

Fire Safety Act Guidelines for Risk Analysis for Monitoring Entities in British Columbia



Office of the
Fire Commissioner



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<https://www2.gov.bc.ca/gov/content/safety/public-safety/fire-safety/legislation-regulations-codes>

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Meanings

Critical infrastructure: The assets, systems and networks, whether physical or virtual, that are so vital to the community that their damage or destruction would have a debilitating effect for their residents

Fire safety inspection: An inspection within the meaning of section 9 [fire safety inspections], of the Fire Safety Act

General occupancy risk

- ▶ **High-risk occupancy:** An occupancy that has a history of a high frequency of fires, a high potential for loss of life or economic loss, or a low or moderate history of fires or loss of life but where the occupants have a high dependency on the built-in fire protection features or staff to assist in evacuation during a fire or other emergency.
- ▶ **Medium/Moderate-risk occupancy:** An occupancy that has a history of a medium or moderate frequency of fires or a medium or moderate potential for loss of life or economic loss.
- ▶ **Low-risk occupancy:** An occupancy that has a history of a low frequency of fires and minimal potential for loss of life or economic loss.
- ▶ **Total risk:** The total risk rating of a specific building or premises; achieved by combining the general risk (based on occupancy type) and the specific risks (based on an analysis of age, condition, history of compliance, etc.).

Monitoring entity: The council of a municipality; (does not include regional districts)

Premises: Any of the following:

- (a) a private dwelling;
- (b) a public building;
- (c) the parcel of land on which a private dwelling or public building is located; or
- (d) a motor vehicle within the meaning of the *Motor Vehicle Act*, railway vehicle, aircraft, vessel or other means of transportation

Public building: Any of the following:

- (a) a building other than a building that is a private dwelling;
- (b) a structure
 - i. to which the public is ordinarily invited or permitted access, or
 - ii. that is used for commercial, industrial or institutional purposes;or
- (c) a facility, including a storage yard or tank farm

Introduction

The purpose of the Fire Safety Act Guidelines for Risk Analysis for Monitoring Entities in British Columbia is to provide guidance to monitoring entities on how to conduct the required risk analyses when establishing their own compliance monitoring systems.

Section 20 of the [Fire Safety Act](#) requires a monitoring entity to implement a “risk-based compliance monitoring system” for public buildings within its jurisdictional boundaries. This legislative requirement replaces the former Fire Services Act requirement of a “regular system of inspections” of hotels and public buildings.

When implementing a risk-based compliance monitoring system, a monitoring entity must conduct a risk analysis in accordance with the regulations. The risk analysis framework is intended to support decisions about the required frequency of physical fire safety inspections and the use of fire safety assessments for achieving the monitoring of fire safety compliance within their jurisdiction.

Section 20(1)(b) of the Fire Safety Act requires that a monitoring entity’s compliance monitoring system be based on a risk analysis conducted “in accordance with the regulations.” In other words, the compliance monitoring system should identify and consider the fire-related risks associated with the premises in question by considering such things as building age, occupancy, condition, occupant behaviour and characteristics, and previous fire safety compliance history.

“In accordance with the regulations” means that a regulation made under the Fire Safety Act prescribes what risk factors a monitoring entity should consider when conducting a risk analysis, including the categories of risk (general and specific

risks) and criteria to be considered when determining the overall level of fire risk of a premises.

A compliance monitoring system will incorporate both fire safety inspections and fire safety assessments completed by public building owners.

The authority and reasons to perform a fire safety inspection (as defined in the Fire Safety Act) by a designated fire inspector is in section 9.

The requirements for a fire safety assessment are defined in section 21.

Under section 21(1), the fire commissioner sets the form and manner of a fire safety assessment. An explanation and instruction manual for building owners, called the Fire Safety Act Building Owners' Fire Safety Assessment Manual, has been developed and provides detailed information about doing fire safety assessments. This manual can be located on the BC government website [here](#).

The monitoring entity sends the request for a fire safety assessment to the building owner, who is then required to ensure that the assessment is conducted.

Under section 21(2) of the Fire Safety Act, the building owner must ensure that the completed fire safety assessment is submitted to the monitoring entity, as required by the monitoring entity.

Section 21(3) of the Fire Safety Act allows a monitoring entity to conduct a fire safety inspection if the building owner does not submit the completed fire safety assessment as required.

