

Health and Safety Standard

FIRE EXTINGUISHERS

1 PURPOSE

This standard supports the Hazard/Aspect and Risk Assessment Policy and establishes the requirements for the selection, provision and management of portable fire extinguishers at SaskPower.

2 SCOPE

This standard outlines the requirements for the selection, provision, placement and installation, inspection and maintenance of portable fire extinguishers in accordance with NFPA 10 – Standard for Portable Fire Extinguishers (R2022).

This standard excludes permanently installed systems for fire extinguishment in commercial buildings. These requirements are specified under the National Building and Fire Code.

This standard outlines the minimum requirements that shall be met or exceeded by SaskPower workers and contractors. Failure to comply may result in injuries, damage to equipment and property, environmental harm, performance management or any combination thereof.

The use of the word “shall” within this standard denotes a mandatory action, whereas the use of the word “should” or “may” denotes a recommended action.

3 DEFINITIONS

The following definitions apply to this standard:

Class A Fire – a fire that involves ordinary combustible solid materials such as wood, cloth, paper, plastics or asphalt.

Class B Fire – a fire that involves gases, grease, and flammable combustible liquids such as gasoline, kerosene, alcohol, and lubricating oils and greases.

Class C Fire – a fire that involves circuits of electrical equipment or fires near such equipment such as electrical motors, switch boxes, junction boxes, transformers, and energized or live wires.

Class D Fire – a fire that involves combustible metals, such as magnesium, titanium, zirconium, sodium, lithium and potassium.

Class K Fire – a fire that involves cooking appliances involving combustible cooking medium, such as vegetable or animal oils and fats.

Extra (High) Hazards – locations where the quantity and combustibility of Class A combustibles materials are high or where high amounts of Class B flammables are present and rapidly developing fires with high rates of heat release are expected. These occupancies consist of fire hazards involved with the storage, packaging, and handling of Class A combustible materials beyond normal anticipated furnishing and/or the total quantity of Class B flammables typically expected to be present is more than 5 US gallons (18.9 L) in any room or area.

Fire Extinguisher Inspection – an inspection constitutes a "Quick Check" to ensure that a fire extinguisher is readily available and fully operational. It is intended to provide reasonable assurance that the extinguisher is fully charged and available for use.

Fire Extinguisher Maintenance – maintenance is a thorough check of the fire extinguisher. It is intended to give maximum assurance that an extinguisher will operate effectively and safely. It includes a thorough examination and any necessary repair, recharging or replacement. This is intended to reveal the need for hydrostatic testing of an extinguisher. Repair and hydrostatic testing is required by a qualified fire extinguisher service technician.

Light (Low) Hazards – locations where the quantities and combustibility of Class A combustibles and Class B flammables are low and fires with relatively low rates of heat are expected. These occupancies consist of fire hazards having normally expected quantities of Class A combustible furnishing and/or the total quantity of Class B flammables typically expected to be present is less than 1 US gallon (3.87 L) in any room or area.

Ordinary (Moderate) Hazards – locations where the quantity and combustibility of Class A combustibles and Class B flammables are moderate and fires with moderate rates of heat release are expected. These occupancies consist of fire hazards that only occasionally contain Class A combustible materials beyond normal anticipated furnishing and/or the total quantity of Class B flammables typically expected to be present is from 1 US gallon (3.87 L) to 5 US gallons (18.9 L) in any room or area.

Portable Fire Extinguisher - a portable device carried and operated by hand, containing an extinguishing agent that can be expelled under pressure for the purpose of suppressing or extinguishing fire.

Readily Accessible – fire extinguishers must be located where they are readily accessible for immediate use and be of sufficient quantity and size to deal with the unexpected fire. The fire extinguisher needs to be located where there is no obstruction to access or visibility.

The portable device must be capable of being reached quickly for operation, renewal, or inspections. The extinguisher must not be blocked by obstacles including the need to unlock compartments, bins, or obstructions.

Travel Distance – actual walking distance from any point to the nearest fire extinguisher to fulfill hazard requirements

4 REQUIREMENTS

4.1 GENERAL

Portable fire extinguishers are installed throughout SaskPower facilities and on vehicles as a first line of defense to escape from and to suppress fires.

Requirements for fire extinguishers for motor vehicles are outlined in the Motor Vehicle Safety Standard.

4.2 SELECTION

Fire extinguisher selection including the type, size and amount shall be identified and meet the requirements of the Hazard/Aspect and Risk Assessment completed by the applicable Division or delegate.

The following factors should be considered when selecting the appropriate fire extinguisher for the class(es) of fire hazard:

- Type (nature of materials that may be ignited) and size of fire to most likely to occur;
- Hazards in the area where the fire is most likely to occur;
- Level of occupancy;
- Energized electrical equipment in the vicinity of the fire; and
- Room capacity (*e.g.*, confined space).

Rooms or areas should be classified as being light hazard, ordinary hazard or extra hazard.

If more than one fire hazard may be present, the extinguisher selected shall control all hazards identified or anticipated.

It is recommended that Carbon Dioxide (CO₂) or Halotron fire extinguishers labelled for Class C hazards are installed for the protection of critical electronic equipment that are not located within confined spaces.

Fire extinguishers shall not exceed 20lb/10kg ABC type extinguisher for ergonomic safety and size of fire hazards to be controlled.

