

10(b) of Pub. L. 102-285, set out as a note under section 1 of this title. For provisions relating to closure and transfer of functions of the United States Bureau of Mines, see Transfer of Functions note set out under section 1 of this title.

### § 872. Maps

#### (a) Fireproof repository; contents; certification

The operator of a coal mine shall have in a fireproof repository located in an area on the surface of the mine chosen by the mine operator to minimize the danger of destruction by fire or other hazard, an accurate and up-to-date map of such mine drawn on scale. Such map shall show the active workings, all pillared, worked out, and abandoned areas, except as provided in this section, entries and aircourses with the direction of airflow indicated by arrows, contour lines of all elevations, elevations of all main and cross or side entries, dip of the coalbed, escape-ways, adjacent mine workings within one thousand feet, mines above or below, water pools above, and either producing or abandoned oil and gas wells located within five hundred feet of such mine and any underground area of such mine, and such other information as the Secretary may require. Such map shall identify those areas of the mine which have been pillared, worked out, or abandoned which are inaccessible or cannot be entered safely and on which no information is available. Such map shall be made or certified by a registered engineer or a registered surveyor of the State in which the mine is located. Such map shall be kept up to date by temporary notations and such map shall be revised and supplemented at intervals prescribed by the Secretary on the basis of a survey made or certified by such engineer or surveyor.

#### (b) Availability for inspection; confidential copies

The coal mine map and any revision and supplement thereof shall be available for inspection by the Secretary or his authorized representative, by coal mine inspectors of the State in which the mine is located, by miners in the mine and their representatives and by operators of adjacent coal mines and by persons owning, leasing, or residing on surface areas of such mines or areas adjacent to such mines. The operator shall furnish to the Secretary or his authorized representative and to the Secretary of Housing and Urban Development, upon request, one or more copies of such map and any revision and supplement thereof. Such map or revision and supplement thereof shall be kept confidential and its contents shall not be divulged to any other person, except to the extent necessary to carry out the provisions of this chapter and in connection with the functions and responsibilities of the Secretary of Housing and Urban Development.

#### (c) Notification of mine closures; filing of revised and supplemental map; certification

Whenever an operator permanently closes or abandons a coal mine, or temporarily closes a coal mine for a period of more than ninety days, he shall promptly notify the Secretary of such closure. Within sixty days of the permanent closure or abandonment of the mine, or, when the

mine is temporarily closed, upon the expiration of a period of ninety days from the date of closure, the operator shall file with the Secretary a copy of the mine map revised and supplemented to the date of the closure. Such copy of the mine map shall be certified by a registered surveyor or registered engineer of the State in which the mine is located and shall be available for public inspection.

(Pub. L. 91-173, title III, §312, Dec. 30, 1969, 83 Stat. 785.)

#### REFERENCES IN TEXT

This chapter, referred to in subsec. (b), was in the original "this Act", meaning Pub. L. 91-173, Dec. 30, 1969, 83 Stat. 742, known as the Federal Mine Safety and Health Act of 1977, which is classified principally to this chapter. For complete classification of this Act to the Code, see Short Title note set out under section 801 of this title and Tables.

### § 873. Blasting and explosives

#### (a) Limitations on storage and use of black powder and mudcaps

Black blasting powder shall not be stored or used underground. Mudcaps (adobes) or other unconfined shots shall not be fired underground.

#### (b) Storage of explosives and detonators; mudcaps in anthracite mines; restrictions; tests

Explosives and detonators shall be kept in separate containers until immediately before blasting. In underground anthracite mines, (1) mudcaps or other open, unconfined shake shots may be fired, if restricted to battery starting when methane or a fire hazard is not present, and if it is otherwise impracticable to start the battery; (2) open, unconfined shake shots in pitching veins may be fired, when no methane or fire hazard is present, if the taking down of loose hanging coal by other means is too hazardous; and (3) tests for methane shall be made immediately before such shots are fired and if 1.0 volume per centum or more of methane is present, when tested, such shot shall not be made until the methane content is reduced below 1.0 volume per centum.

#### (c) Permissible explosives, detonators, and devices; firing; stem boreholes; nonpermissible explosives; compressed air blasting

Except as provided in this subsection, in all underground areas of a coal mine only permissible explosives, electric detonators of proper strength, and permissible blasting devices shall be used and all explosives and blasting devices shall be used in a permissible manner. Permissible explosives shall be fired only with permissible shot firing units. Only incombustible materials shall be used for stemming boreholes. The Secretary may, under such safeguards as he may prescribe, permit the firing of more than twenty shots and allow the use of nonpermissible explosives in sinking shafts and slopes from the surface in rock. Nothing in this section shall prohibit the use of compressed air blasting.

