

Pregnant Radiation Worker Policy at MSU

On January 1, 1994, the new Title 10, Code of Federal Regulations, Part 20 law went into effect in the United States. Many changes were made in these laws which directly affect users of radioactive materials and radiation at Michigan State University. This document describes the changes and requirements for pregnant radiation workers, and things that Michigan State University and the worker must do to assure that exposures or risks are maintained at or below the legal requirements.

Requirements are:

- 1. The limit for radiation exposure for a declared pregnant radiation worker is 500 mrem for the entire gestation period.**
- 2. There is now a separate limit for the fetus of 500 mrem for the entire gestation.**
- 3. Exposures to the fetus must be uniform, and will be maintained at or below 50 mrem per month.**
- 4. Declaration of pregnancy is optional. Pregnant radiation workers must declare their pregnancy in writing to the Radiation Safety Officer for the fetal and prenatal limits to take effect. If no written declaration is made, the limits remain at the occupational limit (5 rem per year).**
- 5. If exposures have occurred between the time of conception and the declaration date, the exposures will be subtracted from the permitted exposure limits, and the balance will be prorated over the remaining months.**
- 6. A meeting will be scheduled with the pregnant worker and a health physics staff member to review the previous exposures, discuss any particular concerns and review any special precautions or particular concerns in radiation uses.**
- 7. Pregnant radiation workers will be supplied with two radiation dosimeters, one for the mother (whole body), and one for the fetus (abdomen). These badges will be exchanged monthly in order to assure that an exposure spikes do not occur, and to document that exposures do not exceed the 50 mrem/month cap.**
- 8. Exposure records for the fetus will be tracked separately from the mother. This eliminates confusion and assures that the accumulated dose wraps into the next year if the pregnancy carries into that year.**

There are relatively few research laboratories where radiation levels are high enough that a fetus would receive 500 mrem before birth. The likelihood of any dose to the fetus is almost non-existent at Michigan State University with the types and quantities of radioactive materials used. Most nuclides pose little risk of external radiation to the worker. For those who work with ^{32}P , the risk is also very small; although ^{32}P is a high energy beta nuclide, it can only penetrate the tissue 7 - 10 millimeters, and thus not to the depth of the fetus. (Shallow doses typically occur with ^{32}P , not deep doses.)

If you are pregnant, planning to become pregnant or simply would like more information, please call a Health Physicist, and we will arrange a meeting with you to review information and answer questions.