



# Guideline for Fire Safety Plan

April 2014

## 1. REQUIREMENTS

As part of the application for any storage licence for storing any type of explosives, a Fire Safety Plan must be prepared and submitted with the application. It must also be sent to the local fire department. This Fire Safety Plan must include:

- 1.1 the measures to be taken to minimize the likelihood of fire at the site and to control the spread of fire;
- 1.2 the emergency procedures to be followed in case of fire, including:
  - activation of alarms,
  - notification of the fire department, and
  - evacuation procedure, including evacuation routes and safe assembly places;
- 1.3 the circumstances in which a fire should or should not be fought and a procedure for determining whether a fire should be fought; and
- 1.4 the measures to be taken to train employees in the measures, procedures, and circumstances described in the plan.

In addition to having a Fire Safety Plan, the *Explosives Regulations, 2013* state that it must be implemented and reviewed on a regular basis or if circumstances change.

## 2. PURPOSE OF A FIRE SAFETY PLAN

The purpose of a Fire Safety Plan is to enhance and maintain the safety of a licensee's operation with respect to potential fire threats by assessing a site for fire risks, developing measures to address potential fire issues, and formalizing responses to fire-related incidents.

The Fire Safety Plan Components section below identifies the components that must be addressed within a Fire Safety Plan. Section 4. provides a sample Fire Safety Plan that may be used as a guide to assist licensees in the development of a Fire Safety Plan for their operations; however, its use is not mandatory.

## 3. FIRE SAFETY PLAN COMPONENTS

The Fire Safety Plan must address the following components and should include a description of the measures taken to comply with the Licence Terms and Conditions. As a minimum, the Fire Safety Plan should include the following (these are described in more detail in the following sections):

- 3.1 licensee information;
- 3.2 measures to be taken to minimize the likelihood of a fire at the site and to control the spread of any fire;
- 3.3 emergency procedures for responding to a fire;
- 3.4 procedures for determining if a fire should be fought; and
- 3.5 measures to be taken to train employees in the measures, procedures, and circumstances described in the plan.

### **3.1 Licensee Information**

A Fire Safety Plan must be prepared for each storage licence. The Fire Safety Plan is site specific and the Licensee Information section must identify the company, the specific site, and a person responsible for the Fire Safety Plan at the specified site. The information that should be contained in the Licensee Information section is set out below:

- company identification and contact details;
- site identification (address and GPS coordinates); and
- contact details of the person responsible for the Fire Safety Plan at the site (if different from the person making the application).

### **3.2 Identification of Potential Fire Hazard and Measures to Minimize and Control Fire**

Measures must be taken to minimize the likelihood of a fire at the site and to control the spread of any fire. These should be designed to look at a specific site, determine any vulnerability, and develop effective strategies to address the fire risks.

This section of the Fire Safety Plan should include an assessment of the site for potential fire hazards and procedures for addressing each of the hazards identified. Thought needs to be given to vulnerability to forest or other vegetation fire, combustibles storage, flammable liquid storage, electrical installations, equipment, possibility of lightning strikes, and risk due to other heat sources. It should include a description of all fire measures in place to prevent, mitigate, respond to, and recover from a fire incident, and may include:

- keeping combustibles away from explosives storage magazines, equipment, and buildings;
- ensuring electrical installations meet electrical codes as determined by the Explosives Regulatory Division in its capacity as an Authority Having Jurisdiction;
- following the building and fire codes required for site and/or building use, as determined by the Explosives Regulatory Division as an Authority Having Jurisdiction; and
- establishing proper control of the use of fire-producing devices (such as lighters, matches, and equipment) and enforcing no-smoking regulations.

Procedural measures for fire prevention and training should be noted in this section of the Fire Safety Plan.

### **3.3 Emergency Procedures for Responding to a Fire**

The Fire Safety Plan is designed to consolidate all matters related to potential fires on the explosives site, whether it involves the explosives or not. It must contain all procedures that must be followed and assign the persons responsible for conducting those procedures. By consolidating all procedures for fire into one document, they can be accessed and followed when needed without having to review or consult a number of documents that may not always be readily available. Documents that should be included are:

- procedures/responses to fire on the site (activation of alarms, notification of fire department);
- activation of evacuation procedures (including routes and meeting places);
- assignment of persons responsible for each procedure/response (this should include alternates);
- nomination of a responsible person (it is recommended to include alternates) to implement and maintain the Fire Safety Plan;
- reporting procedures (see Section 3.6.1 below); and
- other company policies and procedures relevant to fire safety.

### 3.4 Determining If a Fire Should be Fought

Policies must be developed to determine the circumstances in which a fire should or should not be fought and procedures must be developed to assess a fire to determine if it should be fought.

Note that any fire involving explosives must not be fought and the appropriate emergency procedures must be activated (evacuation). If a fire does not involve explosives, it can sometimes be fought (e.g., if there is a bush fire at an explosives-licensed site, but away from any building containing explosives); however, if a fire is endangering explosives, or is in the immediate vicinity of explosives, it is often advisable not to fight it. If it can be done safely, the explosives may be removed from the magazine if threatened (example by a forest fire) and stored in another licensed magazine until the danger has passed.

