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# **BULKLEY TIMBER SUPPLY AREA SMOKE MANAGEMENT PLAN**

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Term: May 17, 2017 to Dec 31, 2017

Approved By:

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Jevan Hanchard, District Manager  
Skeena Stikine District  
Ministry of Forest, Lands & Natural  
Resource Operations

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Robyn Roome, Director,  
Monitoring, Assessment & Stewardship,  
Environmental Protection Division,  
Ministry of Environment

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# Glossary of Terms

**AMS** Airshed Management Society

**BC** British Columbia

**BMPs** Best Management Practices

**BRN** Burn Registration Number

**BVLD** Bulkley Valley - Lakes District

**CVF** Custom Venting Forecast

**ECCC** Environment and Climate Change  
Canada

**EMA** *Environmental Management Act*

**ERPs** Emergency Response Procedures

**IC** ignition criteria

**MFLNRO** Ministry of Forests, Lands and  
Natural Resource Operations

**MOE** Ministry of Environment

**NAR** net area to be reforested

**OBSCR** Open Burning Smoke Control Reg-  
ulation

**PSSZ** Primary Smoke Sensitivity Zone

**SMP** Smoke Management Plan

**SOPs** standard operating procedures

**SRP** smoke release periods

**SSSZ** Secondary Smoke Sensitivity Zone

**SWPs** Safe Work Procedures

**TSA** Timber Supply Area

**TSSZ** Tertiary Smoke Sensitivity Zone

**VI** venting index

# 1. Introduction and Purpose

The British Columbia (BC) Ministry of Environment (MOE) has the mandate and authority to regulate smoke emissions from open burning under the *Environmental Management Act (EMA)* and the Open Burning Smoke Control Regulation (OBSCR).

Multiple scientific studies have proven detrimental impacts on human health occur due to exposure to wood smoke (Naeher et al., 2007). The provincial government, the OBSCR, and this Plan recognize and acknowledge this fact. This Smoke Management Plan (SMP) has been developed for the Bulkley Timber Supply Area (TSA) as a tool to enable smoke management planning. The SMP strives to provide guidance for burn operators to manage smoke such that they can abate fire hazard in a timely, efficient and effective manner, as well as minimize the negative impacts on human health and the environment. This is accomplished through implementation of the following steps:

1. Identify a series of smoke management strategies (including the use of custom venting forecasts, best management practices and careful timing of burn activities);
2. Create smoke management zones and develop specific risk-based ignition criteria (IC) and smoke release periods (SRP)s to be employed in each zone;
3. Define data collection and reporting requirements; and
4. Initiate dialogue with other stakeholders on the subject of open burning and smoke generation, through engagement.

## 2. Scope and Application

This SMP developed for the Bulkley TSA will adapt specific requirements of the OBSCR for those who are signatories to the Plan. Specifically, Section 8 of Schedule B of OBSCR enables collaboration between an approved Ministry of Forests, Lands and Natural Resource Operations (MFLNRO) Burn plan and an MOE SMP. To become a signatory to this SMP, a burn operator should print, sign and email a copy of Appendix G to the appropriate MFLNRO and MOE representatives. If this plan is not followed, the default requirements of the OBSCR (and *EMA*) must be adhered to.

### 2.1 In Scope

This SMP applies to all Category 3 debris burn piles, as defined in the Wildfire Regulation (except for those outlined below). All other debris burns (eg: Category 2 burns) must follow default requirements defined by the OBSCR.

### 2.2 Out of Scope

The following fires are exempted by the *EMA*, the OBSCR, or require other authorizations and fall outside the scope of this Plan:

- The burning of leaves, foliage, weeds, crops or stubble for domestic or agricultural purposes or in compliance with the *Weed Control Act*;
- Fires set or controlled by a person acting under an order of a local assistant, as defined in the Fire Services Act, if the local assistant orders the fires for training purposes;
- Fires set for fire control under section 9 of the *Wildfire Act*;
- Resource Management Open Fires under the *Wildfire Act* lit, fuelled, or used in accordance with that Act and the regulations under that Act;

- 43 • Campfires;
- 44 • Open burning of debris that has been removed / relocated from the land where it
- 45 originated;
- 46 • Open burning of anything other than timber harvesting or land clearing debris; and
- 47 • Open burning approved under a solid waste management plan or other *EMA* autho-
- 48 rization.

## 49 **2.3 Burns Requiring Additional Permitting**

- 50 • Open burning approved under a solid waste management plan or other *EMA* autho-
- 51 rization, may require additional permitting;
- 52 • Open burning of debris if it has been removed / relocated from the land where it
- 53 originated; and
- 54 • Open burning of anything other than timber harvesting or land clearing debris.

## 3. Smoke Management Strategies

Revisions to the OBSCR are proposed to reduce or minimize impacts to human health and safety. The Bulkley SMP is intended to guide and enable burn operators to employ smoke management strategies in such a way that SRPs are minimized and smoke emissions from open burning are confined whenever practicable to periods with favourable venting.

