

Office of Radiation Safety

Title: Pregnancy Policy for Radiation Workers	SOP # RSP-010	Revision # 0	Effective Date 07/02/2018
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1. PURPOSE

- 1.1. This procedure describes policies and procedures for administering a safe work environment and assuring compliance with regulations that protect female radiation workers who are pregnant. This includes issuing a fetal monitor (dosimeter) to a **“Declared Pregnant Worker” (DPW)**, defined as a worker who has voluntarily informed her employer in writing of a confirmed pregnancy, with the estimated date of conception.
- 1.2. Based on scientific evidence that health effects may occur in the embryo / fetus as a result of in-utero radiation doses above established levels, the Nuclear Regulatory Commission (“NRC”) and Agreement States have established maximum occupational dose limits to the embryo / fetus of a DPW. The fetal dose limit is **500 mrem** for the entire gestation period, with effort made to avoid substantial variation above a uniform monthly exposure rate (ie. **50 mrem/month**). These limits apply to occupational exposures only, and specifically exclude radiation exposure received for medical or other purposes.
- 1.3. The term of pregnancy considered most sensitive to radiation is the first trimester, specifically weeks eight through fifteen (8-15). Special care to minimize exposure to radiation is advisable during this time period. DPW’s shall comply with the following radiation safety rules:
 - 1.3.1. Be familiar with operating policies and procedures
 - 1.3.2. Wear the assigned dosimeter(s) while working
 - 1.3.3. Attend radiation safety training at least annually
 - 1.3.4. Use structural and personal shields as appropriate
 - 1.3.5. Use established methods and controls to keep radiation exposure as low as reasonably achievable (ALARA)

2. REVISIONS FROM PREVIOUS VERSION

- 2.1. Procedure migrated to Office of Research letterhead.

3. RESPONSIBILITIES

- 3.1. Members of the UNM Radiation Safety staff are responsible for carrying out these procedures.
- 3.2. DPWs are responsible for wearing and exchanging dosimeter appropriately and notifying UNM Radiation Safety of any changes in pregnancy status.

4. PROCEDURE

- 4.1. Upon confirmation of pregnancy, the employee is responsible to notify her supervisor and the RSO in writing, if she desires to declare her pregnancy.
- 4.2. The RSO or designee shall provide a packet of information to the employee that contains NRC Regulatory Guide 8.13 (Revision 3, Jun3 1999), "Instruction Concerning Prenatal Radiation Exposure" and the Radiation Safety Pregnancy Policy for Radiation Workers. The employee may consult privately with the RSO to assist with making the decision to declare.
- 4.3. The employee should review the information contained in the packet, and seek out additional information from her medical care provider as desired.
- 4.4. The RSO or designee will counsel the employee, as needed, to include:
 - 4.4.1. A review of radiation exposure history
 - 4.4.2. Review of occupational and fetal dose limits
 - 4.4.3. Methods to minimize exposure to both mother and fetus
 - 4.4.4. A discussion on applicable regulations, ie Regulatory Guide 8.13 (Instruction Concerning Prenatal Radiation Exposure)
 - 4.4.5. Instruction on fetal monitoring
 - 4.4.6. A review of records interpretation
- 4.5. **If the employee voluntarily chooses to declare pregnancy**, the Pregnancy Declaration Form shall be completed and the following actions shall occur:
 - 4.5.1. A monthly fetal badge shall be issued, in addition to the whole body badge, which is exchanged at the normal frequency. The fetal badge shall be worn each business day and stored in a radiation-free area in the department (along with the whole body badge) while not working. The fetal badge is labeled with a  to clearly distinguish it from the whole body badge.
 - 4.5.2. Fetal monitoring will commence the day a written declaration is received and continue for 10 months from the estimated date of conception.
 - 4.5.3. The RSO shall review fetal reports monthly and inform the employee of any unusual exposure. Permanent records of employee and fetal dose shall be kept on file in the Radiation Safety Office.
 - 4.5.4. The employee shall comply with the recommendations issued by the RSO. These restrictions will be based on the radiation risk in the employee's department, past dosimetry data, and the ability to institute controls to maintain exposure ALARA.
 - 4.5.5. If the fetal badge accumulates a radiation dose in excess of 400 mrem during the time of monitoring, the RSO will advise Department Leadership to temporarily reassign the worker to jobs that have a lower radiation exposure risk.

- 4.5.6. The DPW status will automatically terminate ten months after estimated date of conception.
- 4.5.7. A DPW may un-declare the pregnancy at any time by written notice to the RSO. Written notice must be provided for any change in pregnancy status. The fetal badge service will be inactivated at that time.
- 4.5.8. The written declaration of pregnancy will be considered expired one year after submission if it is not withdrawn.
- 4.6. **If the employee voluntarily chooses not to declare pregnancy**, as defined in this policy, the exposure limits shall be the same as for a non-pregnant adult radiation worker. A fetal monitor will not be issued. If UNM Radiation Safety counsels a pregnant worker and they choose not to declare the pregnancy, documentation of the declaration should be documented on the Declared Pregnant Worker form and signed by the worker to decline participation in the DPW program.

5. MATERIALS

- 5.1. Pregnancy Declaration Form
- 5.2. Declared Pregnant Worker Consultation

6. REFERENCES

- 6.1. NRC Regulatory Guide 8.13 (Revision 3, June 1999): Instruction Concerning Prenatal Radiation Exposure
- 6.2. NMAC 20.3.4.412: Dose Equivalent to an Embryo/Fetus
- 6.3. NMAC 20.3.4.417: Conditions Requiring Individual Monitoring of External and Internal Occupational Dose:
- 6.4. NMAC 20.3.4.446: Records of Individual Monitoring Results
- 6.5. UNM Radiation Safety Manual