

Wildfire Prevention - The Oil and Gas Industry

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1) Scope

This information is intended to increase awareness of wildfire prevention within the Oil and Gas Industry in British Columbia. Information in this presentation should not be construed as legal advice.

Information contained in this document with respect to the Wildfire Act and Regulation applies to all activities in the Oil and Gas Industry under the definitions of ‘industrial activity’ or ‘high risk activity’.

Utilizing FireSmart principles is advocated to reduce the risk of wildfires at your facility or operation, and to minimize the impact if a wildfire does occur.

2) Evaluating Wildfire Threat

In British Columbia, approximately 48% of all wildfires are caused by human activity and nearly 52% are caused by lightning. The most effective way to reduce the number of human-caused wildfires is through active wildfire prevention.

The main goals of promoting wildfire prevention within the Oil and Gas Industry are to decrease the number, costs, and area burned by industry-caused fires regardless of the significant Oil and Gas Industry growth within the province of British Columbia.

Evaluating Wildfire Threat

Evaluating risk from wildfire includes a number of main components:

I. Potential for ignition at the facility or work site:

- historical fire cycles
- Fire weather climatology
- lightning probability
- Industrial or recreational activities, human causal agents/activities
- flammable dead grass during hot and dry summer season
- forest health and fuel conditions

II. Values at risk from potential wildfires:

- lives of the responders and the public
- communities
- sensitive environmental areas
- infrastructure
- natural resources
- watersheds
- potential air quality impacts

Evaluating Wildfire Threat

III. The operation's ability to respond and suppress potential wildfires:

- Adequate fire suppression equipment on site
- Access to entire work site in a timely manner
- Procedures for fire suppression understood by employees
- Water availability
- Evacuation Plan and established emergency procedures
- Trained first responders (meet WorkSafe BC standards)
- Safety standards
- Prevention plan and procedures (i.e. restrictions for high risk activities)

IV. Expected fire behaviour:

- Topographical factors at a facility or work site that may impede or increase the potential fire spread
- Overall fire growth potential
- Weather, fuels, topography and climate

Evaluating Wildfire Threat

The factors listed on the previous slide should all be considered as part of a comprehensive prevention plan. Wildfires in the past have forced the evacuation of industry employees and resulted in production loss due to facilities being shut down. By following some basic FireSmart principles you can help reduce the risk of sustaining damage to your facility due to wildfire. These principles can also assist in reducing impacts on the landscape in the event a wildfire escapes from your facility or operation.

If you live or work in a forested area, sooner or later you may have to contend with the threat of a wildfire.

The results-based nature of current legislation allows some flexibility in developing a wildfire prevention plan. Consider all of the factors involved in evaluating wildfire threat as listed above. Keep in mind that the resources required on site to respond to a potential wildfire are not prescribed with this legislation.

3) FireSmart Principles

Implementing FireSmart strategies can be your best way to protect your facility or operation against injury, damage, and/or production loss. Strategies to reduce the risk from wildfires include employee training, vegetation treatments, increasing suppression capability, and identifying the specific values at risk to your facility.

Submission of a fire management or maintenance plan is not required by the BC Forest Service, but having a plan for dealing with wildfire prevention and suppression that is discussed between management and employees may help demonstrate due diligence if a wildfire occurs (see section 29(a) of the Wildfire Act).

FireSmart Principles

Build up of natural fuel beds and fine fuels on the forest floor are making more of today's wildfires harder to control, more expensive to suppress, and present a greater threat to firefighters and civilians.

An effective wildfire prevention plan puts fires out before they start. Implementing FireSmart principles within your organization is one way to be proactive in your approach to reduce the impact of wildfires.

Some specific wildfire causes related to Oil and Gas activities should be addressed to reduce these risks.

FireSmart Principles

Flare stacks and pits:

- A sufficient area beneath the flare stack is free of combustible materials and vegetation. (Petroleum and Natural Gas Act – Drilling and Production Regulation).
- The use of flare devices to ignite flare stacks is **NOT RECOMMENDED**.
- Obtain a weather forecast before starting flaring operations

FireSmart Principles

Power lines

- Vegetation cleared to an appropriate distance from power lines to avoid contact with trees or brush.
- Before right of way construction, consider orientating power lines parallel to the prevailing winds.
- Contact electrical utility company for necessary maintenance.

Debris piles

- Review requirements for pile and woody debris disposal in the Wildfire Act and reg.
- Insure all burn piles are extinguished by infrared scanning or feeling the area by hand.

FireSmart Principles

Vehicles/ATV

- ATV's and other small engines must have spark arrestors **and meet CSA standards.**
- Increased risk while parked in tall grass.

Combustible materials

- Flammables, oil rags
- Abate fuel hazards (see section 7 of the Wildfire Act)

Fuel, oil and propane tank recommended guidelines

- Tanks used for fuel storage must have vegetation cleared away a sufficient distance to minimize the creation of another hazard if the site is threatened by wildfire.

