
BULKLEY TIMBER SUPPLY AREA SMOKE MANAGEMENT PLAN

Term: August 14, 2017 to Dec 31, 2017

Approved By:



For
Aug
31/17
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Contents

Table of Contents	1
List of Tables	3
List of Figures	3
List of Acronyms	4
1 Introduction and Purpose	5
2 Scope and Application	6
2.1 In Scope	6
2.2 Out of Scope	6
2.3 Burns Requiring Additional Permitting	7
3 Smoke Management Strategies	8
3.1 Burning of Forestry and Land Clearing Debris	8
4 General Requirements	10
4.1 Alternatives to Open Burning	10
4.2 Best Management Practices	10
4.3 Burn Programs and the Progression of the Burn Season	10
4.4 Operational Requirements for Open Burning	11
4.5 Smoke Release Period	11
5 Engagement, Monitoring and Reporting	13
5.1 Engagement Process	13
5.2 Complaint Tracking	13
5.3 Burn Registration	14
5.4 Reporting	14

5.5 Wildfire reporting	14
6 Environmental Impact	15
References	15
A Smoke Sensitivity Map	16
B Daily Ignition Periods	18
C Best Management Practices	19
C.1 Alternatives to Burning	19
C.2 Pile Construction, Curing and Seasoning	20
C.3 Planning for the Burn Season	20
C.4 Crew Training	22
C.5 Short term Planning, Consultation and Notification	22
C.6 Ignition	24
C.7 Document, Report and Followup	25
D Debris Burning Registration, Notification and Reporting Sheet	26
E Venting	27
E.1 Custom Venting Forecast (Custom Venting Forecast (CVF))	27
E.2 Benefits of Custom Venting Forecasts	27
E.3 How to sign up to receive Custom Venting Forecasts	27
E.4 Accessing information	28
E.5 Using the Appropriate Venting Index	28
E.6 How to Estimate Number of Piles and Volume of Waste Debris (for larger operators)	28
F Debris Burning Notification List	29
G Signing the Burn and Smoke Management Plan	29

List of Tables

4.1	IC and SRP in each some sensitivity zone.	11
G.1	2017 SMP signatory table.	29

List of Figures

A.1	Bulkley TSA smoke sensitivity zone listings.	16
A.2	Bulkley TSA smoke sensitivity zone map.	17
B.1	2017 ignition periods for the PSSZ and SSSZ.	18
C.1	Optimal slash pile shape.	21
D.1	2017 debris burning registration, notification and reporting sheet.	26

List of Acronyms

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

FLNR Ministry of Forests, Lands, Natural
Resource Operations and Rural De-
velopment

MENV Ministry of Environment and Climate
Change Strategy

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 and Climate Change Strategy (MENV) 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, Natural Resource Operations and Rural Development (FLNR) Burn plan and an MENV SMP. To become a signatory to this SMP, a burn operator should print, sign and email a copy of Appendix G to the appropriate FLNR and MENV 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;

- Campfires;
- Open burning of debris that has been removed / relocated from the land where it originated;
- Open burning of anything other than timber harvesting or land clearing debris; and
- Open burning approved under a solid waste management plan or other *EMA* authorization.

2.3 Burns Requiring Additional Permitting

Additional authorization from the MENV is required for the following:

- Open burning approved under a solid waste management plan or other *EMA* authorization;
- Open burning of debris if it has been removed / relocated from the land where it originated; and
- 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 burn operator 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:

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

4. General Requirements

4.1 Alternatives to Open Burning

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

4.2 Best Management Practices

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

4.3 Burn Programs and the Progression of the Burn Season

Operators will attempt to focus their activities in the PSSZ and SSSZs to take advantage of increased daylight hours and better venting conditions earlier in the fall burning season. If the risk of an escape is too high for burning in the PSSZ and SSSZs, operators may elect to burn in the TSSZ where the risk of an escape may be lower. Burn Operators will attempt to complete the burning of all debris piles prior to the end of October, as the frequency of favourable venting tends to decline after this.

4.4 Operational Requirements for Open Burning

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

4.4.1 Favourable Weather for Smoke Dispersion

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	No	4:00 PM the 4th day after ignition

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

4.5 Smoke Release Period

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

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

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

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

- Open burning restrictions have been issued by a different agency, e.g.: FLNR;
- Smoke from fires would pose a risk to airports or highways;
- Prohibited materials are contained in the piles (see OBSCR); or
- 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;
- 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 from individuals and organizations to the air quality meteorologist with the MENV as well as the appropriate FLNR 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 and / or the RAPP line 1-877-952-7277 if it is an OBSCR violation.

5.3 Burn Registration

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

5.4 Reporting

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

- Burn location;
- Date burned;
- Number of piles burned; and
- Number of piles remaining (not burned).

