

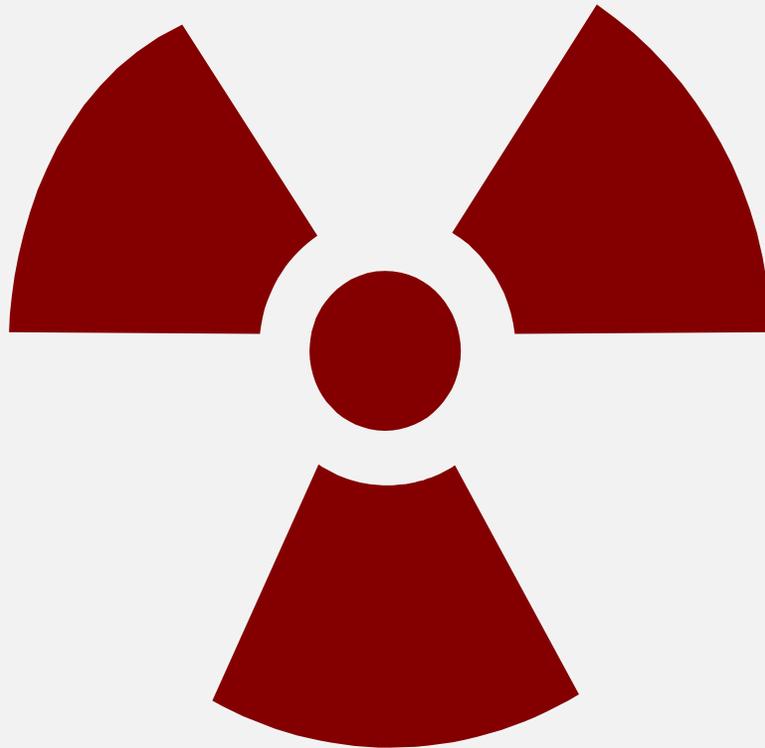


UNIVERSITY OF  
**TEXAS**  
ARLINGTON

ENVIRONMENTAL  
HEALTH & SAFETY

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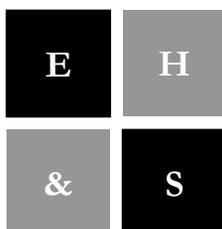
# **Radiation Producing Machine Safety Manual**



THE UNIVERSITY OF TEXAS AT ARLINGTON

# Radiation Producing Machine Safety Manual

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# Forward

The objective of The University of Texas at Arlington (UT Arlington) Radiation Safety Program is to assist all levels of management in fulfilling the UT Arlington commitment to furnish a place of employment and learning that is as free as possible from recognized radiation hazards that cause, or are likely to cause, harm to UT Arlington personnel or the surrounding community. Radiation Safety is the responsibility of all faculty, staff, and students who are involved in the use of radioactive materials, radiation producing machines, or laser devices.

The use of radiation in a university setting, where a large number of people may be unaware of their exposure to radiation hazards, makes strict adherence to procedures established by federal and state authorities of paramount importance. Special efforts to ensure the safety of faculty, staff, students, and the public are essential.

The Environmental Health & Safety Office has the responsibility for establishing and pursuing an effective Radiation Safety Program for the University. The University is authorized by the State of Texas to use radioactive materials, radiation producing machines, and laser devices in research and education. This authorization is granted with the requirement that the University establish and pursue an effective Radiation Safety Program. It is the purpose of this manual to set out the guidelines of that program and to assist both personnel and management in complying with the objectives of the Texas Department of State Health Services (TDSHS), Radiation Control Program regulations.

All users of radiation producing machines must be familiar with the requirements set forth in this manual and applicable regulations of the TDSHS, Radiation Control Program and must conduct their operations accordingly.



James Spaniolo  
President  
The University of Texas at Arlington

# **I. Administration and Responsibility**

## **A. Introduction**

The University of Texas at Arlington (UT Arlington) has several types of radiation producing machines (RPMs), sometimes referred to as X-ray machines or devices, used for teaching and research. This manual has been developed to assist University personnel in meeting the regulatory requirements for RPMs. Users of RPMs have a responsibility to protect themselves and members of the campus community from the hazards related to the use of these devices. This manual is designed to provide information for faculty, staff, and students to work safely with RPMs by following basic radiation protection principles and safety procedures.

