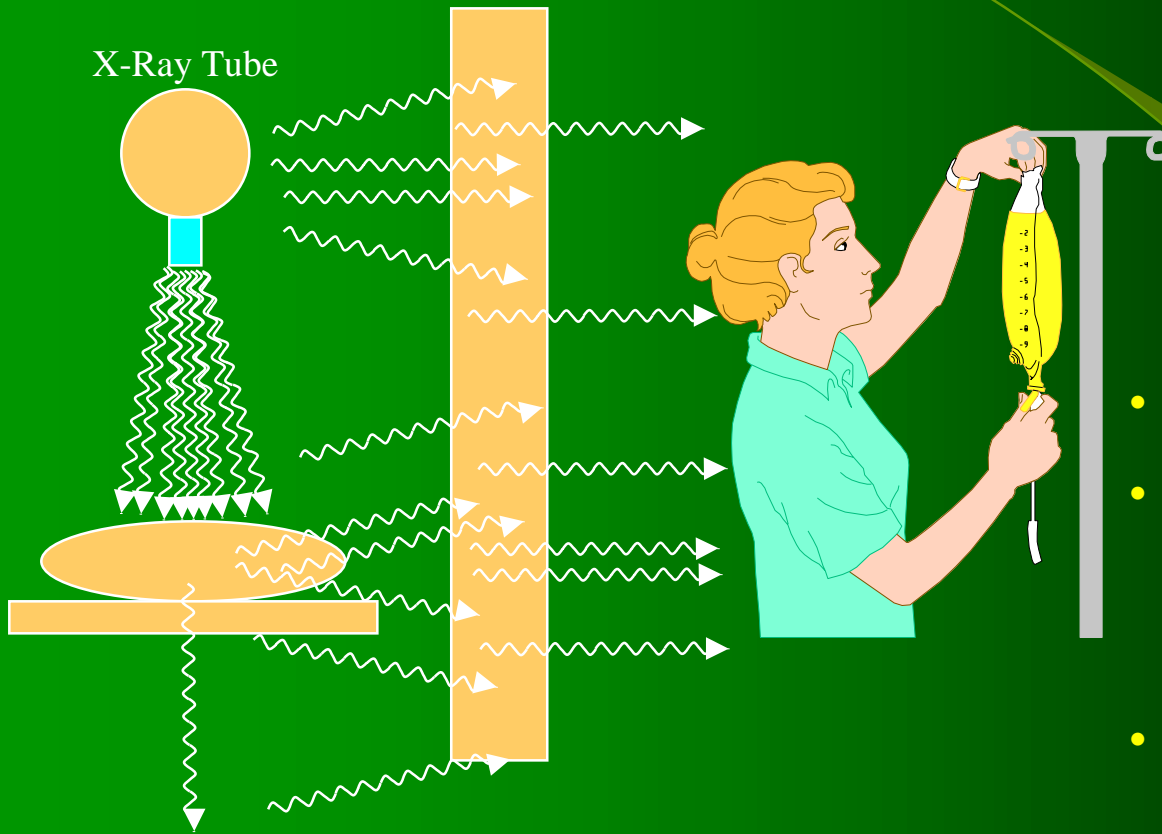


**AND READ IT !!**



# ALARA Example 1

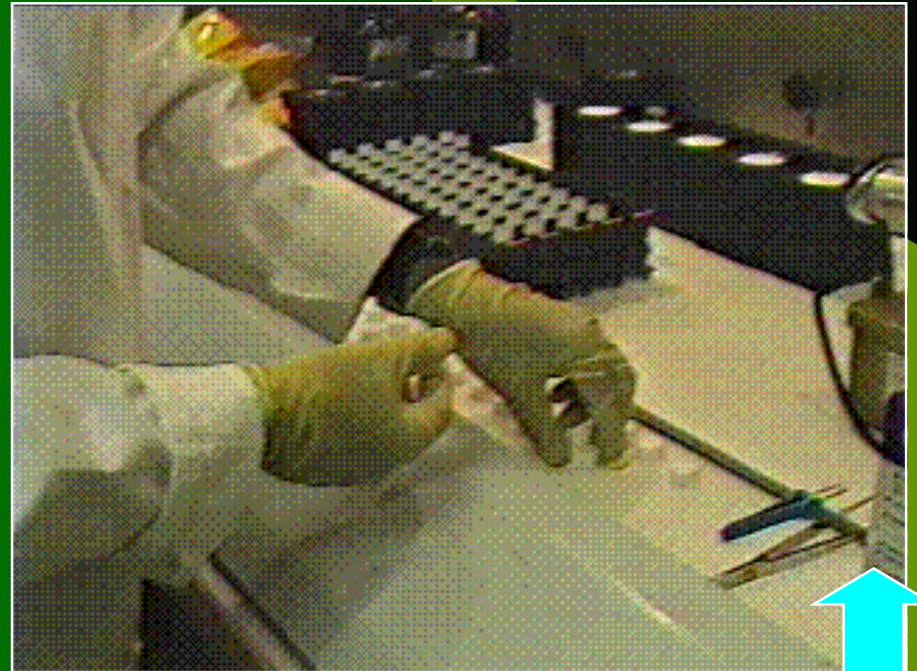
X-ray room



- Nurse near x-ray room
- Reduce dose from 40 mrem to 20 mrem by adding shielding
- Cost of shielding is \$10,000
- Employee satisfaction with increased safety?