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

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

5.5 Wildfire reporting

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

6. Environmental Impact

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

References

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

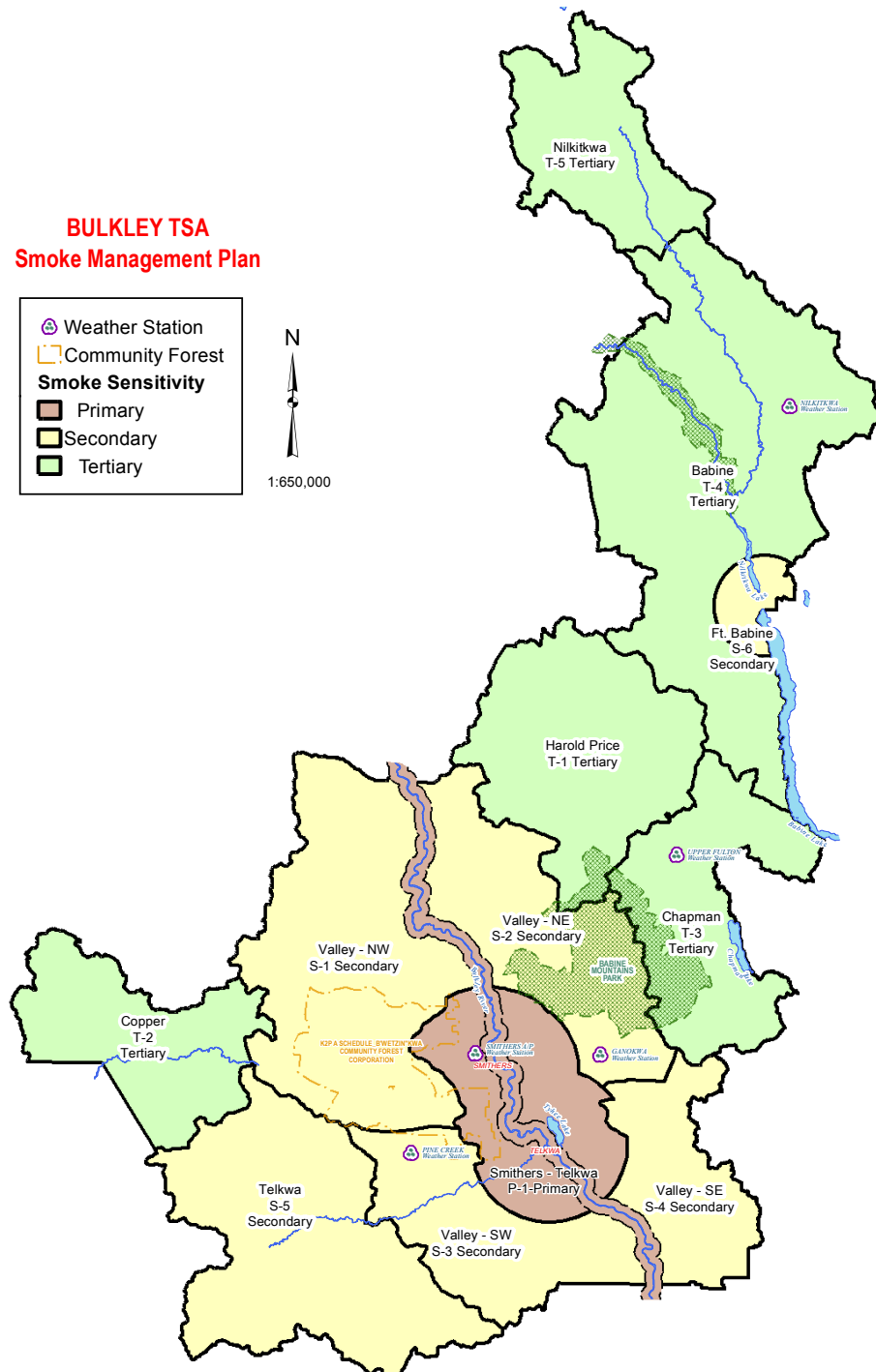
A. Smoke Sensitivity Map

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

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 Ignition 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	Nilkitkwa	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
			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								