## **B. Scope**

This program applies to all faculty, staff, and students working with designated RPMs listed in the regulations. This manual is intended for research RPMs only.

## **C. Registration and Regulations**

The Texas Department of State Health Services (TDSHS), Radiation Control Program Certificate of X-ray Registration Number R03595, authorizes the use of RPMs at UT Arlington. This registration describes the type and number of RPMs authorized for use. A copy of the University's X-ray Registration is available for inspection in the University's Environmental Health & Safety Office (EH&S).

The TDSHS, Radiation Control Program has established standards for your protection against radiation hazards, in accordance with the Texas Radiation Control Act, Health and Safety Code, Chapter 401. Texas Regulations for Control of Radiation (TRCR) consists of Title 25 Texas Administrative Code (TAC), Chapter 289.

## **D. Radiation Protection Program**

EH&S will provide support and advisory services in health and safety to assist those with the responsibilities under this policy. EH&S will be responsible for identifying regulatory requirements and developing support and advisory services to assist supervisors in carrying out their responsibilities. The Radiation Safety Officer (RSO) will advise on radiation safety matters in general and the effectiveness of the radiation protection program. All occupational exposures to ionizing radiation shall be limited in accordance with the ALARA principle (As Low As Reasonably Achievable) and within legislated prescribed dose limits. The Radiation Protection Program is designed to keep exposures ALARA through training and implementation of standard operating procedures and protocols to control the procurement, use, storage, and disposal of RPMs.

## **E. Radiation Safety Officer**

The RSO has the broad responsibility for monitoring, updating, and determining the degree of compliance with established regulation, policies, and practices regarding the licensing, purchase, shipment, use, disposal, and transfer of RPMs at UT Arlington. The RSO will report these findings to the director of EH&S for appropriate action. The director of EH&S will report issues to upper university administration as necessary to ensure compliance with regulatory requirements as well as the safety of the campus community.

## **F. Principal Investigator**

Each principal investigator (PI) who uses or directs the use of RPMs is responsible for complying with all local, state, and federal regulations as well as University policies and guidelines.

It is the responsibility of each RPM PI to:

1. Submit a [Radiation Producing Machine Registration \(RPMR\) Form](#) to the RSO for approval for each RPM under their control.
2. Inform the RSO of changes in use or location for RPMs under their control.
3. Maintain an up-to-date list of Authorized Users (AUs) on file with the RSO.
4. Ensure that all AUs have completed required training prior to utilizing RPMs.
5. Allow only authorized persons to enter room(s) that are specified as restricted areas for reasons of radiation protection.
6. Supervise students using the RPMs and instructing them in machine specific standard operating procedures prior to use.

## **G. Authorized User**

Only qualified personnel will be permitted to operate RPMs. Authorized users (AUs) of RPMs at UT Arlington are required to complete UT Arlington's Radiation Producing Machine Safety Training.

Each AU who uses RPMs is responsible for complying with the requirements outlined in the TDSHS, Radiation Control Program regulations, as well as all requirements prescribed in UT Arlington's Radiation Safety Program.

It is the responsibility of each AU to:

1. Follow the standard operating procedures as prescribed by the manufacturer of the equipment and any requirements specified by the PI or the RSO.
2. Wear personal radiation dosimeters, if required.
3. Report to the RSO any incidents involving suspected exposures to ionizing radiation exceeding permissible standards.
4. Ensure that all RPMs are operating safely prior to use.
5. Ensure all RPMs are secured and in a safe condition when left unattended.

# **II. Radiation Producing Machines**

## **A. Types of Radiation Producing Machines**

This section provides special requirements for analytical RPMs. These requirements are in addition to, not in lieu of, requirements in other parts of this manual.

A research RPM is an electrically powered device for the primary purpose of producing x-rays. Research RPMs produce x-rays for the purpose of analyzing materials or structures such as x-ray diffraction machines (XRD) or x-ray fluorescence (XRF) equipment. Typically, these units are enclosed and have built-in shielding.

