### Appendix E: Recommended Forms

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<th>Page(s)</th>
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<td>57-64</td>
</tr>
</tbody>
</table>
Applicant Name_____________________________________ Department____________________________
Office Address____________________________________________________________________________
Phone________________ Email__________________@illinois.edu

DRS use only

This permit application is for a (n):  ☐ New permit. Permit #____________
☐ Amendment to permit #________
☐ Renewal of permit #________

List all labs in which you plan to use or store radioactive materials or radiation-producing equipment and check “Yes” or “No” if these are shared spaces.

<table>
<thead>
<tr>
<th>Building</th>
<th>Room</th>
<th>Phone</th>
<th>Shared Space</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>☐ Yes ☐ No</td>
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<td>☐ Yes ☐ No</td>
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<td></td>
<td></td>
<td>☐ Yes ☐ No</td>
</tr>
</tbody>
</table>

If “YES” has been checked identifying shared space, please list the name of the person(s) who has responsibility for this shared space.

Name__________________________________________________________
Location______________________________________________________

List the name(s) of those who will be providing the day-to-day operation of the radiation safety program in the lab.

Name__________________________________________________________
Name__________________________________________________________
List each radionuclide (of unsealed radioactive material) to be used, the maximum quantity (in millicuries) that you reasonably expect to possess at any one time, and the chemical/physical form of each. Note: Once approved, a permit amendment is necessary to increase a radionuclide quantity.

<table>
<thead>
<tr>
<th>Nuclide</th>
<th>Chemical/physical form</th>
<th>Maximum quantity (mCi)</th>
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</tbody>
</table>

List each sealed radioactive source and other related information, if any are to be used.

<table>
<thead>
<tr>
<th>Radionuclide</th>
<th>Manufacturer</th>
<th>Activity/date</th>
<th>Serial number</th>
</tr>
</thead>
<tbody>
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</tbody>
</table>

List all radiation-producing equipment to be used, such as X-ray machines, particle accelerators, and other equipment capable of producing ionizing radiation.

<table>
<thead>
<tr>
<th>Type of equipment</th>
<th>Model #</th>
<th>Types of radiation emitted</th>
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</thead>
<tbody>
<tr>
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</table>

Describe any use of radioactive materials in animals. Provide an estimate of the number of animals to be used, the dosage for each animal, the nature of samples to be taken for measurement, and plans for disposal of animal extractions, excreta, bedding, and carcasses. (Attach additional sheets if necessary)

List all radiation detection instruments available. (Attach additional sheets if necessary)

<table>
<thead>
<tr>
<th>Type of instrument</th>
<th>Manufacturer</th>
<th>Type of detector (GM, scintillation, ion chamber)</th>
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</tbody>
</table>

In general, describe the manipulations and handling of radioactive materials to be used in the laboratory. Include a description of the facilities and equipment that are available at each location where radioactive materials are to be used. Attach drawings describing the facilities, ventilation (fume hoods, filtration,
etc.), storage facilities, (containers, shielding, etc.), waste receptacles, special equipment (remote handling tools, etc.), and protective equipment. (Attach additional sheets if necessary)

Please submit a description of applicable experience in the use of radioactive materials/radiation-generating equipment for each individual listed on page 1. Include where the experience was obtained and the period of experience. (Attach additional sheets if necessary)

Certification

I certify that the information stated herein is true and correct. This application is made under and in conformity with all applicable federal, state, and University regulations. I understand that all individuals working in the areas where radiation hazards may exist, will be informed of: the use and storage of radioactive materials; the health risks associated with radioactive materials; precautions to minimize exposure; the responsibility to promptly report any condition which may cause a violation of the regulations/license or unnecessary exposure to radiation. I further certify that no radioactive material or radiation-producing equipment will be transferred to another person or place inside or outside of the University without the prior consent of the Division of Research Safety. Under no circumstances will radioactive materials be used in humans.

