

**OPERATING REGULATIONS TO GOVERN
COAL-MINING METHODS AND THE
SAFETY AND WELFARE OF MINERS
ON LEASED LANDS ON THE PUBLIC
DOMAIN UNDER THE ACT OF FEBRUARY
25, 1920 (PUBLIC NO. 146)**

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DEPARTMENT OF THE INTERIOR

ALBERT B. FALL, SECRETARY

U.S. BUREAU OF MINES

H. FOSTER BAIN, DIRECTOR

OPERATING REGULATIONS

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OPERATING REGULATIONS TO GOVERN COAL-MINING METHODS
AND THE SAFETY AND WELFARE OF MINERS ON LEASED
LANDS ON THE PUBLIC DOMAIN.

Under the act of Congress approved February 25, 1920. (Public No. 146—66th
Congress.)

DEFINITIONS.

The following expressions wherever used in these regulations shall have the meaning now designated, viz:

Mining supervisor.—The agent appointed by and acting for the Secretary of the Interior to supervise all the coal-mining operations under these regulations.

District mining supervisor.—An agent appointed by the Secretary of the Interior to supervise coal-mining operations in one or more of the coal fields of the United States, acting under the direction of the mining supervisor.

Deputy mining supervisor.—An agent appointed by the Secretary of the Interior to supervise specific coal-mining operations, acting under the direction of the mining supervisor or district mining supervisor.

Lessee.—Any person or persons, partnership, association, firm, corporation, municipality, or State to whom a coal-mining lease, permit, or license is issued under the act of February 25, 1920.

Leased land.—The term "coal land," coal deposit," or "leased tract" shall mean any land or deposit owned by the United States, outside of Alaska, under lease, permit, or license in accordance with the act of February 25, 1920, for the purpose of mining coal therefrom.

Coal.—The term "coal" shall include lignite, subbituminous, cannel, bituminous, semibituminous, semianthracite, and anthracite.

Face.—The term "face" shall mean the advancing breast of a working place, of an entry, room, or slope.

Mine.—The term "mine" shall mean an underground excavation and development with shafts, slopes, drifts, or tunnels for the extraction of coal with hoisting or haulage equipment and appliances for the extraction of coal, and shall embrace any and all parts of the leased land or property and mining plant, on the surface and underground, that contribute directly or indirectly to the mining or handling of coal. Said excavation may be in one or several beds of coal, provided the hoisting or haulage is through an opening or openings to the surface used in common.

Stripping operation.—The term "stripping" or "stripping operation" shall mean a mining excavation or development by means of a surface pit or quarry, in which the surface or cover over the coal bed is first removed and the coal itself is excavated by scrapers, shovels, or other mechanical appliances, or by hand tools with or without preliminary blasting.

Slope.—The term "slope" shall mean an inclined entry in a dipping coal bed or an inclined tunnel to a coal bed, the average inclination of which is less than 45° from the horizontal.

Shaft.—The term "shaft," when unmodified, shall mean an opening, the axis of which is approximately vertical, extending from the surface to a coal deposit; also an underground shaft between two or more levels.

Inclined shaft.—The term "inclined shaft" shall mean a shaft which is inclined from the horizontal more than 45°.

Drift.—The term "drift" shall mean a horizontal passageway, level, or gangway, driven from the surface outcrop in the coal bed.

Tunnel.—The term "tunnel" shall mean a level or inclined passageway that is mainly in barren strata and which may or may not extend to the surface.

Room.—The term "room" shall mean a wide working place turned off an entry, slope, or level.

Working place.—The term "working place" shall mean a room, breast, entry, pillar, or place where coal is being mined or extracted and where one or more miners per working shift of the mine are regularly employed until the place is finished or stopped.

Panel.—The term "panel" shall mean a unit area in a system of mining by which the mine is divided into large rectangles or panels isolated or surrounded by solid pillars of coal into which pairs of entries are driven for the development of rooms and the extraction of pillars.

Entry.—The term "entry" shall mean a passageway in a coal bed that is approximately level and is used for haulage, traveling way, or ventilation. In a dipping bed, entries on the strike are known as "levels" or "gangways," and to the dip are known as "slopes."

Crosscut.—The term "crosscut" shall mean a passage driven to connect adjacent parallel entries or rooms. The term is synonymous with "cut-through"; and between rooms, where driven wide, is synonymous with "break-through."

