

## COAL MINES REGULATION (AMENDMENT) ACT.

### Act No. 16, 1941.

An Act to make further provisions for the management and regulation of mines of coal and mines of shale; to amend the Coal Mines Regulation Act, 1912-1931, and certain other Acts; and for purposes connected therewith. [Assented to, 9th April, 1941.]

**B**E it enacted by the King's Most Excellent Majesty, by and with the advice and consent of the Legislative Council and Legislative Assembly of New South Wales in Parliament assembled, and by the authority of the same, as follows:—

**1.** (1) This Act may be cited as the "Coal Mines Regulation (Amendment) Act, 1941."

Short title,  
citation and  
commencement.

(2) The Coal Mines Regulation Act, 1912-1931, as amended by the Statute Law Revision Act, 1937, is in this Act referred to as the Principal Act.

(3) The Principal Act, as amended by this Act, may be cited as the Coal Mines Regulation Act, 1912-1941.

(4) This Act shall commence upon a date to be appointed by the Governor and notified by proclamation published in the Gazette.

**2.** (1) The Principal Act is amended—

(a) by inserting in section three next after the definition "Check-inspector" the following definition:—

Amendment  
of Act No.  
37, 1912,  
s. 3.  
(Interpre-  
tation.)

"Chief inspector" means the Chief Inspector of Coal Mines or the inspector for the time being acting as chief inspector.

(b)

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(b) by inserting in the same section next after the definition "Court" the following definitions:—

"Dry and dusty place" includes—

(a) any part in a mine in which all coal dust on the floor, roof, and sides thereof outside a radius of five yards from a working face is not so saturated naturally with water as to render such coal dust incapable of being forced into suspension in the air by the concussion of a gas explosion or otherwise; and

(b) any part in a mine where—

(i) the coal dust on the floor, roof and sides thereof outside a radius of five yards from a working face is ascertained in accordance with regulation one hundred and fifty-seven of the Sixth Schedule to contain more than ten ounces of combustible volatile matter per thousand cubic feet of airway in or about that part; and

(ii) such coal dust is not diluted to the extent prescribed in paragraph eleven of General Rule 12B of section fifty-four of this Act.

"Gassy place." Each of the following shall be deemed to be a gassy place—

(a) any portion of a ventilating district which is situate on the return airway side of a point in the intake airway one hundred yards on the intake side from the

the first working or temporary standing place in such district and in which portion—

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- (i) any quantity (capable of being detected by an ordinary oil flame safety-lamp) of inflammable gas is given off at any time after the commencement of the Coal Mines Regulation (Amendment) Act, 1941; or
- (ii) an ignition or explosion of inflammable gas occurs at any time after such commencement; or
- (b) any such portion so situate in the return airway from which the air current is found at any time after such commencement to contain more than one half of one per centum of inflammable gas;
- (c) any mine or part of a mine which, on the thirtieth day of June, one thousand nine hundred and thirty-nine, was a safety-lamp mine within the meaning of that term as defined in the Coal Mines Regulation Act, 1912-1931:

Provided that for the purpose of the regulations contained in the Seventh Schedule to this Act an intake airway, or such rooms as are separately ventilated with intake air, in any such mine shall not, by reason only of this paragraph, be deemed to be a gassy place; but nothing in this proviso shall limit the operation of any other paragraph of this definition.

(d)

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- (d) any working place which is within twenty yards of and is being advanced towards any locality where there may be an accumulation of inflammable gas;
- (e) all parts of the mine on the return airway side of a gassy place;
- (f) for the purpose only of the regulations contained in the Seventh Schedule to this Act and so far only as regards the structure of electrical equipment to be used therein and its installation, any portion of a ventilating district which is situate on the return airway side of a point in the intake airway one hundred yards on the intake side from the first working or temporary standing place in such district and all return airways in any mine or part of a mine which, on the thirtieth day of June, one thousand nine hundred and thirty-nine, was operating under naked light conditions:

Provided that such rooms as are separately ventilated with intake air in any such mine shall not, by reason only of this paragraph, be deemed to be a gassy place:

Provided also that nothing in this paragraph shall limit the operation of any other paragraph of this definition.

- (g) any intake airway the air current of which is liable to be fouled with inflammable gas, until the manager, by a notice posted at the mine, otherwise directs;
- (h)

(h) any intake airway in which the **No. 16, 1941.**  
air current is found and reported  
to contain more than one quarter  
of one per centum of inflammable  
gas, until it is found and reported  
that such condition has been  
removed.

“Inclined plane” means a plane in a mine at  
an angle of thirty degrees or greater from  
the horizontal.

(c) by inserting in the same section next after  
the definition “Prescribed” the following  
definitions:—

“Registered” means registered under this  
Act.

“Safety-lamp” means a safety-lamp of a  
type or pattern approved by the chief  
inspector.

(d) by omitting from the same section the definition  
“Shaft” and by inserting in lieu thereof the  
following definition:—

“Shaft” includes every staple pit and inclined  
plane.

(e) by omitting from the definition “Small mine” in  
the same section the word “twenty” and by  
inserting in lieu thereof the word “twelve”;

(f) by omitting from the same section the definitions  
of “Main haulage road”; “Naked light mine”;  
and “Safety-lamp mine”;

(g) by inserting at the end of the same section the  
following new subsection:—

(2) If it is shown to the satisfaction of the  
Minister that prior to the thirtieth day of June,  
one thousand nine hundred and thirty-nine,  
safety-lamps had been introduced into any mine  
or part of a mine and were then being used  
therein as a precaution against fire only, the  
Minister may grant an exemption in respect of  
such mine or part from such provisions of this  
Act or the regulations thereunder relating to  
gassy places as are specified in the exemption.

Any

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Any such exemption shall cease to have effect on the occurrence of any event referred to in paragraph (a) or paragraph (b) of the matter under the heading of gassy place contained in subsection one of this section or on the revocation of the exemption by the Minister whichever may first happen.

Consequential amendment of Act No. 19, 1926, s. 9 (1).

(2) The whole of paragraphs (a) and (b) and so much of paragraph (c) as inserted the definition of "Safety-lamp mine" of subsection one of section nine of the Coal Mines Regulation (Amendment) Act, 1926, are hereby repealed.

Further amendment of Act No. 37, 1912.

Sec. 4 (4).  
(Manager of small mine.)

3. (1) The Principal Act is further amended—

(a) (i) by inserting at the end of subsection four of section four after the words "chief inspector" where secondly occurring the following words:—

Where the chief inspector is satisfied that any of the provisions of this Act and the regulations thereunder are not being satisfactorily complied with at any mine in respect of which a permit to manage has been granted he may at any time by notice in writing to the manager withdraw such permit to manage.

(ii) by omitting from subsection five of the same section the words "required to be under the control of a manager";

(b) by inserting next after section four the following new section:—

4A. (1) No person shall be appointed on behalf of the owners of any mine or group of mines to hold a technical position superior to that of a manager appointed in pursuance of this Act whether under the title of superintendent or assistant superintendent or any other title, unless he is qualified to be a manager under this Act.

(2) Any person so appointed or who has been appointed as a superintendent or an assistant superintendent before the commencement of

Sec. 4 (5).  
(Owner or agent taking part in technical management.)

New sec. 4A.

Appointment of superintendent or assistant superintendent.

of the Coal Mines Regulation (Amendment) Act, **No. 16, 1941.** 1941, shall bear the same statutory liability as a manager in respect of any acts to which he is a party but he shall not be liable to any action for damages for breach of statutory duty in respect of any contravention of or non-compliance with any of the provisions of this Act if it is shown that it was not reasonably practicable to avoid or prevent the breach.

(3) (a) The name and address of a person so appointed shall be posted up in legible characters at some conspicuous place at or near each mine in respect of which he has been so appointed, and

(b) the owner of the mine or group of mines in respect of which the person has been so appointed shall within fourteen days after the appointment has been made notify the inspector of the district in writing of such appointment giving the full name of the person appointed and the names of the mines in respect of which he has been so appointed.

(4) The provisions of subsection three of this section shall extend to persons who were appointed as superintendents or assistant superintendents before and held office at the commencement of the Coal Mines Regulation (Amendment) Act, 1941, and in respect of any such person the time within which the owner is to notify the appointment shall be three months after the commencement of that Act.

(c) (i) by omitting from subsection one of section **Sec. 5.** five the words "required by this Act to be (Daily under the control of a certificated <sup>supervision</sup> of mine.) manager";

(ii) by omitting from subsection two of the same section the word "hold" and by inserting in lieu thereof the words "be for the time being registered as the holder of";

(d) (i) by omitting from subsection one of section **Sec. 5A.** 5A the words "a competent person shall be (Deputies appointed as deputy" and by inserting in <sup>and shot-firers.)</sup> lieu

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lieu thereof the words "the manager shall appoint in writing a competent person as deputy";

(ii) by omitting from paragraph (c) of subsection two of the same section the words "is a holder" and by inserting in lieu thereof the words "is for the time being registered as the holder";

New  
subsec. (5).