Signature of applicant: ____________________________ Date: ________________

For DRS use only

Application checklist

☐ Waste receptacle area ☐ Hoods available (if necessary) ☐ Sink for liquid disposal

☐ Check lab egress/exits ☐ Work areas are clearly marked ☐ Radiation detector available

☐ Explain I-number system

Checked by: ____________________________ Date: ________________
University of Illinois Dosimetry Request Form

Federal, State and University regulations require that your radiation exposure record contain the following information. Allow 2 weeks for dosimetry to arrive after submitting this form to Radiation Safety. Please complete Part 1 of this form, have your PI complete Part 2, and return the form to:

Division of Research Safety, Radiation Safety Section, MC-225

Part 1…………………………………………………………………………………………………………………………………………………

(Please print)

Name: ____________________________________________________________ UIN: __________________

Last                   first middle

Date of birth: ______________ Phone ________________________________

Email: __________________________________________________________

Room/Building where dosimetry will be stored: __________________________

Please list below, the radioactive material that you will be working with, the approximate total activities to be used per month and the time handling the materials during a routine week:

<table>
<thead>
<tr>
<th>Isotope(s)</th>
<th>Quantity (mCi)</th>
<th>Handling Time (min/wk.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

X-ray(s)

| 1.          |
| 2.          |

Dosimetry desired (check one or both): Whole Body Badge ☐ Extremity Ring ☐

Check one: Sex: M ☐ F ☐ Ring size (check one): S ☐ M ☐ L ☐ XL ☐

“I am familiar with the radiation hazards of this project and have read or been instructed in the rules and regulations for the safe use of radioactive materials at the University of Illinois at Urbana-Champaign.”

Signed: ____________________________ Date: __________

Part 2…………………………………………………………………………………………………………………………………………………

“I certify that the above individual’s work may require him/her to be exposed to ionizing radiation and that he/she has been adequately trained in the procedures necessary to minimize possible hazards.”
Principle Investigator: __________________________

Signature: __________________________

Date signed: ___________ Radiation Permit #________

For Radiation Safety Use Only

<table>
<thead>
<tr>
<th>Badge number assigned:</th>
<th>Type:</th>
<th>Location:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Badge number assigned:</th>
<th>Type:</th>
<th>Location:</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>
SURVEY LOG

Supervisor: ____________________________ Location: ____________________________

Detector 1: __________________________ / __________________________ Date of Calibration: __________________________
             (Model)                                                  (Serial #)

Detector 2: __________________________ / __________________________ Date of Calibration: __________________________
             (Model)                                                  (Serial #)

Survey points and results in cpm per area monitored
(Points should correspond to locations on survey map)

<table>
<thead>
<tr>
<th>Date &amp; Initials</th>
<th>Detector #</th>
<th>Battery check</th>
<th>Source Check</th>
<th>Background (cpm)</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
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<td></td>
</tr>
</tbody>
</table>
### Radioisotope Use and Waste Log

<table>
<thead>
<tr>
<th>Lab Supervisor: __________________________</th>
<th>Location: __________________________</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isotope: _______________________________</td>
<td>Vendor: ____________________________</td>
</tr>
<tr>
<td>Chemical form: __________________________</td>
<td>Date received: ______________________</td>
</tr>
<tr>
<td>Original Activity: _______________________</td>
<td>Assay date: _________________________</td>
</tr>
</tbody>
</table>

#### Package Contamination Survey Results

<table>
<thead>
<tr>
<th>Survey Meter (cpm):</th>
<th>Smear/Swipe:</th>
</tr>
</thead>
<tbody>
<tr>
<td>@ 1 meter: _______</td>
<td>Background (cpm): _______</td>
</tr>
<tr>
<td>@ Surface: _______</td>
<td>Inner Package (cpm): _______</td>
</tr>
<tr>
<td></td>
<td>(packing material, vial &amp; container)</td>
</tr>
</tbody>
</table>

Box Labels/Markings Defaced? Y

Initials: __________________________

### Radioisotope Use Record

<table>
<thead>
<tr>
<th>Date</th>
<th>Initials</th>
<th>Withdrawn Activity</th>
<th>Balance Activity</th>
<th>Withdrawn Volume</th>
<th>Balance Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Radioactive Waste Log

<table>
<thead>
<tr>
<th>Date</th>
<th>Check Appropriate Box Dry</th>
<th>Check Appropriate Box Liquid</th>
<th>Activity</th>
<th>Sink Disposal Total Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

S:/DRS/Forms/Radioisotope Use & Disposal Log (rev. 0, 2/2003)
University of Illinois
DECLARATION OF PREGNANCY

In accordance with the NRC's regulations at 10 CFR 20.1208, "Dose to an Embryo/Fetus," I am declaring that I am pregnant. I believe I became pregnant in ____________________________ (only month and year need be provided).