Overview of requirements for risk analysis in the Fire Safety Act

Section 20 of the Fire Safety Act outlines a monitoring entity's responsibility in implementing a risk-based compliance monitoring system for public buildings. The purpose of this system is to determine through risk analysis and ongoing record keeping whether the owner is ensuring that the building is safe with respect to the Fire Safety Act and regulations (the BC Fire Code).

Under section 20(1)(b) of the Fire Safety Act, a monitoring entity's compliance monitoring system must be based on a risk analysis conducted in accordance with the regulations. The Fire Safety (Risk Analysis for Compliance Monitoring) Regulation 249/2024 sets out the risk factors to be considered when conducting the required risk analysis.

Guidelines for conducting a risk analysis

Risk-based compliance monitoring

The purpose of risk-based compliance monitoring is:

- ▶ to determine if building owners are complying with the Fire Safety Act and the regulations;
- ▶ to encourage fire and life safety;
- ▶ to minimize the risk of a fire occurring;
- ▶ if a fire occurs, to mitigate the risk of injury, death, or property damage; and
- ▶ to provide guidance to the monitoring entity by establishing an inventory of buildings assigned to appropriate risk categories.

A risk-based compliance monitoring system consists of:

- ▶ fire safety inspections carried out by a designated fire inspector;
- ▶ fire safety assessments completed by a building owner or building owner's authorized agent as required by the monitoring entity; and
- ▶ submission of completed fire safety assessments and fire safety inspections to the monitoring entity.

Purpose of the required risk analysis

The risk analysis provides guidance on the frequency of compliance monitoring activities (fire safety inspections and fire safety assessments). A robust risk-based compliance monitoring model considers a broader set of risk factors, other than simply time between inspections associated with major occupancy of the premises.

A risk-based approach allows a monitoring entity to target inspection efforts at the highest-risk properties. This dynamic process can change over time as a building's risk profile improves or degrades depending on the actions of the building owner or the owner's authorized agent. As a long-term, ongoing process, the approach allows for the monitoring entity to consistently re-evaluate a building's risks, and to adjust the building's total risk rating and the frequency of fire safety assessments and fire inspections accordingly.

Risk analysis framework descriptions

When conducting a risk analysis for a public building, a monitoring entity must undertake the following requirements:

- ▶ It must identify the major occupancy use of the public building.
- ▶ It must consider the level of general risk for that occupancy, as provided in the general risk table in section 3 of the [Fire Safety \(Risk Analysis for Compliance Monitoring\) Regulation](#).

- ▶ It must analyze the impact of any specific risk factors that apply to the building, while considering the likelihood of a fire occurring and the impact if a fire does occur.
- ▶ It must determine the compliance monitoring approach for the building, consisting of fire safety assessments completed by the building owner or their authorized agent, and formal fire safety inspections.

General risk

General risk refers to a level of risk that is associated with the major occupancy of a building, as established in the Fire Safety Act regulations. Each major occupancy is categorized as having a general risk of “low”, “medium/moderate” or “high”.

Specific risk

Specific risk refers to a combination of static and dynamic risk factors associated with several characteristics, recorded fire safety compliance history, or condition of a building.

Static risk is one subset of specific risk. Static risk includes risk factors associated with relatively unchanging characteristics of a building, such as its age or location in relation to firefighting infrastructure.

Dynamic risk is the other subset of specific risk. Dynamic risk includes risk factors that may change more frequently, such as the condition of building, maintenance of the building’s safety systems, historical records of fire safety issues related to the premises, and occupant behaviour and characteristics.

Details of both static and dynamic risk factors are to be considered in risk analyses of public buildings. More information is provided below in the [Assessing specific risk](#) section of this guideline.

Applying the risk analysis framework

Assessing general risk

An annotated copy of the general risk table from section 3 of the [Fire Safety \(Risk Analysis for Compliance Monitoring\) Regulation](#) is provided in [Table 1](#).

Explanations and brief examples are given for each category of occupancy.

To assess the general risk of a building, the building's major occupancy classification (based on the general risk table provided in the regulation) must be identified. The major occupancy definitions in [Table 1](#) align with the BC Fire Code, section 1.4.1.2, Division A (except where noted).

