



Fire Control and Extinguishing Procedures at Permitted Construction and Demolition Landfills Technical Guidance Document SW 05-04

Fires may occur for a variety of reasons at permitted construction and demolition (C&D) landfills. Some fires may result from the ignition of inappropriate (ignitable) wastes at the disposal site or the ignition of new areas of waste from previous fires that were never completely extinguished. Not only is the burning of solid waste at disposal facilities prohibited under Kansas Statutes Annotated (K.S.A.) 65-3409(a)(4) and Kansas Administrative Regulation (K.A.R.) 28-29-308(c), but landfill fires can be extremely dangerous. This guidance document has been created to assist C&D landfill operators in fire control and extinguishing procedures in order to protect human health and the environment.

Fire control procedures should be implemented that ensure that burning or smoldering waste will be completely extinguished while protecting human health and safety, protecting the environment, and preventing public nuisances.

In the event of a fire at a C&D landfill, the following actions are required by the landfill operator:

1. Completely isolate the burning waste from the waste that is not burning. This shall involve removing the burning waste or the non-burning waste, whichever is more practicable, such that a buffer of at least 50 feet is achieved between the areas where burning has occurred or is occurring and those where burning has not occurred. Excavation activities may be required in order to remove all burning and smoldering waste.
2. All surfaces of the remaining unburned waste, shall be covered with at least 12 inches of soil as soon as possible to prevent the spread of fire to those areas. Separate equipment shall be used to handle burning waste and non-burning waste to prevent the spread of fire.
3. The burning waste shall be spread out and doused with water in order to extinguish the fire and embers. The waste shall be doused

with water until the local fire department concludes that the fire has been **completely extinguished**.

4. Once the fire department is satisfied that the fire has been completely extinguished, the doused and extinguished waste shall be placed back in the landfill. The C&D landfill operator must provide written documentation to the Kansas Department of Health and Environment (KDHE) from the fire department stating that the fire has been completely extinguished.
5. All contact water must be managed according to the approved design and operating plans, or as otherwise approved by KDHE's Solid Waste Permitting Section.
6. Any areas of the landfill that have not burned and have reached final elevations shall have final cover applied in accordance with K.A.R. 28-29-304(g), -321, and -325. Final cover shall consist of at least 18 inches of low-permeability compacted soil (1×10^{-5} cm/sec or less) overlain by at least 12 inches of vegetative soil with native grasses established on the surface.

Since landfill fires can be extremely dangerous, appropriate safety measures must be implemented during all required activities. The fire may have created voids in the waste mass that are not apparent, so every precaution must be taken when operating equipment on or near the waste. In addition, exposing the waste in order to isolate or remove the burning materials may allow additional air into the fire and may escalate the fire. Smoke inhalation represents another serious concern and there may be other concerns not specifically addressed here. The local fire department must be notified before commencing and requested to supervise any and all fire-related activities. Personnel should be provided with appropriate protective clothing and equipment, and measures should be taken to ensure their health and safety. Any adverse environmental impacts must also be prevented, but health and

safety are paramount and shall take precedence over environmental protection.

Reporting Requirements

In the event of a fire at a permitted C&D landfill, KDHE shall be notified within one business day and a written report submitted to KDHE within one week (refer to K.A.R. 28-29-308(c)(2)(B)).

Fire Prevention

An effective C&D landfill waste-screening program is critical for fire prevention. Good waste-screening techniques should include methods that effectively identify and remove potentially ignitable wastes, including but not limited to chemical containers, chemical residuals, and rags. Refer to BWM Technical Guidance Document SW 02-01 for additional information concerning waste screening at C&D landfills.

For additional information regarding proper management of solid waste, you may contact the Bureau of Waste Management at (785) 296-1600 or at the address at the top of this document, or visit the Bureau's website at www.kdheks.gov/waste.