4.3 PROVISIONING

Fire extinguishers and mounting brackets shall be supplied through SaskPower Central Stores or through the Division's purchasing process.

4.4 PLACEMENT AND INSTALLATION

Portable fire extinguishers shall not be placed more than 9 metres away from:

- each industrial open-flame portable heating device and
- each welding or cutting operation that is in progress.

Portable fire extinguishers shall be:

- readily accessible and available for immediate use;
- located along the normal travel paths, including exits; and
- highly visible or signage provided.

Fire extinguishers are pressure vessels and shall be secured from falling at all times when not in use.

Where fire extinguishers are stored within cabinets, the required signage shall be placed on the face of the cabinet door.

Where multiple fire extinguishers with different ratings are co-located to provide protection from multiple hazard classes or specific hazards, each extinguisher should have clear and legible signage above or adjacent to the extinguisher to indicate their specific hazard use.

4.4.1 MAXIMUM TRAVEL DISTANCES

The following are the recommended maximum travel distances to each class of fire extinguisher. Certain circumstances may require shorter travel distances and therefore it is recommended to consult a local fire extinguisher service provider.

Fire Class	Recommended Maximum Distance
Class A or D	Should not exceed 75 feet
Class B	50 feet
Class C	No greater than for the same hazards without electricity anticipated (Class A or B)
Class K	30 feet

4.5 INSPECTION AND MAINTENANCE

4.5.1 MONTHLY INSPECTIONS

When portable fire extinguishers are initially placed in service they are to be manually inspected.

Extinguishers shall be inspected monthly to verify that it is in its designated place, that it has not been actuated or tampered with, and that there is no obvious or physical damage or condition to prevent its operation.

4.5.1.1 INSPECTION ELEMENTS

Monthly inspection shall include at least the following items:

- Located in the designated place;
- No obstruction to access or visibility;
- Safety seals and tamper indicators are not broken or missing;
- Extinguisher fullness is determined by weighing or hefting;
- Examination for obvious physical damage, corrosion, leakage or clogged nozzle;
- Pressure gauge or indicator is in the operable range or position;
- Condition of tires, wheels, carriage, hose, and nozzle checked (for wheeled units);
- WHMIS label is legible; and
- Last professional annual service date is recorded.

4.5.1.2 INSPECTION RECORDS

Monthly inspections shall be recorded and shall be kept on a tag or label attached to the fire extinguisher, on an inspection checklist maintained on file, or by an electronic method (e.g., Safety Management System, SAP).

Those conducting the inspection shall keep records of all fire extinguishers inspected as well as those found to require corrective action.

4.5.2 MAINTENANCE

4.5.2.1 GENERAL MAINTENANCE REQUIREMENTS

Fire extinguishers shall be subjected to maintenance by a certified person annually, at the time of hydrostatic test, or when specifically indicated by an inspection.

Maintenance procedures shall include the procedures detailed in the manufacturer's service manual and a thorough examination of the four basic elements of a fire extinguisher, including the following:

- Mechanical parts;
- Extinguishing agent;
- Expelling means; and
- Physical Condition.

4.5.2.1.1 MAINTENANCE RECORDS

Each fire extinguishers shall have a tag or label securely attached and visible that indicates the month and year the maintenance was performed and that identifies the person performing the service.

Service records shall be kept and should include the size and type of extinguisher, serial number, last hydrostatic test date, type of work conducted, and any deficiencies found.

4.5.2.2 ANNUAL EXTERNAL EXAMINATION

Maintenance shall include annual thorough examination and any requirements defined by the manufacturer.

When removed for servicing, portable fire extinguishers shall be replaced with extinguishers that are suitable for the type of hazard and of at least equal rating.

4.5.2.3 PERIODIC INTERNAL EXAMINATIONS AND HYDROSTATIC TESTING

Periodic internal examinations and hydrostatic testing shall be performed at the intervals prescribed in the table below:

Extinguisher Type	Internal Examination (years)	Hydrostatic Testing (years)
Dry chemical & powder, cartridge and cylinder-operated, with mild steel shells	1	12
Dry chemical stored pressure, with mild steel shells, brazed brass shells and aluminum shells	6	12
Dry powder, stored pressure, with mild steel shells	6	12
Stored pressure dry chemical, with stainless steel shells	5	5
Carbon Dioxide	5	5
Halogenated (Halotron)	6	12

4.5.2.4 EXTINGUISHER RECHARGING

Fire extinguishers shall be recharged by a certified person after use or when the need is indicated by an inspection or servicing.

4.6 TRAINING

Relevant training shall be provided to workers who are required to use fire extinguishers.

Relevant instruction should be provided to workers who are required to inspect fire extinguishers.

Maintenance of fire extinguishers shall be completed by certified and properly equipped service providers.

5 IMPLEMENTATION

The requirements of this version of the standard are to be met within six months of the approval date at which time the previous version will be superseded.

6 RESOURCES

6.1 INTERNAL RESOURCES

Related Policies:	SaskPower Hazard/Aspect and Risk Assessment Policy
References:	Motor Vehicle Safety Standard
Related Standards:	Emergency Response Plan Standard
Additional Information:	Safety and Environment Rulebook

6.2 EXTERNAL RESOURCES

Related Legislation:	<i>The Occupational Health and Safety Regulations, 2020, Part 25-3 and 30-14</i>
References:	National Fire Code - NFPA 10 (R2022) Standard for Portable Fire Extinguishers

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