(iii) by inserting at the end of the same section the following new subsection:—

(5) Nothing in this section shall prevent—

(a) a deputy in any mine being employed in firing shots in the district assigned to him provided that such employment does not interfere with the performance of his statutory duties; or

(b) any person holding a position at any mine superior to that of deputy and being for the time being registered as the holder of at least a third-class certificate of competency or of service under this Act from observing or fulfilling the duties of a deputy or shot-firer at a small mine or at any mine in the event of an emergency arising or for the purpose of making an examination for his own information.

An emergency shall be deemed to have arisen when owing to an industrial dispute or a stoppage of work or the occurrence of any circumstances whatsoever which in the opinion of the person aforesaid (who shall record in writing in a book to be kept at the mine the reasons for his decision) demand prompt attention in the interests of the health or safety of the employees

employees or the safety of the mine **No. 16, 1941.**  
and the services of a deputy cannot  
readily be procured.

(e) (i) by omitting from subsection one of section See. 6.  
six the word "three" where firstly occurring and by inserting in lieu thereof the word "six"; (Certificates of competency.)

(ii) by inserting in the same subsection after the word "deputy" the words "or shot-firer;

(d) certificates of fitness to be a mine electrician; or

(e) certificates of fitness to be a mine surveyor; or

(f) certificates of fitness to be winding or hauling-engine drivers, either—

(i) to drive a steam engine; or

(ii) to drive an electrically motivated engine; or

(iii) to drive an internal combustion engine."

(iii) by omitting from the same subsection the word "But" and by inserting in lieu thereof the words "Subject to this Act";

(iv) by inserting in the same subsection after the words "three years and" the words "either has obtained a degree in engineering at the University of Sydney or at some other University recognised by that University or";

(v) by inserting in subsection five of the same section after the words "every such examination" the words "for first, second and third-class certificates of competency";

(f) by inserting in paragraph (a) of section eleven See. 11. after the word "thereunder" the words "which in either case entitles him to drive the type of engine actually in use"; (Unqualified person.)

(g)

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Substituted  
sec. 11A.Engine-  
driver.Sec. 15.  
(Inquiries  
into compe-  
tency.)

(g) by omitting section 11A and by inserting in lieu thereof the following section:—

11A. Notwithstanding anything to the contrary contained in section eleven of this Act a person who is for the time being registered as the holder of a certificate as engine-driver which entitles him to drive the type of engine actually in use and who is not subject to any of the infirmities mentioned in paragraph (b) of that section shall be qualified to take charge of a hauling engine by means of which men are hauled along any plane or road not being an inclined plane at a mine.

(h) (i) by omitting from subsection one of section fifteen the words “manager, under-manager, or deputy holding a certificate under this Act or under any Imperial Act or a winding-engine driver certificated under this Act” and by inserting in lieu thereof the words “person holding a certificate of competency or of service under this Act or registered as the holder of a certificate under this Act”;

(ii) by omitting from the same subsection the words “the manager, under-manager, deputy or winding-engine driver” wherever occurring and by inserting in lieu thereof the words “such certificated person”;

(iii) by omitting from paragraph (g) of the same subsection the words “a manager, under-manager, deputy, or winding-engine driver” also the words “any manager, under-manager, deputy, or winding-engine driver” and by inserting in lieu thereof in each case the words “such certificated person”;

(iv) by omitting from the same section the words “gross negligence” wherever occurring and by inserting in lieu thereof the words “negligence causing or reasonably calculated to cause injury to any person or property”;

(i)

(i) by omitting subsection one of section sixteen and **No. 16, 1941.**  
 by inserting in lieu thereof the following new ~~Sec. 16.~~  
 subsection:—

(1) The court may make such order as it <sup>Costs and expenses of inquiry.</sup> thinks fit respecting the costs and expenses of the inquiry and may assess any such costs and expenses or order that the same be taxed by the proper officer of the Supreme Court in its Common Law jurisdiction whereupon such costs shall be taxed by such officer accordingly.

Where the court orders the costs and expenses of the inquiry to be paid, whether after any set off or taxation or otherwise, the order of the court shall have the effect of and shall be deemed to be a judgment of the Supreme Court for the amount payable and judgment for such amount may be entered up in that court by the person to whom it is payable against the person by whom it is payable and the said amount may be recovered by process of that court as in pursuance of any such judgment.

(j) (i) by inserting in paragraph three of section twenty after the word "deputy" the words "shot-firer, mine surveyor";  
 (ii) by omitting from the same paragraph the words "or winding-engine" and by inserting in lieu thereof the words "winding-engine driver or haulage-engine."

(2) Where at the commencement of this Act a person was acting as manager of a small mine employing more than twelve persons underground and qualified so to act by reason of the fact that he was for the time being registered as the holder of at least a third-class certificate under the Principal Act and of a permit to be manager from the chief inspector, such person may after such commencement continue to act as manager of such mine for a period terminating on the day upon which his then current permit from the chief inspector expires or for a period of six months from the commencement of this Act whichever is the shorter period.

(3) Section seven of the Coal Mines Regulation (Amending) Act, 1913, is hereby repealed.

<sup>Consequential repeal of Act No. 11, 1913, s. 7.</sup>

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Further  
amendment of  
Act No. 37,  
1912.

Sec. 21.  
(Certificate  
of competency  
of mine  
electricians.)

Sec. 22.  
(Employment  
of mine  
electricians.)

Further  
amendment of  
Act No. 37,  
1912.

Substituted  
sec. 23.

Chief  
Inspector  
and  
Senior  
Inspector.

Sec. 24.  
(Inspectors,  
&c.)

**4. The Principal Act is further amended—**

- (a) by inserting in section twenty-one after the words “in a mine” the words “but in the case of a person holding a diploma, degree or certificate in electrical engineering from the University of Sydney or some other body approved by the Minister one year’s practical experience in the use of electrical machinery and apparatus in a mine will suffice”;
- (b) by omitting subsection six of section twenty-two.

**5. The Principal Act is further amended—**

- (a) by omitting section twenty-three and by inserting in lieu thereof the following new section:—

23. (1) The Governor may, subject to the provisions of the Public Service Act, 1902, appoint a Chief Inspector of Coal Mines, who shall have the powers, duties and functions imposed upon him by this Act and also any which may be assigned to him by the Minister in connection with the administration of this Act.

The Governor may also, subject as aforesaid, appoint a Senior Inspector of Collieries who shall have such of the powers, duties and functions of the chief inspector as the chief inspector may from time to time, by writing under his hand, assign to him.

(2) The Chief Inspector of Coal Mines and the Senior Inspector of Collieries in office at the commencement of the Coal Mines Regulation (Amendment) Act, 1941, shall be deemed to have been appointed pursuant to subsection one of this section.

- (b) (i) by omitting subsections one and two of section twenty-four;
- (ii)

(ii) by omitting from subsection three of the same section the words "said Act" and by inserting in lieu thereof the words "Public Service Act, 1902, as amended by subsequent Acts";

(iii) by inserting in subsection four of the same section after the word "inspector" where firstly occurring the words "including the Chief Inspector and the Senior Inspector of Collieries."

**6. The Principal Act is further amended—**

Further  
amendment of  
Act No. 37,  
1912.

Sec. 33.  
(Court of  
Coal Mines  
Regulation.)

(a) by inserting next after subsection one of section thirty-three the following new subsection:—

(1A) In any proclamation under subsection one of this section the Governor may declare that the court therein referred to shall have jurisdiction to hear and determine any inquiry, appeal or reference, or any specified class of inquiries, appeals or references, or all inquiries, appeals or references, other than those of a specified class without regard to any territorial limits within which the jurisdiction conferred upon that court by or under any other Act is exercisable, and such court shall have jurisdiction accordingly.

(b) by omitting from subsection two of the same section the words "police magistrate or warden appointed under the Mining Act, 1906," and by inserting in lieu thereof the words "or police magistrate";

(c) by inserting at the end of subsection three of the same section the following new paragraph:—

The powers, authorities, duties and functions of such officers may, in any case in which a declaration under subsection (1A) of this section has been made, be exercised and performed without regard to any territorial limits with respect to which the exercise or performance of those powers, authorities, duties or functions would otherwise be subject.

(d)

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(d) by omitting subsection six of the same section and by inserting in lieu thereof the following subsection:—

(6) The decision of the court upon any inquiry or proceeding under this Act shall be delivered in open court, notwithstanding that the court may be also required to report to the Minister.

(e) by inserting in subsection nine of the same section after the word "Act" the words "and in any case in which a declaration under subsection (1a) of this section has been made";

(f) by inserting at the end of subsection ten of the same section the words "The provisions of section sixteen of this Act shall extend to and in respect of any such costs and the provisions of paragraph (h) of section fifteen of this Act shall extend to the expenses of any witness called before the court."

**7. The Principal Act is further amended—**

Further  
amendment of  
Act No. 37,  
1912.

Sec. 36.  
(Accidents  
in mines.)

