

**Notification of Nuclear Energy Worker Status**

In accordance with the *Nuclear Safety and Control Ac*t and *Regulations* this is to inform you that you are a NUCLEAR ENERGY WORKER within the meaning of the Nuclear Safety and Control Act.

This document provides information on the regulatory requirements of being a nuclear energy worker. Risks associated with radiation at Ontario Tech is also discussed.

**NUCLEAR ENERGY WORKER (NEW)** is defined in the Nuclear Safety and Control Act as a person who, is required, in the course of the person's business, or occupation in connection with a nuclear facility to perform duties in such circumstances that there is a reasonable probability that the person may receive a dose of radiation that is greater than the prescribed limit for the general public.

The radiation dose limits for Nuclear Energy Workers and the general public are specified in the *Radiation Protection Regulations, section 13*. These limits are set out in the following table:

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| --- | --- | --- |
| **Person** | **Period of Time** | **Effective Dose Limit (mSv)** |
| Nuclear Energy Worker, including a female nuclear energy worker who is breastfeeding and a female nuclear energy worker who is pregnant but who has not yet informed the licensee in writing that she is pregnant | One year dosimetry period | 50 |
|  | Five-year dosimetry periond | 100 |
| Pregnant nuclear energy worker who has informed the licensee in writing that she is pregnant | The balance of the pregnancy | 4 |
| Any person who is not a Nuclear Energy Worker | One calendar year | 1 |

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| --- | --- | --- | --- |
| **Organ or Tissue** | **Person** | **Period of Time** | **Equivalent Dose Limit (mSv)** |
| Lens of an eye | Nuclear Energy Worker | One-year dosimetry period | 50 |
|  | Any other person | One calendar year | 15 |
| Skin | Nuclear Energy Worker | One-year dosimetry period | 500 |
|  | Any other person | One calendar year | 50 |
| Hands and Feet | Nuclear Energy Worker | One-year dosimetry period | 500 |
|  | Any other person | One calendar year | 50 |

**Obligations of Nuclear Energy Workers**

The *Radiation Protection Regulations, section 10*, require that a Nuclear Energy Worker provide the following information to the holder of a license from the Nuclear Safety Commission:

(a) given names, surname and any previous surname;

(b) Social Insurance Number;

(c) the worker’s gender;

(d) date, province, and country of birth; and

(e) dose record for the current one-year and five-year dosimetry periods.

This information is collected under the authority of the Nuclear Safety and Control Act and will be provided to the Nuclear Safety Commission, a licensed dosimetry service, and to the National Dose Registry. This information may be provided to another government institution as defined in section 3 of the [Privacy Act](http://laws-lois.justice.gc.ca/eng/acts/p-21/), and the licensee **MUST** inform the person to whom the information relates why it is being shared before sharing the information.

The dose limits set out above are from all sources from which a dose record is maintained. Accordingly, if Ontario Tech staff or students perform work at another institution, where that institution provides radiation dosimetry, the Nuclear Energy Worker shall so inform the Ontario Tech Radiation Safety Officer, and provide a record of that dose to the Radiation Safety Officer. The Radiation Safety Officer will take the necessary steps to investigate and reduce the permitted dose limit at Ontario Tech to ensure that the legal dose limits are not exceeded. Personal dose information will be shared with pertinent parties during the investigating.

While the Ontario Tech Radiation Safety Officer can provide personal dose information to persons during their NEW tenure at Ontario Tech, persons can obtain their lifetime dose history information from the [National Dosimetry Registry](https://www.canada.ca/en/health-canada/services/health-risks-safety/radiation/national-dose-registry.html).

**Risks Associated With Radiation at Ontario Tech**

Ontario Tech takes radiation safety concerns seriously and makes it a priority to ensure all community members feel safe while on campus. Due to the operational and facility designs of our nuclear areas, the risks associated with radiation at Ontario Tech is minimal – it is not expected that NEWs will exceed the CNSC dose limit in any activities involving the radioactive sources on campus. Nevertheless, please review the radiation safety manual for the process should any of the dose action levels are exceeded.

If you have any concerns regarding the risks associated with radiation at Ontario Tech, please do not hesitate to discuss your concerns with your supervisor or directly with the Radiation Safety Officer.

**Pregnant and Breastfeeding Nuclear Energy Workers**

Most of the ways a pregnant woman may be exposed to radiation, such as from a diagnostic medical exam or an occupational exposure within regulatory limits, are not likely to cause health effects for a fetus. However, accidental or intentional exposure above regulatory limits may be cause for concern.