# ALARA Example 2

- Lab worker routinely uses “hot” samples of P-32
- Accidental spill on hands could result in a skin dose above limit
- Should the worker wear one pair of gloves? Two pairs?



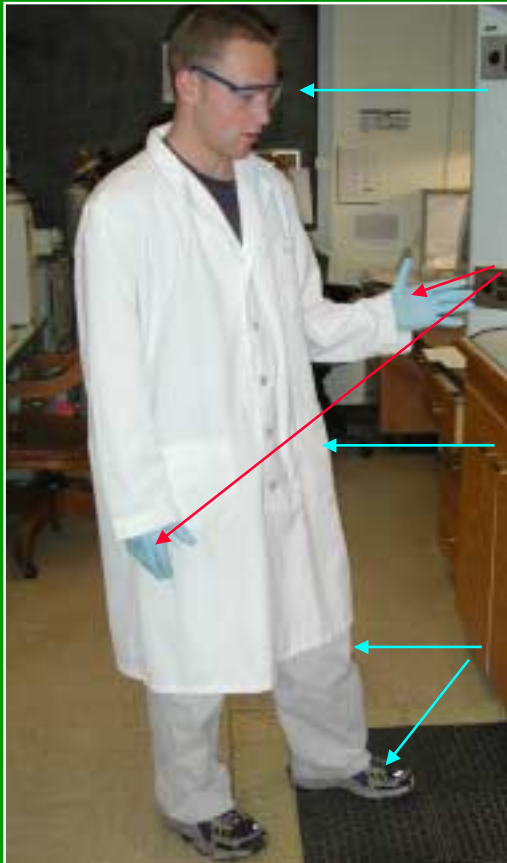
# ALARA - Summary

- ALARA programs are required for each laboratory or use of radiation
- Learn the **ALARA** rules for your lab
- Review your work practices with the concept of ALARA in mind
- Review the ALARA rules at least annually



# Personal Protective Equipment

Required for using Radioisotopes



Eye Protection

Latex Gloves

Lab Coat

Complete Coverage  
Feet and Legs

- PPE is worn on the body
- Primary purpose is to provide a barrier to radioactive materials or radiation

Full Length Dresses or  
Pants ONLY

- No Shorts
- No Half Shorts
- No Open-Toed Shoes
- No Mini-Skirts



# Minimum PPE for X-ray

Depending on your work, PPE may include:

Lead Goggles



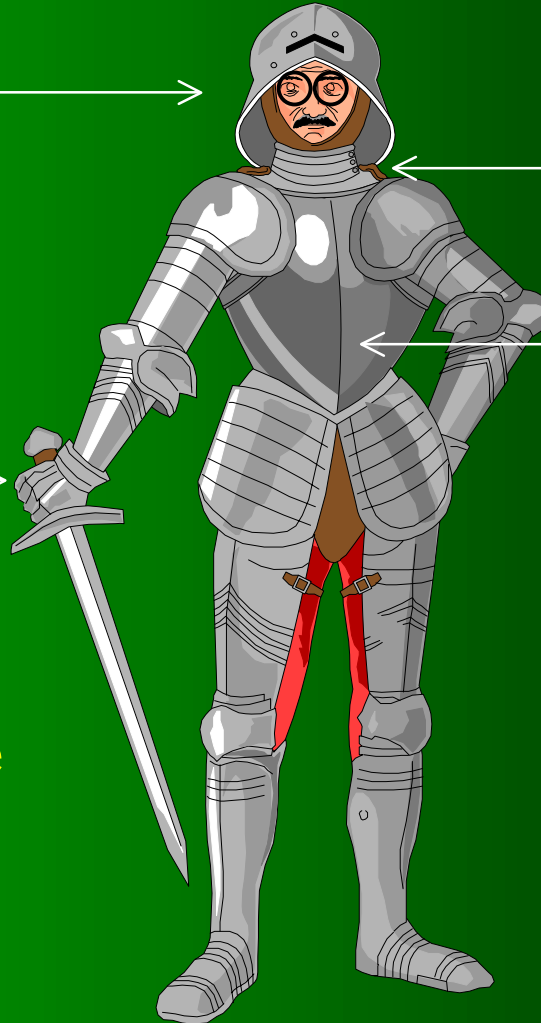
Thyroid Collar



Lead Apron



Lead Gloves



**Protective Devices are  
for Scatter Radiation  
ONLY**

**No one is permitted  
to be exposed to the  
primary beam**





# Other Protective Devices

## FUME HOODS

Prevent the inhalation of dispersible  
Radioactive materials -- dusts, mists,  
vapors, gasses, etc.



## INTERLOCKS

Physical, mechanical, or electrical safety  
Features built into machines to prevent the  
Operator from exposing themselves and others  
To radiation from the machine itself

Examples:

X-ray machines  
Irradiators





# Protective Devices - con't

- Shielding
  - Place material between the radiation and the user
- Examples
  - Lead
  - Plastic
  - Steel
  - Concrete



# Protective Devices - Summary

- Principal User must provide
- Find out what PPE and other devices are available in your lab
- Learn how to properly use all protective devices from your PU or another qualified user



# Colorado Department of Public Health and Environment

## Applicable Regulations



- Key Parts of the “Rules and Regulations Pertaining to Radiation Control”
- **Part 4:** Radiation Protection Standards
- **Part 10:** Workers’ Info
- and **Part 6** for X-ray users



