

Guidelines for Compliance with Kentucky Division for Air Quality's Regulations As Applied to Bonafide Fire Training

Live burn situations where structures or flammable liquids are burned as part of a supervised and legitimate fire training exercise are invaluable to fire department personnel. However, this real-life fire fighting experience does adversely affect the environment. The purpose of these guidelines is to allow beneficial live burn training while taking every precaution to minimize the impact on the environment.

The environmental concerns relating to air quality include the toxic emissions from combustion of asphaltic shingles, insulation on wiring, synthetic materials such as carpeting, carpet pads, upholstery, lead from lead based painted materials, and asbestos emissions from pipe lagging, asbestos cement siding or asbestos containing roofing shingles and floor covering. Applicable air quality regulations include:

401 KAR 63:005	Open burning
401 KAR 63:020	Potentially hazardous matter or toxic substances;
401 KAR 63:021	Existing sources emitting toxic air pollutants
401 KAR 58:025	Asbestos standards (NESHAP); and
401 KAR 58:040	Requirements for asbestos abatement entities

Structure burns: Proper fire fighting techniques, when applied to a burning structure serve to extinguish the fire in as efficient a manner and in as short a time as possible. The result is the saving of many structures, lives, and the reduction in the amount of pollutants emitted to the air compared with a fire that burns out of control. Similar reductions in toxic or harmful air pollution emissions may be accomplished during live burn training exercises if certain precautions are taken before the fire is ignited. These precautions include:

- ◆ The removal, to the extent practicable, of materials in or on a structure which are likely to produce toxic or harmful emissions. Specifically, all asphaltic roofing shingles (whether or not they contain asbestos) must be removed down to, but not including, the tar paper covering, prior to burning.
- ◆ The completion of an asbestos survey, and the removal of all regulated asbestos containing material if found in the structure. Such materials would include, but not be limited to, roofing, siding, and flooring.

A point of emphasis is necessary concerning asbestos, in or on, acquired buildings which will be used by fire fighting entities in a live burn training exercise. These structures are NOT exempt from Kentucky or Federal asbestos regulations. Kentucky Administrative Regulation 401 KAR 58:025 Asbestos Standards adopts by reference the federal requirements contained in 401 61.145 dated November 20, 1990:

If a facility (structure is demolished by intentional burning, all regulated asbestos containing material (RACM) including Category I and Category II nonfriable asbestos containing materials (ACM) must be removed in accordance with the NESHAP before burning.

The Kentucky Division for Air Quality (Division) recognizes the standards set forth in the National Fire Protection Association's publication "[NFPA 1403](#), *Live Fire Training Evolutions in Structures*," as representing bonafide fire training. The burning of structures, for purposes of urban renewal or inexpensive disposal, where the NFPA 1403 standards are not followed, **is not considered bonafide fire training and would be in violation of 401 KAR 63:005**. To verify the legitimacy of the fire training exercise, and reduce the release of toxic emissions into the environment, the Division requires that the party requesting approval of the fire training exercise to submit the following documents at least 15 days prior to the scheduled training:

1. A completed Division "Application for Fire Training."
2. A completed and signed [KY Fire Training Commission Application for Live Fire Training](#)
3. An asbestos survey of the structure.
4. Analytical reports of any samples analyzed for asbestos.
5. Documentation that all regulated asbestos material has been removed.

The number of live burn exercises involving either structures needed for various fire departments and industry will vary depending on the number of personnel to be trained. For purposes of these guidelines, one live burn of a structure per ten (10) firefighters per year is considered acceptable and adequate. In the event more than ten firefighters are to be trained in one exercise, multiple structures may be burned, if:

1. Prior written approval is obtained by the KY Fire Training Commission, and is specified in the fire training application.
2. The burning is not associated with an urban renewal project.
3. Not more than one structure is burned per day of training.

Flammable Liquid Fire Training

Flammable liquid fire training does not fall within the jurisdiction of the KY Fire Training Commission. However, similar to structure burns, proper fire fighting techniques, when applied to flammable liquid training, serve to:

- 1) Extinguish the fire in as efficient a manner and in as short a time as possible,
- 2) Reduce the amount of pollutants emitted to the air compared with a fire that burns out of control. For flammable liquid fire training, the Division requires that criteria as defined in NFPA 30, "Flammable and Combustible Liquids Code" shall be prohibited except as follows:
 - a) Small amounts of clean diesel fuel or kerosene, not to exceed a total of five gallons, not to exceed a total of five gallons, may be used to aid ignition of a structure.
 - b) A mixture of 50 percent diesel fuel and 50 percent gasoline by volume may be burned in a properly designed and constructed pit for purposes of fire training involving flammable liquids. These fuels must be free of contaminants. Properly designed props such as flanges and valves may be used provided any unburned liquid fuel is contained to prevent soil or water contamination.
 - c) Liquid burns may be conducted on an as needed basis.

Any request for exceptions to these guidelines is to be submitted to the DAQ regional office for the applicable county.