(a) (i) by inserting in subsection two of section thirty-six after the word "would" where secondly occurring the word "unduly";

(ii) by inserting next after subsection three of the same section the following new subsection:—

(3A) (a) At every mine an accurate plan of the workings of the mine on a scale of not less than two chains to an inch shall be kept indicating the position at which any accident occurs which accident involves injury to an employee of so serious a nature that compensation is payable in respect thereof—

(i) arising from falls of the roof or sides; or

(ii) occurring in connection with any haulage system in operation at the mine.

There shall also be indicated on the plan any area in which floaters occur.

(b)

(b) A record shall also be made in No. 16, 1941.  
a book kept at the mine of the nature of  
every such accident and of any accidental  
fall of roof or sides (other than a goaf fall)  
associated with any floater.

(c) Where in his opinion there  
appears to have been an excessive number  
of accidents indicated by such plan or  
record at any mine the chief inspector may  
by notice in writing require the owner, agent  
or manager of such mine to explain (within  
a period specified in the notice) such exces-  
sive number of accidents and may at any  
subsequent date give notice in writing to  
the owner, agent or manager requiring him  
to adopt within a time specified in the notice  
such remedial measures as are described in  
such notice.

The owner, agent or manager may within  
fourteen days of the receipt of the notice  
and in the prescribed manner appeal to the  
court against the whole or any part of such  
requirement and the court may confirm,  
vary or modify such requirement and the  
owner shall within the time specified in the  
said notice or if an appeal be made within  
the time specified in the order of the court  
give effect to the requirement either as  
originally made or as confirmed, varied or  
modified by the court.

Any owner, agent or manager who  
neglects or fails to comply with any require-  
ment made under this subsection either, if  
there be no appeal, as originally made with-  
in the time specified in the notice, or, if there  
be an appeal, as confirmed, varied or modi-  
fied by the court within the time specified  
in the order of the court, shall be guilty of  
an offence against this Act.

(b) (i) by omitting from section 36A the words "used for" and by inserting in lieu thereof the words "chain, detaching hook, or other appliance whatsoever used for or in connection with";

(ii) Sec. 36A.  
(Certain occurrences to be reported.)

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Sec. 37.  
(Opening,  
abandon-  
ment, etc.,  
of mines.)

Sec. 37A.

Sealing on  
account of  
self-  
heating.Sec. 39A.  
(Accuracy  
of plans to  
be certi-  
fied.)

(ii) by inserting in the same section after the words "fifty-four of this Act" the words "any discovery of a case of self-heating underground of the coal strata or other material whatsoever";

(c) by omitting from section thirty-seven the words "one month" and by inserting in lieu thereof the words "fourteen days";

(d) by inserting next after section thirty-seven the following new section:—

37A. (1) Where any mine or part of a mine is being sealed off on account of self-heating of the coal strata or other material therein or fire the permanent seals shall be of substantial structure and so far as is reasonably possible shall be airtight and fireproof; and there shall be inserted in one or more of such seals a device of a type approved by the chief inspector to permit of sampling of the atmosphere from within the sealed area.

(2) Where any mine or part of a mine has been sealed off on account of such self-heating or fire such mine or part thereof shall not be re-entered or any seal removed or broken unless notice of intention to do so has been given in writing to the inspector of the district and a check inspector at least forty-eight hours before any such re-entry, removal or breaking is effected.

(e) (i) by inserting in subsection one of section 39A after the figures and letter "35A" the words "section thirty-six";

(ii) by inserting in the same subsection after the word "competency" the words "or a surveyor's certificate of service";

(iii) by omitting subsection five of the same section and by inserting in lieu thereof the following new subsections:—

(5) A surveyor's certificate of service may be granted by the Minister to every person who—

(a) satisfies him that during the period extending from the first day of January,

January, one thousand nine hundred No. 16, 1941, and twenty-one, to the first day of January, one thousand nine hundred and thirty-one, he had for at least five years in the aggregate satisfactorily performed the duties of a mine surveyor at a mine which was, during the whole of the period within which he performed such duties, under the control of a certificated manager; and

- (b) produces satisfactory evidence of his sobriety and good conduct; and
- (c) makes application to be granted a certificate under this subsection within two years after the commencement of the Coal Mines Regulation (Amendment) Act, 1941;
- (d) pays the registration fee prescribed.

(6) Every such certificate of service shall contain particulars of the name, and of the place and date of birth, and the length and nature of the previous service of the person to whom the same is granted.

(7) For all purposes relating to the cancellation and suspension of surveyors' certificates of service and the registration of the holders of such certificates, the provisions of this Act which relate in such regards to certificates of competency shall, mutatis mutandis, apply and have effect.

**8. The Principal Act is further amended—**

- (a) by omitting from subsection one of section forty-one the word "and" where secondly occurring and by inserting in lieu thereof the word "or"; Sec. 41.  
(Employment of boys.)
- (b) by omitting subsection four of section forty-five; Sec. 45.  
(Payment of persons employed by weight.)
- (c) by inserting in paragraph (b1) of subsection one of section fifty after the word "surface" where Sec. 50.  
(Prohibition of single shafts.)

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where secondly occurring the words "and will permit of the removal of an injured person with reasonable despatch and safety";

Sec. 53A.  
(Contractors.)

(d) by inserting at the end of section 53A the following new subsection:—

(4) Where any part of the operations in a mine is carried on by any person under tribute, sub-lease, or other similar agreement, the owner, agent or manager or the contractor shall lodge a certified copy of the instrument, if any, evidencing such tribute, sub-lease, or agreement, or where there is no such instrument a memorandum stating the terms of the contract signed by the parties thereto, with the Under Secretary, Department of Mines, if so required to do by a notice in writing given personally or by post to the owner, agent or manager of the mine or to the contractor by the Under Secretary.

Any owner, agent, manager or contractor who neglects or fails to comply with the requirements of a notice under this subsection within the time specified in such notice shall be guilty of an offence against this Act.

This subsection applies to and in respect of any contract subsisting at as well as to any contract made after the commencement of the Coal Mines Regulation (Amendment) Act, 1941.

Further  
amendment  
of Act No. 37,  
1912.

**9.** (1) The Principal Act is further amended by inserting next after section 53A the following new Divisions:—

New  
Divisions  
11 and 12.

**DIVISION 11.—*Special provisions as to methods or systems of working mines.***

System of  
working  
may be pro-  
hibited.

53B. (1) Notwithstanding anything contained elsewhere in this Act where the Minister is satisfied on the report of the chief inspector that the method or system of working employed in the development of or in any subsequent operations in any mine is such as to result in undue loss

loss of coal he may give notice in writing to the **No. 16, 1941.**  
owner, agent or manager of the mine—

- (a) stating the particulars in which it is considered the method or system of working tends to undue loss of coal; and
- (b) requiring that such method or system of working be abandoned or so modified as to remedy the undue loss of coal.

The owner, agent or manager may, within fourteen days of the receipt of the notice, appeal to the court against the whole or any part of such requirement, and the court may confirm, vary or modify such requirement. The owner, agent or manager shall, within the time specified in the notice or in the order of the court, comply with such requirement as originally made or, if an appeal be made, as confirmed, varied or modified by the court.

(2) Any owner, agent or manager who neglects or fails to comply with any requirement made under this section either, if there be no appeal, as originally made within the time specified in the notice, or, if there be an appeal, as confirmed, varied or modified by the court within the time specified in the order of the court, shall be guilty of an offence against this **Act.**

#### DIVISION 12.—*Protective equipment.*

53c. The owner of every mine shall provide any employee who notifies the manager that he desires to avail himself of its use with the following equipment:—

- (a) Suitable safety helmets, shin guards or goggles for the use of underground employees engaged in occupations where the use of equipment of this nature is reasonably calculated to protect those employees from injury from falling or flying coal, stone or other material.

(b)

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- (b) Suitable gloves for the use of underground and surface employees engaged in occupations where the use of such gloves is reasonably calculated to protect those employees from injuries to their hands.
- (c) Respirators of types approved by the chief inspector for all employees who are engaged in the work of applying incombustible dust or in any other kind of work in which there is no other adequate protection from the inhalation of dust in concentrations exceeding the standard proclaimed under the provisions of general rule 12B of section fifty-four of this Act.

Should any question arise as to whether the use of any of the aforesaid equipment is reasonably calculated to protect any employee from injury an appeal may be made by the employee or the manager of the mine to the inspector of the district whose decision shall be final.

In the event of wilful damage to, or loss of, any part of such equipment the employee to whom such equipment was supplied shall pay the actual net cost to the owners of any desired replacement.

Any employee desirous of being supplied with safety boots at his own cost shall make written application therefor to the manager and the manager shall as soon as reasonably practicable supply the required boots to the employee.

The price charged to the employee for any boots so provided shall not exceed the actual net cost to the owner.

Sec. 1. (2) Subsection three of section one of the Principal Act is amended by inserting next after the words, figures and letter "*worked by contractor*—s. 53A" the following words, figures and letters:—

DIVISION 11.—*Special provisions as to methods or systems of working mines*—s. 53B.

DIVISION 12.—*Protective equipment*—s. 53C.

**10.** (1) Section fifty-four of the Principal Act is No. 16, 1941. amended—

Further  
amendment  
of Act No.  
37, 1912,  
s. 54.  
(General  
rules.)

Rule 1.

