

OPEN BURNING

(and “incineration” too)



Information for Town Health Officers

Philip Etter, May, 2011

Open burning—What is it?

- Regulatory definition: Burning of materials where the gases are emitted to the open air without passing through a stack, chimney, vent or other restriction.
- Examples:
 - Burning in piles on the ground
 - Burning in “burn barrels”
 - Burning in any open topped container

Open burning examples



Incineration

- Where the smoke emitted through a stack or vent (falls under different laws & regulations).
- Examples:



Why Are We Concerned

- Open burning causes wildfires
- Open burning causes nuisance to neighbors and is particularly bad for children and elderly
- Open burning releases toxins causing health and environmental impacts
- Open burning releases particulates impairing general air quality
- Esthetic impacts

Toxins Released By Open Burning

- Fine particulate matter
- Sulfur dioxide
- Carbon monoxide
- PAHs
- Chlorobenzenes
- Metals
- Dioxins
- Numerous others



Why is open burning particularly bad???

- Low temperature combustion that forms large amounts of partial combustion products
- Trash/garbage contain synthetics that produce dangerous chemicals
 - Chlorinated plastics: dioxin, phosgene, hydrogen chloride, etc
 - Nylon: cyanides
 - Plastics: benzene, styrene, toluene, phenol

Fine Particulate Matter (PM_{2.5})

Health Effects

- increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing;
- decreased lung function;
- aggravated asthma;
- development of chronic bronchitis;
- irregular heartbeat;
- nonfatal heart attacks; and
- premature death in people with heart or lung disease.

Laws and Regulations

- Vermont Air Pollution Control Regulations Sections 5-201 & 5-202
- Vermont Solid Waste Regulations
- Forest & Parks Laws: 10 §§V.S.A. 2641-2648
- 24 V.S.A. §2201: Throwing, depositing, burning, and dumping refuse; penalty; summons and complaint.
- Solid Waste District ordinances
- Local town/municipal ordinances

24 V.S.A. §2201:

Throwing, depositing, burning, and dumping refuse; penalty; summons and complaint.

This statute states in part:

- “(2) No person shall burn or cause to be burned in the open or incinerate in any container, furnace, or other device any solid waste without:
 - (A) first having obtained all necessary permits from the agency of natural resources, the district environmental commission, and the municipality where the burning is to take place; and
 - (B) complying with all relevant state and local regulations and ordinances.”
- Used for minor open burning and solid waste incineration violations
- Provides mechanism for towns and solid waste districts to issue tickets
- Tickets are treated similarly to traffic tickets and are handled by the Vermont Judicial Bureau
- Violators can lose their hunting/fishing license for failure to pay the assessed fine


Ticketing Authority

Three easy steps to help end trash burning in your community

1. Designate an enforcement officer(s) in your town and request an officer number through the Vermont Judicial Bureau.
2. Call the Vermont Judicial Bureau at (802) 295-8869 and speak to a clerk to request a ticket book.
3. Help educate community members about alternatives to trash burning.

For more information, visit www.dontburnvt.org and www.anr.state.vt.us/dec/wastediv/R3/recycle

Call the Vermont Judicial Bureau at (802) 295-8869 to request your ticket book to help end trash