# Standards for Protection Against Radiation

## Part 4 of the State Rules and Regulations

- RH 4.5 Radiation Protection **Program**
  - Met for the University via the Radiation Control Manual
- RH 4.6-4.13 Radiation **Dose Limits**
  - Also listed in the Radiation Control Manual
  - Dose Limits for the PUBLIC
    - The University and all radiation users are responsible for protecting the public to meet ALARA principle



# Radiation Surveys

(Part 4 of the State Rules and Regulations)



- RH 4.16-4.18 requires radiation **surveys and monitoring**
- RH 4.19-4.21 lists requirements to **control access** to Radiation Areas
- RH 4.22-4.24 discusses **internal exposures**



# Radioactive Materials Security

(Part 4 of the State Rules and Regulations)

- RH 4.25-.26 lists SECURITY requirements
  - Recent incidents in other states have prompted the NRC to increase security requirements
  - The State of Colorado has asked CSU to address security issues
- All sources of radiation must be secured against theft or use by unauthorized individuals - CHECK SECURITY IN YOUR LAB !!



# Radiation Postings / Labels

(Part 4 of the State Rules and Regulations)

RH 4.27 - RH 4.31 lists requirements for:

- **posting or labeling**
  - Rooms
  - Containers
  - Machines
- exemptions to above

RH 4.32 requires specific methods to receive and open **radioactive shipments**

**Standard  
Radiation  
Symbol  
“Tre-Foil”**



Radiation signs contain important information.

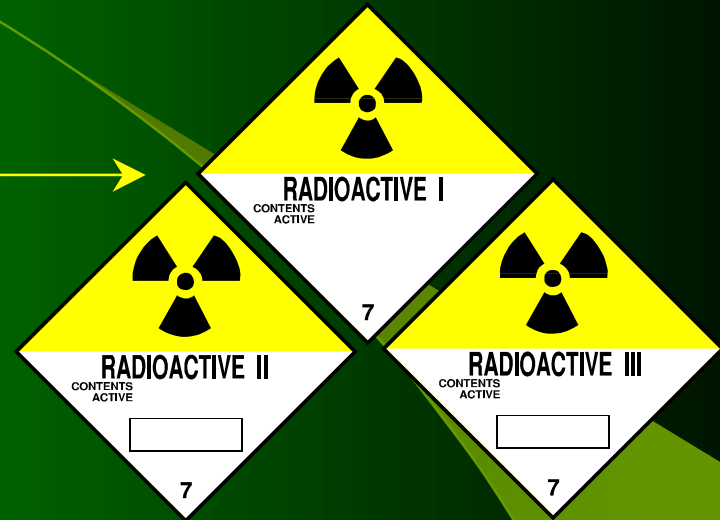
If you don't know about the radiation or radioactive materials

**ASK !!! BE FOREWARNED**



# It's on the streets ...

## Transportation Placards And Labels





# Radioactive Waste

(Part 4 of the State Rules and Regulations)



- RH 4.33-4.39 deal with proper methods to dispose of waste
  - **Solid** waste
  - **Sewer** discharge



- CSU has detailed and specific instructions for users generating radioactive waste
  - **Module 3** training is required for all generators



# So Many Regulations...

## Why?

Since 1945, the American PUBLIC has demanded...



## Government Control of Radiation

Government bureaucracies control by accountability, which means...

Paperwork, forms, etc., which means

***RECORD KEEPING***

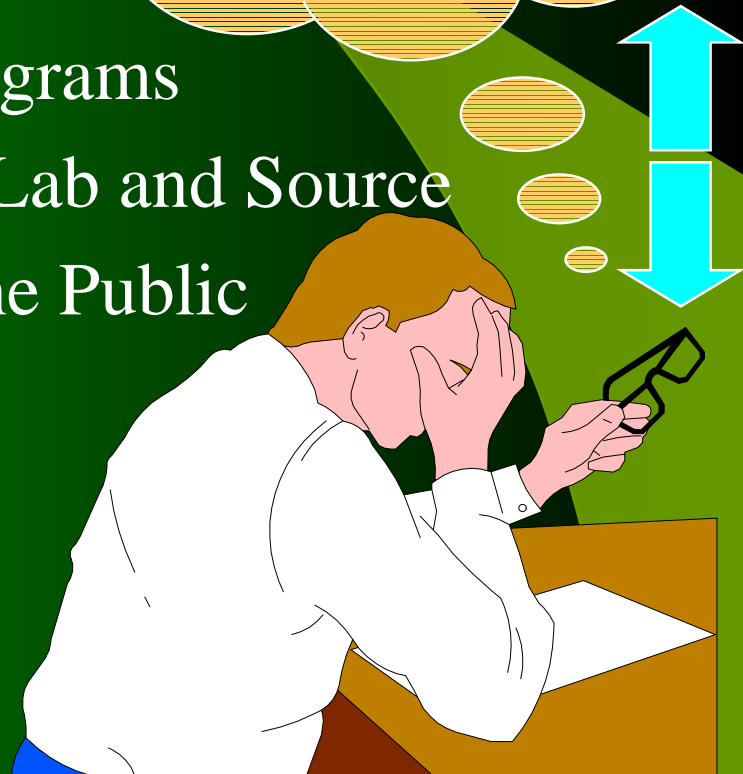


# RECORDS

(Part 4 of the State Rules and Regulations)

- Required Records include:

- Laboratory Radiation Safety Programs
- Contamination Surveys of each Lab and Source
- Dose Monitoring to Users and the Public
- Radioactive Materials Inventory
- Waste Disposals
- Security and Safety Tests