(Ventila-  
tion.)

(a) (i) by inserting at the end of part (b) of general rule one in section fifty-four the following proviso:—

Provided that the minimum quantity of air to be so supplied in any mine shall be five thousand cubic feet per minute except in the case of a small mine from which coal or shale is not being won and in respect of which an exemption from supplying the minimum quantity of air required under this proviso is granted by the chief inspector.

(ii) by omitting from part (d) of the same general rule the words "In the case of mines required by this Act to be under the control of a certificated manager" and by inserting in lieu thereof the words "In every mine";

(iii) by inserting at the end of part (d) of the same general rule the words—

At least once in every month the wet and dry bulb registration of the temperature of the atmosphere in the working places of each ventilating district shall be observed. The highest registration so observed and that in the first place on the intake end of the ventilating district and the last place on the return end of such ventilating district shall be recorded in a book to be kept at the mine for the purpose.

At intervals not exceeding one month in the case of a gassy place and in other cases of not exceeding six months the percentage of inflammable gas in the atmosphere in each district return airway shall be determined either by sampling and analysis or by the use of a type of gas detector approved by the chief inspector. The results of such determination shall be recorded in a book to be kept at the mine for the purpose.

(iv)

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- (iv) by inserting in part (e) of the same general rule after the words "exceeds one quarter" the words "of one per centum";
- (v) by inserting at the end of the same general rule the following new paragraph:—
  - (f) In every mine after the date of the commencement of the Coal Mines Regulation (Amendment) Act, 1941—
    - (i) (a) all stoppings and air crossings constructed between main intake airways and return airways shall be substantial in structure, reasonably airtight, fireproof and as far as is reasonably practicable explosion proof;
    - (b) stoppings and air crossings between split intakes and return airways shall be constructed up to within one hundred yards of the face in the first working place in the ventilating district and shall all be of substantial structure, reasonably airtight and fireproof;
    - (ii) where doorways on a road normally used for traffic are required between main intake airways and return airways, at least double doors of substantial structure shall be provided.

Rule 2.

- (b) by omitting general rule two in the same section and by inserting in lieu thereof the following general rule:—

Ventilation by fire.

*Rule 2. No fire shall be used for ventilation below ground in any mine or seam.*

The Minister on the recommendation of the chief inspector may, for such time and

and subject to such conditions as to him ~~No. 16, 1941.~~ seem fit, permit the use of a fire for ventilation purposes underground in a small mine in which inflammable gas has not been found and provided that—

- (i) the said fire will under all climatic conditions produce a ventilating current of air in accordance with the requirements of general rule one of this section, and will not create any risk of setting fire to the coal seam, and
- (ii) inflammable material is not exposed or used in the return air-way from the said fire to the surface.

The Minister may on the like recommendation at any time cancel or revoke such a permit by notice in writing to the manager.

- (c) (i) by omitting from paragraph (a) of general rule four of the same section the words "to different parts of the mine" and by inserting in lieu thereof the words "on the intake airway in a ventilating district and not closer than one hundred yards from the first working place and not within one hundred yards of any intake airway the air current of which is likely to be fouled with inflammable gas from other workings or which contains more than one-quarter of one per centum of inflammable gas"; Rule 4.  
Appointment of stations.
- (ii) by omitting from paragraph (a) of the same general rule the word "part" and by inserting in lieu thereof the word "portion";
- (iii) by omitting from paragraph (b) of the same general rule the words "special rules of the mine" and by inserting in lieu thereof the words "general regulations contained in the Sixth Schedule or made under this Act"; (Inspection.)
- (iv) by omitting from paragraph (b) of the same general rule the words "locked safety lamp" and inserting in lieu thereof the words

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words "locked oil flame safety-lamp or other device for the detection of inflammable gas of a type approved by the chief inspector";

(v) by inserting at the end of paragraph (b) of the same general rule the following words:—

With the written authorisation of the manager a mining apprentice or cadet may for the purpose of obtaining practical experience accompany the competent person or persons appointed under the provisions of this paragraph.

(vi) by omitting paragraph (e) of the same general rule and by inserting in lieu thereof the following paragraph:—

Inspection  
during  
shifts.

(e) (i) A similar inspection shall be made twice during the course of each working shift at intervals of not more than four hours of all working faces and of working places where the roof or sides are being removed, supported or interfered with, and of roadways in pillar sections where workmen work or pass along and of roadways in working bords, and of gateways in use for traffic inbye the deputies' station in longwall workings and so that while any such persons are engaged at any working face or in any such working place or while such roadway or gateway is in use such working face, working place, roadway or gateway shall not remain uninspected for a greater period than four hours.

(ii) A similar inspection shall be made—

(a) once during the course of each working shift of the roadways not inspected under the provisions of subparagraph (i) of this paragraph and along which

which workmen pass the inbye <sup>No. 16, 1941.</sup> station appointed under the provisions of paragraph (a) of this general rule, and

- (b) once during the course of each twenty-four hours of roadways in use outbye such inbye station.
- (vii) by omitting paragraph (f) of the same general rule and by inserting in lieu thereof the following new paragraph:—

(f) If on any inspection made pursuant <sup>Report of</sup> to this general rule inflammable gas is found <sup>inspection.</sup> or other condition from which danger may arise is detected the person making the inspection shall make a record of such occurrence in a book to be kept at the mine for the purpose.

- (d) by inserting next after general rule four of the same section the following new general rule:—

*Rule 4A.* (a) Any person employed at a mine finding inflammable gas in the workings <sup>Reporting</sup> of the mine at any time or detecting evidence of the occurrence of the self-heating of any coal strata or other material whatsoever shall before leaving the mine record the finding of such inflammable gas or of such self-heating in a book to be kept at the mine.

(b) Any person employed at a mine required by this Act to make inspections with a locked oil flame safety-lamp shall be equipped with an approved electric torch or cap lamp in addition to such oil flame safety-lamp.

(c) A tracing drawn to a scale of not more than four chains to an inch showing the workings of the district as at the date of the last quarterly survey to be inspected shall be posted up at some convenient place for the information of each deputy or otherwise made available to him.

(e)

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Rule 5A.

Internal  
combustion  
engines  
under-  
ground.Rule 6.  
(Fencing of  
entrances.)Rule 7.  
(Withdrawal  
of workmen  
in case of  
danger.)

Rule 8.

Safety  
lamps.

(e) by omitting general rule 5A of the same section and by inserting in lieu thereof the following general rule:—

*Rule 5A.* An internal combustion engine shall not be allowed underground in any mine unless it is of the compression ignition type with safeguards and is installed and used as approved by the chief inspector.

(f) by inserting in general rule six of the same section after the word "extension" the words "and which has not been inspected under the provisions of general rule four of this section and found to be safe at the last inspection";

(g) (i) by inserting in general rule seven of the same section after the word "locked" the words "oil flame";

(ii) by inserting in the same general rule after the words "safety-lamp" firstly occurring the words "or with some device for the detection of gas of a type approved by the chief inspector";

(iii) by omitting from the same general rule the words "in a safety-lamp mine";

(iv) by omitting from the same general rule the words "or, in a naked light mine, one and a quarter or upwards";

(v) by inserting at the end of the same general rule the words—

"No person shall brush or waft out gas."

(h) by omitting general rule eight of the same section and by inserting in lieu thereof the following general rule:—

*Rule 8.* Subject to the rules contained in this section no lamp or light other than a safety-lamp of a type approved by the chief inspector shall be used in any mine.

Except where otherwise provided in this Act only electric safety-lamps of a type approved by the chief inspector shall be used for the purpose of illumination underground.

Electric

Electric lamps of the vacuum or **No. 16, 1941.** enclosed type may be used on main haulage roads or elsewhere within such limits and upon such conditions as may be fixed by the regulations for the installation and use of electric equipment contained in the Seventh Schedule.

The Minister upon the recommendation of the chief inspector may from time to time by writing under his hand grant an exemption from the immediate installation of electric safety-lamps in any mine or part of a mine which at the commencement of the Coal Mines Regulation (Amendment) Act, 1941, was operating under naked light conditions for such period or periods and upon such terms and conditions as the Minister may impose and may on the like recommendation and in the like manner withdraw any such exemption.

Where it is shown to the satisfaction of the Minister to be an undue hardship to provide for the charging of electric safety-lamps at any small mine he may grant exemption from the use of this type of lamp at such mine on condition that only oil flame safety-lamps of a type approved by the chief inspector are used by all underground employees, and may by notice in writing to the manager revoke such exemption for any breach of such condition.

- (i) by omitting general rule nine of the same section; Rule 9.  
(Construction  
of oil flame  
safety-lamps.)
- (j) (i) by omitting from general rule ten of the same section the words "In any mine or part of a mine in which safety-lamps are required by this Act, or by the special rules made in pursuance of this Act to be used" and by inserting in lieu the words "In every mine"; Rule 10.  
(Examina-  
tion of  
safety  
lamps.)
- (ii)

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(ii) by omitting from paragraph (a) of the same general rule the words "either at the surface or at the appointed lamp station" and by inserting in lieu thereof the words "at the surface";

(iii) by omitting paragraph (f) of the same general rule;

Rule 11.

