

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.

§ 77.1202 Availability of mine map.

The mine map maintained in accordance with the provisions of § 77.1200 shall be available for inspection by the Secretary or his authorized representative.

Subpart N—Explosives and Blasting**§ 77.1300 Explosives and blasting.**

- (a) No explosives, blasting agent, detonator, or any other related blasting device or material shall be stored, transported, carried, handled, charged, fired, destroyed, or otherwise used, employed or disposed of by any person at a coal mine except in accordance with the provisions of §§ 77.1301 through 77.1304, inclusive.
- (b) The term “explosives” as used in this Subpart N includes blasting agents. The standards in this Subpart N in which the term “explosives” appears are applicable to blasting agents (as well as to other explosives) unless blasting agents are expressly excluded.

§ 77.1301 Explosives; magazines.

- (a) Detonators and explosives other than blasting agents shall be stored in magazines.
- (b) Detonators shall not be stored in the same magazine with explosives.
- (c) Magazines other than box type shall be:
 - (1) Located in accordance with the current American Table of Distances for storage of explosives.
 - (2) Detached structures located away from powerlines, fuel storage areas, and other possible sources of fire.
 - (3) Constructed substantially of non-combustible material or covered with fire-resistant material.
 - (4) Reasonably bullet resistant.

(5) Electrically bonded and grounded if constructed of metal.

(6) Made of nonsparking materials on the inside, including floors.

(7) Provided with adequate and effectively screened ventilation openings near the floor and ceiling.

(8) Kept locked securely when unattended.

(9) Posted with suitable danger signs so located that a bullet passing through the face of a sign will not strike the magazine.

(10) Used exclusively for storage of explosives or detonators and kept free of all extraneous materials.

(11) Kept clean and dry in the interior, and in good repair.

(12) Unheated, unless heated in a manner that does not create a fire or explosion hazard.

(d) Box-type magazines used to store explosives or detonators in work areas shall be constructed with only nonsparking material inside and equipped with covers or doors and shall be located out of the line of blasts.

(e) Secondary and box-type magazines shall be suitably labeled.

(f) Detonator-storage magazines shall be separated by at least 25 feet from explosive-storage magazines.

(g) Cases or boxes containing explosives shall not be stored in magazines on their ends or sides nor stacked more than 6 feet high.

(h) Ammonium nitrate-fuel oil blasting agents shall be physically separated from other explosives, safety fuse, or detonating cord stored in the same magazine and in such a manner that oil does not contaminate the other explosives, safety fuse or detonating cord.

§ 77.1302 Vehicles used to transport explosives.

(a) Vehicles used to transport explosives, other than blasting agents, shall have substantially constructed bodies, no sparking metal exposed in the cargo space, and shall be equipped with suitable sides and tail gates; explosives shall not be piled higher than the side or end.

(b) Vehicles containing explosives or detonators shall be maintained in good condition and shall be operated at a

safe speed and in accordance with all safe operating practices.

(c) Vehicles containing explosives or detonators shall be posted with proper warning signs.

(d) Other materials or supplies shall not be placed on or in the cargo space of a conveyance containing explosives, detonating cord or detonators, except for safety fuse and except for properly secured nonsparking equipment used expressly in the handling of such explosives, detonating cord or detonators.

(e) Explosives and detonators shall be transported in separate vehicles unless separated by 4 inches of hardwood or the equivalent.

(f) Explosives or detonators shall be transported promptly without undue delays in transit.

(g) Explosives or detonators shall be transported at times and over routes that expose a minimum number of persons.

(h) Only the necessary attendants shall ride on or in vehicles containing explosives or detonators.

(i) Vehicles shall be attended, whenever practical and possible, while loaded with explosives or detonators.

(j) When vehicles containing explosives or detonators are parked, the brakes shall be set, the motive power shut off, and the vehicles shall be blocked securely against rolling.

(k) Vehicles containing explosives or detonators shall not be taken to a repair garage or shop for any purpose.

§ 77.1303 Explosives, handling and use.

(a) Persons who use or handle explosives or detonators shall be experienced men who understand the hazards involved; trainees shall do such work only under the supervision of and in the immediate presence of experienced men.

(b) Blasting operations shall be under the direct control of authorized persons.

(c) Substantial nonconductive closed containers shall be used to carry explosives, other than blasting agents to the blasting site.

(d) Damaged or deteriorated explosives or detonators shall be destroyed in a safe manner.