Although radiation doses to a fetus tend to be lower than the dose to the mother, due to protection from the uterus and surrounding tissues, the human embryo and fetus are sensitive to ionizing radiation at doses greater than 100 mSv. Depending on the stage of fetal development, the health consequences of exposure at doses greater than 500 mSv can be severe, even if such a dose is too low to cause an immediate effect for the mother. The health consequences can include growth restriction, malformations, impaired brain function, and cancer ([Radiation and Pregnancy: A Fact Sheet for Clinicians, CDC](https://www.cdc.gov/nceh/radiation/emergencies/prenatalphysician.htm)).

In assessing whether an intake by the NEW may result in a dose to the breastfed infant, it should be made aware that certain nuclear substances, when taken into the body, are more likely to become concentrated in breast milk and that the dose to the infant may be more elevated relative to the dose received by the breastfeeding NEW (for example, in the cases of tritiated water, sulfur-35, iodine-125 and iodine-131). Additional information on assessing the dose to a breastfed infant can be found in [REGDOC‑2.7.2, Volume I](https://nuclearsafety.gc.ca/eng/acts-and-regulations/consultation/comment/regdoc2-7-2-vol-I.cfm).

The *Radiation Protection Regulations* require that if the licensee (Ontario Tech) is informed, in writing, by a female nuclear energy worker that she is pregnant or breastfeeding an infant, the licensee must make any accommodation to the working conditions that will not result in costs or business inconvenience constituting undue hardship to the licensee in order to reduce the radiation dose to the pregnant or breastfeeding nuclear energy worker. This notification is to be made to the permit holder and to the Radiation Safety Officer. It is recommended that pregnant or breastfeeding NEWs inform the licensee as soon as possible, however, it is not required to notify the licensee.

Upon such notification, the Radiation Safety Officer, the supervisor, and the worker shall review the work being performed and taken any necessary steps to ensure that the 4 mSv dose limit for the balance of the pregnancy are not exceeded. The licensee **MUST** make any necessary accommodations or adaptations to the working conditions in order to limit intakes of nuclear substances by the breastfeeding NEW, provided that any accommodations or adaptations will not cause undue financial hardship or business inconvenience. The duty to make accommodations for pregnant and breastfeeding NEWs is not meant to prevent the worker from entering or working in a designated radiation and/or contamination zone. Accommodations should, however, ensure that under normal operating conditions the dose is kept ALARA and that the dose limits are respected. The revised working conditions should also ensure that in the event of an accident or other event, any radiological exposure (internal or external) that could result in a dose above the dose limit is avoided. Accommodations made by the licensee to limit intakes of nuclear substances by the breastfeeding NEW can include changes to work assignments such that the potential for intakes is significantly reduced or eliminated. Other options can be the use of PPE and respiratory protection by the NEW. The breastfeeding NEW will be made aware by the RSO and Permit Holder of any accommodations to be made. In the event that an intake occurs, the dose to the breastfeeding NEW and the resultant dose to the infant in the event that the NEW wants to continue to breastfeed will be ascertained. The NEW will be advised of the RSO of the associated risks of continuing to breastfeed, and if necessary, recommendations will be made to stop breastfeeding for a period of time to ensure that the dose to the infant is kept ALARA. For work activities that do not have the potential for intakes of nuclear substances, no accommodations for a NEW who is breastfeeding are required.



**Nuclear Energy Worker Declaration**

As required by the *Radiation Protection Regulations*, I have been informed in writing of:

(a) the risks associated with radiation to which I may be exposed during the course of my work, including the risk associated with exposure of an embryo and foetus;

(b) the applicable dose limits as specified by the regulations;

(c) my expected radiation dose levels;

(d) my rights and obligations should I become pregnant or begin breastfeeding;

Further, if performing radiation work at both Ontario Tech and another institution, I shall inform the Ontario Tech Radiation Safety Officer, in writing of such work and provide to the Radiation Safety Officer a copy of the dose record from that institution.

I understand the risks, my obligations, and the radiation dose limits and levels that are associated with being designated a Nuclear Energy Worker.

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| **LAST** **NAME** of Worker:Click or tap here to enter text. | **FIRST** **NAME** of Worker:Click or tap here to enter text. |
| Position/title (professor, lab technician, graduate student, etc): Click or tap here to enter text. |

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| Signature of Worker: |  |

Date: Click or tap here to enter text.

For RSO Office:

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| --- | --- | --- | --- |
| Whole body [ ]  | Left hand or arm [ ]   | Right hand or arm [ ]  | Other [ ] : Click or tap here to enter text. |