I understand the radiation dose to my embryo/fetus during my entire pregnancy will not be allowed to exceed 0.5 rem (5 mSv) (unless that dose has already been exceeded between the time of conception and submitting this letter). I also understand that meeting the lower dose limit may require a change in job or job responsibilities during my pregnancy.

I have been given the opportunity to read USNRC Regulatory Guide 8.13 “Instruction Concerning Prenatal Radiation Exposure” and IDNS Rules and Regulations, Parts 340.280 and 340.530.

(Your Name Printed)  (Your Signature)  (Date)

(Work location where dosimetry will be kept)  (Phone number)

_________________________  ____________________________
(UIN)  (Date of birth)

Disclosure Statement
You must provide your name, University ID Number (UIN), and date of birth for the University of Illinois to process a dosimetry request. Federal and State law require the University to maintain this information and provide your exposure history upon your authorization. The University will not disclose a recipient's personal information without the consent of the recipient to anyone outside the University except as mandated by law.

Complete and return this form via campus mail to:
Radiation Safety, MC-225, 101 S. Gregory St., Urbana, IL,

Division of Research Safety use only:
Fetal badge number assigned: ______ Location: ______ Date issued: __________

S:/DRS/Forms/Declaration of Pregnancy Form (rev. 2, 09/2010)
A. INTRODUCTION
The Code of Federal Regulations in 10 CFR Part 19, "Notices, Instructions and Reports to Workers: Inspection and Investigations," in Section 19.12, "Instructions to Workers," requires instruction in "the health protection problems associated with exposure to radiation and/or radioactive material, in precautions or procedures to minimize exposure, and in the purposes and functions of protective devices employed." The instructions must be "commensurate with potential radiological health protection problems present in the work place."

The Nuclear Regulatory Commission's (NRC's) regulations on radiation protection are specified in 10 CFR Part 20, "Standards for Protection Against Radiation"; and Section 20.1208, "Dose to an Embryo/Fetus," requires licensees to "ensure that the dose to an embryo/fetus during the entire pregnancy, due to occupational exposure of a declared pregnant woman, does not exceed 0.5 rem (5 mSv)." Section 20.1208 also requires licensees to "make efforts to avoid substantial variation above a uniform monthly exposure rate to a declared pregnant woman." A declared pregnant woman is defined as a woman who has voluntarily informed her employer, in writing, of her pregnancy and the estimated date of conception.

This regulatory guide is intended to provide information to pregnant women, and other personnel, to help them make decisions regarding radiation exposure during pregnancy. This Regulatory Guide 8.13 supplements Regulatory Guide 8.29, "Instruction Concerning Risks from Occupational Radiation Exposure" (Ref. 1), which contains a broad discussion of the risks from exposure to ionizing radiation.

Other sections of the NRC's regulations also specify requirements for monitoring external and internal occupational dose to a declared pregnant woman. Licensees are required to monitor the occupational dose to a declared pregnant woman, using an individual monitoring device, if it is likely that the declared pregnant woman will receive, from external sources, a deep dose equivalent in excess of 0.1 rem (1 mSv). The licensee must maintain records of dose to an embryo/fetus if monitoring was required, and the records of dose to the embryo/fetus must be kept with the records of dose to the declared pregnant woman. The declaration of pregnancy must be kept on file, but may be maintained separately from the dose records. The licensee must retain the required form or record until the Commission terminates each pertinent license requiring the record.

B. DISCUSSION
As discussed in Regulatory Guide 8.29 (Ref. 1), exposure to any level of radiation is assumed to carry with it a certain amount of risk. In the absence of scientific certainty regarding the relationship between low dose exposure and health effects, and as a conservative assumption for radiation protection purposes, the scientific community generally assumes that any exposure to ionizing radiation may cause undesirable biological effects and that the
likelihood of these effects increases as the dose increases. At the occupational dose limit for the whole body of 5 rem (50 mSv) per year, the risk is believed to be very low.