Radiography devices use x-rays to inspect parts for mechanical defects, such as in the aerospace industry for pipe welds, to look for flaws or hidden cracks. They are not intended for medical purposes or exposure of humans or animals.

X-ray Diffraction (XRD) is commonly used in chemical analysis, biochemistry and other types of similar research. The arrangements of atoms in solids are studied by using an x-ray beam scattered from the atomic arrangement. A narrow beam of x-rays is sent through the material being studied and scattered according to the details of the atomic arrangement.

X-ray fluorescence (XRF) machines are used to observe the fluorescent emission of x-rays as the atoms in a sample are bombarded with an x-ray source. The structure of material is studied by examining the absorption spectrum.

## **B. Analytical Radiation Producing Machine Requirements**

Open-beam configurations must be provided with a readily discernible warning device, which will reveal the x-ray tube status (on/off) and shutter status (open/closed). Warning devices shall be labeled so that their purpose is easily identified and they must have fail-safe characteristics. Unused ports must be secured in the closed position in a manner that will prevent casual opening.

A safety device which prevents the entry of any portion of an individual's body into a primary x-ray beam path, or which causes the beam path to be shut off upon entry into its path, must be provided on all open beam configurations. A user may apply to the RSO for an exemption from the requirement of a safety device. Such application will include:

1. A description of the various safety devices that have been evaluated.
2. The reason that each of these devices cannot be used.
3. A description of the alternative methods that will be used to minimize the possibility of an accidental exposure, including procedures to assure that machine operators, and others in the area, will be informed of the absence of safety devices.

No person shall bypass a safety device without obtaining the prior approval of the RSO. When a safety device has been negated, an appropriate warning sign shall be placed on the radiation source housing.

Sufficient radiation surveys must be conducted on all analytical RPMs to show compliance with this manual and TDSHS Regulations. In addition, a radiation survey must be performed after any change in operating configuration.

Each area or room containing analytical x-ray equipment shall be posted with a sign bearing the radiation symbol and the words "CAUTION X-RAY EQUIPMENT" or words having similar intent.

Only persons who have completed the required training and are authorized by the PI of an analytical RPM will be permitted to operate the equipment. A current list of AUs must be maintained in each laboratory where radiation-producing equipment is used.

## **C. Standard Operating Procedures**

Where specific manufacturer's instructions are not available, the following procedures should be used for operating RPMs:

1. As determined by the RSO, individuals operating any RPM may be required to wear a radiation dosimeter provided by EH&S.
2. Ensure that radiation survey equipment has a valid calibration.
3. Turn on radiation survey equipment and perform a battery check.
4. Install the desired filter on the tube head.
5. Make sure that no one is in the exposure cell or in any radiation field outside the cell.
6. Insert the high voltage interlock and turn on the circuit breakers to energize the system.
7. Turn on the main power switch.
8. Close the shutter switch.
9. If the tube has not been used in the last 12 hours, it should be warmed up as follows:
  - a. Set high voltage.
  - b. Set current switch.
  - c. Decrease rheostat or rotary switch to start and unlock HV safety circuit.
  - d. Increase voltage slowly until the rheostat or rotary switch is in the operating position.
10. After the tube has warmed up, set the high voltage and current to the desired operating values.
11. Set the timer to give the required exposure.
12. Open the shutter, start the timer, and allow the beam to irradiate the samples or photograph.
13. After the irradiation is completed, turn off the x-ray machine and open the circuit breakers.
14. Remove the high voltage interlock key.
15. Documentation of each operation of the x-ray machine should be created and maintained. The records should indicate the date of operation, time, voltage, filter, shield or shutter arrangement, and should be initialed by the operator using the instrument.
16. The RSO is to be notified whenever the shielding or the location of x-ray machine is altered.

## **D. Procurement and Registration of Radiation Producing Machines**

PIs must contact the RSO at 817-272-2185 prior to procuring a RPM. The RSO must verify that the proposed RPM is acceptable for use under the University's X-ray Registration, as well as survey and approve the proposed laboratory prior to the RPM being procured.