### 3.1 Burning of Forestry and Land Clearing Debris

#### 3.1.1 Material to be Burned

This Plan allows for open burning of piled land clearing debris on the parcel of land from which it originated. This Plan approves the open burning of liquid accelerant for ignition, allows cardboard planting boxes in the piles, but excludes all other materials.

#### 3.1.2 Timing of Open Burning

Under this Plan open burning is authorized to occur only when the signatory has received a CVF issued by a forecaster approved by a Director under the *EMA*.

#### 3.1.3 Location of Open Burning

The location of the open burning is on cutting permit and road permit areas within the Bulkley TSA of the Skeena-Stikine Resource District.

#### 3.1.4 Smoke Sensitivity Zones

The Bulkley TSA has been divided into three Smoke Sensitivity Zones. They are presented graphically in Figure A.2 of Appendix A, and described below:

- 74 1. Primary Smoke Sensitivity Zone (PSSZ): The PSSZ was created based on population  
75 density census data. Both Smithers and Telkwa have population densities greater  
76 than 200 people per square km, and an approximate buffer zone of 10 km is in  
77 place surrounding these communities. This is consistent with the buffer zone of the  
78 proposed OBSCR. A 1 km-wide corridor on each side of the Bulkley River is also  
79 included. These areas have high smoke sensitivity.
- 80 2. Secondary Smoke Sensitivity Zone (SSSZ): The SSSZ encompasses an area of  
81 land adjacent to the PSSZ where smoke emitted into the atmosphere could, during  
82 periods of poor venting, drain towards the PSSZ. These areas have moderate smoke  
83 sensitivity.
- 84 3. Tertiary Smoke Sensitivity Zone (TSSZ): The TSSZ encompasses an area of land  
85 where, because of topographical features such as mountains, smoke emitted into  
86 the atmosphere is unlikely to drain towards the PSSZ. These areas have low smoke  
87 sensitivity.

## 88 **4. General Requirements**

### 89 **4.1 Alternatives to Open Burning**

90 Burn operators agree to consider alternate methods for fuel hazard abatement. Alternatives  
91 to open burning will be limited to situations where it is practical and economically feasible  
92 to do so as per Appendix C.

### 93 **4.2 Best Management Practices**

94 Burns operators will follow reasonable and relevant Best Management Practices (BMPs)  
95 as outlined in Appendix C. BMPs are intended to, as much as possible; promote fast and  
96 efficient burns which minimize the amount of smoke generated during overnight periods  
97 when venting conditions are generally poor. Failure of a burn operator to meet the intent of  
98 the Plan may result in that operator being removed as a signatory of the Plan.

### 99 **4.3 Burn Programs and the Progression of the Burn** 100 **Season**

101 Operators will attempt to focus their activities in the PSSZ and SSSZs to take advantage of  
102 increased daylight hours and better venting conditions earlier in the fall burning season. If  
103 the risk of an escape is too high for burning in the PSSZ and SSSZs, operators may elect  
104 to burn in the TSSZ where the risk of an escape may be lower. Because favourable venting  
105 forecasts tend to decline sharply after week 43 of the year, the signatories will attempt to  
106 conduct burning prior to week 44.

107 **4.4 Operational Requirements for Open Burning**

108 All open burning shall be conducted in accordance with the terms and conditions of the  
 109 OBSCR, with the exception of the venting requirements for ignition identified in Section  
 110 8 of Schedule B of the OBSCR (Favourable Weather for Smoke Dispersion), which are  
 111 replaced by those listed in Section 4.4.1 below.

112 **4.4.1 Favourable Weather for Smoke Dispersion**

113 Open burning may be initiated in accordance with the IC presented in table 4.1.

**Table 4.1:** Summary of IC and SRP requirements in each smoke sensitivity zone.

Smoke Sensitivity Zone	Venting Forecast on Day of Ignition*	Venting Forecast on Day After Ignition*	Daily Ignition Period Limits	Smoke Release Period
Primary	Good	Fair or better	Yes	4:00 PM the 1st day after ignition
Secondary	Good	Fair or better	Yes	4:00 PM the 2nd day after ignition
Tertiary	Fair or better	Fair or better	Yes	4:00 PM the 4th day after ignition

114 Refer to Appendix B for more detailed information on daily ignition periods. For burns that  
 115 are located on the border between the PSSZ and SSSZs, if the forecasted meteorological  
 116 conditions are such that smoke from the SSSZ will be blown directly into the PSSZ, the  
 117 PSSZ IC and SRP criteria will apply.

118 **4.5 Smoke Release Period**

119 Only 10% of the burnt surface area can be emitting visible smoke by 4:00 PM on the day  
 120 indicated in the above table (specific to each sensitivity zone). If smoke is being released  
 121 beyond the SRP from an area greater than 10% of the burnt area then the burn is in

122 non-compliance with this Plan. In addition to other compliance tools, an officer or official  
123 may order the piled debris to be broken apart, scattered, extinguished or re-piled.

