

NOTICE

TO: Employees who are required to wear personnel monitoring badges.

FROM: David Wiik, Director
Radiation Safety Office

SUBJECT: State requirements regarding personnel exposure at two different institutions.

Regulations require institutions to monitor and record personnel radiation exposures of employees that might receive ten percent of the maximum allowable limit or that are in a room with a 100-mrem-per-hour field of radiation. An employee's occupational exposure is the sum of all occupational sources. Therefore, if you have a secondary employer, the Radiation Safety Office will communicate with them to share exposure values. This will satisfy the requirement for both employers.

To implement this procedure, we must know if you are employed elsewhere and if so, by whom. Please notify us at 460-7063.

MEMORANDUM

TO: All new employees working with radiation.

FROM: David A. Wiik, Radiation Safety Officer

SUBJECT: Previous Occupational Radiation Exposures

Please complete and return the statement below to CSAB 330.

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During the immediate past calendar quarter, I have / have not received an occupational dose in excess of 25% of the applicable standards.

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| Date | Name | Title | Facility / Department |
|------|------|-------|-----------------------|
|------|------|-------|-----------------------|

## PROCEDURE FOR PERSONNEL MONITORING

The Alabama Health Department has adopted these radiation protection guide levels as their regulatory limit:

1. The total effective dose equivalent being equal to or less than 0.05 Sv (5 Rem\*) for exposure to whole body, head, and trunk, active blood-forming organs, and the gonads.
2. An eye dose equivalent of 0.15 Sv (15 Rem\*).
3. A shallow dose equivalent of 0.5 Sv (50 Rem\*) to the skin or to any extremity.
4. The dose to an embryo/fetus during the entire pregnancy, due to occupational exposure of a “declared pregnant woman”\*\* does not exceed 5 mSv (0.5 Rem). A second individual monitoring device, worn at the abdomen under the lead apron, is required for a declared pregnant woman.
5. The total effective dose equivalent to individual members of the public from the licensed or registered operation does not exceed 1 mSv (0.1 Rem) in a year.

The maximum whole body exposure of individuals under 18 years of age must be limited to 10% of the annual occupational dose limits specified for adult workers. Prior to starting work in a radiation area all new occupationally exposed personnel shall sign a form stating that they have not received an occupational dose in excess of 10 % of the applicable limits. The badge shall be worn on the collar outside a lead apron that might be used. If lead aprons or shields are used, a second badge may be issued and shall be worn behind it.

If any other area is suspected of receiving a higher dose than the above listed limits, a second badge or ionization chamber (to be read daily) shall be issued. Wrist badges and finger ring dosimeters shall be worn on the wrist or hand that receives the greater amount of exposure.

Personnel monitors shall be provided to each individual who enters a restricted area under such circumstances that they receive, or may receive, a dose in excess of 10 percent of the listed applicable limits.

All personnel who are issued a personnel dosimeter are charged with the responsibility of accounting for and wearing it at the appropriate times.

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\* Biological dose:  $\text{Rem} = \text{Rad} \times \text{Quality Factor} = 1$  for X – and Gamma rays as well as electrons and Beta particles.

\*\* “Declared pregnant woman” means a woman who has voluntarily informed her employer, in writing, of her pregnancy and the estimated date of conception.

PROCEDURE FOR PERSONNEL MONITORING (continued)

The Radiation Safety Office shall be responsible for the distribution and collection of dosimeters on a routine basis. The Radiation Safety Office shall maintain a supply of dosimeters to replace those lost and those needed for visitors, new users, and temporary users.

Normally, external radiation exposure shall be determined from a dosimeter worn by the individual. Exposure from internal emitters shall be determined from measurement of biological samples and/or external counting. The required method of monitoring of an individual may be reviewed and changed at any time by the Radiation Safety Officer.

The normal method of determining exposure to alpha or weak beta emitters shall be through measurements of biological samples from the exposed individual. Such samples (e.g., urine, feces, or blood) shall be submitted to the Radiation Safety Office for analysis.

If there is a suspected accidental inhalation, ingestion, or skin puncture involving radionuclides, the Radiation Safety Office must be notified immediately.

While pregnant employees are not required to declare a pregnancy to the Radiation Safety Office, doing so will get you a fetal monitor. Fetal monitors should be worn UNDER the protective apron at the uterine level. A collar dosimeter must still be worn outside the apron. To declare a pregnancy, simply write a note to the RSO including estimated conception and delivery dates. You may use a SPARE dosimeter as a fetal monitor until you receive a named one the following month.

**ALARA INVESTIGATIONAL LEVEL**

The RSO investigates exposures of 90% or more of the applicable limit. The Radiation Safety Committee reviews these exposures. All overexposures of personnel must be reported to the appropriate governmental agency and to the individuals involved, as required by the regulation.

The Radiation Safety Office shall maintain a permanent record of all personnel exposures.