C. Best Management Practices

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

C.1 Alternatives to Burning

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

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

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

C.2 Pile Construction, Curing and Seasoning

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

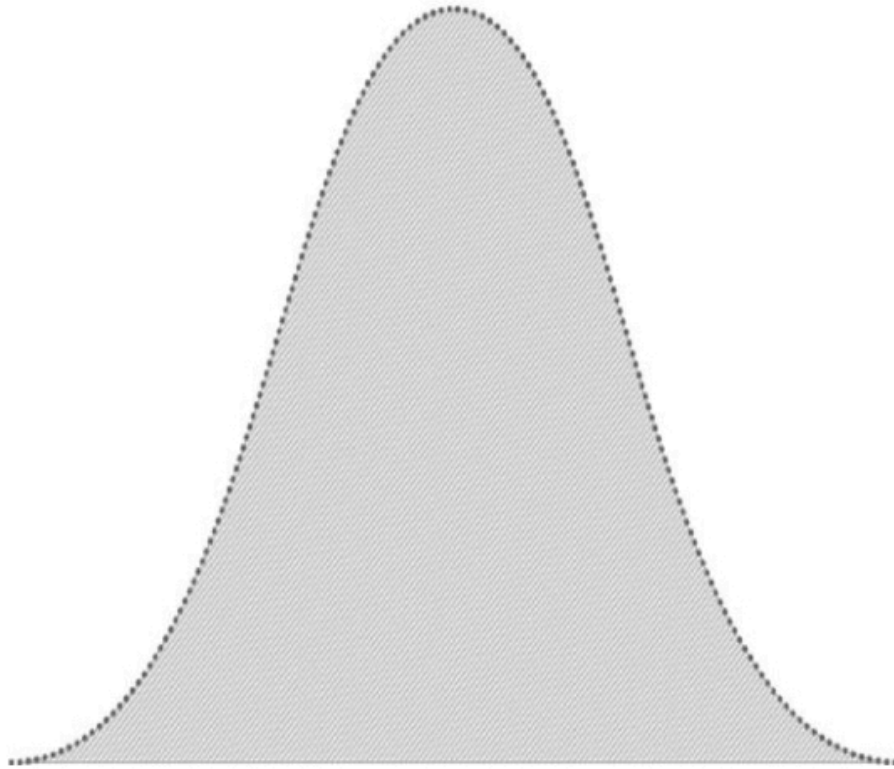
- (a) Pile as high as possible while maintaining safety for the machine operator and stability of the pile for subsequent ground crews.
 - base diameter should not be less than 4 meters;
 - height should not be less than 2 - 3 meters; and
 - fuel should be continuous / compact with mix of sizes.
- (b)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

C.3 Planning for the Burn Season

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

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

Figure C.1: Optimal slash pile shape.



using the CVF service should send their registration information to the custom venting forecasters approved by the Director, along with additional data including: location, elevation, pile quantities, smoke sensitivity zones and timing of forecast needs. The custom venting forecasters will compile individual burn operators' registration data into the forecast venting zones established by this Plan.

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

C.4 Crew Training

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

- *Wildfire Act* and Wildfire Regulation requirements;
- *EMA* and *OBSCR* requirements;
- Smoke management strategies and BMPs;
- All relevant company-related Safe Work Procedures (SWPs);
- Burn pile construction;
- Burn pile ignition;
- Firefighting;
- Fuel handling, storage and spill reporting; and
- Emergency Response Procedures (ERPs).

C.5 Short term Planning, Consultation and Notification

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

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

direction may not be a factor.

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

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

(c) Notify other stakeholders prior to 9:00 AM of the day of ignition. In addition to the email notification list, notifications should be provided to:

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

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

C.6 Ignition

The following BMPs relate to pile ignition:

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

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

C.7 Document, Report and Followup

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

D. Debris Burning Registration, Notification and Reporting Sheet

Figure D.1: Debris burning registration, notification and reporting sheet for 2017.

[illegible]

E. Venting

E.1 Custom Venting Forecast (CVF)

The provincial government (MENV and / or FLNR) 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 venting index (VI).

E.2 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;
- Issued by 5:00 pm the day prior to when they are valid; and
- Valid for three days.

E.3 How to sign up to receive Custom Venting Forecasts

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

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

E.4 Accessing information

The ECCC 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 MENV air quality meteorologist. Use of the VI is only recommended in instances where a CVF is not available.

E.5 Using the Appropriate Venting Index

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

E.6 How to Estimate Number of Piles and Volume of Waste 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:

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

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

F. Debris Burning Notification List

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 email to subscribers@openburning.ca. To become authorized to post burn notifications, please contact Ben Weinstein at (250) 847-7256 or Ron Donnelly at (250) 847-6378.

G. Signing the Burn and Smoke Management Plan

To become a signatory to this SMP, a burn operator should print, sign and email a copy of this page (including Table G.1 below) to the appropriate FLNR and MENV representatives. Currently the appropriate representatives are Ron Donnelly at FLNR (ron.donnelly@gov.bc.ca) and Ben Weinstein at MENV (ben.weinstein@gov.bc.ca). If this plan is not followed, the default requirements of the OBSCR (and *EMA*) must be adhered to.

Table G.1: Bulkley TSA SMP signatory table.

Name	Organization	Signature	Date