and suitable for use under the conditions present on the surface at the mine.

[36 FR 9364, May 22, 1971, as amended at 36 FR 13143, July 15, 1971]

§ 77.1108–1 Type and capacity of firefighting equipment.

Firefighting equipment required under this § 77.1108 shall meet the following minimum requirements:

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

(b) *Fire extinguishers.* Fire extinguishers shall be:

(1) Of the appropriate type for the particular fire hazard involved;

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

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

(4) Approved by the Underwriter's Laboratories, Inc., or the Factory Mutual Research Corp., or other competent testing agency acceptable to the Mine Safety and Health Administration.

(c) *Fire hose.* Fire hose and couplings shall meet the requirements of the Underwriter's Laboratories, Inc., or Factory Mutual Research Corp.'s specifications. 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.

[36 FR 9364, May 22, 1971, as amended at 47 FR 28096, June 29, 1982]

§ 77.1109 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.

(a) 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.

(b) Preparation plants shall be equipped with waterlines, 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 125-pound multipurpose dry powder extinguisher may be substituted for the purposes of this paragraph (b) for each 2,500 square feet of floor space in a wooden or other flammable structure, or for each 5,000 square feet of floor space in a metal, concrete-block, or other type of nonflammable construction.

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

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

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

(d) 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.

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

(1) Near each above ground or unburied combustible liquid storage station; and,

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

(f) 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.

§ 77.1110 Examination and maintenance of firefighting equipment.

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

(Pub. L. No. 96–511, 94 Stat. 2812 (44 U.S.C. 3501 et seq.))

[36 FR 9364, May 22, 1971, as amended at 60 FR 33723, June 29, 1995]

§ 77.1111 Welding, cutting, soldering; use of fire extinguisher.

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

§ 77.1112 Welding, cutting, or soldering with arc or flame; safeguards.

(a) 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.

(b) 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 by the Secretary 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.

Subpart M—Maps

§ 77.1200 Mine map.

The operator shall maintain an accurate and up-to-date map of the mine, on a scale of not less than 100 nor more than 500 feet to the inch, at or near the mine, in an area chosen by the mine operator, with a duplicate copy on file at a separate and distinct location, to minimize the danger of destruction by fire or other hazard. The map shall show:

(a) Name and address of the mine;

(b) The property or boundary lines of the active areas of the mine;

(c) Contour lines passing through whole number elevations of the coalbed being mined. The spacing of such lines shall not exceed 25-foot elevation levels, except that a broader spacing of contour lines may be approved by the District Manager for steeply pitching coalbeds. Contour lines may be placed on overlays or tracings attached to mine maps.

(d) The general elevation of the coalbed or coalbeds being mined, and the general elevation of the surface;

(e) Either producing or abandoned oil and gas wells located on the mine property;

(f) The location and elevation of any body of water dammed or held back in any portion of the mine: *Provided, however,* Such bodies of water may be shown on overlays or tracings attached to the mine maps;

(g) All prospect drill holes that penetrate the coalbed or coalbeds being mined on the mine property;

(h) All auger and strip mined areas of the coalbed or coalbeds being mined on the mine property together with the line of maximum depth of holes drilled during auger mining operations.

(i) All worked out and abandoned areas;

(j) The location of railroad tracks and public highways leading to the mine, and mine buildings of a permanent nature with identifying names shown;

(k) Underground mine workings underlying and within 1,000 feet of the active areas of the mine;

(l) The location and description of at least two permanent base line points, and the location and description of at least two permanent elevation bench marks used in connection with establishing or referencing mine elevation surveys; and,

(m) The scale of the map.

§ 77.1201 Certification of mine maps.

Mine maps shall be made or certified by an engineer or surveyor registered by the State in which the mine is located.