(k) by omitting general rule eleven of the same section and by inserting in lieu thereof the following general rule:—

Lamp stations.

*Rule 11.* The position of the lamp stations for relighting oil flame safety-lamps shall be at or outbye a station appointed under the provisions of general rule four of this section.

Rule 12.

(l) by omitting general rule twelve of the same section and by inserting in lieu thereof the following general rule:—

Regula-  
tions in  
Schedules  
to be  
observed.

*Rule 12.* The provisions of all regulations contained in the Fifth, Sixth and Seventh Schedules to this Act shall be duly observed so far as is reasonably practicable in every mine.

Rule 12B.

(m) by omitting general rule 12B of the same section and by inserting in lieu thereof the following general rule:—

Prevention  
of coal  
dust.

*Rule 12B.* (1) Where there is danger to health and safety caused by an accumulation of coal dust on the floor, roof and/or sides of any roadway in use in any mine, such coal dust shall be removed as far as may be reasonably possible from the underground workings of the mine.

Proper treatment of such coal dust by the agency of a material of a type approved by the chief inspector as suitable and sufficient to keep the concentration of dust in suspension in the air below the proclaimed standard shall be equivalent to the removal of the dust from the underground workings of the mine.

Coal

Coal dust shall be deemed to be dangerous to the health and safety of workmen exposed to it if it is in such a position and of such quantity as to be reasonably likely to be forced into suspension in the air by normal mining operations in concentrations equal to or in excess of the proclaimed standard.

(2) The Governor may on the recommendation of the Minister by proclamation published in the Gazette declare a standard of concentration of dust which if in suspension in the air is to be deemed to be dangerous to the health and safety of persons exposed to the dust.

Such standard is in this general rule referred to as the proclaimed standard.

Before the Minister makes a recommendation pursuant to this paragraph he shall cause the question to be investigated by such persons qualified in that behalf as he may appoint and shall base his recommendation upon their findings.

(3) Workmen shall not be exposed to dust concentrations exceeding the proclaimed standard.

(4) A current of air shall be maintained at the working faces adequate to ensure that any dust there in suspension shall be of a concentration less than the proclaimed standard.

(5) In any place in a mine where the concentration of dust cannot be kept at less than the proclaimed standard by the air current, either mist projectors of a type approved by the chief inspector, or water sprays, shall be used to reduce the concentration of dust and before a shot is fired the face area shall be thoroughly wetted unless it is established to the satisfaction of the inspector that the use of such mist projectors or water sprays

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sprays would be seriously detrimental to the stability of the roof, sides or floor, or to the health of the workmen.

(6) Water sprays shall be used on the cutter bar of all coal-cutting machines unless other devices approved by the chief inspector are substituted for the allaying of dust, or unless the coal-cutting machine does not produce concentrations of dust in suspension of or exceeding the proclaimed standard.

(7) Where the concentration of dust in any working place is not kept below the proclaimed standard any shot firing in that place shall be carried out during a non-producing shift or when the least number of workmen are on the immediate return side of the place where the shot is to be fired.

(8) In every mine dust counts and analyses of samples of dust in suspension in the air shall be made at least once in every six months or in the case of a particular mine at such other intervals of time as the Minister shall on the recommendation of the chief inspector direct.

Records of the result of all such dust counts and analyses shall be made and kept at the office at the mine.

(9) At any point on the surface works associated with the mine and at which the loading, unloading, screening, cleaning or crushing of coal causes concentrations of dust to rise in suspension in the air of or in excess of the proclaimed standard and to which workmen are exposed such point shall be equipped with a suction plant or other suitable apparatus or plant designed to effectually avoid the exposure of workmen to excessive dust.

(10)

(10) In any places in or about a mine where it is impracticable to keep concentrations of dust within the proclaimed standard, respirators of a design approved by the chief inspector shall be used by the workmen.

(11) Where the concentration of that portion of such accumulations of coal dust passing through a 100-mesh (Institute of Mining and Metallurgy or equivalent British Standards Institute standard) sieve is such that the combustible volatile matter content by weight exceeds ten ounces per thousand cubic feet of airway, the floor, roof and sides shall be systematically treated by the addition of incombustible dust so that the combustible volatile matter content by weight of the resultant dust shall not exceed the following limits, that is to say, eleven decimal five per centum for limestone dust and a percentage to be notified formally in writing by the chief inspector for any other type of incombustible dust of which he approves in the same writing.

The fineness of the incombustible dust shall be such that of the dry dust which passes through a 60-mesh (British Standards Institute standard) sieve not less than fifty per centum by weight and (except with the permission of the chief inspector) not more than seventy-five per centum by weight shall pass through a 240-mesh (British Standards Institute standard) sieve.

The weight of combustible volatile matter content set out above shall be determined at a temperature of nine hundred and sixty degrees Centigrade (plus or minus fifteen degrees).

Where inflammable gas is found to be contained normally in the atmosphere of the roadway treated for dust, the limits hereinbefore

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hereinbefore mentioned of combustible volatile matter content of the dust shall be decreased in each case by nine-tenths of one per centum for each one-half of one per centum or part thereof of inflammable gas found to be present.

(12) As far as may be practicable incombustible dust for stone dusting purposes shall be applied either during the afternoon shift or under such other conditions that the dust will not be borne by the air current over persons working in the mine, and by mechanical means aided by hand in places which cannot be reached by such mechanical means.

Respirators of a design approved by the chief inspector shall be used by persons applying incombustible dust to the roof, floor or sides of any part of a mine.

Incombustible dust which on analysis shows a content of more than three per centum of total silica calculated by a method or methods approved from time to time by the Minister and published in the Gazette shall not be applied to the floor, roof or sides of any part of a mine

(13) Unless the floor, roof and sides of the roads are naturally wet throughout—

(i) arrangements shall be made to prevent, as far as practicable, coal dust entering the downcast shaft from the screens or picking belts.

In the case of a mine newly opened after the thirty-first day of December, one thousand nine hundred and twenty-six, no plant for the screening or sorting of coal shall be situated within a distance of eighty yards from any downcast shaft except upon the written authority of the chief inspector;

(ii)

(ii) every skip shall be so constructed **No. 16, 1941.** and maintained as to prevent, as far as practicable, coal dust escaping through the sides, ends, or floor of the skip provided that—

Existing wooden skips in normal use immediately prior to the commencement of the Coal Mines Regulation (Amendment) Act, 1941, may be continued to be used, but such skips shall be maintained in a dust-proof condition to the satisfaction of the inspector, and skips in respect of which repairs have been effected involving the entire replacement of the wooden portion thereof shall for the purposes of this subparagraph be deemed to be a new wooden skip.

Save as aforesaid after the date of the commencement of the Coal Mines Regulation (Amendment) Act, 1941, no wooden skips, either new or second-hand, shall be used without the permission of the chief inspector. Such permission shall not be refused—

(a) where the use of metal skips would be impracticable because of the presence of water impregnated with acid; or

(b) where the provision of metal skips would be impracticable because of circumstances arising out of the existence of a state of war.

A refusal of such permission shall be subject to appeal to the court.

(iii) the roads shall be examined by a competent person weekly and a report (to be recorded at the time in a book kept at the mine for the purpose) made on

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on their condition as to dust and on the steps taken to mitigate any dry and dusty condition or any nuisance arising therefrom;

(iv) coal in transit on main roads underground shall be wetted with water where such a step is necessary to minimise the raising of dust into the atmosphere.

(n) (i) by inserting in general rule thirteen of the same section after the word "width" where firstly occurring the words—

The chief inspector may grant exemption from the foregoing provision of this general rule to enable any place to be driven to a width not exceeding twelve feet.

(ii) by omitting from the same general rule the word "and" where firstly occurring and by inserting in lieu thereof the words "In all such places";

(o) by omitting general rule fourteen of the same section and by inserting in lieu the following general rule:—

Signalling  
and man-  
holes for  
travelling  
planes  
worked  
by  
machinery.

*Rule 14.* (a) Every underground plane on which persons travel and in which the haulage is by means of ropes shall be provided, if exceeding thirty yards in length, with some proper means of communicating distinct and definite signals between the stopping places of such haulage and the ends of the plane.

(b) Sufficient manholes not less than six feet high, three feet wide, and four feet deep shall be provided in such planes for places of refuge whatever form of haulage may be used at intervals of not more than twenty yards.

Manholes need not be provided where the haulage is by electric or other locomotive the speed of which is not greater than four miles per hour in any portion of

of the plane where there is sufficient clear space for a person to stand between the side of the locomotive and skips and the side of the plane.

In measuring any clear space for the purpose of this general rule, any props or other supports of the roof projecting beyond the side of the road shall be deemed to form part of the side.

(p) by inserting after general rule 16A of the same section the following new general rule:—

*Rule 16B.* (1) Where the workings extend beyond a distance of one mile from the principal entrance to the mine, the owner, agent or manager of every mine shall make adequate provision for the transportation of persons underground.

For the purposes of this paragraph the provision is to be regarded as adequate if the point to which the transport extends is within one mile of the working place to which such a person is to proceed and such person is not required to walk on the whole more than one mile to reach his working place.

