

Emergency Evacuation

1.0 Statement

Memorial University shall respond effectively to a fire or explosion that occurs in an area where nuclear substances and/or radiation devices are used or stored in order to ensure that radiation exposures to members of staff and the public are As Low As Reasonably Achievable (ALARA) and to ensure the highest level of security of nuclear substances and radiation devices possible.

2.0 Responsibility

Anyone involved or witnessing a fire or explosion that occurs in an area where nuclear substances 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 RSO or other duly designated on-site university staff to implement this procedure.

City of St. John's Fire Department personnel have complete charge of any emergency on campus while they are on site. The University in consultation with Environmental Health and Safety shall follow up on the City of St. John's Fire Department recommendations prior to releasing the area to the occupants and public.

In the event of a fire or explosion in areas where nuclear substances and/or radiation devices are used or stored, the RSO has the responsibility to:

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

The **potential hazards** associated with fire or explosion that has a direct impact on locations where nuclear substances and radiation devices are used or stored are:

- 2.1 Nuclear substances and radiation devices may be released from its containers and give rise to a radioactive contamination in the area local to the incident.
- 2.2 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.

3.0 Definitions



Radiation Warning Symbols

The **radiation warning symbols** shall be used as outlined in in Section 4.4 of the Radiation Safety Manual to identify all areas where nuclear substances and radiation devices are used or stored.

Person-in-charge

The **person-in-charge** is anyone witnessing a fire or explosion in lieu of Memorial University Environmental Health & Safety management until such management personnel are present on site. The person in-charge shall cooperate with City of St. John's Fire Department response personnel who have complete charge of the incident while they are on site.

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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 nuclear substances. The **Controlled Area** will be selected by the person in charge to ensure the containment of the nuclear substances and radiation devices and the personal safety of potentially contaminated persons.

4.0 Procedure

In the event a fire or explosion has direct impact on any of the locations where nuclear substances and radiation devices are used or stored, the following procedure shall be followed. The person-in-charge shall cooperate with City of St. John's Fire Department personnel who have complete charge of the incident while they are on site.

- 4.1 If persons are injured:
 - 4.1.1 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 nuclear substances and radiation devices. When possible, care should be taken to not spread chemical, biological or radioactive contamination.*
 - 4.1.2 Alert Emergency Medical Service and *inform 9-911 responders of the situation including stating that the injured people may be contaminated with radioactivity.*
 - 4.1.3 When known, provide 9-911 responders or Campus Enforcement and Patrol with the patients name, the radioisotope, the total activity involved, the nature of the nuclear substances and/or radiation devices (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.
 - 4.1.4 Advise anyone in the area to withdraw to a Controlled Area immediately.
 - 4.1.5 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.
 - 4.1.6 The location of the fire /explosion will dictate the number to call. (See table below). The caller should give his/her name, location and the nature of the incident. Indicate that the incident involves a radiation hazard. Campus Enforcement Patrol will contact the RSO or designate.

Radiation Safety Operating Procedure

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Emergency Contacts	Telephone
St. John's Campus	709 - 864 - 4100
Health Sciences Centre	709 - 864 - 4100
Marine Institute	709 - 778 - 0456
Grenfell Campus	709 - 637- 2888
Ocean Sciences Centre	709 - 864 - 4100

- 4.1.7 Allow only City of St. John's Fire Department Emergency Response personnel and University Environmental Health and Safety staff to enter the area. Restrict further access to the area until advised by the RSO. The RSO 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.
- 4.1.8 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 RSO or designate 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 the RSO. Debriefing may include communication of the extent of their exposure, collection of names and other identification, and possibly, collecting witness accounts.
- 4.1.9 The RSO will contact the duty officer at the Canadian Nuclear Safety Commission (Telephone: 613-995-0479), when the area has been secured.