#### (d) Container construction for carrying explosives or detonators in underground mines

Explosives or detonators carried anywhere underground in a coal mine by any person shall be in containers constructed of nonconductive ma-

terial, maintained in good condition, and kept closed.

**(e) Transportation of explosives or detonators in underground mines**

Explosives or detonators shall be transported in special closed containers (1) in cars moved by means of a locomotive or rope, (2) on belts, (3) in shuttle cars, or (4) in equipment designed especially to transport such explosives or detonators.

**(f) Storage of explosives and detonators in working sections of underground mines; containers; locations**

When supplies of explosives and detonators for use in one or more working sections are stored underground, they shall be kept in section boxes or magazines of substantial construction with no metal exposed on the inside, located at least twenty-five feet from roadways and power wires, and in a dry, well rock-dusted location protected from falls of roof, except in pitching beds, where it is not possible to comply with the location requirement, such boxes shall be placed in niches cut into the solid coal or rock.

**(g) Location of explosive and detonator containers in working places of underground mines**

Explosives and detonators stored in the working places shall be kept in separate closed containers which shall be located out of the line of blast and not less than fifty feet from the working face and fifteen feet from any pipeline, powerline, rail, or conveyor, except that, if kept in niches in the rib, the distance from any pipeline, powerline, rail, or conveyor shall be at least five feet. Such explosives and detonators, when stored, shall be separated by a distance of at least five feet.

(Pub. L. 91-173, title III, §313, Dec. 30, 1969, 83 Stat. 785.)

**§ 874. Hoisting and mantrips**

**(a) Transporting of persons; required equipment and capabilities; safety catches; daily examinations; operators**

Every hoist used to transport persons at a coal mine shall be equipped with overspeed, overwind, and automatic stop controls. Every hoist handling platforms, cages, or other devices used to transport persons shall be equipped with brakes capable of stopping the fully loaded platform, cage, or other device; with hoisting cable adequately strong to sustain the fully loaded platform, cage, or other device; and have a proper margin of safety. Cages, platforms, or other devices which are used to transport persons in shafts and slopes shall be equipped with safety catches or other no less effective devices approved by the Secretary that act quickly and effectively in an emergency, and such catches shall be tested at least once every two months. Hoisting equipment, including automatic elevators, that is used to transport persons shall be examined daily. Where persons are transported into, or out of, a coal mine by hoists, a qualified hoisting engineer shall be on duty while any person is underground, except that no such engineer shall be required for automatically operated cages, platforms, or elevators.

**(b) Promulgation of other safeguards**

Other safeguards adequate, in the judgment of an authorized representative of the Secretary, to minimize hazards with respect to transportation of men and materials shall be provided.

**(c) Rated capacities; indicator for position of cage**

Hoists shall have rated capacities consistent with the loads handled and the recommended safety factors of the ropes used. An accurate and reliable indicator of the position of the cage, platform, skip, bucket, or cars shall be provided.

**(d) Methods for signaling between shaft stations and hoist rooms**

There shall be at least two effective methods approved by the Secretary of signaling between each of the shaft stations and the hoist room, one of which shall be a telephone or speaking tube.

**(e) Braking equipment for haulage cars used in underground mines**

Each locomotive and haulage car used in an underground coal mine shall be equipped with automatic brakes, where space permits. Where space does not permit automatic brakes, locomotives and haulage cars shall be subject to speed reduction gear, or other similar devices approved by the Secretary which are designed to stop the locomotives and haulage cars with the proper margin of safety.

**(f) Automatic couplers for haulage equipment**

All haulage equipment acquired by an operator of a coal mine on or after one year after the operative date of this subchapter shall be equipped with automatic couplers which couple by impact and uncouple without the necessity of persons going between the ends of such equipment. All haulage equipment without automatic couplers in use in a mine on the operative date of this subchapter shall also be so equipped within four years after the operative date of this subchapter.

(Pub. L. 91-173, title III, §314, Dec. 30, 1969, 83 Stat. 786.)

REFERENCES IN TEXT

For the operative date of this subchapter, referred to in subsec. (f), see section 509 of Pub. L. 91-173, set out as an Effective Date note under section 801 of this title.

**§ 875. Emergency shelters; construction; contents; implementation plans**

The Secretary or an authorized representative of the Secretary may prescribe in any coal mine that rescue chambers, properly sealed and ventilated, be erected at suitable locations in the mine to which persons may go in case of an emergency for protection against hazards. Such chambers shall be properly equipped with first aid materials, an adequate supply of air and self-contained breathing equipment, an independent communication system to the surface, and proper accommodations for the persons while awaiting rescue, and such other equipment as the Secretary may require. A plan for the erection, maintenance, and revisions of such chambers and the training of the miners in their proper use shall be submitted by the operator to the Secretary for his approval.