

Remediation of Disaster Debris by Burning

Recommendations from the California Air Resources Board - Office of Emergency Response for Emergency Response and Recovery Actions

Background

The California Health & Safety Code (HSC) §41800 expressly prohibits individual persons from using fire to dispose of waste. This applies to individual property owners and tenants. The citation reads:

41800. Except as otherwise provided in this chapter, no person shall use open outdoor fires for the purpose of disposal or burning of petroleum wastes, demolition debris, tires, tar, trees, wood waste, or other combustible or flammable solid or liquid waste; or for metal salvage or burning of motor vehicle bodies.

This prohibition is intended to reduce potential health risks from burning any prohibited materials. A more comprehensive explanation of the risks is available at <http://epa.gov/waste/nonhaz/municipal/backyard/index.htm>. Burn barrels and incinerators at residences in California are also banned with the exception of remote low density areas under an exemption which expires in 2013 (www.arb.ca.gov/smp/resburn/docs/exemption_list.pdf). Under ARB's "Airborne Toxic Control Measure to Reduce Emissions of Toxic Air Contaminants from Outdoor Residential Waste Burning" only vegetative debris from residences can be burned outdoors and only where local ordinances allow it. The use of agricultural burning and burning as a fire prevention measure are outlined in HSC §41802 or 41804.5.

Debris Removal/Remediation by Public Officers during Emergency

HSC 41800 has rarely been waived by a Governor's Proclamation of Emergency. However, the Health & Safety Code §41801 **does** establish specific authority for any public officer, including the Governor, to set or permit fires for the following purposes:

- (a) The prevention of a fire hazard which cannot be abated by any other means.*
- (b) The instruction of public employees in the methods of fighting fire.*
- (c) The instruction of employees in methods of fighting fire, when such fire is set, pursuant to permit, on property used for industrial purposes.*
- (d) The setting of backfires necessary to save life or valuable property pursuant to Section 4426 of the Public Resources Code.*
- (e) The abatement of fire hazards pursuant to Section 13055.*
- (f) Disease or pest prevention, where there is an immediate need for and no reasonable alternative to burning.*
- (g) The remediation of an oil spill pursuant to Section 8670.7 of the Government Code.*

Setting or permitting fires by local or State authority is generally done if the local fire department determines that there is no other way to remove the hazard than burning on-site. Any open burning for this purpose must be done in cooperation with the local air district. Incineration of materials other than vegetation may be considered, as noted with the intentional burning of life-threatening chemicals and incendiary devices found in a house in Escondido, CA in December 2010. Approval is given on a case-by-case basis.

If there is no other alternative, the following steps for open burning for waste remediation are recommended (adopted from the 2004 CalEPA Emergency Animal Disposal Guidelines):

- Notify the local air pollution control district and local fire agency of the need to burn, the expected amount of burning, and the expected timing of a burn;
- Do not conduct burning if the local air pollution control district determines that it will cause a public nuisance;
- Notify nearby residents and community members of the need to burn and the expected timing of a burn;
- Avoid burning in close proximity to populated areas, however;
- If burning must be conducted in close proximity to populated areas, ambient air monitoring in the populated areas should be conducted for fine particulate matter (PM2.5). Sulfur dioxide monitoring should also be conducted if coal or other high sulfur fuel is used in burning.
- Use clean fuel oil such as diesel or kerosene and unpainted/untreated wood for burning;
- Notify the local air pollution control district and local fire agency on the day of the burn prior to ignition; Assure that all fire safety and public health protection requirements are met prior to ignition, and, to the extent feasible, ignite the fire on a permissive burn day as determined by the ARB, the local air quality agency, and the local fire agency;
- Initiate burning during acceptable air pollution control district burn hours (typically between 10:00 a.m. and 5:00 p.m.);
- Consider using a mechanized burner, such as an air curtain incinerator or other device that promotes complete combustion and decreases smoke and odors, as explained in HSC § 41812, below.

41812. The air pollution control officer of any district in a county with a population of 6,000,000 or less, upon authorization of the district board, may authorize, by permit, open outdoor fires for the purpose of disposing of agricultural wastes, or wood waste from trees, vines, bushes, or other wood debris free of nonwood materials, in a mechanized burner such that no air contaminant is discharged into the atmosphere for a period or periods aggregating more than 30 minutes in any eight-hour period which is:

(a) As dark or darker in shade as that designated as No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines,

or

(b) Of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in subdivision (a).

In authorizing the operation of a mechanized burner, the air pollution control officer may make the permit subject to whatever conditions he determines are reasonably necessary to assure conformance with the standards prescribed in this section.

Concluding Remarks

Emergency response and recovery efforts differ in size and scope from typical waste management efforts across California. The California Health and Safety Code is clear about guidelines for the use of burning as a way to remediate certain combustible wastes including the express prohibition of burn barrels or incineration on residential properties. However, the Health and Safety Code provides leeway for public officials, including the Governor, to use burning as a suitable means for remediating combustible wastes. The decision to burn must be made in consideration of public health impacts and in cooperation with local air districts, and should be done only if other waste management modalities are unavailable or deemed infeasible. The Code also allows for public officials to approve the use of mechanized burning apparatus to maximize the benefit of burning while reducing any potential downwind effects.

Other Incineration Plans

For information about the use of incineration to help respond to or recover from other emergencies, please refer to the following:

- For the use of incineration in response to animal disease outbreaks, infectious zoonotic disease outbreaks, or uncontrolled animal die-offs (such as from heat waves), please refer to the California Environmental Protection Agency (CalEPA) Emergency Animal Disease Regulatory Guidance for Disposal and Decontamination, available at <http://www.calepa.ca.gov/Disaster/Documents/EADisease.pdf>.
- For the use of incineration in response to an off-shore oil spill, please refer to the Federal Region 9 Regional Contingency Plan (PPR), Appendix XIII: In-Situ Burning, which is available at <http://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=15890&inline=true>. The entire plan is available at http://www.dfg.ca.gov/ospr/fed_region_9.aspx.
- For guidance on the removal of hazardous or solid waste following a major emergency (e.g., earthquake, wildfire) and steps to protect public health and the environment during debris removal operations, please refer to the CalEPA Guidance for Conducting Emergency Debris, Waste and Hazardous Material Removal Actions Pursuant to a State or Local Emergency Proclamation, October 7, 2011, Version 1.4.3, available at <http://www.calepa.ca.gov/disaster>.