DECLARATION OF PREGNANCY

(Reference: MNL-RS0001 & WI 02.01.01.01.20)

Name: _____ **Badge:** _____ **Work/Job Site:** _____

Supervisor's Name: _____ **Supv. Phone:** _____

In accordance with Paragraph 206 of 10 CFR 835, Chapter 8 of the "Pantex Radiological Control Manual," and WI 02.01.01.01.20, I am voluntarily declaring that I am pregnant for the purposes of lowering occupational exposures received by my embryo/fetus.

I have read the information on the second page of this form and have had the opportunity to discuss any concerns with Occupational Medicine, Industrial Hygiene, and Radiation Safety Department personnel. I realize that work restrictions may be imposed (after consultations with me) to ensure that the embryo/fetus does not receive a radiation dose in excess of 500 mrem during the entire gestation or exceed Pantex administrative limits for any chemical hazards to which I might be exposed. I also realize that supplemental radiological dosimetry may be supplied to me along with monthly reports of the dose received by my embryo/fetus.

I understand that submitting this form to declare my pregnancy in no way affects my benefits, seniority, or potential for promotion and that I can withdraw this declaration at any time by submitting PX-5327, "Withdrawal of Declaration of Pregnancy."

Estimated Date of Conception: _____ **OR Estimated Date of Delivery:** _____

Signature: _____ **Date:** _____

OMD USE ONLY

- ☐ Reviewed medical history/record
- ☐ Discussed current work assignment with individual
- ☐ Reviewed personal physician-supplied information, if any
- ☐ Documented medical restrictions & reviewed with individual
- ☐ Copy of revised restrictions and this form to **Hazard Communication 12-132** (date sent):
- ☐ Original of revised restrictions and this form to **Radiation Safety 12-122** (date sent):

Clinician Signature / Badge No.: _____ **Date:** _____

RSD Signature / Badge No.: _____ **Date:** _____

Supervisor's Signature / Badge No.: _____ **Date:** _____

Send or take completed form to Radiation Safety 12-122.

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EFFECTS OF RADIATION AND CHEMICAL EXPOSURE ON THE EMBRYO/FETUS

Stages of Gestation

If fertilization of an ovum occurs, cell division is initiated and continues during the next 3 to 4 days. The early embryo (called a blastocyst) implants on the lining of the uterus 6 to 7 days after ovulation. The embryonic period takes place between week 3 and weeks 8 to 9 of pregnancy. During this period, cell differentiation proceeds at an accelerated pace and the brain, eyes, heart, upper and lower limbs, and other organs are formed.

The fetal period is considered to have begun after the major organs have developed and extends from approximately 8 or 9 weeks of gestational age until birth. This period is characterized by fetal growth and continued biochemical and physiological maturation of tissues and organs. The nervous system development occurs largely during this stage. During weeks 8 to 15, there is a rapid increase in the number of neurons. Differentiation of the brain continues during weeks 16 to 25.

Radiation Risks

In humans, mental retardation is the best documented of the developmental abnormalities following radiation exposure *in utero*. The BEIR V report (NAS, 1990) stated that, for the period between 8 and 15 weeks of gestation, a threshold for radiation effects may exist in the range of 20 to 40 rad. No subjects exposed to radiation at less than 8 weeks or greater than 26 weeks of gestation were observed to be mentally retarded. The relative risk associated with radiation exposure during the 8 to 15 week period is at least 4 times greater than that for exposure at 16 to 25 weeks after conception. Epidemiological studies of the Japanese atomic bomb survivors and of children exposed to prenatal X-ray examinations were used to determine the susceptibility of the embryo/fetus to radiation induced cancer during prenatal life. The doses received by embryos/fetuses whose mothers received radiation from prenatal X-ray examinations ranged from 0.5 rad to 5 rad. The doses received by embryo/fetuses of Japanese atomic bomb survivors, although much higher, did not show a correlation to childhood leukemia. The BEIR V report states that little increase in susceptibility to cancer is evident in experimental animals that were irradiated during the fetal stage, and no biological basis for an increased susceptibility of cancer can be found. However, the BEIR V report came to the tentative but conservative conclusion that susceptibility to carcinogenic effects of irradiation is high during the prenatal period.

Chemical Hazard Risks

Exposure of a pregnant female to excessive amounts of certain chemicals known as teratogens may cause damage to the developing embryo or fetus. Teratogenic chemicals are included in a broader category of chemicals labeled with an “R” in the special information area of the chemical warning labels and the MSDS.

The Hazard Communication group is the primary source of information on using any chemical at Pantex. They provide Material Safety Data Sheets (MSDS) and labeling information for each chemical at Pantex. The MSDS are available to site personnel both electronically and via paper copies. PD 02.01.01.08 is the Pantex Hazard Communication process document.

Address questions about specific chemicals in the work place and how they might affect your pregnancy to Industrial Hygiene or Hazard Communication group personnel.