There are various approaches for determining if fires should be fought. One method involves establishing zones around explosives storage magazines that call for fires to be fought in zones well removed from magazines, but not in zones close to the magazines. Another approach is to consider specific situations and develop responses to them (e.g., if a grass fire is threatening a magazine, but the wind is moving it away from the magazine, it could be reasonable to fight the fire if it is not close to the magazine; however, if the wind is blowing the fire toward the magazine, evacuation would be the more prudent choice).

Note: A fire involving any explosive is not to be fought.
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### 3.5 Training

Measures must be taken to train all employees who may be present on a storage site in the measures, procedures, and circumstances described in the plan. A Fire Safety Plan is only as effective as the persons responsible for its implementation. Plan complexity and employee turnover should be taken into account when establishing the frequency of training and/or retraining.

### 3.6 Other Considerations

#### 3.6.1 Fire Incident Reporting

The Fire Safety Plan should contain information on reporting fire incidents, including contact information and who is responsible for reporting. Note that any fire involving explosives must be immediately reported to the local fire department (*Explosive Regulations, 2013, Section 167(1)*). All incidents of fire involving explosives (close-call incident, fire, explosion, injury, death, or property damage) must also be reported to the Explosives Regulatory Division as soon as circumstances permit and followed up with a report to the Chief Inspector of Explosives. Depending on the circumstances, other agencies such as police, provincial occupational health and safety, etc., may need to be notified.

#### 3.6.2 Confidentiality of the Fire Safety Plan

The Fire Safety Plan should be treated as a security-sensitive document due to the presence of explosives on the site. The licensee should limit and control the distribution of the Fire Safety Plan to company employees and the local fire department.

#### 3.6.3 Partnerships

As part of the overall plan, other organizations or individuals may have an interest or responsibility in ensuring the fire management of an explosives site. The plan must be sent to the local fire department to ensure they are aware of what is present on a site and what the response procedures are so they are prepared if called. If the site is shared with

other entities, all partners need to know their responsibility. This should preferably be covered with an MOU (Memorandum of Understanding). It is recommended that any partnerships and their details be included in the Fire Safety Plan so that those implementing any of the plan's procedures know what they are.

### **3.6.4 Reviews**

The Fire Safety Plan, as well as company policies and procedures, should be reviewed regularly to ensure they are up to date and reflect the current status of a site. It is recommended that these documents include a review date and that a person be assigned responsibility for conducting the reviews. These documents should also be reviewed whenever circumstances change, particularly in light of any fire incidents that occur.

Note that for a zone licence, a plan may be somewhat generic and additional details that are site specific may need to be addressed upon every move.

## **4. SAMPLE FIRE SAFETY PLAN**

This sample is to assist licensees in developing a Fire Safety Plan that meets the requirements as set out in the Regulations.

### **4.1 Sample of a Fire Safety Plan**

#### **Fire Safety Plan for ABC Limited – Merivale Site**

Last Updated: May 17, 2013  
Next Review: May 2014  
Revision Number: 01  
Responsible Person for Review: J. Smith

The contents of this Fire Safety Plan are confidential and are only to be provided to those persons who have a responsibility under the plan. The plan must not be provided to any persons outside ABC Limited except to those persons who have a legitimate need (Explosives Inspectors, peace officers, and fire departments).

#### **Licensee Information and Site Identification**

Company Name: ABC Limited  
Licence Number: X99999  
Address: 500 Booth Street, Ottawa, ON  
Phone: 613-948-5200  
Fax: 613-948-5195  
Site Address: 1431 Merivale Road, Nepean, ON  
Site GPS: 45° 21' 48.50" N, 75° 43' 55.57" W  
Site Contact: John Smith, 613-999-9999  
Alternate Contact: Jane Doe, 613-999-9988

#### **Site Description**

The site is located west of Ottawa. There are two fireworks magazines containing display fireworks (type F.2) and family fireworks (type F.1) on the site located approximately 300 metres from a building containing offices and maintenance facilities. The building is metal clad construction with a metal roof. There is a 2000-litre fuel storage tank located 250 metres from the magazines and the site is surrounded by dense bush. The total quantity of fireworks stored is 10 000 kilograms and there is no power going to the magazines. The number of employees on site is 10, of which 3 have access to the magazines.

### **Identification of Fire Hazards and Measures Taken**

To minimize the risk of fire on the site, the fireworks are stored in seacans modified to comply with the Auxiliary Explosives Storage Guide. All dense growth and combustibles in the vicinity of the magazines have been removed to a distance of 10 metres. No smoking or open flames are permitted around the magazine and signs have been posted. Appropriate portable lighting is available if access to the magazines is required during non-daylight hours. Employees are also trained to identify and remove any potential sources of fire from the vicinity of the magazines such as fallen branches or debris. The office and maintenance facility have been constructed to comply with the national building codes, electrical codes, and fire codes. Fire extinguishers have been installed and inspected on a regular basis. In the event of lightning in the area, the magazines are closed and locked and the area is evacuated.

