ENERGY SAFETY CANADA

Wildfire Field Risk Assessment for the Oil and Gas Industry

Wildfire Risk Assessment Worksheet

National Safety Association
for Canada's Energy Industry

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Disclaimer

This document is intended to be flexible in application and provide guidance to users rather than act as a prescriptive solution. Recognizing that one solution is not appropriate for all users and situations, it presents generally accepted guidelines that apply to industry situations, as well as recommended practices that may suit a company's particular needs. While we believe that the information contained herein is reliable under the conditions and subject to the limitations set out, Energy Safety Canada does not guarantee its accuracy. The use of this document or any information contained will be at the user's sole risk, regardless of any fault or negligence of Energy Safety Canada and the participating industry associations.

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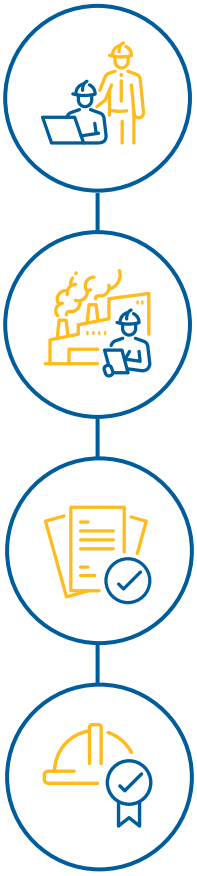
Safety Doesn't Clock In And It Doesn't Punch Out It's 24/7

ENERGY SAFETY CANADA

About Energy Safety Canada

For over 75 years, Energy Safety Canada (ESC) has been at the forefront of safety in Canada's energy sector. Created by industry, for industry, and backed by the Workers Compensation Boards of British Columbia, Alberta, and Saskatchewan, we are the national safety association dedicated to keeping energy workers safe and driving safety improvement across the sector.

What We Offer



Training

Focusing on practical, fit-for-purpose safety training, ESC delivers programs at hundreds of locations nationwide, equipping energy workers with the skills and knowledge they need to stay safe on the job.

Industry Engagement

ESC brings industry together through committees and communities of practice, fostering collaboration and the exchange of insights to elevate safety standards.

Safety Data and Insights

We provide valuable safety data and analytics, enabling the industry to identify trends, address challenges, and discover opportunities for continuous improvement.

Certifying Partner

As the official Certifying Partner for Canada's energy sector, ESC helps maintain and advance safety standards to protect workers and strengthen industry practices.

At Energy Safety Canada, our commitment is clear: to advance safety for every worker and organization across the energy landscape.

Looking to enhance your safety performance, access top-tier training, or engage with like-minded safety professionals? Visit EnergySafetyCanada.com to explore our training programs and join our safety communities.
Let's work together to make safety a shared priority.

Wildfire Risk Assessment Worksheet

Facility Name: Location:

Date: Completed by:

Table A: Structural Assessment			
1. Roofing Material	Metal, tile, asphalt or non-combustible material 0		Wood 20
2. Building Exterior	Non-combustible concrete or metal siding 0		Wood or vinyl siding 10
3. Eves, vents and openings	No eaves, vents are screened and opening is turned down 0		Open eaves, unscreened vents can trap embers 5
4. Loading docks / decks based enclosed	None or fire-resistant material sheathed in 0	Combustible material sheathed in 2	Combustible material not sheathed in 5
5. Location of petroleum products and combustibles	None or > 10 metres from structures 0	3 – 10 metres from structure 5	< 3 metres from structure 10
Combined Points 1 – 5	**Low: 0 – 2**	**Moderate: 3 – 20**	**High: 21+**

Table B: Flammable Storage Material Assessment			
1. Hydrocarbon Storage onsite	Absent 0		Present 10
2. Tank tops	Top cone shaped, vents turned down, will not trap embers at vents and openings 0		Flat top, vents open, can trap embers at vents and openings 20
3. Distance from forest vegetation	Structure within 20 to 30 metres of the forest 0	Structure within 10 to 20 metres of forest 10	Structure within 10 metres of forest 20