The PI must also submit a [Radiation Producing Machine Registration \(RPMR\) Form](#) to the RSO. Prior to initial use, the RSO must approve the RPMR Form and perform an initial survey of the equipment.

## **E. Radiation Producing Machine Inventory and Authorized User Lists**

Inventories of all RPMs, as well as AU lists, shall be updated quarterly by each PI. The RSO will provide each PI with a Quarterly Inventory Form and Authorized User List each calendar quarter. It is the responsibility of each PI to see that these forms are properly updated, completed, and returned to the RSO by the assigned due date.

## **F. Equipment and Personnel Monitoring**

As determined by the RSO, individuals operating any RPM may be required to wear a radiation dosimeter. When required, EH&S provides a radiation dosimeters to the users of RPMs. All persons requiring personnel dosimetry must complete a [Request for Radiation Dosimeter Form](#) and return the completed form to the RSO.

The advantages of using a centralized personnel dosimetry service are as follows:

- EH&S may periodically monitor the service to determine its reliability and accuracy.
- A centralized file can be maintained for all dosimeter users on campus, thereby enabling the individual exposures to be monitored by the RSO.
- Requests for exposure records by employees, such as at the termination of employment, are furnished by EH&S.

Personnel dosimeters are exchanged and processed each calendar quarter. Records of the dose received during the quarter, year-to-date, and a total accumulated dose for each individual, are maintained and reviewed by the RSO.

At a minimum, individual radiation dosimeters shall be worn by:

1. Adults likely to receive, in one year from sources external to the body, a dose in excess of 10 percent of the limits in TRCR, 25TAC§289.231(m)(1).
2. Minors likely to receive, in one year from sources of radiation external to the body, a deep dose equivalent in excess of 0.1 rem, a lens dose equivalent in excess of 0.15 rem, or a shallow dose equivalent to the skin or to the extremities in excess of 0.5 rem.
3. Declared pregnant women likely to receive, during the entire pregnancy, from sources of radiation external to the body, a deep dose equivalent in excess of 0.1 rem.
4. Individuals entering a high or very high radiation area.

No personnel monitoring shall be required in facility categories specified as minimal threat in the TRCR, 25TAC.289.231(II)(3). This list includes, but is not limited to, fluorescence x-ray, electron beam welding, and certified cabinet x-ray.

Finger dosimetry devices must be worn by workers using systems having an open-beam configuration and that are not equipped with a safety device.

A suitable survey meter, provided by the Principal Investigator (PI), will be used to monitor the general area of the x-ray unit to ensure that excessive radiation levels are not present to endanger the operator or other personnel. Radiation monitoring and survey instruments shall be calibrated at intervals not exceeding one year, or more often in the event that the response of the instrument becomes suspect or the instrument is repaired.

## **G. Transfer or Disposal**

Please contact the RSO at 817-272-2185 to facilitate proper transfer or disposal of all RPMs.

## **III. Protective Measures**

### **A. Common Causes of Accidents**

Preventing accidents and overexposure requires the proper use of protective measures. Overexposure to x-rays can result from either direct exposure to the primary beam or indirect exposure from leakage or scatter radiation.

The major causes of accidents with research x-ray equipment include lack of or improper training, improper equipment configuration, or improper handling/adjusting of samples when the machine is energized.

### **B. Preventing Overexposure**

- Know the location of primary and diffracted beams at all times.
- Do not put body parts into the beam path.
- Inspect shielding prior to use.
- Do not perform maintenance work when beam is energized.
- Perform monthly safety checks.
- Contact the RSO before the RPM is moved, or when beam alignments change.

### **C. External Exposure**

Exposure to any ionizing radiation, including x-rays, can be reduced through the use of three well-recognized principles of radiation protection: time, distance, and shielding.

#### 1. Time

Decreasing the amount of time spent in the vicinity of an x-ray source will decrease the amount of radiation exposure. Dose received is directly related to the time spent in the radiation field.

