**Section 220.110 Fire Protection**

a) Fire protection; training and organization.

 Firefighting facilities and equipment shall be provided commensurate with the potential fire hazards at each structure, enclosure and other facility (including custom coal preparation) at the mine and the employees at such facilities shall be instructed and trained annually in the use of such firefighting facilities and equipment.

b) Escape and evacuation; plan.

1) Each operator of a mine shall establish and keep current a specific escape and evacuation plan to be followed in the event of a fire.

2) All employees shall be instructed on current escape and evacuation plans, fire alarm signals, and applicable procedures to be followed in case of fire.

3) Plans for escape and evacuation shall include the designation and proper maintenance of adequate means for exit from all areas where persons are required to work or travel including buildings and equipment and in areas where persons normally congregate during the work shift.

c) Warning signs; smoking and open flame.

 Signs warning against smoking and open flames shall be posted so they can be readily seen in areas or places where fire or explosion hazards exist.

d) Flammable liquids; storage.

1) Flammable liquids shall be stored in accordance with standards of the National Fire Protection Association. Small quantities of flammable liquids drawn from storage shall be kept in properly identified safety cans.

2) Unburied flammable-liquid storage tanks shall be mounted securely on firm foundations. Outlet piping shall be provided with flexible connections or other special fittings to prevent adverse effects from tank settling.

3) Fuel lines shall be equipped with valves to cut off fuel at the source and shall be located and maintained to minimize fire hazards.

4) Areas surrounding flammable-liquid storage tanks and electric substations and transformers shall be kept free from grass (dry), weeds, underbrush, and other combustible materials such as trash, rubbish, leaves and paper, for at least twenty-five (25) feet in all directions.

e) Accumulations of combustible materials.

Combustible materials, grease, lubricants, paints, or flammable liquids shall not be allowed to accumulate where they can create a fire hazard.

f) Internal combustion engines; fueling.

Internal combustion engines, except diesels, shall be shut off and stopped before being fueled.

g) Battery-charging stations; ventilation.

Battery-charging stations shall be located in well ventilated areas. Battery-charging stations shall be equipped with reverse current protection where such stations are connected directly to direct current power systems.

h) Belt conveyors.

Belt conveyors in locations where fire would create a hazard to personnel shall be provided with switches to stop the drive pulley automatically in the event of excessive slippage.

i) Firefighting equipment; requirements; general.

Each operator of a coal mine shall provide an adequate supply of firefighting equipment which is adapted to the size and suitable for use under the conditions present on the surface at the mine.

j) Type and capacity of fire-fighting equipment.

Firefighting equipment required under Section 220.110(i) shall meet the following minimum requirements:

1) Waterlines. Waterlines shall be capable of delivering fifty (50) gallons of water a minute at a nozzle pressure of fifty (50) pounds per square inch. Where storage tanks are used as source of water supply, the tanks shall be of one thousand (1,000) gallon capacity for each one thousand (1,000) tons of coal processed (average) per shift.

2) Fire extinguishers. Fire extinguishers shall be:

A) Of the appropriate type for the particular fire hazard involved;

B) Adequate in number and size for the particular fire hazard involved;

C) Replaced immediately with fully charged extinguishers after any discharge is made from an extinguisher; and

D) Approved by the Underwriter's Laboratories, Inc., or the Factory Mutual Research Corp., or other competent testing agency.

3) Fire hose. Fire hose and couplings shall meet the requirements of the Underwriter's Laboratories', Inc., or Factory Mutual Research Corporation's specification. Cotton or cotton-polyester jacketed hose shall be treated in accordance with the U.S. Department of Agriculture Forest Service Specification 182 for mildew resistance. The water pressure at the hose nozzle shall not be excessively high so as to present a hazard to the nozzle operator.

k) Quantity and location of firefighting equipment.

Preparation plants, dryer plants, tipples, drawoff tunnels, shops, and other surface installations shall be equipped with the following firefighting equipment:

1) Each structure presenting a fire hazard shall be provided with portable fire extinguishers commensurate with the potential fire hazard at the structure in accordance with the recommendations of the National Fire Protection Association.