The magnitude of risk of childhood cancer following in utero exposure is uncertain in that both negative and positive studies have been reported. The data from these studies "are consistent with a lifetime cancer risk resulting from exposure during gestation which is two to three times that for the adult" (NCRP Report No. 116, Ref. 2). The NRC has reviewed the available scientific literature and has concluded that the 0.5 rem (5 mSv) limit specified in 10 CFR 20.1208 provides an adequate margin of protection for the embryo/fetus. This dose limit reflects the desire to limit the total lifetime risk of leukemia and other cancers associated with radiation exposure during pregnancy.

In order for a pregnant worker to take advantage of the lower exposure limit and dose monitoring provisions specified in 10 CFR Part 20, the woman must declare her pregnancy in writing to the licensee. A separate written declaration should be submitted for each pregnancy.

C. REGULATORY POSITION
1. Who Should Receive Instruction
   Female workers who require training under 10 CFR 19.12 should be provided with the information contained in this guide. In addition to the information contained in Regulatory Guide 8.29 (Ref. 1), this information may be included as part of the training required under 10 CFR 19.12.

2. Providing Instruction
   The occupational worker may be given a copy of this guide with its Appendix, an explanation of the contents of the guide, and an opportunity to ask questions and request additional information. The information in this guide and Appendix should also be provided to any worker or supervisor who may be affected by a declaration of pregnancy or who may have to take some action in response to such a declaration. Classroom instruction may supplement the written information. If the licensee provides classroom instruction, the instructor should have some knowledge of the biological effects of radiation to be able to answer questions that may go beyond the information provided in this guide. Videotaped presentations may be used for classroom instruction. Regardless of whether the licensee provides classroom training, the licensee should give workers the opportunity to ask questions about information contained in this Regulatory Guide 8.13. The licensee may take credit for instruction that the worker has received within the past year at other licensed facilities or in other courses or training.

3. Licensee's Policy on Declared Pregnant Women
   The instruction provided should describe the licensee's specific policy on declared pregnant women, including how those policies may affect a woman's work situation. In particular, the instruction should include a description of the licensee's policies, if any, that may affect the declared pregnant woman's work situation after she has filed a written declaration of pregnancy consistent with 10 CFR 20.1208.

   The instruction should also identify who to contact for additional information as well as identify who should receive the written declaration of pregnancy. The recipient of the
Recommended Reading for Pregnant Female Radiation Workers

woman's declaration may be identified by name (e.g., John Smith), position (e.g.,
immediate supervisor, the radiation safety officer), or department (e.g., the personnel
department).

4. Duration of Lower Dose Limits for the Embryo/Fetus
The lower dose limit for the embryo/fetus should remain in effect until the woman
withdraws the declaration in writing or the woman is no longer pregnant. If a
declaration of pregnancy is withdrawn, the dose limit for the embryo/fetus would apply
only to the time from the estimated date of conception until the time the declaration is
withdrawn. If the declaration is not withdrawn, the written declaration may be
considered expired one year after submission.

5. Substantial Variations Above a Uniform Monthly Dose Rate
According to 10 CFR 20.1208(b), "The licensee shall make efforts to avoid substantial
variation above a uniform monthly exposure rate to a declared pregnant woman so as to
satisfy the limit in paragraph (a) of this section," that is, 0.5 rem (5 mSv) to the
embryo/fetus. The National Council on Radiation Protection and Measurements
(NCRP) recommends a monthly equivalent dose limit of 0.05 rem (0.5 mSv) to the
embryo/fetus once the pregnancy is known (Ref. 2). In view of the NCRP
recommendation, any monthly dose of less than 0.1 rem (1 mSv) may be considered as
not a substantial variation above a uniform monthly dose rate and as such will not
require licensee justification. However, a monthly dose greater than 0.1 rem (1 mSv)
should be justified by the licensee.

REFERENCES
1. USNRC, "Instruction Concerning Risks from Occupational Radiation Exposure,"
Regulatory Guide 8.29, Revision 1, February 1996.