#### 2. Distance

The intensity of an x-ray field varies inversely with the square of the distance from a point source. By increasing the distance from the source, the amount of radiation exposure will decrease as the inverse square of the distance. This relationship is expressed in the following equation:

$$I = I_0 \times d^2 / d_0^2 \quad \text{Where: } I = \text{intensity dose at distance } d \\ I_0 = \text{initial dose at distance } d_0$$

#### 3. Shielding

High energy x-rays are more difficult to shield because of their greater energy and penetrating capabilities. Shields are designed to reduce the dose to below a design criterion. Increasing the amount of shielding around a radiation source will decrease the amount of radiation exposure. Shielding for research x-ray units can vary from leaded glass to enclosures using lead impregnated polycarbonate. Shielding material with high atomic numbers can be made thick

enough to attenuate the x-ray bremsstrahlung intensity to an acceptable level. X-rays can scatter off a target to the surrounding area.

## **D. As Low As Reasonably Achievable (ALARA)**

ALARA is an acronym for “As Low As Reasonably Achievable.” This is the radiation safety principle for minimizing radiation doses and releases of radioactive materials by employing all reasonable methods. ALARA is not only a sound safety principle, but is a regulatory requirement for all radiation safety programs.

Each person authorized to use RPM is responsible for the safe use of such device. The user must carry out the required administrative and safety procedures, select those laboratory practices which are applicable to the work being performed, train and supervise those assisting, acquaint them with proper radiation safety practices, and see that the laboratory is properly posted with signs as required by the TRCR. The user shall immediately notify EH&S if any unexpected difficulties arise that might affect the safety of personnel.

The maximum permissible doses for individuals as stated in the TRCR are to be considered as maxima and every effort is to be made to conduct experiments and operations at levels that are as low as reasonably achievable (ALARA).

## **E. Permissible Doses**

All occupational exposures from radiation emitting devices shall be limited in accordance with the ALARA principle. In accordance with 25TAC§289.231(m)(1), the annual occupational dose to individual adults will be limited to the following:

1. The total effective dose equivalent being equal to 5 rems.
2. A dose to the lens of the eye of 15 rems.
3. A shallow dose of 50 rems to the skin of the whole body or to any extremity.
4. The annual occupational dose limits for minors are 10% of the annual occupational dose limits for adult workers specified above.

### **Pregnant Radiation Worker**

A special situation arises when a radiation worker becomes pregnant. Under these conditions, radiation exposure could also involve exposure to the embryo/fetus. A radiation worker who is pregnant may voluntarily “declare” their pregnancy in writing, but is not required to do so. The maximum permissible exposure for the embryo/fetus of a declared pregnant worker during the entire pregnancy is 500 mrem. Declared pregnant workers may be assigned two radiation dosimeters, one for the whole body, normally worn on the torso and one for the embryo/fetus, normally worn on the abdomen. In order to declare a pregnancy the [Pregnancy Declaration Form](#) must be completed and returned to the RSO to initiate the necessary actions. An individual may revoke their declaration of pregnancy at any time by completing the [Pregnancy Declaration Withdrawal Form](#). Should a radiation worker choose not to declare their pregnancy, the usual occupational radiation exposure limits specified in 25TAC§289.231(m)(1) will apply.

## **F. Warning Signs and Labels**

All analytical x-ray equipment must be labeled with a readily discernible sign or signs bearing the radiation symbol and the words:

- “CAUTION - HIGH INTENSITY X-RAY BEAM” or words having similar intent, on the x-ray source housing; and,
- “CAUTION RADIATION – THIS EQUIPMENT PRODUCES RADIATION WHEN ENERGIZED” or words having similar intent, near any switch that energizes the x-ray tube.

Each port of any radiation device with open beam configuration will be equipped with a shutter that cannot be opened unless a collimator or a coupling has been connected to the port.

An easily visible warning light labeled with the words “X-RAY ON” will be used. This warning light will be located near any switch that energizes the x-ray tube, and will be illuminated only when the tube is energized. Warning lights will have fail-safe characteristics on new equipment installations.

Rooms where x-ray equipment is used must be posted with the appropriate warning signs.