124 The MOE conducts air quality monitoring in Smithers and has the authority to issue burn  
125 bans and air quality advisories when required. When this occurs, no new piles may be  
126 ignited regardless of venting conditions.

127 Irrespective of venting conditions, ignition of fires must not occur if:

- 128 • Open burning restrictions have been issued by a different agency, e.g.:MFLNRO;
- 129 • Smoke from fires would pose a risk to airports or highways;
- 130 • Prohibited materials are contained in the piles (see OBSCR); or
- 131 • Setback distances are not met.

# 5. Engagement, Monitoring and Reporting

## 5.1 Engagement Process

It is the intention of the SMP that signatories to the plan will initiate dialogue with other stakeholders on the subject of open burning and smoke control, through a reciprocal engagement process. In this context, engagement includes:

- Notifying stakeholders prior to 9:00 AM of the day of ignition by sending an email to [subscribers@openburning.ca](mailto:subscribers@openburning.ca);
- Placing physical signage on access roads notifying local permanent residents within 1 km of burn piles the day of ignition;
- Responding to local permanent resident concerns regarding open burn pile fires and smoke to mitigate impacts in the current burn season;
- Forwarding air quality concerns to the air quality meteorologist with the MOE as well as the appropriate MFLNRO contact person; and
- Considering recommendations brought forward by Bulkley TSA residents and organizations to reduce the impact of smoke, and implement continuous improvement for future SMPs.

## 5.2 Complaint Tracking

Upon receipt of a complaint registered by members of the nearby population and / or community, the details shall be submitted via email to [EnvironmentalComplaints@gov.bc.ca](mailto:EnvironmentalComplaints@gov.bc.ca) and / or the RAPP line 1-877-952-7277 if it is an OBSCR violation.

### 153 **5.3 Burn Registration**

154 The burn operator conducting Category 3 burns must obtain a Burn Registration Number  
155 (BRN) prior to ignition from the BC Wildfire Service at 1-888-797-1717.

### 156 **5.4 Reporting**

157 In the PSSZ, the burn operator shall report the intention to ignite and results of its Category  
158 3 burns to the custom venting forecaster and the air quality meteorologist, prior to 2:00 PM  
159 the day after ignition. Reporting requirements include:

- 160 • Burn location;
- 161 • Date burned;
- 162 • Number of piles burned; and
- 163 • Number of piles remaining (not burned).

164 Receiving ongoing CVFs is subject to the forecaster receiving these reports in a timely  
165 manner. Additional reporting comments may be added by the burn operator on a voluntary  
166 basis. The information provided through the Burn Tracking and Reporting Sheet is mutually  
167 beneficial to the custom venting forecaster, the MOE, and the MFLNRO.

168 A summary Burn Tracking and Reporting Sheet (Appendix D) is to be submitted to the air  
169 quality meteorologist, MOE, prior to Dec 31, 2017, or as otherwise agreed.

### 170 **5.5 Wildfire reporting**

171 All wildfires shall be reported to 1-800-663-5555 or \*5555 from a cellular phone.

## 172 **6. Environmental Impact**

173 A person designated as a Director under the *EMA* may require open burning to be  
174 extinguished and ignitions to cease if, in his or her opinion, adverse impacts to the  
175 environment or public health and safety may occur.

## 176 **References**

177 Naeher, L., Brauer, M., Lipsett, M., Zelikoff, J., Simpson, C., Koenig, J., Smith, K. (2007).  
178 Woodsmoke Health Effects: A Review. *Journal of Inhalation Toxicology*, 19, 67–106.