Rock dusting.—The term "rock dusting," "shale dusting," or "stone dusting" shall mean to distribute or apply within passageways fine rock or shale dust in such a manner as to prevent, check, control, or extinguish coal-dust explosions as described in the publications of the United States Bureau of Mines on coal-dust explosions.

Rock-dust barriers.—The term "rock-dust barrier" shall mean a large quantity of dry rock dust placed on such mechanically operated shelves or containers of design tested and approved by the Bureau of Mines and so located in a mine passageway that the pioneering wave of an explosion will automatically cause the dust to be thrown into suspension and extinguish the flame, thus limiting the explosion.

Gas.—The term "gas" in these regulations is used in the sense employed by coal miners to mean "fire damp," or an inflammable or explosive gas, chiefly methane, sometimes, as in case of leakage of natural gas, accompanied by ethane. When mixed in certain proportions with air the mixture is explosive. (See Methane.)

Fire damp.—The term "fire damp" in these regulations is used in the sense employed by miners as synonymous with "gas," and may or may not be in such proportions with air as to be explosive when ignited.

Methane.—"Methane" is a hydrocarbon gas (CH_4) frequently encountered in coal mines; it is inflammable and when it is diffused through air in proportions of 5.5 to 14.5 per cent, the mixture in the presence of a flame or hot spark will explode.

Ethane.—Ethane is a hydrocarbon gas (C_2H_6) found with other lighter hydrocarbon gases in natural gas in conjunction with methane.

Permissible.—The term "permissible" as applied in these regulations in connection with explosives, safety lamps, electric machinery, rescue apparatus, and other devices shall mean materials, apparatus, and devices officially listed by the Bureau of Mines under a schedule of tests and approved as having met its requirements for the respective specified uses.

Potential and voltage.—These shall be taken as synonymous terms to mean electrical pressure as determined by a voltmeter.

POWERS AND DUTIES OF MINING SUPERVISOR, DISTRICT MINING SUPERVISOR, AND DEPUTY MINING SUPERVISOR.

It shall be the duty of the mining supervisor, district mining supervisor, and deputy mining supervisor:

SEC. 1. To visit from time to time leased lands where coal-mining operations are being conducted, and to inspect and supervise such operations and plants connected therewith in order to prevent injury to life, wastage of coal, damage to or from oil and gas wells passing through the coal beds, and damage to other property and to equipment, and in order to supervise matters pertaining to the welfare of the miners in accordance with the provisions of these regulations. Inspection and supervision by supervisor.

SEC. 2. To make reports to the Secretary of the Interior as to the condition of the leased property and the manner in which the operations are being conducted and his orders are being complied with, and to submit information and recommendations from time to time for safeguarding and protecting the property of the lessor and securing compliance with the provisions of the lease and these regulations. Reports of inspections to the Secretary of Interior.

SEC. 3. To ascertain and report the nature and amount of damages, if any, to the leased premises or to adjacent property belonging to the Government, to report the amount and value of any coal avoidably lost or wasted, and to make recommendations on the action to be taken to the Secretary of the Interior. Ascertain amount of damages for coal wasted.

SEC. 4. The mining supervisor, the district mining supervisor, and the deputy mining supervisor may issue such orders and notices in writing as may be appropriate to secure compliance with these regulations, and may order the discontinuance or modification of any operation or method that is causing or likely to cause any endangerment of life or property or is in violation of the provisions of the lease or regulations: *Provided*, That such orders are not in conflict with the laws of the State in which the leased land is situated: *And further provided*, That in cases where immediate danger to life or property is not involved the order and notices of a deputy or district mining supervisor are subject to review, pending which, if an appeal is made within 10 days by the lessee, execution is stayed, unless it be stated in the order that danger of loss of life or loss of the mine is involved, the deputy or district supervisors' orders are subject to review by the mining supervisor, and his in turn on further appeal are subject to final review by the Secretary of the Interior. Issuance of orders not in conflict with regulations or State laws. Appeal may be taken from supervisors' orders to Secretary of Interior.

Prescribe or approve methods of protection from oil and gas wells.

SEC. 5. To prescribe or approve the methods of protection from oil and gas wells through the coal measures and mines both with respect to prevention of leakage of oil or gas endangering the lives of employees, and also to prescribe or approve methods of obtaining the ultimate extraction, so far as possible, of coal in the vicinity of oil or gas wells.

Conditions for abandonment of mined or of unmined portions of a mine.

SEC. 6. To specify in writing under what conditions a mine, or panel, or other section of a mine from which the coal has not been extracted may be abandoned by the lessee, and how the section of a mine so abandoned should be sealed off or otherwise separated from the other parts of the mine.