## **G. Security**

Only PIs and AUs may have access to x-ray equipment. Energized x-ray equipment in use must be attended at all times. Non-energized equipment must be secured by locking the laboratory door when not attended.

Any suspicion of loss or damage to x-ray equipment shall be reported immediately to the RSO at 817-272-2185.

# **IV. Emergency Procedures**

## **A. Radiation Producing Machine Accident/Incident**

In the event that any person is suspected of being exposed to radiation in excess of the limits specified in this manual, the following steps should be taken:

1. Turn off the radiation-producing machine immediately.
2. Do not change voltage or current controls or alter the position of the tube head so that the conditions of irradiation may be duplicated to determine the extent of the radiation exposure.
3. Notify the RSO of the incident (817-272-2185).
4. Record the conditions that existed when the exposure occurred so that the RSO can determine the extent of the exposure.

## **B. Emergency Numbers**

The Texas Department of State Health Services, Radiation Control Program has established a 24-HOUR RADIOLOGICAL EMERGENCY ASSISTANCE telephone number: (512) 458-7640. This number is to be used for emergency assistance and reporting only.

To reach the TDSHS, Radiation Control Program for routine business matters call (512) 834-6688.

If necessary, additional assistance may be obtained by contacting:

<b>Department or Agency</b>	<b>Phone Number</b>
UT Arlington EH&S Office, Radiation Safety Officer	817-272-2185
UT Arlington Radiation Safety Officer (after hours)	817-296-0296
UT Arlington Police Department, Emergency	817-272-3003
UT Arlington Police Department, Non-Emergency	817-272-3381
UT Arlington Student Health Center	817-272-2771
City of Arlington Fire Department	817-459-5500
Arlington Memorial Hospital	817-548-6100

# APPENDIX



# Definition of Acronyms

<b>ALARA</b>	<b>As Low As Reasonably Achievable</b>
<b>AU</b>	<b>Authorized User</b>
<b>EH&amp;S</b>	<b>Environmental Health &amp; Safety Office</b>
<b>PI</b>	<b>Principal Investigator</b>
<b>RCP</b>	<b>Radiation Control Program</b>
<b>RPM</b>	<b>Radiation Producing Machine</b>
<b>RPMR Form</b>	<b>Radiation Producing Machine Registration Form</b>
<b>RSO</b>	<b>Radiation Safety Officer</b>
<b>SOP</b>	<b>Standard Operating Procedure</b>
<b>TAC</b>	<b>Texas Administrative Code</b>
<b>TDSHS</b>	<b>Texas Department of State Health Services</b>
<b>TRCR</b>	<b>Texas Regulations for Control of Radiation</b>
<b>UT Arlington</b>	<b>The University of Texas at Arlington</b>
<b>XRD</b>	<b>X-Ray Diffraction Machine</b>
<b>XRF</b>	<b>X-Ray Fluorescence</b>

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**RPMR NUMBER:** \_\_\_\_\_

**Background Information**

The University of Texas at Arlington's (UT Arlington) [Environmental Health & Safety Office](#) (EH&S) maintains a registry of all radiation producing machines, x-ray devices, RPM laboratories, and personnel working with radiation producing machines. UT Arlington complies with the Texas Department of State Health Services (TDSHS) Radiation Control Registration and Radiation Safety Requirements for General Provisions and Standards for Protection Against Machine-Produced Radiation under [Title 25 Texas Administrative Code §289.231](#). The use of all radiation machines at UT Arlington is authorized by the Texas Department of State Health Services, Radiation Control under Certificate of X-Ray Registration Number R03595. The RSO must be informed of all radiation machines prior to work beginning to ensure compliance with the Texas Regulation for Control of Radiation and the University's Certificate of X-Ray Registration. For purposes of this registration, a radiation producing machine is defined as any device capable of producing ionizing radiation except those devices with radioactive material as the only source of radiation.