# REPORTS

(Part 4 of the State Rules and Regulations)

**RF-46 EXTERNAL EXPOSURE INVESTIGATION REPORT**

Name: \_\_\_\_\_ CSU ID No.: \_\_\_\_\_  
Work Location: \_\_\_\_\_ Floor: \_\_\_\_\_  
Personal Size: \_\_\_\_\_ Department: \_\_\_\_\_

REASON FOR INVESTIGATION:  Occurrence resulting in a report: \_\_\_\_\_

Survey #: \_\_\_\_\_ Date: \_\_\_\_\_ Calibration: \_\_\_\_\_ Radioisotope Isotope: \_\_\_\_\_ Organ (Area): \_\_\_\_\_  
Regional dose - Staffer: \_\_\_\_\_ mSv \_\_\_\_\_ mSv \_\_\_\_\_ mSv  
Regional dose - Dept: \_\_\_\_\_ mSv \_\_\_\_\_ mSv \_\_\_\_\_ mSv  
Effective dose (Total of organ area) - 4 SAC - 1 TB - \_\_\_\_\_ mSv

Report received by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_  
Additional reference dose: \_\_\_\_\_  Annual

NOTIFY CS PRE-SAC (and PSC, if applicable) and check category: \_\_\_\_\_  
 IMMEDIATE NOTIFICATION IF REPORTED OR POTENTIAL DOSE EXCEEDS 3 x ANNUAL LIMIT  
 NOTIFICATION WITHIN 14 DAYS IF REPORTED OR POTENTIAL DOSE EXCEEDS ANNUAL LIMIT

Local Notification by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 WRITTEN REPORT PROVIDED WITHIN 14 DAYS FOR ANY DOSE THAT EXCEEDS ANY LIMIT

RESULTS OF INVESTIGATION (per Commission or surrogate):  
Employee involved by: \_\_\_\_\_ Date: \_\_\_\_\_  
Specific action taken:  Yes  No Date: \_\_\_\_\_  
Valid dose rate(s) verified by: \_\_\_\_\_ Date: \_\_\_\_\_  
Valid dose rate(s) verified by: \_\_\_\_\_ Date: \_\_\_\_\_  
Additional reference dose: \_\_\_\_\_  Annual

RECOMMENDATIONS TO PREVENT RECURRENCE:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Additional reference dose: \_\_\_\_\_  Annual

Reported by: \_\_\_\_\_ Date: \_\_\_\_\_

RF-46 EXTERNAL EXPOSURE INVESTIGATION AND REPORTING (April 1981)

- Reports to State
  - Incidents
  - Lost, stolen , broken radioactive materials
  - Radiation Levels
- Reports to individuals
  - Dose Monitoring
    - Discussed later



# Notices, Instructions, and Reports to Workers

## Part 10 of the State Rules and Regulations

- Covers important laws for employers and rights of the Radiation Workers
  - Posting of **Notice to Workers**
  - Required **Training**
  - Calling for **Inspections**
  - Required **Reports** to Workers



# Notice to Workers

(Part 10 of the State Rules and Regulations)

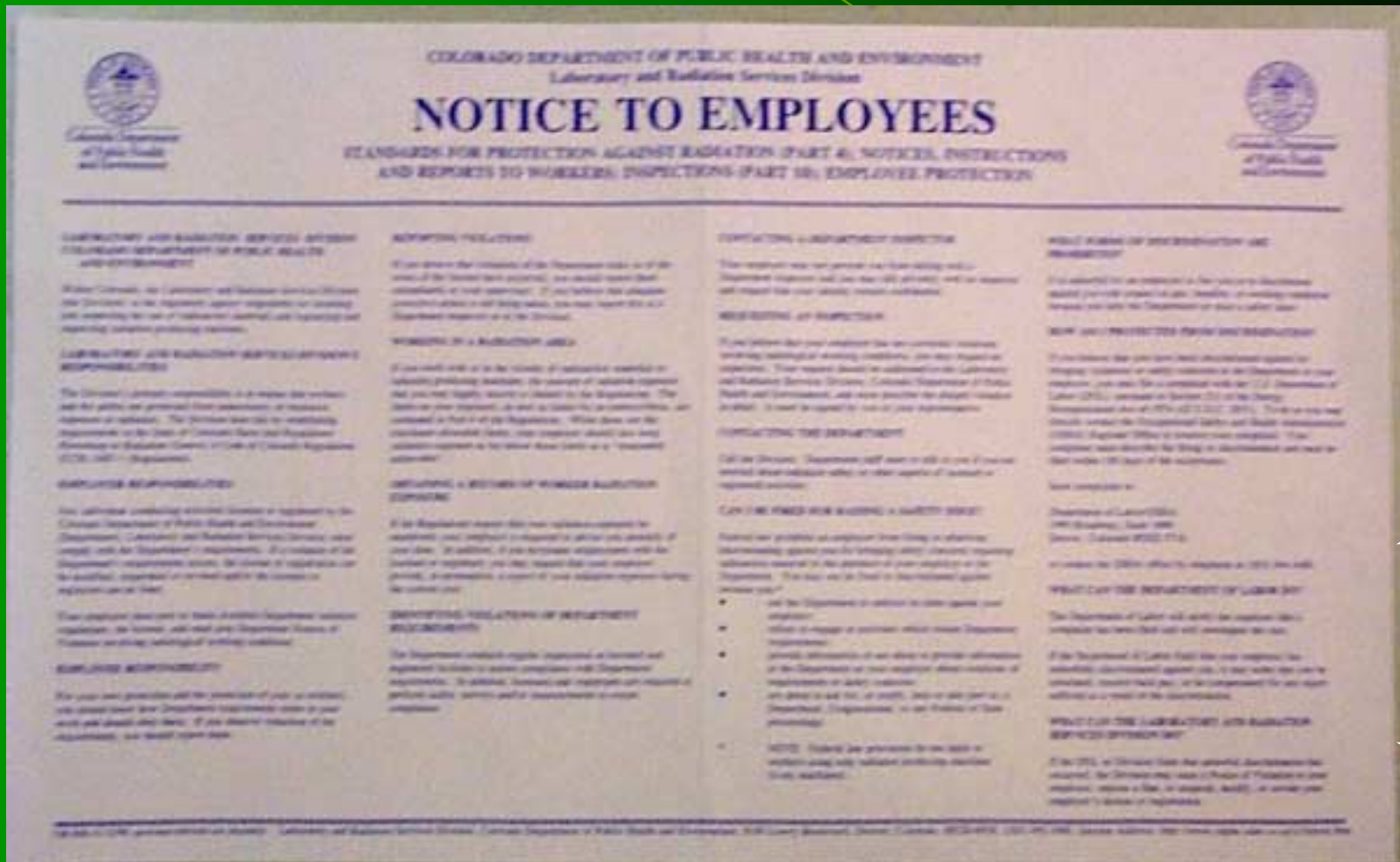
- Must be posted at the entrance to each lab where radioactive materials are used
- Employer & Employee Responsibilities
- Responsibility to Report Violations
- Laws Protecting “**Whistle Blowers**”
- Instructions on Contacting State & Federal Agencies