2. National Council on Radiation Protection and Measurements, Limitation of Exposure to

QUESTIONS AND ANSWERS CONCERNING PRENATAL RADIATION EXPOSURE

1. Why am I receiving this information?
The NRC's regulations (in 10 CFR 19.12, "Instructions to Workers") require that licensees
instruct individuals working with licensed radioactive materials in radiation protection as
appropriate for the situation. The instruction below describes information that occupational
workers and their supervisors should know about the radiation exposure of the embryo/fetus
of pregnant women. The regulations allow a pregnant woman to decide
whether she wants to formally declare her pregnancy to take advantage of lower dose limits for the embryo/fetus. This instruction provides information to help women make an informed decision whether to declare a pregnancy.

2. **If I become pregnant, am I required to declare my pregnancy?**
   No. The choice whether to declare your pregnancy is completely voluntary. If you choose to declare your pregnancy, you must do so in writing and a lower radiation dose limit will apply to your embryo/fetus. If you choose not to declare your pregnancy, you and your embryo/fetus will continue to be subject to the same radiation dose limits that apply to other occupational workers.

3. **If I declare my pregnancy in writing, what happens?**
   If you choose to declare your pregnancy in writing, the licensee must take measures to limit the dose to your embryo/fetus to 0.5 rem (5 mSv) during the entire pregnancy. This is one-tenth of the dose that an occupational worker may receive in a year. If you have already received a dose exceeding 0.5 rem (5 mSv) in the period between conception and the declaration of your pregnancy, an additional dose of 0.05 rem (0.5 mSv) is allowed during the remainder of the pregnancy. In addition, 10 CFR 20.1208, "Dose to an Embryo/Fetus," requires licensees to make efforts to avoid substantial variation above a uniform monthly dose rate so that all the 0.5 rem (5 mSv) allowed dose does not occur in a short period during the pregnancy.

   This may mean that, if you declare your pregnancy, the licensee may not permit you to do some of your normal job functions if those functions would have allowed you to receive more than 0.5 rem, and you may not be able to have some emergency response responsibilities.

4. **Why do the regulations have a lower dose limit for the embryo/fetus of a declared pregnant woman than for a pregnant worker who has not declared?**
   A lower dose limit for the embryo/fetus of a declared pregnant woman is based on a consideration of greater sensitivity to radiation of the embryo/fetus and the involuntary nature of the exposure. Several scientific advisory groups have recommended (References 1 and 2) that the dose to the embryo/fetus be limited to a fraction of the occupational dose limit.

5. **What are the potentially harmful effects of radiation exposure to my embryo/fetus?**
   The occurrence and severity of health effects caused by ionizing radiation are dependent upon the type and total dose of radiation received, as well as the time period over which the exposure was received. See Regulatory Guide 8.29, "Instruction Concerning Risks from Occupational Exposure" (Ref. 3), for more information. The main concern is embryo/fetal susceptibility to the harmful effects of radiation such as cancer.

6. **Are there any risks of genetic defects?**
   Although radiation injury has been induced experimentally in rodents and insects, and in the experiments was transmitted and became manifest as hereditary disorders in their offspring, radiation has not been identified as a cause of such effect in humans. Therefore, the risk of genetic effects attributable to radiation exposure is speculative. For example, no genetic effects have been documented in any of the Japanese atomic bomb survivors, their children, or their grandchildren.
7. What if I decide that I do not want any radiation exposure at all during my pregnancy?

You may ask your employer for a job that does not involve any exposure at all to occupational radiation dose, but your employer is not obligated to provide you with a job involving no radiation exposure. Even if you receive no occupational exposure at all, your embryo/fetus will receive some radiation dose (on average 75 mrem (0.75 mSv)) during your pregnancy from natural background radiation.

The NRC has reviewed the available scientific literature and concluded that the 0.5 rem (5 mSv) limit provides an adequate margin of protection for the embryo/fetus. This dose limit reflects the desire to limit the total lifetime risk of leukemia and other cancers. If this dose limit is exceeded, the total lifetime risk of cancer to the embryo/fetus may increase incrementally. However, the decision on what level of risk to accept is yours. More detailed information on potential risk to the embryo/fetus from radiation exposure can be found in References 2-10.