**Instructions and Responsibilities**

The **Principal Investigator (PI)** is responsible for completing the appropriate parts of this **Radiation Producing Machine Registration (RPMR)** and forwarding the form to **EH&S prior to the initiation of work**. The PI is also responsible for ensuring appropriate or required training of laboratory personnel, informing lab personnel of the potential hazards and proper safety techniques to be used in the laboratory, establishing procedures for response and handling of laboratory emergencies, ensuring appropriate laboratory signage, and following UT Arlington established procedures for response and reporting of accidents and/or injuries. Each individual listed as laboratory personnel should personally initial this document to indicate that they have been informed of the potential hazards associated with this work, the appropriate safety practices to be used, and applicable training requirements.

After receipt of this form the Radiation Safety Officer (RSO) will audit the laboratory to ensure that the device and laboratory facility meets all safety requirements and is in compliance with all applicable policies and regulations. In addition to commissioning the laboratory, the RSO will assess training needs, provide dosimetry as required, and provide the appropriate lab signage. Upon approval by the RSO this form will be returned to the PI.

After the initial registration, the PI is also responsible for notifying EH&S when the project has terminated or when other significant changes occur, such as changes in personnel or relocation of the radiation producing machine. EH&S conducts a preliminary and quarterly inspection of registered laboratories to review practices and procedures associated with this work. The inspection is not intended to negate the responsibilities of the PI in supervising work with potentially hazardous materials and/or devices.

Depending on what your project involves there may be additional requirements necessary before the research may commence, such as research involving participation of human subjects, live vertebrate animals, recombinant DNA, or laser devices. These requirements are based on various federal and state regulations, funding agency requirements and UTA policies. For more information and instructions, please see this link: <http://www.uta.edu/ra/oric/help.htm>.

For assistance with this RPMR form, please contact [EH&S](#) at 817-272-2185 or [ehsafety@uta.edu](mailto:ehsafety@uta.edu). Completed RPMRs may be forwarded to EH&S at Box 19257 faxed to 817-272-2144, or dropped off at 500 Summit Ave.

**Part A: Laboratory and Personnel – To Be Completed for All Registrations**

PI: \_\_\_\_\_ Department: \_\_\_\_\_ Phone: \_\_\_\_\_ E-mail: \_\_\_\_\_

Building(s): \_\_\_\_\_ Room Number(s): \_\_\_\_\_ Lab Phone: \_\_\_\_\_

**Provide the following information on all personnel working with radiation producing machines.**

Last Name	First Name	Status (faculty, staff, student)	E-mail	1000#

You may be entitled to know what information UT Arlington collects concerning you. You may review and have UT Arlington correct this information according to procedures set forth in UT System Administration UTS139. The law is found in sections 552.021, 552.023 and 559.004 of the Texas Government Code.

MODIFICATION TO THIS FORM IS STRICTLY PROHIBITED.

**Part B: Radiation Producing Machine**

**X-Ray Device:**

If This Section Does Not Apply to Your Project, Check Here for  N/A

X-Ray Device Type: \_\_\_\_\_

Class: \_\_\_\_\_ UTA Inventory Number: \_\_\_\_\_

Model Number: \_\_\_\_\_ Serial Number: \_\_\_\_\_

Manufacturer: \_\_\_\_\_

Date received on campus: \_\_\_\_\_

\_\_\_\_\_ Dosimetry Room Badges: \_\_\_\_\_

\_\_\_\_\_ Fixed or Mobile: \_\_\_\_\_

Building: \_\_\_\_\_ Room Number: \_\_\_\_\_ Lab Phone: \_\_\_\_\_

Describe personal protective equipment (PPE) to be used by lab personnel:

- Radiation Safety Manual
- Manufacturer's Manual(s) Available
- Survey Meter Available & Calibrated?(List Manufacturer, Model, SN & Cal. Date)
- Door is appropriately labeled with proper warning signs.
- All authorized users have taken the UTA Radiation Safety Training.
- Yes  No Will the X-ray Device be used on human subjects?
- Emergency procedures are explained in the Standard Operating Procedure.

Please describe, in layman's terms, the procedure of the experimental work that will be performed with the x-ray device:

MODIFICATION TO THIS FORM IS STRICTLY PROHIBITED.