# A. Smoke Sensitivity Map

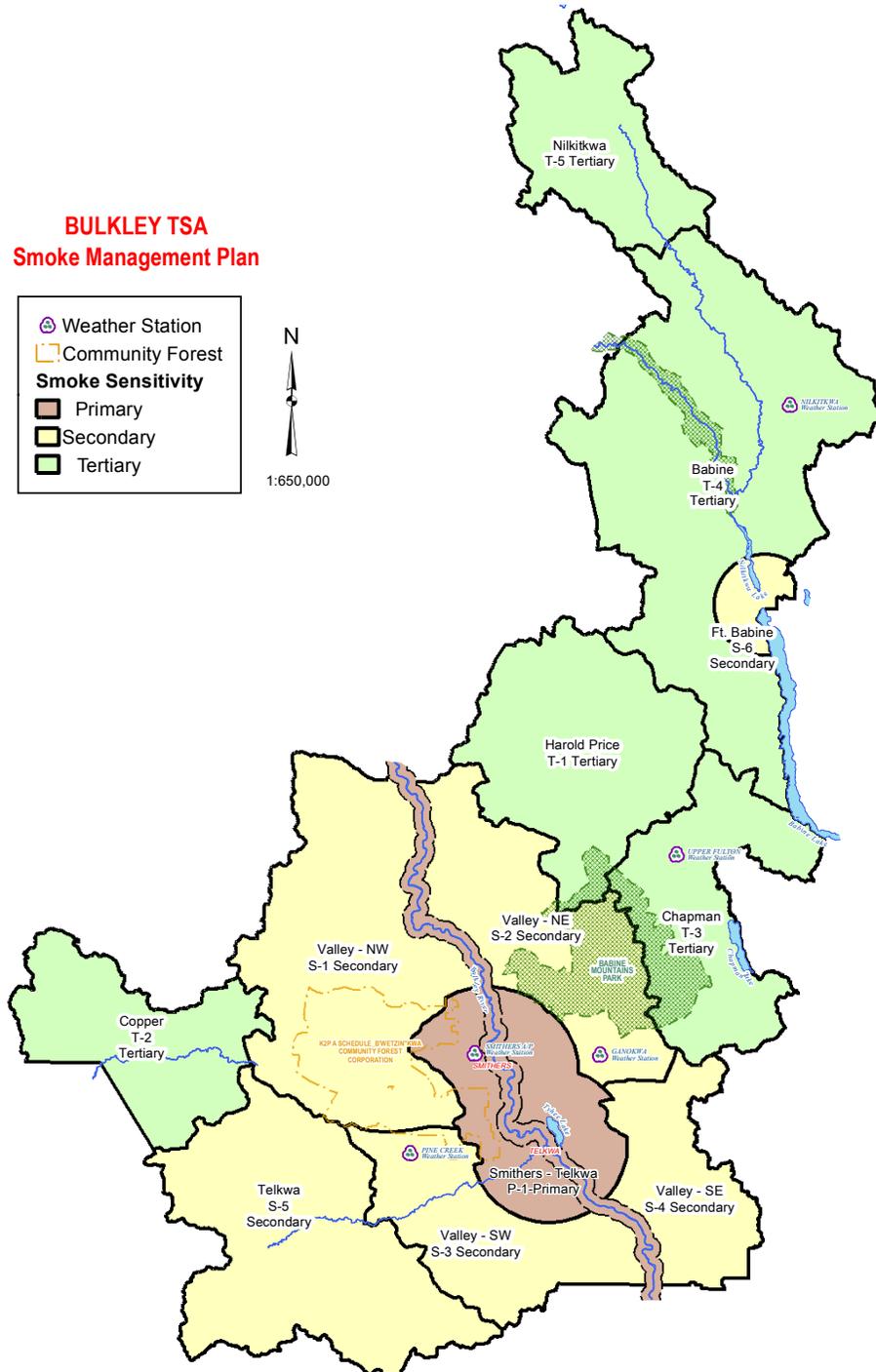
179

180 The SMP map was amended June 21, 2014 to incorporate recommendations from the  
 181 Bulkley Valley - Lakes District (BVLD) Airshed Management Society (AMS) to extend  
 182 the existing PSSZ to include a corridor of 1 km either side of the Bulkley River. A listing  
 183 of sensitivity zones organized by CVF areas is presented in Figure A.1, and the TSA  
 184 map is presented as Figure A.2. Note that more refined maps can be found at <http://www.openburning.ca/>.  
 185

**Figure A.1:** Smoke sensitivity zone listings for the Bulkley TSA organized by CVF zone.

CVF Zone Numbers	CVF Zone Name	Smoke Sensitivity	Venting On Day Of Ignition	Venting On Day After Ignition	Daily Igniton Period	Smoke Release Period
P-1	Smithers - Telkwa	Primary	Good	Fair	Yes	4:00 PM the 1st day after ignition
S-3	Valley - SW	Secondary	Good	Fair	Yes	4:00 PM the 2nd day after ignition
S-1	Valley - NW	Secondary	Good	Fair	Yes	4:00 PM the 2nd day after ignition
S-2	Valley - NE	Secondary	Good	Fair	Yes	4:00 PM the 2nd day after ignition
S-4	Valley - SE	Secondary	Good	Fair	Yes	4:00 PM the 2nd day after ignition
S-5	Telkwa	Secondary	Good	Fair	Yes	4:00 PM the 2nd day after ignition
S-6	Ft. Babine	Secondary	Good	Fair	Yes	4:00 PM the 2nd day after ignition
T-5	Niikitkwa	Tertiary	Fair	Fair	No	4:00 PM the 4th day after ignition
T-4	Babine	Tertiary	Fair	Fair	No	4:00 PM the 4th day after ignition
T-1	Harold Price	Tertiary	Fair	Fair	No	4:00 PM the 4th day after ignition
T-3	Chapman / Morice	Tertiary	Fair	Fair	No	4:00 PM the 4th day after ignition
T-2	Copper	Tertiary	Fair	Fair	No	4:00 PM the 4th day after ignition

Figure A.2: Smoke sensitivity zone map for the Bulkley TSA - 2017.