Table 1. Annotated general risk table		
Major occupancy	Description	General occupancy risk level
Major occupancy Group A	Assembly occupancy: the occupancy or use of a building, or part thereof, by a gathering of persons for civic, political, travel, religious, social, educational, recreational or like purposes, or for the consumption of food or drink	
A1	Assembly occupancies intended for the production and viewing of the performing arts Examples: motion picture theatres, opera houses	Low
A2-I	Assembly occupancies not elsewhere classified in Group A ¹ , and including art galleries, libraries, court rooms, gymnasiums, passenger trains, recreation or sports complexes, restaurants and community halls	Low

¹ The Fire Code includes only the general description of A2 (Assembly occupancies not elsewhere classified in Group A). The examples included in the description and the exceptions provided in A2-I, A2-II and A2-III have been identified by the OFC for the purpose of this regulation.

Table 1. Annotated general risk table		
Major occupancy	Description	General occupancy risk level
A2-II	Places of worship, day care facilities and schools	Medium / Moderate
A2-III	Assembly occupancies with a primary liquor license ²	High
A3	Assembly occupancies of the arena type Examples: arenas, swimming pools with or without viewing areas	Low
A4	Assembly occupancies in which the occupants are gathered in the open air	Low
Major occupancy Group B		
B1	Detention occupancy: the occupancy by persons who are restrained from or are incapable of evacuating to a safe location without the assistance of another person because of security measures not under their control Examples: jails, psychiatric hospitals, correctional facilities	Medium / Moderate
B2	Treatment occupancy: the occupancy or use of a building or part thereof for the provision of treatment, and where overnight accommodation is available to facilitate treatment Examples: hospitals, infirmaries, custodial homes, nursing homes 'Treatment' means the provision of medical or other health-related intervention to persons, where the	Medium / Moderate

² As prescribed in the Liquor Control and Licensing Regulation.

Table 1. Annotated general risk table

Major occupancy	Description	General occupancy risk level
	<p>administration or lack of administration of these interventions may render them incapable of evacuating to a safe location without the assistance of another person.</p> <p>'Treatments' may include surgery, intensive care and emergency medical intervention. Treatment services differ from the services provided by care occupancies like personal care assistance or the administration of medication, and from those provided by business and personal services occupancies like dentistry or day procedures.</p> <p>The ability to evacuate unassisted implies that a person is capable of recognizing and responding to an emergency given their physical, cognitive and behavioural abilities, and able to move to a safe location without the assistance of another person.</p>	
<p>Major occupancy Group C</p>	<p>Residential occupancy: the occupancy or use of a building or part thereof by persons for whom sleeping accommodation is provided but who are not harbored for the purpose of receiving care or treatment and are not involuntarily detained</p> <p>Examples: apartment buildings, hotels, motels, rooming houses, boarding houses, college residences</p>	<p>High</p>
<p>Major occupancy Group D</p>	<p>Business and personal services occupancy: the occupancy or use of a building or part thereof for the transaction of business or the rendering or receiving of professional or personal services</p>	<p>Low</p>

Table 1. Annotated general risk table		
Major occupancy	Description	General occupancy risk level
	Examples: banks, offices, radio stations, dental offices, medical offices, hair salons, small tool and appliance rental or service establishments	
Major occupancy Group E	<p>Mercantile occupancy: the occupancy or use of a building or part thereof for the display or selling of retail goods, wares or merchandise</p> <p>Examples: department stores, markets, shops, stores, supermarkets</p>	Low
Major occupancy Group F	Industrial occupancy: the occupancy or use of a building or part thereof for assembling, fabricating, manufacturing, processing, repairing or storing of goods and materials	
F1	<p>High-hazard industrial occupancy: an industrial occupancy containing sufficient quantities of highly combustible and flammable or explosive materials, which, because of their inherent characteristics, constitute a special fire hazard</p> <p>Examples: bulk plants, dry cleaning plants, chemical manufacturing, bulk storage warehouses, factories, bulk plants for flammable liquids, spray-painting operations</p>	High
F2	<p>Medium-hazard industrial occupancy: an industrial occupancy in which the combustible content is more than 50 kg/m² or 1200 MJ/m² of floor area and not classified as a high-hazard industrial occupancy</p> <p>Examples: electrical substations, gas and service stations, distilleries, aircraft hangers, bakeries, cold storage plants, drycleaners, freight depots, printing</p>	Medium / Moderate

Table 1. Annotated general risk table		
Major occupancy	Description	General occupancy risk level
	plants, repair garages, metal fabrication, salesrooms, woodworking plants, warehouses, workshops, laboratories	
F3	<p>Low-hazard industrial occupancy: an industrial occupancy in which the combustible content is not more than 50 kg/m² or 1200 MJ/m² of floor area</p> <p>Examples: factories, sales rooms, display rooms, warehouses, workshops, storage garages, storage rooms</p>	Low

Assessing specific risk

The [Fire Safety \(Risk Analysis for Compliance Monitoring\) Regulation](#) states that the monitoring entity must consider all elements of any applicable specific risk. Specific risks are risk factors associated with a characteristic or condition of a public building or the use of a public building. In other words, specific risk is the combination of static and dynamic risk factors specific to a premises. The static and dynamic risk factors listed below are provided to illustrate which risks a monitoring entity may include in its risk assessment for any specific premises. A monitoring entity may also include additional specific risk factors it considers relevant to complete the risk analysis for a premises.