**ALL PERSONS INSIDE A ROOM WHERE FLUOROSCOPY IS UTILIZED MUST WEAR A PROTECTIVE APRON & DOSIMETER. MEDICAL STAFF & EMPLOYEES MUST WEAR A DOSIMETER ISSUED BY THE UNIVERSITY OF SOUTH ALABAMA ON THE COLLAR OUTSIDE A PROTECTIVE LEADED APRON. IT IS THE RESPONSIBILITY OF EACH PERSON TO KEEP TRACK OF THEIR DOSIMETER AND EXCHANGE IT FOR A NEW ONE EACH MONTH. I UNDERSTAND THIS STATEMENT AND INDICATE MY AGREEMENT TO COMPLY WITH THIS REGULATION / HOSPITAL POLICY BY MY SIGNATURE BELOW.**

Sign: \_\_\_\_\_  
(first and last)

Date: \_\_\_\_\_

PERSONNEL MONITORING RECORD

Badge # \_\_\_\_\_

*Office use only*

In order to maintain personnel monitoring records current and up-to-date, the following information is needed:

NAME: LAST \_\_\_\_\_ FIRST \_\_\_\_\_  
MIDDLE \_\_\_\_\_ MAIDEN \_\_\_\_\_

DATE OF BIRTH: \_\_\_\_\_ , \_\_\_\_\_  
Month Day Year

SOCIAL SECURITY NUMBER: \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_

The Alabama Health Department requires that when a lead apron is worn and only one film badge is available, the badge shall be worn on the collar outside the lead apron.

Have you had any formal Radiation Safety Training Courses, other than the University of South Alabama, that can be documented? YES \_\_\_\_\_ NO \_\_\_\_\_

Have you, prior to working here at USAMC, ever been monitored for radiation exposure (Film Badge, Ionization Chamber, TLD, etc.)? YES \_\_\_\_\_ NO \_\_\_\_\_

If yes, complete the following:

1. Institution where monitored: \_\_\_\_\_  
Address of same: \_\_\_\_\_  
Period of Employment: \_\_\_\_\_ To \_\_\_\_\_
  
2. Institution where monitored: \_\_\_\_\_  
Address of same: \_\_\_\_\_  
Period of Employment: \_\_\_\_\_ To \_\_\_\_\_
  
3. Institution where monitored: \_\_\_\_\_  
Address of same: \_\_\_\_\_  
Period of Employment: \_\_\_\_\_ To \_\_\_\_\_
  
4. Institution where monitored: \_\_\_\_\_  
Address of same: \_\_\_\_\_  
Period of Employment: \_\_\_\_\_ To \_\_\_\_\_

ALABAMA DEPARTMENT OF PUBLIC HEALTH  
 DIVISION OF PUBLIC HEALTH  
 OCCUPATIONAL EXTERNAL RADIATION EXPOSURE HISTORY

**IDENTIFICATION**

|                                          |                           |
|------------------------------------------|---------------------------|
| 1. Name (print- Last, First, and Middle) | 2. Social Security Number |
| 3. Date of Birth (Month, Day, Year)      | 4. Age in Full Years (N)  |

**OCCUPATIONAL EXPOSURE - PREVIOUS HISTORY**

| 5. Previous employments involving radiation exposure | 6. Dates of employment (From-To)         | 7. Periods of employment | Previous Dose History |                                      |
|------------------------------------------------------|------------------------------------------|--------------------------|-----------------------|--------------------------------------|
|                                                      |                                          |                          | 8. Whole Body (Rem)   | 9. Record or Calculated (Insert one) |
|                                                      |                                          |                          |                       |                                      |
| 10. Remarks                                          | 11. Accumulated Occupational Dose- Total |                          |                       |                                      |

|                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>12. Calculations-Permissible Dose</p> <p>Whole Body:</p> <p>(A) Permissible accumulated Dose: 5(N-18) = _____ Rem</p> <p>(B) Total exposure to date (From item 11) = _____ Rem</p> <p>(C) Unused part of permissible accumulated Dose (A-B) = _____ Rem</p> | <p>13. Certification: I certify that the Exposure History listed in columns 5, 6 and 7 is correct and complete to the best of my knowledge and belief.</p> <p style="text-align: center;">_____</p> <p style="text-align: center;">Employee's Signature <span style="float: right;">Date</span></p> <p>14. Name of Licensee or Registrant</p> <p style="text-align: center;">_____</p> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Instructions: Complete 1-4 & sign block 13**

UNIVERSITY OF SOUTH ALABAMA

COLLEGE OF MEDICINE  
RADIATION SAFETY



TELEPHONE: (251) 460-7063  
330 CSAB MOBILE, ALABAMA 36688-0002  
FAX: (251) 460-6068

Addressed To:

Dear Sir / Madam:

\_\_\_\_\_, Social Security # \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_  
was an employee of your organization from \_\_\_\_\_ to \_\_\_\_\_ and worked  
with, and/or around, sources of ionizing radiation such that personnel monitoring was  
required.

In order to keep our records up-to-date and to comply with state, federal and institutional  
regulations, we request a report of this person's cumulative exposure to ionizing  
radiation.

Please forward this information to the above letterhead address, attention of the Radiation  
Safety Officer at the University of South Alabama. Your cooperation in this matter will  
be greatly appreciated.

Has this individual passed a radiation safety test? If so, please indicate on this form.

Cordially,

David Wiik, MS  
Radiation Safety Officer

| Employment<br>From | To | Cumulative Exposure (mrem) | Type of Monitor | Vendor |
|--------------------|----|----------------------------|-----------------|--------|
| _____              |    |                            |                 |        |
| _____              |    |                            |                 |        |
| _____              |    |                            |                 |        |

To Whom It May Concern:

You are hereby authorized to release my radiation exposure records and/or  
documentation of formal Radiation Safety training. Please include all types of exposure  
records that you maintained.

Signed: \_\_\_\_\_

**Instructions: Complete the top line only and sign at the bottom**