4. Propane tanks	Vegetation within 10 to 20 metres of tank 0	Vegetation within 3 to 10 metres of tank 10	Vegetation within 3 metres of tank 20
Combined Points: 1 – 4	**Low: 0 – 10**	**Moderate: 11 – 19**	**High: 20+**

Table C: On-Site Vegetation On The Disposition			
1. Site Vegetation	None or > 10 metres from structures 0	3 to 10 metres from structure 5	< 3 metres from structure 10
Total Points	**Low: 0**	**Moderate: 5**	**High: 10**

Table D: Location Of Structures On Disposition Assessment			
1. Distance from Forest Vegetation	Structure within 20 to 30 metres of forest 0	Structure within 10 to 20 metres of forest 10	Structure within 10 metres of forest 20
Total Points	**Low: 0**	**Moderate: 10**	**High: 20**

Table E: Slope Assessment			
1. Slope Impact	Structures greater than 100 metres from crest of slope 0	Structures less that 100 metres from crest of slope 5	
2. Position of disposition and structures on the slope	Base of slope (areas of development on flat ground or valley bottoms, extending as high as one-third of the way up the slope) 0	Mid-slope (areas of development on slopes with forested areas or grasslands below, extending as high as midway up the slope) 5	Upper slope (areas of development located on the top half or crest of slopes with forested areas or grasslands below them) 10
Total Points	**Low: 0**	**Moderate: 10**	**High: 15**

Table F: Flaring Assessment			
1. Flare stack / flare pit / flare tank	Area around flare stack is free of tress and woody debris for 30 metres. Remove and clear to bare mineral soil. Yes = 0 or No = 10	Cleared, bare mineral soil surface extends at least 8 metres around flare pit / flare tank. Yes = 0 or No = 10	**Total points** **Low: 0** **Moderate: 10** **High: 20**

Table G: Powerline Assessment						
1. Powerlines	If owner, has a powerline hazard assessment been completed? Yes = 0 or No = 5	Do you have a back up power supply in case power is cut off? Yes = 0 or No = 5	Is there adequate distance between the powerline and the adjacent trees (a distance greater than the fall arch of the tree)? Yes = 0 or No = 5	Has there been adequate removal of all hazard trees? Yes = 0 or No = 5	Has the surface vegetation been maintained to avoid wicking? Yes = 0 or No = 5	**Total points** **Low: 0** **Moderate: 10** **High: 20**

Table H: Vegetation Flammability Assessment

Fuel Types	Deciduous (leafed)		Mixed Wood (needle / leafed)			Coniferous (needled)	
	Young (0 – 70 years)	Old (70+ years)	< 30% Coniferous Composition	30 – 70% Coniferous Composition	> 70% Coniferous Composition	Trees well spaced / separated	Trees have no space / all touching
	3	10	5	10	15	10	20
Surface Vegetation	Grass (O1) or Shrubs		Adjacent logging debris from clearing			Forest Stand Dead and Down and Woody Material	
	Standing	Matted	Light	Moderate	Heavy	Scattered	Abundant
	5	10	5	10	25	10	20
Ladder Fuels	Absent 0		Scattered 5			Abundant 10	
Combined Points 1 – 3 (Quadrant 1)	**Low: 0 – 15**		**Moderate: 16 – 30**			**High: 31+**	
Combined Points 1 – 3 (Quadrant 2)	**Low: 0 – 15**		**Moderate: 16 – 30**			**High: 31+**	
Combined Points 1 – 3 (Quadrant 3)	**Low: 0 – 15**		**Moderate: 16 – 30**			**High: 31+**	
Combined Points 1 – 3 (Quadrant 4)	**Low: 0 – 15**		**Moderate: 16 – 30**			**High: 31+**	

Table I: Personnel Safety Assessment						
1. On-site personnel	Number of personnel on the daily work shift: 0 – 5 0	Number of personnel on the daily work shift: 6 - 25 5	Number of personnel on the daily work shift: 26 – 50 10	Number of personnel on the daily work shift: 51 - 100 15	Number of personnel on the daily work shift: > 100 20	**Total Points** **Low: 0 – 5** **Moderate: 10 - 15** **High: 20**