## B. Daily Ignition Periods

Information below in figure B.1 is based on publicly available sunrise and sunset times averaged to the nearest 15 minutes and set on a weekly basis. Ignition can occur after the time identified in the “All Zones Start” column and no ignition can occur after the time identified in the “Finish” column.

Following the daily ignition periods will ensure that burns occur during the time of day when venting conditions are best, and will allow enough time for burns to emit the majority of their emissions during the day and minimize the release of smoke overnight when venting is generally poor.

**Figure B.1:** Ignition periods for the PSSZ and SSSZs for 2017.

Bulkley Valley Smoke Management Plan - 2017									
Primary and Secondary Smoke Sensitivity Zones - 2017 Daily Ignition Periods									
Zone	Start one Hour After Sunrise								
PPSZ	Finish 5 - Hours Prior to Sunset								
SSSZ	Finish 3 - Hours Prior to Sunset			Primary	Primary	Secondary	Secondary		
			All Zones	PSSZ		SSSZ			
	Date	Sunrise	Sunset	Start	Finish	Duration (hrs)	Finish	Duration (hrs)	
Preferred Burning Window	11-Sep-17	7:00 AM	8:00 PM	8:00 AM	3:00 PM	7.00	5:00 PM	9.00	
	18-Sep-17	7:00 AM	7:45 PM	8:00 AM	2:45 PM	6.75	4:45 PM	8.75	
	25-Sep-17	7:15 AM	7:15 PM	8:15 AM	2:15 PM	6.00	4:15 PM	8.00	
	02-Oct-17	7:30 AM	7:00 PM	8:30 AM	2:00 PM	5.50	4:00 PM	7.50	
	09-Oct-17	7:45 AM	6:45 PM	8:45 AM	1:45 PM	5.00	3:45 PM	7.00	
	16-Oct-17	8:00 AM	6:30 PM	9:00 AM	1:30 PM	4.50	3:30 PM	6.50	
	23-Oct-17	8:15 AM	6:15 PM	9:15 AM	1:15 PM	4.00	3:15 PM	6.00	
	30-Oct-17	8:30 AM	6:00 PM	9:30 AM	1:00 PM	3.50	3:00 PM	5.50	
	DST	06-Nov-17	7:45 AM	4:45 PM	8:45 AM	11:45 AM	3.00	1:45 PM	5.00
		13-Nov-17	8:00 AM	4:30 PM	9:00 AM	11:30 AM	2.50	1:30 PM	4.50
	20-Nov-17	8:15 AM	4:15 PM	9:15 AM	11:15 AM	2.00	1:15 PM	4.00	
	27-Nov-17	8:15 AM	4:15 PM	9:15 AM	11:15 AM	2.00	1:15 PM	4.00	
	04-Dec-17	8:30 AM	4:00 PM	9:30 AM	11:00 AM	1.50	1:00 PM	3.50	
	11-Dec-17	8:45 AM	4:00 PM	9:45 AM	11:00 AM	1.25	1:00 PM	3.25	
	18-Dec-17	8:45 AM	4:00 PM	9:45 AM	11:00 AM	1.25	1:00 PM	3.25	
*Sunday Nov 5, 2017 marks the beginning of Daylight Savings Time									

## 195 **C. Best Management Practices**

196 The intent of these BMPs is to provide guidance for burn operators conducting Category  
197 3 fires to meet the requirements for minimizing the risks of fire hazard and for reducing  
198 impacts on human health caused by smoke. Following BMPs should enable burn operators  
199 to minimize SRPs.

### 200 **C.1 Alternatives to Burning**

201 Burn operators agree to consider alternate methods for fire hazard abatement. Alternatives  
202 to open burning will be limited to situations where it is practical and economically feasible  
203 to do so. Examples of how burning may be minimized or avoided may include doing one or  
204 more of the following:

- 205 • Processing trees and leaving debris at the stump;
- 206 • Scattering and covering debris beside the road as opposed to piling during road right  
207 of way harvesting and road construction;
- 208 • Scattering debris on-block, where wildfire risk and hazard is low;
- 209 • Returning large debris back to the block using skidders or forwarders;
- 210 • Allowing for opportunities for salvage and other forest products extraction, such as  
211 chipping, grinding, and mulching, and subject to Tenure limitations;
  - 212 – Allowing for firewood to be taken;
  - 213 – Leaving smaller piles for wildlife habitat; and
  - 214 – Leaving Small piles on wet sub-zones where Fire Hazard may be low;

215 Where there is a high risk of smoke exposure from open burning within the PSSZ, the use  
216 of an air curtain incinerator may reduce emissions.