(2) (a) The Minister, on the recommendation of the chief inspector and for such reasons as appear to him to be sufficient and upon the written application of the owner, agent or manager of any mine, may—

- (i) grant exemption from the provisions of paragraph one of this general rule in respect of such mine, or
- (ii) refer any such application to the court for determination.

(b) The owner, agent or manager shall—

- (i) fully set out in the application the grounds on which exemption is desired, and

(ii)

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(ii) when forwarding the application to the Minister furnish the industrial organisation or association representative of the majority of the workmen in the mine with a copy of such application.

(c) Such industrial organisation or association within a period of fourteen days after the receipt of the copy of the application for exemption by the owner, agent or manager may make such representations to the Minister as they deem necessary in respect of such application and the Minister shall give due consideration to these representations before arriving at a decision in the matter.

(3) The provision to be made under this general rule shall in respect of mines in operation at the commencement of the Coal Mines Regulation (Amendment) Act, 1941, be made before the thirty-first day of December, one thousand nine hundred and forty-one, or within such further time or times as may be allowed from time to time in that behalf by the Minister, and in respect of mines commencing to operate after the said commencement within such time or times as may be allowed from time to time in that behalf by the Minister.

Brakes and signalling.

(4) All transport systems shall be equipped—

(a) with efficient brakes or other means whereby the transport can be stopped quickly in case of emergency; and

(b) with a proper system of signalling.

Rule 23.  
(Systematic support of roofs and sides.)

(q) (i) by inserting in paragraph four of general rule twenty-three of the same section after the word "notice" the words "and diagram to be posted at the mine";

(ii)

(ii) by omitting from the same paragraph of <sup>No. 16, 1941.</sup> the same general rule subparagraphs (b) and (c) and by inserting in lieu the following subparagraphs:—

(b) between adjacent props, bars and props, or other supports used in the same row;

(c) between the front props, bars or other supports used in each row and the face;

(r) by omitting from general rule 23A of the same section the words "at or within ten yards" and by inserting in lieu thereof the words "within a reasonable distance";

(s) by inserting after general rule 23A the following new general rules:—

*Rule 23B.* Timber from which the bark has not been removed shall not be sent into any mine for any purpose.

*Rule 23C.* In any seam of coal being worked in accordance with any system of mining where the seam is inclined at an angle of forty degrees or greater from the horizontal the portion of such seam under which any roadway runs or under which persons pass or work shall for the purposes of general rules twenty-two and twenty-three of this section be deemed to be included in the roof of the seam.

*Rule 23D.* In the event of a dispute arising as to the setting of slabs or bars or both in any place in conformity with the provisions of general rules twenty-two and twenty-three of this section there shall be a conference between the manager and the check inspector as to the safety of the place in dispute. In the event of there being a reasonable doubt in the matter extra slabs or bars shall be set. In the event of a disagreement the dispute shall be referred to the inspector of the district and dealt with under the provisions of general rule twenty-three.

(t)

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Rule 24A.  
(Egress  
to second  
outlet.)

(t) by inserting in general rule 24A of the same section after the word "purpose" the words—

The form of report to be signed by the deputy under the provisions of this general rule shall contain a printed warning to such deputy to the effect that he shall announce to the workmen in the district that at the end of the shift during which he has made the inspection he will act as a guide to any workman who desires that assistance in traversing the return airway to the surface.

Rule 25.  
(Attendance  
of engine-  
man.)

(u) (i) by inserting in general rule twenty-five of the same section after the word "purpose" where secondly occurring the words "within hearing of the signals";  
(ii) by inserting in the same general rule after the word "mine" where secondly occurring the following words:—

Where there are two means of entry into and exit from a mine without the aid of machinery the foregoing provisions of this general rule shall not apply.

Rule 28B.

Substituted  
Rule 33.  
New Rule  
33A.

Boilers.

(v) by omitting general rule 28B of the same section;  
(w) by omitting general rule thirty-three of the same section and by inserting in lieu thereof the following general rules:—

*Rule 33.* Every new boiler and unfired pressure vessel and their appurtenances shall be constructed, installed and inspected in accordance with the Standards Association of Australia Boiler Code in force at the time of such installation; and every boiler and unfired pressure vessel and their appurtenances already installed at the commencement of the Coal Mines Regulation (Amendment) Act, 1941, shall be maintained and inspected in compliance with the terms of the said code.

The inspection of boilers and unfired pressure vessels at a mine shall be made by a person who is licensed under the provisions

provisions of section forty-six of the <sup>No. 16, 1941.</sup> Mines Inspection Act, 1901, to test and examine any boiler at a mine.

Notwithstanding any provision to the contrary in the said Standards Association of Australia code the report of an inspection and the certificate of fitness shall be in a form approved by the Minister upon the recommendation of the chief inspector, and a copy of such report and certificate shall be forwarded by the manager to the inspector of the district within a period of fourteen days after the date of the inspection.

*Rule 33A.* A steam boiler shall not be placed <sup>Prohibition of steam boilers underground.</sup> underground in any mine.

- (x) by inserting in general rule thirty-five of the Rule 35. same section after the word "stretchers" the (Stretchers.) words "of a type for the time being approved by the chief inspector";
- (y) by omitting from general rule thirty-eight of Rule 38. the same section the words "the prescribed (Books, &c.) form" and by inserting in lieu thereof the words "a form approved by the chief inspector";
- (z) (i) by inserting in general rule thirty-nine of Rule 39. the same section after the words "working (Periodical inspection of the mine" the following words:— on behalf of workmen.)  
If the person or persons making the inspection so impede or obstruct the working of the mine by withdrawing the workmen from the mine or in any other way the manager may, on giving due notice of his intention to the principal industrial organisation or association representative of the employees in the mine, apply to the court or to a stipendiary or police magistrate for an order prohibiting such person or persons from further entering the mine in the same capacity.
- (ii) by inserting at the end of the same general rule the words—  
The finding on any day of an inspection of any inflammable or noxious gas or the existence

**No. 16, 1941.**

existence of self-heating of coal, strata or other material whatsoever or of any other condition from which danger to safety, health or property may be apprehended shall be so recorded by the person making the inspection on that day before he leaves the mine.

In the case of any mine in which two persons have not been appointed in accordance with the foregoing provisions of this general rule and a majority of the employees at which mine are entitled to vote generally in the election of the person holding the office of district check inspector, the person holding such office shall have the same rights and obligations as a check inspector appointed under the provisions of this general rule.

Rule 43A.

(aa) by omitting general rule 43A of the same section and by inserting in lieu thereof the following general rule:—

Dust prevention.

*Rule 43A.* A drill worked by mechanical power shall not be used for drilling in stone or rock unless—

- (a) such drill is hollow and a jet of water is passed through it whilst in operation in such manner and to such an extent as to effectively prevent the issue of dust from the hole during drilling operations; or
- (b) some other device of a type approved by the chief inspector is used which is equally effective; or
- (c) some other equally effective steps of a nature so approved are taken.

Where the drilling by mechanical power in stone or rock is done intermittently in a working-place and in conjunction with coal-getting operations the chief inspector, upon application in that behalf, may, by writing under his hand, grant an exemption from compliance with the whole

whole or any part of the provisions of **No. 16, 1941.**  
this general rule for such time and subject  
to such conditions as are expressed in the  
exemption.

(ab) (i) by inserting at the end of subparagraph (b) of paragraph one of general rule forty-four the words "and no extension of or structural addition to an existing bath or change-house shall be made unless the plan and specifications of such extension or addition have been previously approved by the Minister";

(ii) by inserting in subparagraph (e) of paragraph one of the same general rule after the word "change-room" the words "exclusive of any floor space in the portion thereof in which showers are installed and used";

(iii) by omitting from subparagraph (g) of paragraph one of the same general rule the words "Not less than one shower and two basins for every eight persons" and by inserting in lieu thereof the words "Not less than one shower for every five persons and one basin for every twenty persons";

(iv) (a) by omitting from subparagraph (k) of paragraph one of the same general rule the word "The" at the commencement of the second sentence thereof and by inserting in lieu thereof the word "Each";

(b) by inserting in the same subparagraph after the words "any other person" the following words:—

Two chains or cords shall be allotted to each person using the accommodation, one for his clean clothes and one for his working clothes, each separated from the other and from any cord or chain allotted to another such person.

The provision, in any change-house in a part of the house and of a size and design

Rule 44.  
(Bath and  
change-  
house  
accommo-  
dation.)

**No. 16, 1941.**

design approved by the Minister, of two lockers, constructed of non-inflammable material and so designed as to permit of the interior thereof being easily cleaned, or of one locker and one chain or cord for any person using the accommodation, shall be deemed, as regards such person, to be a sufficient compliance with the foregoing requirements of this subparagraph.

Any change-house erected after the commencement of the Coal Mines Regulation (Amendment) Act, 1941, shall be so designed as to provide a separate area in which clean clothes are to be kept.