FireSmart Principles

Unattended Fires

- Witnesses of unattended fires are required to report them under section 2 of the Wildfire Act.
- If practicable, fire control must be carried out on fires within 1km of an active industrial site as described in section 6(3) of the Wildfire Act and further defined in section 1 (3) of the Wildfire Regulation – definition of industrial operation.

Smoking

- Use caution when discarding burning substances (see Section 3 of the Wildfire Act – Mishandling burning substances).

FireSmart Principles

The “Home Owner’s FireSmart Manual” is a cooperative publication available in several provinces, including British Columbia. This publication provides simple, relatively inexpensive tips to help homeowners reduce their risk associated with wildfires.

A FireSmart guidebook for the Oil and Gas Industry is currently under development through a partnership between the Alberta SRD Forestry Division, CAPP, and logistics in Partners in Protection. It is important to note, however, that Alberta has different legislation than BC. BC based Oil and Gas companies must abide by BC’s Wildfire Act and Regulation.

FireSmart Principles

The BC Forest Service is considering the development of a BC-specific FireSmart Manual for Oil and Gas companies operating in BC.

For more information on ways to reduce the threat of wildfires to your facility, please refer to the “Home Owner’s FireSmart Manual” – British Columbia Edition. To download a copy of the manual, click on the FireSmart Manual icon on the BC Forest Service Protection Branch home page at www.bcwildfire.ca



FireSmart Principles

The fuel management aspect of a wildfire management plan as described in the FireSmart Manual can be divided into three priority zones.

The **first priority zone** is within 10m of structures and is the most critical zone with regards to FireSmart principles. This priority zone should be fuel free, for example grass should be maintained and all trees and shrubs with higher flammability rates (e.g. pine, spruce, and juniper) should be removed.

FireSmart Principles

The **second priority zone** includes the area 10m-30m from your structures and is where fuel reduction is required. Ladder fuels up to 2m from the forest floor must be removed and standing timber must be thinned or spaced to ensure crowns are at least 3-6m apart to minimize the risk of a crown fire.

Fire suppression efforts can become extremely difficult once a crown fire occurs. Removal of deadfall and thick shrubbery is also recommended to reduce the intensity and spread of a potential wildfire and to increase the probability of success for fire suppression activities.

FireSmart Principles

The **third priority zone** begins at 30m and extends to 100m and beyond and requires thinning areas of fuel build-up to reduce the intensity of a potential wildfire.

Some of the recommended changes to your facility may cost very little and others will require a long term commitment to reduce the threat from wildfire. As fire will naturally spread faster downwind and uphill, it may be necessary to extend the boundaries of the zones in your operating areas to factor in prevailing winds and existing topography.

4) Wildfire Act and Regulation

Wildfire suppression and prevention in British Columbia is governed by the Wildfire Act and Wildfire regulation.

- the **complete** online version of the Wildfire Act and regulation can be found on the BC Forest Service Protection Branch public web site: www.bcwildfire.ca

The Wildfire Act:

- Stand alone, results based legislation
- Reduces regulatory burden
- Establishes costs
- Clarifies response priorities
- Applies in provincial parks

Wildfire Act and Regulation

If a wildfire starts on private property as a result of activities at your facility, your company is responsible for fire control actions. If your company is found to be in contravention of the Wildfire Act and regulation, or does not have a signed fire suppression cost sharing agreement with the province of BC, your company may also be liable for fire suppression costs and damages.

It is up to you to interpret the content of the Wildfire Act and Legislation and to take steps to ensure you are in compliance.



Wildfire Act and Regulation

Operations within the Oil and Gas Industry falling under the definition of a 'high risk activity' are required to use **representative** weather data for the specific operating site and determine the Fire Danger Class Rating.

Once the Fire Danger Class is determined, restrictions on activities outlined in Schedule 3 of the Wildfire Regulation must be implemented.

Wildfire Act and Regulation

Certain activities, such as operating a power saw, are in both the definition of 'industrial activity' and 'high risk activity.' Power saw operation on a road, landing, or log sort area is not defined as a high risk activity since the area of operation is clear of vegetation and combustible material.

5) Useful Links

During the fire season, the BC Forest Service Protection Branch public website

(www.bcwildfire.ca)

provides the following information:

Legislation and Regulations

- Wildfire Act
- Wildfire Regulation
- Open Burning Smoke Control Regulation
- Lands and Parks Waste Management Act
- Forests and Range Practices Act

Useful Links

Provincial fire information

- Wildfire News
- Open Fire bans
- Campfire bans
- Travel Restrictions

Weather forecasting

- Fire Danger Ratings
- Detailed Danger Class Reports
- General Weather and Lightning Information
- FS Weather Station Coordinates and Map

Useful Links

Suppression training information

- S-100 Basic Fire Suppression and Safety Course Instructors

<http://www.bcwildfire.ca/Employment/FireFighter/instructors.htm>



Important Contacts

- Wildfire Information: <http://www.bcwildfire.ca/>
- Burn Registration Line: 1-888-787-1717

To report a wildfire, please call

1-800-663-5555 or *5555 on most cellular networks.



Ministry of
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Natural Resource Operations