## 217 **C.2 Pile Construction, Curing and Seasoning**

218 The objective of this section is to provide burn operators with information on how to  
219 construct piles that achieve easy and safe ignition, leading to a rapid, high intensity burn  
220 that minimizes both the impact of smoke on nearby populations as well as the risk of fire  
221 escapes. When constructing piles, follow the following steps:

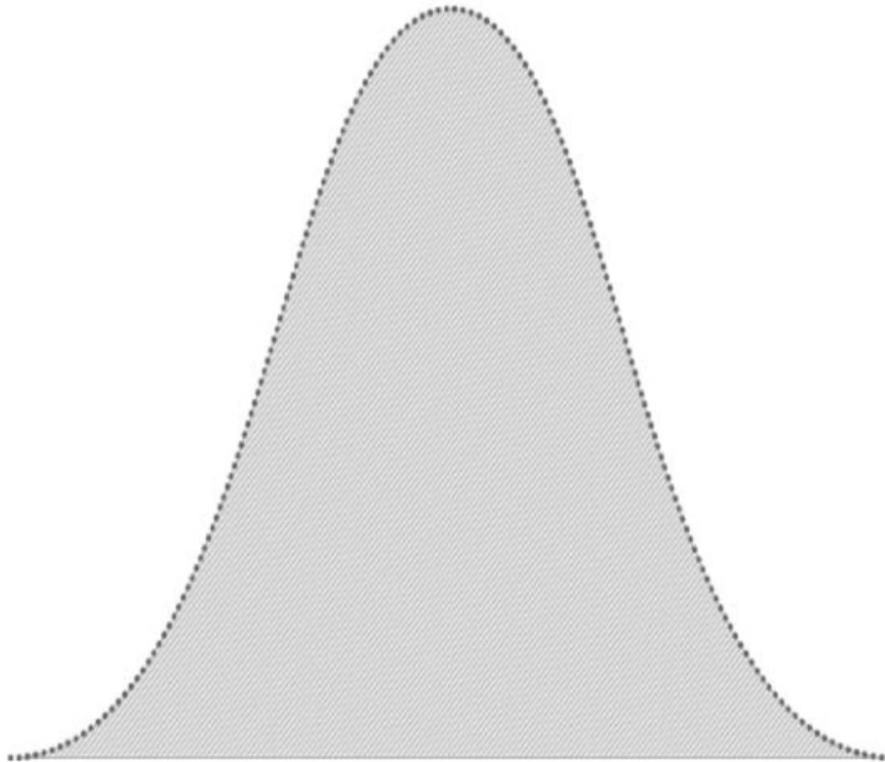
- 222 (a) Pile as high as possible while maintaining safety for the machine operator and stability  
223 of the pile for subsequent ground crews.
- 224 • base diameter should not be less than 4 meters;
  - 225 • height should not be less than 2-3 meters; and
  - 226 • fuel should be continuous / compact with mix of sizes.
- 227 (b) Place material into a haystack or bell shape to shed water and to increase the  
228 chimney / venting effect with height (see figure C.1):
- 229 (c) Create a mixture of fuel sizes / types. Fines should be mixed with short chunks and  
230 non- merchantable stems;
- 231 (d) Avoid large stumps and root wads. These should be excluded from piles and  
232 dispersed back into the setting where possible;
- 233 (e) Avoid piling soils, rocks or any prohibited materials which may increase smoke  
234 generation;
- 235 (f) Make fewer, larger piles without compromising crew safety; and
- 236 (g) Piles should be seasoned until they can combust easily. Typically the curing period  
237 should be at least one summer.

## 238 **C.3 Planning for the Burn Season**

239 The following BMPs should be completed prior to the burn season:

- 240 (a) Obtain BRNs: The Wildfire Regulation requires burn operators to obtain BRNs.  
241 Information contained in the registration includes: BRN, latitude and longitude,  
242 number of piles, current status, and other relevant comments.
- 243 (b) Contact the Custom Venting Forecasters: Prior to the burn season, burn operators

**Figure C.1:** Optimal slash pile shape.



244 using the CVF service should send their registration information to the custom venting  
245 forecasters approved by the Director, along with additional data including elevation  
246 and timing of forecast needs. The custom venting forecasters will compile individual  
247 burn operators' registration data into the forecast venting zones established by this  
248 Plan.

249 (c) Hold a pre-season Burn Operators Planning Forum: A pre-season meeting may  
250 be organized to review all burn operators' registration data, to review the SMP,  
251 assess potential conflicts within the BVLD airshed, and to agree on communication,  
252 notification and reporting strategies, as detailed in the Plan.

## 253 **C.4 Crew Training**

254 Burns operators will ensure all supervisors, ground crews and machine operators are  
255 trained in rules and standard operating procedures (SOPs) such as:

- 256 • *Wildfire Act* and Wildfire Regulation requirements;
- 257 • *EMA* and OBSCR requirements;
- 258 • Smoke management strategies and BMPs;
- 259 • All relevant company-related Safe Work Procedures (SWPs);
- 260 • Burn pile construction;
- 261 • Burn pile ignition;
- 262 • Firefighting;
- 263 • Fuel handling, storage and spill reporting; and
- 264 • Emergency Response Procedures (ERPs).