DUTIES OF LESSEE.

Lessee shall observe orders of supervisors in accordance with regulations and terms of lease and not in conflict with State laws.

SEC. 7. The lessee shall observe and carry out the terms of the act of February 25, 1920, and of his lease and the orders and written notices of the mining supervisor, district mining supervisor, and deputy mining supervisor, which are in accordance with the regulations and terms of the lease and which are not in conflict with the laws of the State in which the leased land is situated: *Provided*, That when the order and notice does not require immediate action for the protection of life or property, an appeal may be taken successively from the order of the deputy mining supervisor to the district mining supervisor, to the mining supervisor, and to the Secretary of the Interior for final decision as provided in section 4 of these regulations.

Appeal from decision of supervisor to Secretary of Interior.

Extension of survey and maps each six months.

SEC. 8. Accurate surveys shall be made at least every six months, and the mine-office maps of each coal bed shall be extended to show the amount of advancement of all the mine workings and all other changes of a permanent character that have taken place during the six months preceding the survey.

Worked-out areas to be shown on map.

SEC. 9. (a) There shall be shown on the map of the respective coal bed, in addition to the information specified in the lease, the location of all pillars or parts of pillars extracted and the territory abandoned in which the pillars have not been completely recovered.

Surface buildings and bore holes to be shown on map.

(b) There shall be shown in outline on the surface map the location of all structures or buildings and the location at the surface of each prospect bore hole appropriately numbered, and legends on the map or margin thereof shall show the elevation of the surface at that point, the elevation and thickness of each coal bed penetrated, the elevation of the bottom of the hole, and any other important information concerning same, including the angle and direction of drilling where not vertical.

Blue prints of map to show stoppings, dams, ventilation, etc.

(c) The lessee shall show on the blue print or reproduction furnished annually to the representatives of the lessor, the position of all fire walls, dams, main pumps, fire pipe lines, permanent ventilating stoppings, doors,

overcasts, undercasts, and regulators; the direction of the ventilating current in the various parts of the mine at the time of making surveys for the extensions of the mine map; and fire areas, known bodies of standing water either in or above the workings of the mine, areas containing inflammable gas, and areas that have squeezed.

(d) Where the coal bed or beds dip steeper than 45° , profiles or vertical cross sections parallel with the approximate average direction of the dip and not more than 1,000 feet apart shall be made on the same scale as the mine maps, with appropriately marked reference points.

Profiles of steep-dipping beds shall be made.

(e) Where the average dip of a coal bed being worked is more than 45° , a vertical view shall be prepared on the same scale as the general mine map, which will represent the mine workings in that bed on a vertical plane parallel with the average strike of the bed or beds, and which will have appropriately marked reference points thereon.

Vertical view of workings in bed dipping over 45° .

(f) Blue prints or reproductions in duplicate of the profiles and vertical views called for in the preceding subsections shall be submitted annually on request of the mining supervisor.

SEC. 10. After necessary prospecting has been done on any lease and before permanent operating shafts, slopes, drifts, or tunnels have been made, the lessee shall prepare a preliminary plan together with vertical sections to indicate so far as known the positions, dip, and thickness of each coal bed as indicated by prospect openings and drill holes, and also the character, position, and dip of overlying strata, on a scale of not more than 200 feet to the inch, and show in outline the principal prospect and proposed entries, airways, shafts, and structures, including fan or fans, with an outline plan and description of the proposed method of underground development and ventilation, which plan and description shall be submitted to the district mining supervisor; and the lessee shall develop and mine the coal in the leased land in accordance with the plans submitted, in so far as natural conditions will permit. If conditions are encountered which require radical changes, modified plans will immediately be submitted, accompanied by an explanation to the district mining supervisor.

Preliminary plans of mining to be submitted in advance of operations on a commercial scale.

Development of mine to be in accordance with preliminary plan.

SEC. 11. In every separate mine in which more than 10 men are employed underground on any shift, the lessee shall provide in addition to the main shaft, slope, or drift, an escape way or second means of egress to the surface, which in case of drift, slope, or tunnel exits shall be separated at the surface from the first exit by not less than 50 feet of rock or coal in place; and if either or both exits are by vertical shaft or by inclined shaft, the exits shall be not less than 200 feet apart. An escape way or outlet through an adjoining mine which has adequate facilities for escape will be regarded as a satisfactory

Second exit to surface to be provided where more than 10 men employed on a shift.

Outlet through adjoining mine.