Static risk factors

(a) Age of building

Considerations:

- ▶ Generally, buildings constructed before 1975 have fewer built-in safety features and, in many cases, tend to be more exposed to fire hazards. Because of this, they may require more frequent inspections.
- ▶ On its own, building age is not a determining factor, but it should be considered along with the building's overall condition and compliance history regardless of occupancy.

(b) Geographic location

Considerations:

- ▶ Distance to nearest fire station or fire hydrants

(c) Building construction type

- ▶ Type 1: Fire resistant
- ▶ Type 2: Non-combustible
- ▶ Type 3: Ordinary

- ▶ Type 4: Heavy timber
- ▶ Type 5: Wood-frame construction

(d) Access for firefighters and firefighting apparatus to building

Considerations:

- ▶ Access to all sides of a building
- ▶ Ability to ladder a building
- ▶ Type of appropriate road access

(e) Adequate water supply

Considerations:

- ▶ One fire hydrant within 90 m of the structure
- ▶ Two fire hydrants within 90 m of the structure

(f) Specific building use within a major occupancy classification

Considerations:

- ▶ For an industrial facility, the risk presented by a simple manufacturing process differs compared to that of a facility that includes acid baths or other more hazardous processes.
- ▶ For an A1 assembly occupancy (performing arts and movie theatres), venues that use pyrotechnics may have an increased risk.

(g) Building systems

Considerations:

- ▶ Electrical
- ▶ Heating
- ▶ Ventilation and smoke control systems
- ▶ Sprinklered or non-sprinklered
- ▶ Fire alarm and detection system(s)
- ▶ Emergency lighting

Dynamic risk factors

(a) State of repair of the building

Considerations:

- ▶ The ongoing management and upkeep of the building; i.e., the building owner's commitment to maintenance and safety

(b) Storage and dispensing of combustible, flammable, explosive or other hazardous materials or substances, and the building owner's compliance and enforcement history

Considerations:

- ▶ Frequency of fire safety compliance issues with the building
- ▶ Owner's willingness to maintain compliance, and inspections either do not reveal non-compliance or reveal only minor non-compliance:
 - Where compliance is generally maintained, it may be expected that maintenance of safety systems (fire alarm and detection, emergency lighting, sprinklers, exit routes and illumination, etc.) would be done on a regular basis.
 - Housekeeping or the elimination of combustibles should seldom be a problem in these circumstances.
- ▶ Inspections that result in minor issues:
 - The owner always comes quickly into compliance when an issue is brought to their attention, but an inspection always reveals non-compliance, the owner is not proactive, or both.
- ▶ Enforcement history:
 - The number of orders issued, the reasons for the orders, and whether the owner complied with an orders

- The enforcement actions taken; e.g., administrative monetary penalties or court-imposed fines
- ▶ Change in ownership:
 - A change in ownership may suggest increased or decreased risk, depending on compliance history of the new owner (if known) and the old owner
- ▶ Occupant behaviour and characteristics:
 - Depending on the behaviour and characteristics of the occupants, increased or decreased risk may be indicated.

Fire safety inspection frequency

Fire safety inspections and code enforcement should be conducted to ensure compliance with the Fire Safety Act and regulations. The monitoring entity will determine the minimum resources, personnel, and equipment levels necessary to perform compliance monitoring. Fire safety inspection frequencies are determined entirely by the monitoring entity and may align with those described in the National Fire Protection Association (NFPA) 1730 Standard on Organization and Deployment of Fire Prevention Inspection and Code Enforcement, Plan Review, Investigation, and Public Education Operations.

[Table 2](#) indicates the suggested fire safety inspection frequency based on the NFPA 1730 standard.