2) Preparation plants shall be equipped with water lines, with outlet valves on each floor, and with sufficient fire hose to project a water stream to any point in the plant. However, where freezing conditions exist or water is not available, a one hundred twenty-five (125) pound multipurpose dry powder extinguisher may be substituted for the purposes of this paragraph (k)(2) for each two thousand five hundred (2,500) square feet of floor space in a wooden or other flammable structure, or for each five thousand (5,000) square feet of floor space in a metal, concrete-block or other type of non-flammable construction.

3)

A) Mobile equipment, including trucks, front-end loaders, bulldozers, portable welding units, and augers, shall be equipped with at least one (1) portable fire extinguisher.

B) Power shovels, draglines, and other large equipment shall be equipped with at least one (1) portable fire extinguisher; however, additional fire extinguishers may be required by an authorized representative of the Department.

C) Auxiliary equipment such as portable drills, sweepers, and scrapers, when operated more than six hundred (600) feet from equipment required to have portable fire extinguishers, shall be equipped with at least one (1) fire extinguisher.

4) Fire extinguishers shall be provided at permanent electrical installations commensurate with the potential fire hazard at such installation in accordance with the recommendations of the National Fire Protection Association.

5) Two (2) portable fire extinguishers, or the equivalent, shall be provided at each of the following combustible liquid storage installations:

A) Near each above ground or unburied combustible liquid storage station; and

B) Near the transfer pump of each buried combustible liquid storage tank.

6) Vehicles transporting explosives and blasting agents shall be equipped with fire protection as recommended in Code 495, Section 20, National Fire Protection Association Handbook, 12th Edition, 1962.

l) Examination and maintenance of firefighting equipment.

Firefighting equipment shall be maintained in a usable and operative condition. Fire extinguishers shall be examined at least once every six (6) months and the date of such examination shall be recorded on a permanent tag attached to the extinguisher.

m) Welding, cutting, soldering; use of fire extinguisher.

One (1) portable fire extinguisher shall be provided at each location where welding, cutting, or soldering with arc or flame is performed.

n) Welding, cutting, or soldering with arc or flame; safeguards.

1) When welding, cutting, or soldering with arc or flame near combustible materials, suitable precautions shall be taken to insure that smoldering metal or sparks do not result in a fire.

2) Before welding, cutting, or soldering is performed in areas likely to contain methane, an examination for methane shall be made by a qualified person with a device approved for detecting methane. Examinations for methane shall be made immediately before and periodically during welding, cutting, or soldering and such work shall not be permitted to commence or continue in air which contains 1.0 volume per centum or more of methane.

o) Fires used for warming.

Fires used for warming purposes shall be enclosed to prevent persons from coming in contact with flame or coals which would ignite clothing. Oily or easily ignited clothing shall not be worn where ignition hazards are present.

p) Buildings where flammable materials are stored.

Buildings or rooms in which oil, grease, flammable liquids, or similar flammable materials are stored shall be of fire-resistant construction and well ventilated. Provisions shall be made to control spilled flammable liquids.

q) Storage of Combustible Materials.

Materials, such as oily waste and rags, which are subject to spontaneous combustion shall be placed in tightly covered metal containers until disposed of properly.

r) Flammable Solvents; Transportation.

When flammable solvents; are used for cleaning, such solvents shall be transported in labeled safety cans of not over five (5) gallon capacity. When used to clean parts, the containers used shall have tight-fitting covers. No cleaning may be done with flammable solvents near a possible source of ignition.

s) Oxygen cylinders; storage.

Oxygen cylinders shall not be stored near oil or grease storage.

t) Gauges and regulators.

Gauges and regulators used with oxygen or acetylene cylinders shall be kept clean and free of oil and grease.

u) Valves.

Valves on oxygen and acetylene tanks shall be kept closed when they are not in use.