VERMONT CIVIL VIOLATION COMPLAINT																						
<input type="checkbox"/> CDL									Form 420 Rev. 9/03													
Lic. State		 * 1 9 2 1 4 4 1 *						<input type="checkbox"/>														
Driver License No.																						
Defendant Last or Organization Name					First		Mid. Init.															
Defendant Current Mailing Address								Home Phone														
City			State		Zip Code		Business Phone															
Date of Birth		<input type="checkbox"/> M <input type="checkbox"/> F <input type="checkbox"/> Corp/prop		Soc. Sec. No.																		
Vehicle or Boat Reg.		State		Year		Make		Color														
Violation Date		Time		Municipality																		
Highway				Place or Landmark																		
Defendant did then and there commit the following acts in violation of Vermont law:																						
Alcohol Lev. % Actual Speed MPH Posted Limit MPH <input type="checkbox"/> Accident <input type="checkbox"/> Fatality <input type="checkbox"/> Seat Belt Viol.																						
<input type="checkbox"/> Commercial Veh. <input type="checkbox"/> Hazardous Mat. <input type="checkbox"/> Municipal Ordinance																						
V.S.A. §			C.F.R. §			Violation Code																
<table border="1"> <tr> <td rowspan="3"> PENALTIES If you plead DENIED and the State proves the violation, the penalty must be within the penalty range. Commonly, the waiver amount plus \$30.00 in court costs are assessed. </td> <td colspan="2">Motor Veh. Driver Points</td> <td colspan="2">If you plead ADMITTED or NO-CONTEST, you may pay the waiver amount instead of appearing in court.</td> </tr> <tr> <td colspan="2">PENALTY RANGE</td> <td colspan="2">WAIVER AMOUNT</td> </tr> <tr> <td>MINIMUM \$</td> <td>MAXIMUM \$</td> <td>WAIVER AMOUNT</td> <td>\$</td> </tr> </table>										PENALTIES If you plead DENIED and the State proves the violation, the penalty must be within the penalty range. Commonly, the waiver amount plus \$30.00 in court costs are assessed.	Motor Veh. Driver Points		If you plead ADMITTED or NO-CONTEST, you may pay the waiver amount instead of appearing in court.		PENALTY RANGE		WAIVER AMOUNT		MINIMUM \$	MAXIMUM \$	WAIVER AMOUNT	\$
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Delivered To (Def., Reg. Agent, or Corp. Officer)				Date Served		<input type="checkbox"/> In Hand <input type="checkbox"/> U.S. Mail																
Officer No.		Officer Name (printed)			Officer Signature																	
Dept. No.		Department Name			<input type="checkbox"/> Rel. crim. charge																	
Parent or Guardian Last Name			Street Address																			
First Name			City			State		Zip Code														
<small> Exemptions & Seized Driver Act applies: Under each, I state Defendant is NOT on active duty in the U.S. armed forces because: <input type="checkbox"/> Defendant's name is not on active duty in the U.S. armed forces. <input type="checkbox"/> Defendant is under 17 years of age. <input type="checkbox"/> Other: </small>																						
Officer Signature:		Subscribed and sworn before me:		Date:				ORIGINAL														
State of Vermont.		Notary:																				
County:																						

Air Pollution Control Regulations

- **5-101(66) "Natural Wood" -- for the purposes of these regulations, natural wood means**
trees, including logs, boles, trunks, branches, limbs, and stumps, lumber including timber, logs or slabs, especially when dressed for use. This definition shall also include pallets which are used for the shipment of various materials so long as such pallets are not chemically treated with any preservative, paint, or oil. This definition shall not extend to other wood products such as sawdust, plywood, particle board and press board.

Vermont Air Pollution Control Regulations

- **Subchapter II. Prohibitions**
- **5-201 OPEN BURNING PROHIBITED**
 - (1) No *person* shall engage in any *open burning* except in conformity with the provisions of Section 5-201, 5-202, and 5-203.
 - (2) No *person* shall cause, suffer, allow or permit the *open burning* of *garbage*, tires, rubber, plastic, *waste oil*, asphalt materials, materials containing asbestos, or pressure treated wood, except as may be allowed under subsections (3) and (7) of Section 5-202

General Refuse Illegally Burned



Recently Burned Auto Tires



Air Pollution Control Regulations cont.

5-202 PERMISSIBLE OPEN BURNING

- When not prohibited by local ordinances or officials having jurisdiction such as local, state or federal fire wardens or other fire prevention officials, the following types of burning are permissible, provided no public or private nuisance is created.
 - (1) *Natural wood* fires in conjunction with holiday and festive celebrations.
 - (2) Campfires, outdoor grills, and fireplaces for recreation or preparing of food.

Air Pollution Control Regulations

Fire Training

- (3) Burning of solid or liquid *fuels* or structures for the purpose of bona fide instruction and training of municipal, volunteer, and industrial firefighters in the methods of fighting fires when conducted under the direct control and supervision of qualified instructors. Said firefighters shall be residents of the State of Vermont or affiliated with the mutual aid systems within the State of Vermont. Notification by the fire training officer or the fire chief of the training exercise shall be made to the *Air Pollution Control Officer* on prescribed forms at least 14 days prior to the exercise.

Air Pollution Control Regulations

Permissible Burning Continued

- (4) Burning in *forest land areas* of brush, tree cuttings and slash when the cuttings accrue from logging or site clearing operations.
- (5) Burning for the purpose of weed abatement; disease, forest fire and pest prevention or control; and for the purpose of agricultural, forestry or wildlife habitat management.
- (6) On-premise burning of leaves, brush, deadwood, or tree cuttings accrued from normal property maintenance by the owner, his or her agent, or lessee thereof.
- (8) Burning of *natural wood in an area designated by the selectmen or city council*, with the permission of the selectmen or city council of that municipality and the fire warden in that jurisdiction, and in conformance with the procedures outlined in Section 5-203 of these regulations.