# Notice to Workers

Find it ...



and READ IT !!

# Inspections, Training, Dosimetry

(Part 10 of the State Rules and Regulations)

- Inspections

You have the right to ask for a radiation safety inspection from the University or the State

The State has the right to interview every radiation worker during safety inspections

- Training

Your training must be commensurate with the Radiation Hazards at the University

- Dosimetry Reports





# X-ray Users should consult

## Part 6: X-rays in the Healing Arts

- General requirements for x-ray use
  - Machine requirements
  - Minimum required training
  - Distance and shielding requirements
- Specific types of x-ray devices
  - Includes veterinary uses
- Restrictions and Limitations
- Take Module 8 for more information

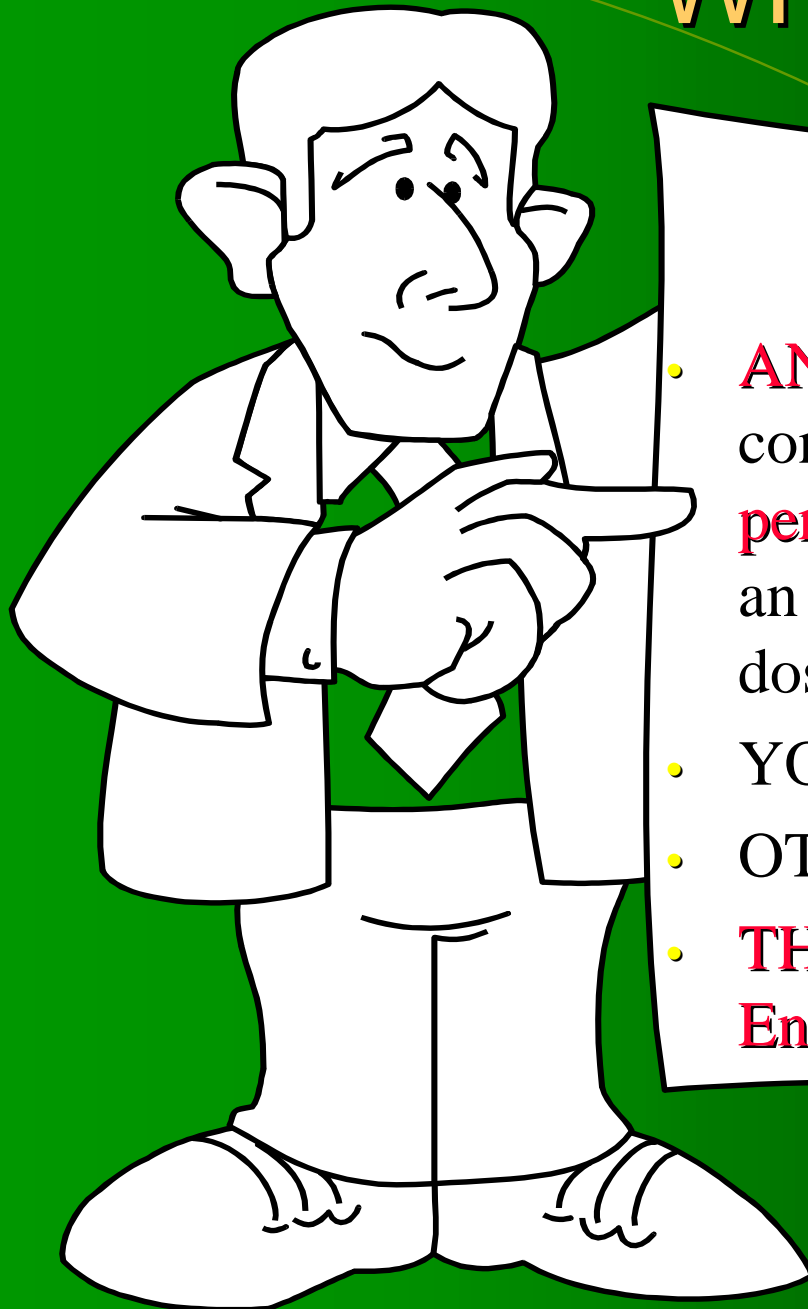


# Rules & Regulations

Complete copies of the Federal, State, and CSU rules and regulations concerning radiation safety, as well as complete copies of our licenses and registrations are available in the Radiation Control Office.