Table J: Evacuation Routes and Plans Assessment			
1. Employee Safety	Evacuation route (road access) identified? One or more two-way routes / access = 0 No two-way routes / access = 10 Isolated access (remote site with no road access) = 15	Temporary Safety areas identified? Yes = 0 or No = 5	Helicopter landing area identified? Yes = 0 or No = 5
2. Wildfire evacuation plans	Wildfire evacuation plans in place? Yes = 0 or No = 5	Employees briefed on Wildfire Evacuation plans? Yes = 0 or No = 5	
Total Points	**Low: 0 – 5**	**Moderate: 10 -15**	**High: 20 - 25**

Table K: Road Access and Water Source Assessment

1. Infrastructure Access Roads	Access to facility; road surface width		Access to area through vegetation				Site ring road	
	>6.1 m	< 6.1 M	Deciduous (leafy)	Grass	Mixed wood (needled / leafed)	Coniferous (needled)	Yes	No
	0	5	1	5	5	5	0	5
2. Water Supply	Hydrant Service		Pits, tanks, natural source				Alternative water supply available	
	Yes		With pump and hoses		Not with pump and hoses		Yes	No
	0		0		5		10	20
Combined Points: 1 - 2	**Low: 0 – 10**		**Moderate: 11 - 20**				**High: 20+**	

Table L: Using Fire Safely Assessment

1. Smoking, cooking and warming fires; refuse burning	Is the site appropriate for using fire?	If using fire, is there suppression equipment on hand to avoid escape and for proper extinguishment?	If using fire, has it been properly extinguished before leaving the site?	Are you avoiding using fire during high and extreme fire danger?	Total Points
	Yes = 0 or No = 5	Yes = 0 or No = 5	Yes = 0 or No = 5	Yes = 0 or No = 5	**Low: 0 – 5** **Moderate: 10 - 15** **High: 15-20**

Table M: Equipment Operations Assessment						
1. Heavy equipment, light equipment and welding equipment	Is equipment parked on bare mineral soil or other non-flammable area? Yes = 0 or No = 5	Is there adequate suppression equipment supplied with the operational equipment during the fire season? Yes = 0 or No = 5	Are internal combustion engines equipped with spark arresters and mufflers in good working condition? Yes = 0 or No = 5	Has the equipment exhaust systems been cleaned on a regular basis? Yes = 0 or No = 5	Are you operating equipment during low to moderate fire danger? Yes = 0 or No = 5	Total Points **Low: 0** **Moderate: 5 - 10** **High: 15-25**

Table N: ATV / OHV Operations					
1. ATV / OHV Activity	Is an ATV / OHV being used for operations? Yes = 0 or No = 5	Is there a spark arrestor on the ATV / OHV? Yes = 0 or No = 5	Is the ATV / OHV being parked on a bare mineral soil / gravel or other non-combustible surface area? Yes = 0 or No = 10	Are you checking the ATV / PHV for burning material around exhaust, manifold or engine after each use to prevent the risk of starting an ATV- / OHV-caused wildfire? Yes = 0 or No = 10	Total Points **Low: 0** **Moderate: 5 - 10** **High: 15-30**

Table O: Debris Disposal Assessment				
1. Disposal of woody debris piles through burning	Woody debris piled on organic or mineral soils (holdover potential)		Winter burning: assessing risk for holdover fires using Fire Weather Index for the fall season	
	Mineral Soils	Organic Soils	Drought Code < 300 (low, moderate, high) *Refer to website below	Drought Code > 300 (very high or extreme) *refer to website below
	0	10	0	10
2. Disposal of woody debris piles through burning	Woody debris piles burning inspected for extinguishment (if burned over the winter, inspected prior to the upcoming fire season)			
	Extinguished	IR Scanned	Manual Check	Not Inspected
	0	3	5	20
Combined Points: 1 - 2	**Low: 0 – 5**	**Moderate: 6 – 15**		**High: 16+**

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