Air Pollution Control Regulations Cont

Burning: Air Pollution Permit Required

- (7) *Open burning*, as follows, if prior approval in writing is obtained from the *Air Pollution Control Officer*. Approvals granted under this subsection shall be subject to such reasonable conditions as are necessary to avoid a nuisance or to protect the health, safety or comfort of the public. The requirement for approval in writing may be waived by the *Air Pollution Control Officer* and oral approval may be granted instead when, in his or her judgement, the impacts of the burning will be insignificant.

Air Pollution Control Regulations Cont

Burning: Air Pollution Permit Required

- (a) Burning in remote areas, of highly explosive or other dangerous, or unusual materials for which there is no other feasible method of disposal.
- (b) Burning in remote areas of *natural wood* resulting from the construction or demolition of buildings and other structures originating from within the State.
- (c) Fires to thwart a hazard which cannot properly be managed by any other means or that are necessary for the protection of public health.
- (d) Burning of other combustible materials for which there is no other feasible method of disposal.

Construction/Demolition Debris—Air Pollution Permit Required



Major Enforcement Players

- Local Fire Wardens and Fire Chiefs
- Town Health Officers
- Solid waste management districts
- Environmental Enforcement Officers (EEOs)
- Vermont Air Pollution Control Division
- Vermont Solid Waste Management Program

What you can do as Health Officers

- Receive and investigate complaints of minor open burning such as burn barrels or small brush fires.
- Issue health orders if appropriate
- Refer major illegal burning cases (large piles of refuse, whole structures etc) or repeat offenses to appropriate authorities such as the EEOs.
- Education: Inform citizens regarding the health impacts of open burning and the laws and regulations.
- Encourage your town and local solid waste districts to adopt ordinances limiting open burning.

Documenting Open Burning Incidents

- Complainant name, address & phone
- Alleged violator's name, location & phone
- Who started the fire? When?
- Was a permit obtained from the Fire Warden?
- How many people/households are affected?
- Sensitive populations? Schools, day cares, elderly etc.
- Type of materials being burned (photos are good).
- How large is the burn pile—rough estimate is fine.
- Frequency of open burning?

Site clearing burn



*Legal Open Burning

Can also be a problem

- Such as:
 - Brush and tree cuttings from property clean-up
 - Slash from logging or site clearing
 - Leaf or garden waste burning
- Can cause major exposures and health issues
- Work with landowner to reduce exposures
 - Encourage alternatives such as chipping or composting
 - Burn during better wind & weather conditions
 - Salvage larger wood for other purposes
 - Allow materials to dry before burning

*Note: Under state rules but local ordinances may differ

Support Resources

- ANR Enforcement Division: 802-241-3820 or:
<http://www.anr.state.vt.us/dec/co/enf/enf-complaint.htm>
- Environmental Enforcement Officers (EEOs) District Map:
http://www.anr.state.vt.us/dec/co/enf/pdf/eo_districts.pdf
- Air Pollution Control Division: 802-241-3840 or:
<http://www.anr.state.vt.us/air/index.htm>
- Don't Burn Vermont website: <http://www.dontburnvt.org/>
- Solid Waste Management Districts

Informational Resources

- Don't Burn Vermont website: <http://www.dontburnvt.org/>
- USEPA Website: <http://www.epa.gov/ttnatw01/burn/burnpg.html>
- US EPA PM website: <http://www.epa.gov/pm/health.html>
- Amercian Lung Association:
<http://www.lungusa.org/associations/charters/new-england/>
- VT Air Quality Montoring:
<http://www.anr.state.vt.us/air/Monitoring/cfm/RealTimeData.cfm>
- VT Air Pollution Open Burning Website:
<http://www.anr.state.vt.us/air/Compliance/htm/Openburn.htm>
- Vermont Judicial Bureau:
<http://www.vermontjudiciary.org/GTC/judicial/default.aspx>

Contact for questions or further information

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Air Pollution Control Division

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Waterbury, VT 05671-0402

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Only) Fax: 802-241-2590

email: phil.etter@state.vt.us

Website: <http://www.anr.state.vt.us/air>

General Air Pollution Number: 802-241-3840