- (c) by inserting at the end of the same subparagraph after the word "suspended" the words "or in such lockers";
- (v) by inserting in subparagraph (l) of paragraph one of the same general rule after the word "no" the word "open";
- (vi) by inserting after subparagraph (l) of paragraph one of the same general rule the following new subparagraph:—

(m) a responsible adult person or persons appointed by the manager shall once at least in every day on which workmen are employed at the mine inspect the bath and change-house accommodation.

The person or persons so appointed shall without delay make a full and accurate report in a book kept at the mine stating the result of such inspection and specifying the measures taken to remedy any defect disclosed during the inspection.

- (vii) by inserting at the end of paragraph two of the same general rule the words "or if the

the plans and specifications of such bath and change-house were approved by the Minister before the commencement of the Coal Mines Regulation (Amendment) Act, 1941"; No. 16, 1941.

- (viii) by omitting from paragraph three of the same general rule the words "the representative of the union of employees" and by inserting in lieu thereof the words "a majority of the employees in or about the mine";
- (ix) by omitting subparagraph (b) of paragraph three of the same general rule;
- (x) by omitting from paragraph five of the same general rule the words "the Coal Mines Regulation (Amendment) Act, 1926, be made before the first day of July, one thousand nine hundred and twenty-seven" and by inserting in lieu thereof the words "the Coal Mines Regulation (Amendment) Act, 1941, be made before the first day of July, one thousand nine hundred and forty-one";
- (xi) by inserting at the end of the same general rule the following new paragraphs:—
  - (6) If at any time by reason of an increase in the number of persons employed in or about any mine, or for any other reason, the bath and change-house accommodation provided in any mine is not adequate in the opinion of the chief inspector to comply with the provisions of this general rule, he may serve a notice upon the owner, agent or manager of the mine requiring him within a reasonable time specified in the notice to furnish such additional accommodation or to make such adjustments or additions to the existing accommodation as are specified in the notice and are necessary to make such accommodation adequate to comply with this general rule.

No. 16, 1941.

(7) Any owner, agent, or manager, who—  
 (a) contravenes or fails to comply with any of the provisions of this general rule; or  
 (b) fails to comply with the requirements of any notice served upon him pursuant to paragraph six of this general rule within the time specified in the notice or within such further time as may be allowed in that behalf by the Minister on the recommendation of the chief inspector,

shall be guilty of an offence against this Act and shall be liable on summary conviction to a penalty not exceeding fifty pounds for any such offence. And where he is charged with failing to comply with the requirements of any notice served on him pursuant to paragraph six of this general rule to a further penalty not exceeding five pounds per day for each day on which he fails to comply with the requirements of the notice.

Amendment  
of Act No.  
11, 1913,  
s. 19.

(2) The Coal Mines Regulation (Amending) Act, 1913, is amended by omitting so much of section nineteen as inserted general rule thirty-three in section fifty-four of the Principal Act.

Amendment  
of Act No.  
19, 1926,  
s. 9 (2).

(3) The Coal Mines Regulation (Amendment) Act, 1926, is amended—  
 (a) by omitting paragraphs (b), (d), (f), (g) and (j) of subsection two of section nine;  
 (b) by omitting so much of paragraph (i) of the said subsection as inserted paragraph (f) in general rule ten of section fifty-four of the Coal Mines Regulation Act, 1912, as amended by subsequent Acts;  
 (c) by omitting so much of paragraph (k) of the said subsection as inserted general rule 12B in section fifty-four of the Coal Mines Regulation Act, 1912, as amended by subsequent Acts.

(4)

(4) The Coal Mines Regulation (Amendment) No. 16, 1941.  
Act, 1931, is amended—

Amendment  
of Act No.  
52, 1931,  
s. 14 (1).

- (a) by omitting paragraphs (c), (e), (i) and (m) of subsection one of section fourteen;
- (b) by omitting so much of paragraph (h) of the same subsection as inserted general rule 28B in section fifty-four of the Coal Mines Regulation Act, 1912, as amended by subsequent Acts.

**11. The Principal Act is further amended—**

Further  
amendment  
of Act No.  
37, 1912.

- (a) by inserting at the end of paragraph (b) of subsection one of section 54A the words "and no extension of or structural addition to an existing bath or change-house shall be made unless the plan and specifications of such extension or addition have been previously approved by the Minister";
- (b) by inserting in paragraph (e) of subsection one of the same section after the word "change-room" the words "exclusive of any floor space in the portion thereof in which showers are installed and used";
- (c) by omitting from paragraph (g) of subsection one of the same section the words "Not less than one shower and two basins for every eight persons" and by inserting in lieu thereof the words "Not less than one shower for every five persons and one basin for every twenty persons";
- (d) (i) by omitting from paragraph (k) of subsection one of the same section the word "The" at the commencement of the second sentence thereof and by inserting in lieu thereof the word "Each";  
(ii) by inserting in the same paragraph after the words "any other person" the following words:—

Two chains or cords shall be allotted to each person using the accommodation, one for

No. 16, 1941.

for his clean clothes and one for his working clothes, each separated from the other and from any cord or chain allotted to another such person.

The provision, in any change-house in a part of the house and of a size and design approved by the Minister, of two lockers, constructed of non-inflammable material and so designed as to permit of the interior thereof being easily cleaned, or of one locker and one chain or cord for any person using the accommodation, shall be deemed, as regards such person, to be a sufficient compliance with the foregoing requirements of this paragraph.

Any change-house erected after the commencement of the Coal Mines Regulation (Amendment) Act, 1941, shall be so designed as to provide a separate area in which clean clothes are to be kept.

- (iii) by inserting at the end of the same subsection after the word "suspended" the words "or in such lockers";
- (e) by inserting at the end of subsection one of the same section the following new paragraph:—

(1) a responsible adult person or persons appointed by the manager shall, once at least in every day on which workmen are employed at the works, inspect the bath and change-house accommodation.

The person or persons so appointed shall, without delay, make a full and accurate report in a book kept at the office of the works stating the result of such inspection and specifying the measures taken to remedy any defect disclosed during the inspection.

- (f) by inserting at the end of subsection two of the same section the words "or if the plans and specifications of such bath and change-houses were approved by the Minister before the commencement of the Coal Mines Regulation (Amendment) Act, 1941";

(g)

(g) by omitting from subsection three of the same section the words "the representative of the union of employees" and by inserting in lieu thereof the words "a majority of the employees in or about the works";

(h) by omitting paragraph (b) of subsection three of the same section;

(i) by omitting from subsection seven of the same section the words "the Coal Mines Regulation (Amendment) Act, 1926, be made before the first day of July, one thousand nine hundred and twenty-seven" and by inserting in lieu thereof the words "the Coal Mines Regulation (Amendment) Act, 1941, be made before the first day of July, one thousand nine hundred and forty-one";

(j) by inserting at the end of the same section the following new subsections:—

(8) If at any time by reason of an increase in the number of persons employed in or about any coke-works or for any other reason, the bath and change-house accommodation provided in any coke-works is not adequate in the opinion of the chief inspector to comply with the provisions of this section, he may serve a notice upon the owner or manager of the coke-works requiring him within a reasonable time specified in the notice to furnish such additional accommodation or to make such adjustments or additions to the existing accommodation as are specified in the notice and are necessary to make such accommodation adequate to comply with this section.

(9) Any owner or manager who—

(a) contravenes or fails to comply with any of the provisions of this section; or

(b) fails to comply with the requirements of any notice served upon him pursuant to subsection eight of this section within the time specified in the notice or within such further time as may be allowed

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allowed in that behalf by the Minister on the recommendation of the chief inspector,

shall be guilty of an offence against this Act and shall be liable on summary conviction to a penalty not exceeding fifty pounds for any such offence and where he is charged with failing to comply with the requirements of any notice served on him pursuant to subsection eight of this section to a further penalty not exceeding five pounds per day for each day he does not comply with the requirements of the notice.

**12.** (1) The Principal Act is further amended—

Further amendment of Act No. 37, 1912.

Sec. 56A.  
(Travelling on haulage roads.)

(Revision.)

Sec. 56B.  
(Regulations.)

New sec. 65A.

Road of access.

Sec. 1 (3).  
(Revision.)

- (a) (i) by omitting from subsection one of section 56A the words "On and after the first day of July, one thousand nine hundred and fifteen";
- (ii) by inserting in subsection two of the same section after the word "locomotive" the words "or a shunter";
- (iii) by omitting from subsection three of the same section all words after the word "requirements" where lastly occurring;
- (b) by inserting at the end of paragraph (a) of subsection one of section 56B the words "or any or all of the regulations or other matter contained in any Schedule to this Act";
- (c) by inserting next after section sixty-five the following new section:—

65A. The owner of every mine shall make provision, but only within his own property, for a road of access to the main entrance to the mine.

Such road of access shall be so constructed and maintained as to be safe for use by the employees and other persons attending at the mine for any lawful purpose.

- (d) by omitting from subsection three of section one the figures "65" and by inserting in lieu thereof the figures and letter "65A";

(e)

(e) by inserting next after section seventy-six the **No. 16, 1941.**  
following new section:—

New sec 76A.