## 265 **C.5 Short term Planning, Consultation and Notification**

266 This SMP strongly encourages burn operators to utilize CVFs as they are site-specific  
267 forecasts, rather than the broad regional forecasts published by Environment and Climate  
268 Change Canada (ECCC). Once the burn operator chooses the source of venting data  
269 for the season, they cannot switch between sources of venting forecasts in search of the  
270 forecast which best suit their needs.

- 271 (a) If not receiving CVFs, consult the daily venting forecast (available by phone or on  
272 MOE and ECCC websites) after 7:00 AM to ensure adequate venting conditions.  
273 Operators should consider alternate plans if venting is not adequate for burning in  
274 the PSSZ or SSSZ but is acceptable for the TSSZ.
- 275 (b) Consult local weather forecasts and CVFs. Distance and direction from the burn site  
276 to population centres is to be considered when assessing the local wind speed and  
277 wind direction. The goal is to avoid and reduce health impacts to nearby population  
278 centres. If winds are not favourable, burn operators should consider burning in  
279 another area where winds are compatible or burning within the TSSZ where wind

280 direction may not be a factor.

281 In order to achieve this objective, when burning within the PSSZ and the SSSZ:

- 282 • Consider the wind direction when burning adjacent to or within the PSSZs.
  - 283 – the wind direction reported as direction wind is coming from;
  - 284 – a line is drawn from the burn location to the nearby populations centre;
  - 285 – the direction to the population centre is the inverse wind direction;
  - 286 – even if venting is considered acceptable, is the smoke likely to vent towards
  - 287 nearby populations centre?
  - 288 – overnight cold air drainage down creeks and rivers;
  - 289 – mountains (such as Hudson Bay Mountain) acting as a topographic curtain
  - 290 to limit smoke dispersion.
- 291 • Consider the wind speed. Wind speed may increase venting and smoke dis-
- 292 persal, but if the wind is too strong, it may hinder venting, and increase the fire
- 293 hazard and rate of spread;
- 294 • Consider the mixing height when burning adjacent to PSSZs, as lower mixing
- 295 height may limit venting;
- 296 • Consider the impacts of strong inversions if forecasted. This condition can
- 297 cause late day and overnight smoke levels to rise to unacceptable levels despite
- 298 venting forecasts of “Good” and “Fair”;
- 299 • Consider the impacts of approaching warm fronts, particularly when snow is
- 300 forecast. Smoke combined with other weather factors during these periods may
- 301 lower visibility levels for small aircraft operators to unacceptable levels; and
- 302 • If receiving approved CVFs, and the forecasters are highly confident that condi-
- 303 tions of very good venting will prevail, request an extension to the daily burning
- 304 windows for a specific time period. The intent is to allow more burning during
- 305 periods of exceptional venting and take the pressure off days where venting is
- 306 less suitable.

307 (c) Notify other stakeholders prior to 9:00 AM of the day of ignition. In addition to the

308 email notification list, notifications should be provided to:

- 309 • Adjacent residences verbally or in writing to outline burn plans and explain the
- 310 reasons why burning is required;
- 311 • Nearby airports and float-plane charter operators where smoke may potentially

- 312 impact operations or generate concern for their facilities and user airspace; and  
313 • Local fire departments directly prior to burning within or near their area of  
314 jurisdiction, or use the coordinated one contact approach established by local  
315 government.
- 316 (d) Consult flight plans, if provided by small aircraft charter operators, to determine if  
317 meteorological influences could reduce venting to a point where smoke in combination  
318 with other weather conditions could adversely impact visibility.

## 319 **C.6 Ignition**

320 The following BMPs relate to pile ignition:

- 321 (a) Prior to light-up observe local on-site weather conditions to ensure they appear  
322 consistent with the forecasted conditions;
- 323 (b) Have ERPs in place and reviewed with all crews. Ensure burn crews are ade-  
324 quately trained in fire suppression and that suppression resources including tools  
325 and equipment are available in accordance with the site-specific risks and conditions;
- 326 (c) Ensure spill kits and emergency response tools and equipment are on-site where  
327 applicable;
- 328 (d) Follow daily ignition times. These apply only to the PSSZ and SSSZ. Ignition times  
329 stipulated in Appendix B are based on ECCC data, and are rounded to the nearest  
330 15 minutes per week;
- 331 (e) Ignite a test pile to validate weather conditions. Monitor the test pile for 15 to 30  
332 minutes after ignition to confirm direction and amount of smoke, ease of ignition, fire  
333 intensity and behaviour including risk of escape to adjacent fuel;
- 334 (f) Confirm that the smoke is having little to no impact on nearby public highways and  
335 airports;
- 336 (g) Ensure health and safety of ground crews:
- 337 • Ensure crew is aware of how to assess pile stability and when to bypass unstable
  - 338 piles;
  - 339 • Identify escape routes; and
  - 340 • Light piles in a direction which minimizes smoke exposure for burn crews.