8. What effect will formally declaring my pregnancy have on my job status?

Only the licensee can tell you what effect a written declaration of pregnancy will have on your job status. As part of your radiation safety training, the licensee should tell you the company’s policies with respect to the job status of declared pregnant women. In addition, before you declare your pregnancy, you may want to talk to your supervisor or your radiation safety officer and ask what a declaration of pregnancy would mean specifically for you and your job status.

In many cases you can continue in your present job with no change and still meet the dose limit for the embryo/fetus. For example, most commercial power reactor workers (approximately 93%) receive, in 12 months, occupational radiation doses that are less than 0.5 rem (5 mSv) (Ref. 11). The licensee may also consider the likelihood of increased radiation exposures from accidents and abnormal events before making a decision to allow you to continue in your present job.

If your current work might cause the dose to your embryo/fetus to exceed 0.5 rem (5 mSv), the licensee has various options. It is possible that the licensee can and will make a reasonable accommodation that will allow you to continue performing your current job, for example, by having another qualified employee do a small part of the job that accounts for some of your radiation exposure.

9. What information must I provide in my written declaration of pregnancy?

You should provide, in writing, your name, a declaration that you are pregnant, the estimated date of conception (only the month and year need be given), and the date that you give the letter to the licensee.

10. To declare my pregnancy, do I have to have documented medical proof that I am pregnant?

NRC regulations do not require that you provide medical proof of your pregnancy. However, NRC regulations do not preclude the licensee from requesting medical documentation of your pregnancy, especially if a change in your duties is necessary in order to comply with the 0.5 rem (5 mSv) dose limit.

11. Can I tell the licensee orally rather than in writing that I am pregnant?

No. The regulations require that the declaration must be in writing.
12. If I have not declared my pregnancy in writing, but the licensee suspects that I am pregnant, do the lower dose limits apply?
   No. The lower dose limits for pregnant women apply only if you have declared your pregnancy in writing. The United States Supreme Court has ruled (in United Automobile Workers International Union v. Johnson Controls, Inc., 1991) that "Decisions about the welfare of future children must be left to the parents who conceive, bear, support, and raise them rather than to the employers who hire those parents" (Reference 7). The Supreme Court also ruled that your employer may not restrict you from a specific job "because of concerns about the next generation." Thus, the lower limits apply only if you choose to declare your pregnancy in writing.

13. If I am planning to become pregnant but am not yet pregnant and I inform the licensee of that in writing, do the lower dose limits apply?
   No. The requirement for lower limits applies only if you declare in writing that you are already pregnant.

14. What if I have a miscarriage or find out that I am not pregnant?
   If you have declared your pregnancy in writing, you should promptly inform the licensee in writing that you are no longer pregnant. However, if you have not formally declared your pregnancy in writing, you need not inform the licensee of your nonpregnant status.

15. How long is the lower dose limit in effect?
   The dose to the embryo/fetus must be limited until you withdraw your declaration in writing or you inform the licensee in writing that you are no longer pregnant. If the declaration is not withdrawn, the written declaration may be considered expired one year after submission.

16. If I have declared my pregnancy in writing, can I revoke my declaration of pregnancy even if I am still pregnant?
   Yes, you may. The choice is entirely yours. If you revoke your declaration of pregnancy, the lower dose limit for the embryo/fetus no longer applies.

17. What if I work under contract at a licensed facility?
   The regulations state that you should formally declare your pregnancy to the licensee in writing. The licensee has the responsibility to limit the dose to the embryo/fetus.

18. Where can I get additional information?
   The references to this Appendix contain helpful information, especially Reference 3, NRC's Regulatory Guide 8.29, "Instruction Concerning Risks from Occupational Radiation Exposure," for general information on radiation risks. The licensee should be able to give this document to you.

For information on legal aspects, see Reference 7, "The Rock and the Hard Place: Employer Liability to Fertile or Pregnant Employees and Their Unborn Children--What Can the Employer Do?" which is an article in the journal Radiation Protection Management.
You may telephone the NRC Headquarters at (301) 415-7000. Legal questions should be directed to the Office of the General Counsel, and technical questions should be directed to the Division of Industrial and Medical Nuclear Safety.