**Part C: Principal Investigator Certification**

I accept responsibility for the safe use of all potential hazards in my laboratory. All laboratory personnel have been informed of the potential risks associated with working with these radiation producing machines. I will ensure proper laboratory practices and completion of training requirements for laboratory personnel. I will report any accidents, injuries, or exposures immediately to EH&S. I will also notify EH&S of any changes to this project, including change of location of the x-ray device or personnel. I will inform EH&S of purchases, transfers (including those on campus), and/or disposals of x-ray devices. I understand that such changes should be reported within 14 days so that EH&S will have ample time to meet the requirements of notification to the TDSHS Radiation Control.

Principal Investigator (Signature): \_\_\_\_\_ Date: \_\_\_\_\_

**Part D: Office Use Only – To Be Completed by Environmental Health & Safety**

- All laboratory personnel have completed applicable training requirements.
- An RPM audit has been performed, if applicable. Laboratory facilities are in accordance with UT Arlington Policy and TDSHS Radiation Control requirements.

Radiation Safety Officer (Signature): \_\_\_\_\_ Date: \_\_\_\_\_

Upon notification of project termination RPMR Inactivation Date: \_\_\_\_\_

You may be entitled to know what information UT Arlington collects concerning you. You may review and have UT Arlington correct this information according to procedures set forth in UT System Administration UTS139. The law is found in sections 552.021, 552.023 and 559.004 of the Texas Government Code.

# The University of Texas at Arlington

Badge Number: \_\_\_\_\_  
Series Code: \_\_\_\_\_  
Date Issued: \_\_\_\_\_

## Request for Radiation Dosimeter

The following information is necessary for initiation of Radiation Dosimeter Service. Complete all blanks; use N/A where not applicable.

Last Name:		First Name:		Middle Name:	
UT Arlington #:		Date of Birth:	Sex: <input type="checkbox"/> Male <input type="checkbox"/> Female		Position: <input type="checkbox"/> Faculty <input type="checkbox"/> Staff <input type="checkbox"/> Student <input type="checkbox"/> Visitor
Social Security #		Home Phone:	Other Phone (cell, beeper, etc.):		Email:
Campus Office Extension:	Campus Lab Extension:	Department:		Supervisor:	

Local Address:

Street		State	Zip

Permanent Address (if different than above):

Street		State	Zip

I will be working with the following radioactive materials and/or radiation producing machines:

Isotopes	Maximum Activity	Building	Room Number

Type of Radiation Producing Machine	Building	Room Number

Within the past year I have worked at the following institution(s) where my radiation exposure was monitored:  None

Name of Institution:	Department:	Name of Institution:	Department:
Street Address:		Street Address:	
City, State, Zip		City, State, Zip	
Employment Dates:	From To	Employment Dates:	From To

I authorize the release of all my radiation exposure data from the institutions listed above.

Signature \_\_\_\_\_ Date \_\_\_\_\_

RETURN THIS REQUEST THROUGH CAMPUS MAIL TO:

Radiation Safety Officer  
Environmental Health & Safety Office  
Box 19257

You may be entitled to know what information The University of Texas at Arlington (UT Arlington) collects concerning you. You may review and have UT Arlington correct this information according to procedures set forth in UT System Administration UTS139. The law is found in sections 552.021, 552.023 and 559.004 of the Texas Government Code.

Disclosure of your Social Security Number ("SSN") is required of you in order for the University of Texas at Arlington to comply with records management requirements as mandated by Texas Health and Safety Code Ch. 401; 25 Tex. Admin. Code section 289.231, 289.232; 30 Tex. Admin. Code section 336.352, 336.405 State law. Further disclosure of your SSN is governed by the Public Information Act (Chapter 552 of the Texas Government Code) and other applicable law.

I agree to inform of co-employment as a radiation worker while at UT Arlington as a radiation worker. If you are issued dosimetry, information will be furnished to the dosimetry vendor to provide lifetime tracking of dose and kept in a secure, confidential database, akin to a medical record. Information requested allows you to be unambiguously identified across institutions.

Internet Privacy Policy:  
[http://www.uta.edu/oit/policy/cs/web/internet\\_privacy.html](http://www.uta.edu/oit/policy/cs/web/internet_privacy.html)