1.0 Purpose

To outline the basic approach to a fire or explosion that has direct impact on any of the locations where radioactive material is used or stored in order to protect the health and safety of all persons at the University and the environment.

2.0 Policy

The University of Manitoba shall respond effectively to a fire or explosion that occurs in an area where radioisotopes are used or stored in order to ensure that exposures to radioactive materials to members of staff and the public are As Low As Reasonably Achievable (ALARA) and to ensure the highest level of security of radioactive material possible.

3.0 Responsibility

Anyone involved or witnessing a fire or explosion that occurs in an area where radioactive material are used or stored has the responsibility to fulfill the requirements of this procedure until management personnel are present on the site. After this time, it is the responsibility of the most senior manager available to implement this procedure.

City of Winnipeg Emergency Response personnel have complete charge of any emergency on campus while they are on site. The University in consultation with the Environment Health and Safety Office (EHSO) shall follow up on the City of Winnipeg Emergency Response recommendations prior to releasing the area to the occupants and public.

In the event of a fire or explosion in areas where radioactive materials are used or stored, the Radiation Safety Officer has the responsibility to:

- Revise or remove restrictions on access to the area in terms of radiological hazard.
- Supervise the monitoring of areas for radioactive contamination and the decontamination process.

4.0 Definitions

The potential hazards associated with fire or explosion that has a direct impact on locations where radioactive material are used or stored are:
4.1 Radioactive material may be released from its containers and give rise to a radioactive contamination in the area local to the incident.

4.2 Such contamination could spread to other parts of the facility if uncontrolled access is permitted to these areas prior to assessment of the radiological hazard.

**Radiation Warning Symbols**  The radiation warning symbols shall be used as outlined in RSP-410 and RSP-510 to identify all areas where radioactive material are used or stored.

**Person-in-charge**  The person-in-charge is anyone witnessing a fire or explosion in lieu of management until management personnel are present on site. The person-in-charge shall cooperate with City of Winnipeg Emergency Response personnel who have complete charge of the incident while they are on site.

**Controlled Area**  For the purpose of this standard operating procedure, a Controlled Area will be an area that is safe and yet allows restricted access to persons that may be personally contaminated with radioactive material. The Controlled Area will be selected by the person in charge to ensure the containment of the radioactive material and the personal safety of potentially contaminated persons.

## 5.0 Procedure

In the event a fire or explosion has direct impact on any of the locations where radioactive material is used or stored, the following procedure shall be followed. The person-in-charge shall cooperate with City of Winnipeg Emergency Response personnel who have complete charge of the incident while they are on site.

5.1 If persons are injured:

5.1.1 Respond with first aid to anyone that is critically injured or has a critical medical condition. *First aid takes precedence over radioactive contamination control. Care should be taken to protect the first-aider from potential hazardous exposure to chemical, biological or radioactive materials. When possible, care should be taken to not spread the any chemical, biological or radioactive contamination.*
5.1.2 Alert Emergency Medical Service via Security Services - 555 or 474-9341 and inform them of the situation including stating that the injured people may be contaminated with radioactivity.

5.1.3 When known, provide Security Services with the patient’s name, the radioisotope, the total activity involved, the nature of the radioactive material (solid, liquid, gas and chemical form) and the extent of the contamination and any other complications (consciousness, fractures, burns, etc) along with the nature of the injury.

5.2 Advise anyone in the area to withdraw to a Controlled Area immediately.

5.3 Restrict access to the laboratory and any other potentially contaminated areas as soon as possible. Post warning signs prohibiting access to the area. The warning sign shall list known or suspected hazards including “Caution: Radioactive Material” and the trefoil if available in the spill kit, date and name of the person who is posting the warning.

5.4 Call Security Services at 555 or 474-9341, give name, location and the nature of the incident. Indicate that the incident involves a radiation hazard. Security Services has 24-hour contact information for all Environmental Health and Safety Office staff.

5.5 Allow only City of Winnipeg Emergency Response personnel and University Environmental Health and Safety Office staff to enter the area. Restrict further access to the area until advised by the Radiation Safety Officer. The Radiation Safety Officer shall revise or remove access controls in regards to radiological hazard. This may require a full contamination monitoring survey of the area to be carried out.

5.6 Keep individuals who were in the area at the time of the incident in a Controlled Area until they can be debriefed and monitored by the University EHSO staff for radioactive contamination. If any individual is contaminated, do not allow them to leave the Controlled Area until they have decontaminated and re-monitored.

Debriefing will be undertaken under the supervision of EHSO staff. Debriefing may include communication of the extent of their exposure, collection of names and other identification, and possibly, collecting witness accounts.
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<tr>
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