# What Do You Report ?



- **ANY EVENT** incident or condition, **real or perceived**, that may cause an excessive radiation dose to:
  - YOURSELF
  - OTHER WORKERS
  - **THE PUBLIC** or the **Environment**



# Report to Whom?



During Business Hours Contact the  
Radiation Control Office or the  
VTH Radiation Technician  
After Hours Contact CSU PD

For **FIRE**, Life Threatening Emergencies,  
or Eminent Danger:

**IMMEDIATELY  
CALL  
911**



# For Radiation Emergencies...

- Immediately call
  - **RADIATION SAFETY OFFICER... x3736**
  - **VTH RADIATION TECHNICIAN.. x4439**
  - Alternate RSO.....x3928
  - Radiation Control Technician.....x4835
- If no answer, call
  - **Environmental Health Services.....x6745**
- After hours, call
  - **CSU Police Department..... x6425 (911)**



- **See the back cover of your Radiation Control Manual.**
- The Manual also lists Radiation Emergency Procedures

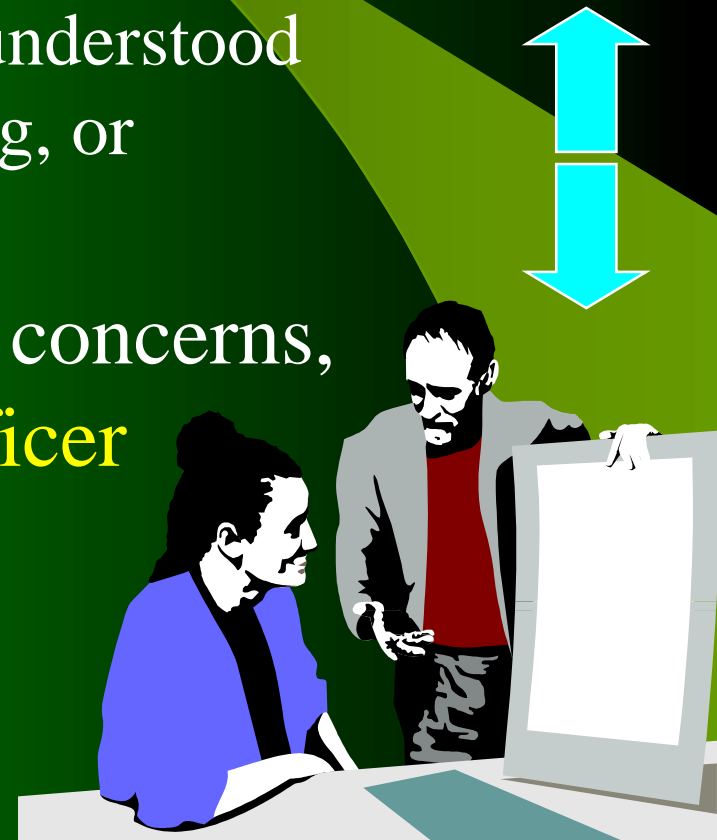
# Environmental Health Services

- Maintains an around the clock **Emergency Response Team**
- Will be able to contact University **Radiation Safety Personnel** for immediate response
- Will respond to other hazardous conditions



# For Radiation Concerns...

- Take all radiation safety concerns, no matter how inconsequential, to your **Principal User**
  - The matter should be discussed
  - Often radiation concerns may be understood with additional instruction, training, or education
- If your PU does not satisfy your concerns, contact the **Radiation Safety Officer**





# Rights / Responsibilities



- Not only do you have the **RIGHT** to report unsafe conditions,
  - protected under the Notice to Workers
- You have the **RESPONSIBILITY** to report these same conditions



- You have the **right** and the **responsibility** to have all radiation safety concerns addressed to your satisfaction even if you have to take them to the State or Federal authorities



# Laboratory Postings Required

“Notice to Workers” and Emergency Contact Information should be posted at the entrance to your lab or radiation work space.

Caution Sign and Hazards

Radioactive Materials Posting

Lab Emergency Phone Numbers

Colorado Notice to Workers

RCO Emergency Phone Numbers



# Radiation and Local Warnings



- Equipment or devices may have a visible or audible alarm to indicate a failure that may cause a radiation incident
  - Freezers
  - Baths / Hot Plates
  - Centrifuges

## Response to Warnings

- If devices or equipment in your lab have warning indicators:
- Have your Principal User explain their meaning and...
- **Learn and Understand the proper response to local warnings**
- Post contact phone numbers on equipment if necessary



# Emergency Warnings

- Temporary postings may be placed to warn of emergency procedures in progress
- **DO NOT CROSS MARKED BARRIERS or ENTER POSTED AREAS**



**Follow Emergency Responder Instructions**

# Dose Reporting (RH 10.4)

**Occupational Exposure Report for a Monitoring Period**  
This form is for use in place of certain reports required by NRC licenses, OSHA and state regulations. It reflects data provided to us by your account and contains information for NRC Form 5 and other equivalent forms.