*Note: If company procedures are available, then reference can be made to them and attached as part of the Fire Safety Plan.*

*Example: Prevention of fire hazards are found in Procedure # 200 (Prevention of Fire at ABC Limited – Merivale Site) (Annex A).*

### **Emergency Procedures**

In the event of any fire at the Merivale site, the fire department is to be notified by calling 613-555-7890 (or 911 if available in the area). The person who first noticed the fire is responsible for ensuring the fire department is notified. The site manager (or most senior person on site if the manager is not available) must take charge. If the fire involves or is threatening the fireworks, evacuation procedures must be initiated.

The manager (or alternate) must ensure all persons on the site have evacuated to the designated assembly area and are accounted for.

The manager (or alternate) will meet the fire department at the gate and provide details on the fire, including recommendations.

*Note: If company procedures are available, then reference can be made to them and attached as part of the Fire Safety Plan.*

*Example: Emergency Procedures are found in Procedure # 201 (Emergency Procedures at ABC Limited – Merivale Site) (Annex B).*

### **Determination for Fighting a Fire**

*Note: This is an example only. The determination to fight a fire must be appropriate for the site.*

A fire involving fireworks or within 10 metres of the fireworks magazine is not to be fought and evacuation procedures are to be initiated. Fires greater than 50 metres from the fireworks magazine can be fought. For fires within 10 to 50 metres of the fireworks magazine, the site manager will determine if the fire will be fought based on fire size, wind direction, wind speed, and available personnel and equipment.

*Note: If company procedures are available, then reference can be made to them and attached as part of the Fire Safety Plan.*

*Example: Detailed procedures for determining if a fire can be fought can be found in Procedure # 202 (Evacuation Procedures for ABC Limited – Merivale Site) (Annex C) and Procedure #203 (Fire-Fighting Procedures) (Annex D).*

## **Training**

Training on the procedures contained in this Fire Safety Plan and the attached annexes is to be provided to all who will be required to follow them. It is the duty of the person responsible for the plan to ensure all necessary training has been provided and recorded in the employees' training files. Training is to be provided once per year.

*Note: If reporting is described in the company procedures, they can be referenced here and attached as part of the Fire Safety Plan.*

*Example: Training of personnel is described in Procedure # 204 (Training of Personnel) (Annex E).*

## **Reporting**

All incidents involving explosives must be reported to the local fire department immediately and to the Chief Inspector of Explosives (CIE) as soon as circumstances permit. The fire department is reached by calling 613-555-7890 (or 911). Incidents to be reported to the CIE include fire, explosion, injury, death, and property damage. An incident can be reported by calling, emailing, or faxing your regional office or by phoning 613-948-5200, e-mailing [ERDmms@nrcan.gc.ca](mailto:ERDmms@nrcan.gc.ca), or faxing 613-948-5195. The form contained in Annex F (Form F07-01) can be used to report incidents to the CIE.

Any injuries or deaths are to be reported to Workplace Health and Safety at 555-111-2222.

All reporting is the responsibility of the person in charge at the time of the incident with follow-up by the person in charge of the Fire Safety Plan for this site.

### **Annex A**

Procedure # 200: Prevention of Fire at ABC Limited – Merivale Site

### **Annex B**

Procedure #201: Emergency Procedures at ABC Limited – Merivale Site

### **Annex C**

Procedure #202: Evacuation Procedures for ABC Limited – Merivale Site

### **Annex D**

Procedure #203: Fire-Fighting Procedures

### **Annex E**

Procedure # 204: Training of Personnel

### **Annex F**

Form F07-01 (Incident Report Form)

If you have any questions, the Explosives Regulatory Division can be reached at the coordinates below.

#### **Pacific Region: BC + YT**

1500 - 605 Robson St.  
Vancouver, BC  
V6B 5J3  
Tel.: 604-666-0366  
Fax: 604-666-0399  
[ERDpacific@nrcan.gc.ca](mailto:ERDpacific@nrcan.gc.ca)

#### **Western Region: AB + SK + NT**

214 - 755 Lake Bonavista SE  
Calgary, AB  
T2J 0N3  
Tel.: 403-292-4766  
Fax: 403-292-4689  
[ERDwestern@nrcan.gc.ca](mailto:ERDwestern@nrcan.gc.ca)

#### **Central Region: ON + MB**

580 Booth St. 10<sup>th</sup> Floor  
Ottawa, ON  
K1A 0E4  
Tel.: 613-948-5187  
Fax: 613-948-5195  
[ERDcentral@nrcan.gc.ca](mailto:ERDcentral@nrcan.gc.ca)

#### **Eastern Region: QC + NU + Atlantic**

2050 Girouard W - Box 100  
St. Hyacinthe, QC  
J2S 7B2  
Tel.: 450-773-3431  
Fax: 450-773-6226  
[ERDeastern@nrcan.gc.ca](mailto:ERDeastern@nrcan.gc.ca)

#### **Headquarters:**

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