Table 2. Potential fire safety inspection frequency (per NFPA 1730)	
Assessed total risk determination	Frequency
Low	Tri-annually (inspected once every three years)
Medium / Moderate	Bi-annually (inspected once every two years)
High	Annually (inspected once a year)
Critical infrastructure	Determined by monitoring entity

In addition, the process of identifying and adjusting a building’s level of total risk based on a building’s static and dynamic risk factors (such as fire safety compliance) can result in a change in fire safety inspection frequency by the monitoring entity; e.g., moving from annually to bi-annually to tri-annually, or in the reverse order. The flexibility in fire inspection frequency allows a monitoring entity to more effectively and efficiently use their fire inspection resources.

Fire safety assessments

The Fire Safety Act states that a monitoring entity’s compliance monitoring system consists of fire safety inspections and fire safety assessments. A fire safety assessment is conducted by the building owner or building owner’s authorized agent and differs from a fire safety inspection. Only a designated fire inspector may conduct a fire safety inspection.

Purpose of fire safety assessments

A fire safety assessment is a process used by a building owner or their authorized agent to monitor compliance and to help ensure that basic fire and life safety risks

are consistently addressed without requiring the physical presence of a designated fire inspector. The purposes of a fire safety assessment carried out by a building owner, or their authorized agent is:

- ▶ to document and monitor compliance with the BC Fire Code;
- ▶ to increase owners' awareness of the requirements of the BC Fire Code;
and
- ▶ to increase owners' awareness of sources of fire and life safety risks in their building.

Fire safety assessments do not require detailed knowledge of the BC Fire Code. Knowledge only of the applicable requirements is necessary.

The building owner or the owner's authorized agent completes the assessments as required by a monitoring entity and must submit it to the monitoring entity within the time frame and in the manner requested and as determined by the monitoring entity. A subject matter expert may be enlisted to assist the building owner or owner's authorized agent as necessary.

Fire safety assessments are completed using the form approved by the fire commissioner.

If a building owner does not complete a required fire safety assessment, the monitoring entity may conduct a fire safety inspection and charge a fee for the inspection.

When to conduct a fire safety inspection or require an owner to submit a fire safety assessment

The monitoring entity is entirely responsible for determining the frequencies of fire safety assessments and fire inspections, though both processes must be included in the monitoring entity's risk-based compliance monitoring system. The frequency decision for both processes shall be based on the monitoring entity's risk analysis completed in accordance with the legislation and regulation.

Best practice: A monitoring entity performs an initial fire safety inspection to identify risks and confirm a building's overall risk rating. Based on that information the monitoring entity will determine the frequencies of fire safety inspections and fire safety assessments for that building.

[Table 3](#) below provides a matrix that illustrates how general occupancy risk and specific risk are combined and may be used to determine possible fire safety assessment and fire safety inspection frequencies. This table provides examples of how a monitoring entity may decide to apply fire safety assessments and fire safety inspections according to a building's risk profile. In the table below, 'primary' refers to the first option a monitoring entity may prefer to ensure compliance. 'Secondary' refers to the second option a monitoring entity may prefer to ensure compliance. For example, a monitoring entity may, for a premises with a medium/moderate specific risk and a low general occupancy risk, require that a building owner (or owner's authorized agent) complete a fire safety assessment on

a yearly basis. The fire inspector would conduct a formal inspection on a bi-annual basis for the same premises. Important: A monitoring entity may require fire safety assessments and conduct fire safety inspections at frequencies that differ from the matrix below, based on a building's risk profile.

Table 3. Fire safety assessment and fire safety inspection frequency matrix example

Note: 'Inspection' refers to the fire safety inspections performed by a designated fire inspector and 'assessment' refers to the fire safety assessments completed by building owners or their authorized agent when requested by the monitoring entity.

General occupancy risk (based on occupancy type)	Specific risk (combined static and dynamic risk factors, based on an analysis of building age, building condition, history of compliance, occupant behaviour, etc.)		
	Low	Medium / Moderate	High
Low	Primary - assessment (annual) Secondary - inspection (tri-annual)	Primary - assessment (annual) Secondary - inspection (bi-annual)	Primary - inspection (bi-annual) Secondary - assessment (annual)
Medium / Moderate	Primary - assessment (annual) Secondary - inspection (bi-annual)	Primary - inspection (bi-annual) Secondary - assessment (annual)	Primary - inspection (annual) Secondary - assessment (annual)
High	Primary - inspection (bi-annual) Secondary - assessment (annual)	Primary - inspection (annual) Secondary - assessment (annual)	Primary - inspection (annual) Secondary - assessment (annual)