Account Number 082672	Series Code MSC Miscellaneous	Participant Number 00418	Prepared by Colorado State University Radiation Control Office Environmental Health Services Fort Collins, CO 80523/0011 970 491 38736	
1. Name (LAST, FIRST, MIDDLE INITIAL) ARMSTRONG,	2. IDENTIFICATION NUMBER 00418	3. ID Type	4. SEX Male Female	5. DATE OF BIRTH **/**/**
6. Monitoring Period 01/01/93-07/03/00	7. Licensee Name Colorado State University	8. License Number(s) 002-19 & 02-27	9A. Record Estimate	9B. Posttime PSE
INTAKES				
10A. Radionuclide(s)	10B. Class	10C. Mode	10D. Intake in mCi	DOSE (in rem)
				Deep Dose Equivalent (DDE) 11. M
				Eye Dose Equivalent to the lens of the eye (EDE) 12. M
				Shallow Dose Equivalent, Whole Body (SDE, WB) 13. M
				Shallow Dose Equivalent, Max Extremity (SDE, ME) 14. M
				Committed Effective Dose Equivalent (CEDE) 15. M
				Committed Dose Equivalent, Maximally Exposed Organ (CDE) 16. M
				TOTAL EFFECTIVE DOSE EQUIVALENT (TEDE) 17. M
				TOTAL ORGAN DOSE EQUIVALENT, (TOOE) 18. M
				MAX ORGAN DOSE EQUIVALENT (MOOE) 19. M
19. Comments (PERMANENT TO DATE (IN REM)**SEE NOTE				
DDE : M				
EDE : M				
SDE, WB : M				
SDE, ME : M				
TEDE : M				
20 Signature-Licensee				21. Date Prepared 07/06/00
19 NOTE: Permanent to Date Totals include only those records processed by Colorado State University				

**Notice to Workers**  
This report is furnished to you under the provisions of Colorado Rules and Regulations Pertaining to Radiation Control, Part 10. You should preserve this report for further reference.

**NRC Form 5**  
**The Radiation Control Office Is Required to Provide this Form To ALL Badged Personnel**



- Radiation exposure data and the results of any measurements, analyses or calculations regarding radiation doses shall be reported to the individual
  - Annually in a written report, mailed to your address in **MARCH for the preceding year**
  - Monthly dosimetry information may be provided to your Principal User to assist in **ALARA** reviews; refer to **Modules 1 and 5** for more information
  - Furnished upon written request within 30 days

# The RCO Needs Information

Specific forms  
(RF-1A and RF-1B)  
must be completed  
and submitted to:  
The RCO  
Request a dosimeter  
Provide personal  
information  
Provide historical  
information  
Change information

## RF-1A RADIATION USER TRAINING AND PERSONAL DATA

(Please sign or print legibly)

Give Name (first and middle initials): \_\_\_\_\_  
Address (home or business): \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Department: \_\_\_\_\_ Work Ending: \_\_\_\_\_  
Old Phone: \_\_\_\_\_ New Phone: \_\_\_\_\_

How long have you been employed by \_\_\_\_\_?  
Employed \_\_\_\_\_  
Resigned \_\_\_\_\_  
Retired \_\_\_\_\_  
Other \_\_\_\_\_

What is your occupation? \_\_\_\_\_  
Employer: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Do you have previous work experience involving ionizing radiation exposure? Yes  No

Do you receive training in radiation safety from another institution? Yes  No

Have you ever been employed by a general contractor or construction company? Yes  No

Do you need to request a dosimeter? Yes  No

Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Request Form Approved: \_\_\_\_\_

RCO PERSONAL DATA (12 October 96, Revision 1) - Page 1

## RF-1B REQUEST FOR RADIATION EXPOSURE HISTORY AND/OR TRAINING VERIFICATION

(Please sign or print legibly)

Organization: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
Phone #: \_\_\_\_\_ Area: \_\_\_\_\_

To: An Occupational Worker:  
Last Name: \_\_\_\_\_ First Name: \_\_\_\_\_  
Previous position in which has been employed: \_\_\_\_\_  
E-Title: \_\_\_\_\_  
Indication of work with radiation: From \_\_\_\_\_ To \_\_\_\_\_  
Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Request Form: \_\_\_\_\_

To: Other if you are not the designated radiation control supervisor in Radiation Safety Office:  
Please complete this form for the only dose record observed and the following or the address indicated below:  
The occupational exposure dose received by the above named individual during the period from \_\_\_\_\_ to \_\_\_\_\_ was \_\_\_\_\_ mSv.  
The following number(s) of radiation dose(s) received by the above named individual is (are): \_\_\_\_\_ mSv.  
The \_\_\_\_\_ have been made also the individual's record indicate other working experience in occupations with ionizing radiation sources or in radiation generating activities. If "Yes" was checked, please indicate the appropriate information in the space(s) below.

Please send the requested information to:  
Colorado State University  
Environmental Health Services  
Radiation Safety Office  
133 General Services Building  
Fort Collins, Colorado 80523-6831  
Office Number: (970) 491-4833 Fax Number: (970) 491-4834

Signature of individual of the request was valid on the request:  
This Radiation Safety Office will be used ONLY for identification purposes in work activities (occupational or research) and for RCO staff. Providing your Radiation Safety Office is done in an emergency situation, use written permission: Radiation Safety Office to RCO program, you must indicate in the RCO Request Form that you are providing information to the RCO program.