- 341 (h) Cease operation and re-assess, if at any time during ignition the weather conditions  
342 change (i.e. wind direction / venting) and problems become apparent;
- 343 (i) Ignite pile in a manner that promotes rapid combustion:
- 344 • Ignition point should be low in the pile and on the upwind side where possible.  
345 Ignition source should be of sufficient heat and duration to rapidly ignite the  
346 whole pile; and
  - 347 • During wetter conditions or when pile construction and fuel types are not ideal,  
348 consider using a higher BTU-rated ignition source such as a liquid propane torch  
349 or Petrogel to ensure more rapid combustion.
- 350 (j) The accelerant should ensure efficient and rapid ignition, as large amounts of smoke  
351 tend to be released during slow start-ups because the pile has not reached a high  
352 enough temperature to burn efficiently.

## 353 **C.7 Document, Report and Followup**

- 354 (a) Document: record all aspects of the burn relating to compliance with these BMPs,  
355 and other requirements within the SMP;
- 356 (b) Report: communicate completion of burning to the MOE and the custom venting  
357 forecaster prior to 2:00 PM the day after burn pile ignition;
- 358 (c) Follow-up: verify success of burning by returning to cut blocks where practical, and  
359 record results with photographs; and
- 360 (d) Year-end assessment and follow-up: participate in ongoing discussion with all parties  
361 involved in the SMP Pilot to share results and lessons learned.
- 362 (e) Adapt: amend the SMP or BMPs where applicable in striving for continual improve-  
363 ment.



## **E. Venting**

### **E.1 Accessing information**

The ECCC venting index (VI) is uploaded to the web daily by 7:00 AM. The website is: <http://www.env.gov.bc.ca/epd/epdpa/venting/venting.html>. Alternatively, the information is uploaded to the BC VI hotline: 1-888-281-2992. To obtain the Smithers VI, press “6” for Skeena Region and then “1” for the VI forecast. If the VI is not correctly updated (either online or at the 1-888 number), please contact the MOE air quality meteorologist.

### **E.2 Using the Appropriate Venting Index**

For venting forecasts in the Bulkley TSA, the Smithers forecast should be used.

### **E.3 Custom Venting Forecast (CVF)**

The provincial government (MOE and / or MFLNRO) qualifies meteorologists to issue approved site-specific venting forecasts during each autumn’s burn season. These venting forecasts are called CVFs because they are tailored to the exact location and elevation of individual burn blocks. They are offered as an alternative to the ECCC VI.

### **E.4 Benefits of Custom Venting Forecasts**

Results to date demonstrate that this service does, while protecting human health through the reduction of air quality impacts from open burning, offer increased opportunity and flexibility to operators because they are:

- Tailored to the geographic location and elevation of individual piles and or cut blocks;

- 385 • Issued by 5:00 pm the day prior to when they are valid; and  
386 • Valid for three days.

## 387 **E.5 How to sign up to receive Custom Venting Forecasts**

388 To sign up for CVF, burn operators should contact the air quality meteorologist at the MOE  
389 (250-847-7260). Once sign-up is complete, the burn operator should provide the following  
390 information directly to the custom venting forecaster:

- 391 1. BRNs;  
392 2. Lot number / location, and latitude / longitude in decimal degrees;  
393 3. Approximate elevation(s); and  
394 4. Number of piles.

## 395 **E.6 How to Estimate Number of Piles and Volume of Waste** 396 **Debris (for larger operators)**

As there are multiple variables contributing to the volume of debris and the size of piles, for larger operations it is easiest to use just one factor to calculate pile quantity, the net area to be reforested (NAR) in hectares (ha). The equation is:

$$\text{Number of piles} = \text{NAR} * 2 \quad (\text{E.1})$$

397 Ranchers and other smaller operators should provide an actual count of piles.

## F. Debris Burning Notification List

398

399 In order to receive burning notifications subscribe to the distribution list at <http://www.openburning.ca>. Authorized burn operators may post their intention to burn by sending an  
400 email to [subscribers@openburning.ca](mailto:subscribers@openburning.ca). To become authorized to post burn notifications,  
401 please contact Ben Weinstein at (250) 847-7256 or Ron Donnelly at (250) 847-6378.  
402

## G. Signing the Burn and Smoke Management Plan

403

404

405 To become a signatory to this SMP, a burn operator should print, sign and email a copy of  
406 this page (including Table G.1 below) to the appropriate MFLNRO and MOE representa-  
407 tives. If this plan is not followed, the default requirements of the OBSCR (and *EMA*) must  
408 be adhered to.  
409

**Table G.1:** Bulkley TSA SMP signatory table.

Name	Organization	Signature	Date