UNIVERSITY OF OTTAWA - RADIATION SAFETY PROGRAM

Radiation Signage Directive

PURPOSE:

The purpose of radiation signage is to inform individuals of the potential risk of radiation exposure or of the presence of radioactive material. In addition, the use of signage also distinguishes experimental equipment, work and storage areas that are dedicated to radioactive material or activities. This Directive is to instruct the University community under which conditions and where radiation signage should be used; and prescribe the signage in terms of symbols and wording.

REGULATORY FRAMEWORK:

The Canadian Nuclear Safety Commission regulates radioactive material in Canada and prescribes the use of the "Radiation Warning Symbol;" as:

Radiation Protection Regulations {SOR/2000-203}
Posting of Signs at Boundaries and Points of Access

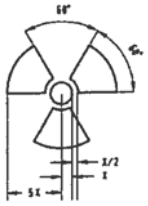
21 Every licensee shall post and keep posted, at the boundary of and at every point of access to an area, room or enclosure, a durable and legible sign that bears the radiation warning symbol set out in Schedule 3 and the words "RAYONNEMENT-DANGER-RADIATION", if

- (a) there is a radioactive nuclear substance in a quantity greater than 100 times its exemption quantity• in the area, room or enclosure; or
- **(b)** there is a reasonable probability that a person in the area, room or enclosure will be exposed to an effective dose rate greater than 25 µSv/h.

- SOR/2007-208, s. 9.

SCHEDULE 3{Sections 20, 21 and 22)

RADIATION WARNING SYMBOL



NOTE: The three blades and the central disk of the symbol shall be (a) magenta or black; and **(b)** located on a yellow background.

**Exemption Quantity (EQ) is a defined quantity of radioactive material which is specific to each radioactive nuclear substance as set out in Schedule 1 of the Nuclear Substance and Radiation Device Regulation*

UNIVERSITY OF OTTAWA - NEEDS ASSESSMENT

CNSC has set specific criteria beneath which the "radiation warning symbol" and prescribed wording should not be used. If this signage was used when criteria was not met, the University risks being cited of frivolous use of signage. Yet the research and academic communities benefit by being able to identify use and storage areas and equipment that are dedicated to the use of radioactive material. Indeed this capacity assists in demonstrating ALARA (as low as reasonably achievable) in terms of exposure and in implementing a management strategy of this material within the laboratory.

UNIVERSITY OF OTTAWA - MANAGEMENT STRATEGY

In order to balance the regulatory requirements and the client community needs a tiered approach is being adopted in the use of radiation warning signage.

Tier 1 Regulatory Threshold Met

The boundary of and at every point of access to an area, room or enclosure, a durable and legible sign that bears the Radiation Warning Symbol set out in Schedule 3 and the words "RAYONNEMENT-DANGER-RADIATION", if

- (a) there is a radioactive nuclear substance in a quantity greater than 100 times its exemption quantity in the area, room or enclosure; or
- (b) there is a reasonable probability that a person in the area, room or enclosure will be exposed to an effective dose rate greater than 25 µSv/h.

This signage is available from the Office of Risk Management.

Tier 2 Below Threshold Limits (0 - < 100 EQ or < 25 µSv/h)

To address the needs of the University community as secondary signage options is supported this can include but is not limited to a variety of radiation signage as reflected below. Note the use of signage is dependent upon work practices and the nature of radioactive material involved.

Tier 3 Less than 1EQ

No signage is required or recommend when less than one EQ is found in the location or is used/stored in that location.