RCO PERSONAL DATA (12 August 96, Revision 1) - Page 1

These forms are located in the back of your Radiation Control Manual

Complete all the blanks and sign the form. Ask for help.



# Your Records are Kept on File



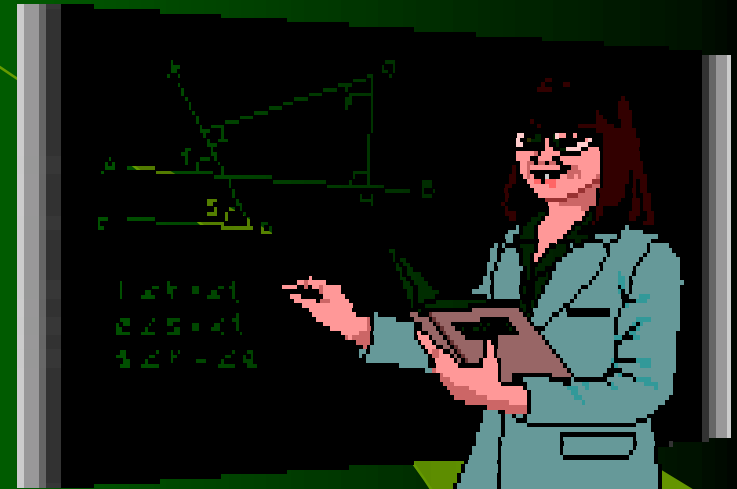
- Includes
  - Dosimetry Data
  - Training Data
  - Relative radiation information
- **CONFIDENTIAL**
  - Only you and RCO personnel have access
- May request to view your file anytime



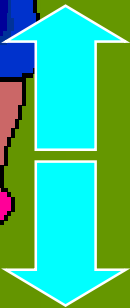


# Radiation Safety Training

- Your **Principal User** is **responsible** for ensuring that you are adequately trained to work with radiation
- Your **Principal User** must provide you with information on your expected dose
- PU provides “hands on” training
- The **Radiation Control Office** also offers additional training
- See the Radiation Control Manual for descriptions of radiation user categories
  - Ancillary User, Normal User, Qualified User, and Principal User

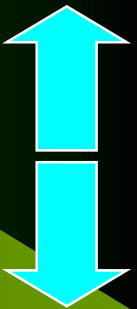


Additional Training  
Modules are listed in your  
Radiation Control Manual



# RCO Training Modules

Module	Title
0	Orientation (This Module)
1	Safety and Radiation
2	Basic Radiation Principals
3	Radioisotope Acquisition and Disposition
4	In-Lab Verification of Training
5	Dosimetry
6	Laboratory Radiation Safety Program Development
7	Irradiators – Sealed Sources
8	X-Ray Machines
9	Veterinary Teaching Hospital Students



See the Radiation Control Manual and Radiological Instruction RI-44 for descriptions and additional information on the Modules

Contact Environmental Health Services at 491-6745 for the latest training schedule and to register for the Modules


# Certification

- Make sure you have signed the Training Roster
- Read and Understand the Radiation Control Manual
- Sign the Certificate in the back of your manual
- Return the Certificate and both the RF-1A and RF-1B Forms to the RCO through Campus Mail



Module 0 Certification

Please do not sign this document unless you have read and understand the CSU Radiation Control Manual



Last Name: \_\_\_\_\_ First Name: \_\_\_\_\_

Department Address: \_\_\_\_\_ Male  Female

\_\_\_\_\_ Date of Birth: \_\_\_\_\_

\_\_\_\_\_ Employee Type: \_\_\_\_\_

CSU ID No. or SSN: \_\_\_\_\_ Degree: \_\_\_\_\_

Mod 0 Course No: \_\_\_\_\_ Department: \_\_\_\_\_

Office: \_\_\_\_\_ **Personal Data**

Laboratory Telephone Number: \_\_\_\_\_

Principal User/ Investigator: \_\_\_\_\_

I hereby certify that I have read, in its entirety, the latest version of the CSU Radiation Control Manual that was presented to me during Module 0 training offered by the Radiation Control Office of Environmental Health Services, and certify that I understand my responsibilities under the CSU Radiation Safety Program. I have received a brief indoctrination in the following:

- Storage, transportation and use of radiation sources on CSU campuses
- Health protection problems associated with exposures to radiation
- Precautions and protective equipment to minimize exposures
- Applicable regulations of the State of Colorado
- Responsibility to report unsafe conditions or violations of the CSU rules or State regulations concerning radiation and emergency procedures
- Notification that CSU has no general warning system in the case of a radiation emergency
- Annual report of radiation exposures received at CSU

Signature: \_\_\_\_\_ **Signature**

Receipt Acknowledgment:

Authorized RCO Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Entered into H File by: \_\_\_\_\_

Blue RADIATION SAFETY TRAINING January 19, 2013 Edition 0.1

# Questions ???

If you have any questions while reading the Radiation Control Manual

**Please Feel Free to Contact: The Radiation Control Office**



**133 General Services Bld.  
CSU Main Campus  
Fort Collins, CO. 80523-6021**

**Environmental Health Services: 491-6745**

**Radiation Safety Officer: 491-3736**

**Alt. Radiation Safety Officer: 491-3928**

**Radiation Control Technician: 491-4835**

**VTH Radiation Technician: 491-4439**