You may also telephone the NRC Regional Offices at the following numbers: Region I, (610) 337-5000; Region II, (404) 562-4400; Region III, (630) 829-9500; and Region IV, (817) 860-8100. Legal questions should be directed to the Regional Counsel, and technical questions should be directed to the Division of Nuclear Materials Safety.

REFERENCES FOR QUESTIONS
ILLINOIS ADMINISTRATIVE CODE
TITLE 32: ENERGY
CHAPTER II: DEPARTMENT OF NUCLEAR SAFETY
SUBCHAPTER b: RADIATION PROTECTION
PART 340, STANDARDS FOR PROTECTION AGAINST RADIATION

Section 340.280 Dose to an Embryo/Fetus

a) Except as otherwise provided in subsections (d) and (e) below, the licensee or registrant shall ensure that 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). (For recordkeeping requirements, see Section 340.1160(d).)

b) The dose to an embryo/fetus shall be taken as the sum of:
   1) The deep dose equivalent to the declared pregnant woman during the entire pregnancy; and
   2) The dose to the embryo/fetus from radionuclides in the embryo/fetus and radionuclides in the declared pregnant woman during the entire pregnancy.

c) The licensee or registrant shall make efforts to avoid substantial variation above a uniform monthly exposure rate to a declared pregnant woman so as to satisfy the limit in subsection (a) above.

AGENCY NOTE: The National Council on Radiation Protection and Measurements report entitled "Recommendations on Limits for Exposure to Ionizing Radiation," NCRP 91, published June 1, 1987, recommends that no more than 0.5 mSv (0.05 rem) of the allowed dose to the embryo/fetus be received during any one month during a declared pregnancy.

d) If the declared pregnant woman has not notified the licensee or registrant of the estimated date of conception, the licensee or registrant shall ensure that the dose to an embryo/fetus, as specified in subsection (b) above, due to occupational exposure of the declared pregnant woman does not exceed 0.5 mSv (0.05 rem) per month, during the remainder of the pregnancy. If after initially declaring her pregnancy, a declared pregnant woman advises the licensee or registrant of the estimated date of conception, the dose limits specified in subsections (a) and (e) of this Section shall apply.

AGENCY NOTE: The Department encourages licensees and registrants to explain to declared pregnant workers that providing an estimated date of conception will enable the licensee or registrant to more accurately assess the radiation dose to the embryo/fetus and assist the licensee or registrant in determining appropriate precautions to be taken for the remainder of the pregnancy.

e) If by the time the woman informs the licensee or registrant of the estimated date of conception the dose to the embryo/fetus has exceeded 4.5 mSv (0.45 rem), the licensee or registrant shall be deemed to be in compliance with subsection (a) above if the additional
dose to the embryo/fetus as specified in subsection (b) above does not exceed 0.5 mSv (0.05 rem) during the remainder of the pregnancy.

Section 340.530 Location of Individual Monitoring Devices

Each licensee or registrant shall ensure that individuals who are required to monitor occupational doses in accordance with Section 340.520(a) wear individual monitoring devices as follows:

a) An individual monitoring device used for monitoring the dose to the whole body shall be worn at the unshielded location of the whole body likely to receive the highest exposure. When a protective apron is worn, the location of the individual monitoring device is typically at the neck (collar).

b) An individual monitoring device used for monitoring the dose to an embryo/fetus of a declared pregnant woman, pursuant to Section 340.280(a), shall be located at the waist under any protective apron being worn by the woman.

c) An individual monitoring device used for monitoring the eye dose equivalent, to demonstrate compliance with Section 340.210(a)(2)(A), shall be located at the neck (collar), outside any protective apron being worn by the monitored individual, or at an unshielded location closer to the eye.

d) An individual monitoring device used for monitoring the dose to the extremities, to demonstrate compliance with Section 340.210(a) (2)(B), shall be worn on the extremity likely to receive the highest exposure. Each individual monitoring device shall be oriented to measure the highest dose to the extremity being monitored.