76A. The owner, agent, superintendent, assistant superintendent, manager or other official of a mine shall not be liable to an action for damages as for breach of statutory duty in respect of any contravention of or non-compliance with any of the provisions of this Act if it is shown that it was not reasonably practicable to avoid or prevent the breach.

Protection  
of owners,  
&c.

(f) by omitting from subsection three of section one **See. 1 (3).**  
the figures "76" and by inserting in lieu thereof **(Revision.)**  
the figures and letter "76A";

(g) by inserting next after section seventy-nine the **New sees.**  
following new sections:—

79A, 79B.

79A. Any approval given or exemption granted by the chief inspector may be given either generally or in a particular case and from time to time may be revoked or altered.

Powers of  
the chief  
inspector  
as to  
approvals,  
&c.

Any such approval or exemption may be given or granted either unconditionally or subject to such conditions or limitations as he may see fit to impose. Any such approval or exemption may be evidenced—

(a) where it is given generally by the production of a copy of the Gazette containing a notice of such approval or exemption; or

(b) where it is given in a particular case by the production of a writing under his hand or the hand of the Under Secretary for Mines.

79B. (1) Any geological surveyor, engineer, or other person, holding a position in the Public Service and authorised in writing in that behalf by the Minister, may enter any mine for the purpose of carrying out any inspection or doing any other class of work or thing specified in such authority.

Inspection  
by geo-  
logical  
surveyor,  
&c.

(2) Every person who wilfully obstructs any such person so authorised in the carrying out of any such inspection or doing any such work or thing and every owner, agent and manager

Obstructing  
&c.

**No. 16, 1941.**

manager of a mine who refuses or neglects to furnish to such person the means necessary for making any entry, inspection, examination or the doing of any such work or thing so specified in relation to the mine shall be guilty of an offence against this Act.

**New sec.  
81.**

(h) by inserting next after section eighty the following new section:—

81. (1) Where any general rule contained in section fifty-four or any Schedule to this Act is, by regulation made pursuant to this Act, amended by—

(a) the repeal or omission of certain words or figures; or

(b) the substitution of certain words or figures in lieu of any repealed or omitted words or figures; or

(c) the insertion of certain words or figures, this Act, including the general rule or Schedule as so amended, may be printed by the Government Printer in the form certified as correct by the Attorney General.

(2) The provisions of the Amendments Incorporation Act, 1906, shall, mutatis mutandis, apply to this Act as so amended.

(i) by omitting from subsection three of section one the figures "80" and by inserting in lieu thereof the figures "81."

(2) As and from the commencement of this Act any regulation made under section 56B of the Principal Act and any special rule made under section fifty-seven of that Act and then in force at any mine shall cease to have effect.

(3) Where at the commencement of this Act electrical equipment is installed in or is being used in any mine or part of mine under the conditions applicable to naked light mines the use of such electrical equipment during its normal life in the said mine or part of a mine shall be allowed if such electrical equipment is in compliance with the provisions of the regulations for the installation and use of electrical equipment contained in the Seventh Schedule to the Principal Act as amended by this Act.

**Any****Application  
of Amend-  
ments In-  
corporation  
Act, 1906.****Sec. 1 (3).  
(Revision.)**

Any replacement or extension of such electrical equipment within the meaning of the aforesaid regulations shall be in compliance with such regulations. All ventilating districts and return airways in any such mine shall be treated as gassy places under such regulations as relate to the structure and installation of electrical equipment.

**13.** The Principal Act is further amended by omitting the Fifth Schedule and by inserting in lieu thereof the following Schedules:—

Further amendment of Act No. 37, 1912.  
Fifth, Sixth and Seventh Schedules.

Sec. 54.  
General Rule 12.

FIFTH SCHEDULE.  
REGULATIONS FOR SHOT-FIRING.  
GENERAL.

*Applicable to all mines.*

1. In this Schedule, unless the context otherwise indicates or requires, "competent" means registered as holding at least a third-class certificate of competency or a certificate of service as a deputy.

2. No drill shall be used for the boring of a shot-hole unless it allows at least a clearance of one-eighth of an inch over the diameter of the cartridge which is intended to be used in the shot-hole.

No person shall attempt to charge a shot-hole unless such clearance exists.

3. It shall be the duty of any person firing a shot to satisfy himself of the fulfilment of the following requirements:—

- (a) Each charge shall be inserted only in a properly placed hole.
- (b) Each shot-hole shall be properly drilled.
- (c) Each charge shall consist of not more than one description of explosive; and shall not exceed the charge limit prescribed for that explosive.
- (d) Each charge shall be properly stemmed with sufficient stemming.

4. No explosive shall be forcibly pressed into a hole, and when a hole has been charged the explosive shall not be unrammed, nor shall any part of the stemming be removed nor shall the detonator leads be pulled out save as provided in Regulation 11 of this Schedule.

5. The person firing a shot shall, after the shot has been fired, make a careful examination of the place to see that it is safe in all respects.

6. Any explosive substance shall only be used in the mine below ground as follows:—

- (a) It shall not be stored in the mine except as herein provided:—

Notwithstanding any provisions of the Explosives Act, 1905, where in any mine or part thereof the manager requires blasting to be done on the afternoon shift of mineral prepared for this purpose on the day shift immediately preceding such afternoon shift, the estimated amount of explosive substance

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substance required for each workman employed (not exceeding 5 pounds for each workman, save in cases approved by the chief inspector) may be taken into the mine by the workman on the day shift who is employed preparing the mineral for blasting, and shall be stored by him in a suitable place in his working place for the use of the shot-firer employed on the succeeding shift who shall take therefrom such explosive substances as are required for the blasting of the mineral.

The owner, agent, or manager of the mine shall make suitable provision conveniently near the entrance of the mine for the storage of surplus explosives brought out of the mine at the end of each shift.

If any explosive remains in the possession of a workman at the end of his shift, other than the explosive stored as above, he shall bring it with him out of the mine, and return it at once to the place of storage provided for the purpose.

(b) It shall not be taken into the mine except in cartridges in a secure case or canister containing not more than 5 pounds, unless by the permission of the inspector granted to the manager of the mine on his application.

This provision shall not apply to sinking or deepening shafts from the surface.

(c) A workman shall not have in use at the one time in any one place more than one of such cases or canisters, unless by the permission of the inspector granted to the manager of the mine on his application.

(d) Detonators shall be kept in the place of storage provided for explosives pursuant to the Explosives Act, 1905.

(e) The detonators so kept shall be issued only to the manager or under-manager, or to a deputy or shot-firer, but may be issued to a workman if his working place be not a gassy place or a dry and dusty place.

(f) Every person to whom detonators are issued as aforesaid shall keep the detonators until they are about to be used for the charging of a shot-hole in a suitable case or box which shall be provided by the owner, agent, or manager, and which shall be kept securely fastened and separate from any other case or box containing explosive, and shall be used only for the storage of the detonators.

In the case of a shaft being sunk from the surface or deepened, it shall not be deemed a contravention of the foregoing provision if the primers for charges are fitted with detonators on the surface before being taken into the shaft and are only taken into the shaft immediately before use by the person to fire the shot and in a thick felt bag or other receptacle sufficient to protect them from shock.

(g) In the process of charging or stemming for blasting, a person shall not use or have in his possession any iron or steel pricker, charger, tamping rod, or stemmer.

In

In all mines only clay or some other non-combustible material provided by the owner and approved for the purpose by the inspector shall be used for stemming.

- (h) No shot shall be fired in any dry and dusty place.
- (i) If in any mine, at either of the inspections under General Rule 4 of section fifty-four of this Act recorded last before a shot is to be fired or at any time subsequent to either of such inspections inflammable gas has been reported or found to be present on the intake side of any place in a ventilating district in which the shot is to be fired, the shot shall not be fired unless a competent person has examined the place with a locked oil flame safety-lamp or other device for the detection of gas of a type approved by the chief inspector, where the gas has been so reported or found to be present, and has ascertained that such gas has been cleared away, or that there is not at or near such place sufficient gas issuing or accumulated to render it unsafe to fire the shot.

For the purpose of this regulation gas shall be regarded to be cleared away as given off, and not to be issuing or accumulated so as to be unsafe for firing a shot if the ventilating current of air is adequate to prevent pollution of the body of the air in the place to such an extent that the air leaving the place does not carry gas in quantities capable of being detected with a locked oil flame safety lamp.

- (j) In seams where inflammable gas has been found permitted sheathed explosives, when commercially procurable, shall be used, and save as aforesaid permitted explosives only shall be used for shot-firing in a mine.
- (k) No explosive shall be taken or used in any mine except an explosive provided by the owner; and the price, if any, charged by the owner to the workman for any explosive so provided shall not exceed the actual net cost to the owner.

7. The person firing the shot shall, before doing so, see that all persons in the vicinity have taken proper shelter, and he shall also take suitable steps to prevent any person approaching the shot.

He shall also himself take proper shelter.

If he has reason to believe that there is a possibility of the shot blowing through into an adjoining place he shall ascertain that all persons in that place have taken proper refuge before the shot is fired.

8. Where there are two or more shot-holes in the one place only one of such shot-holes shall be charged or stemmed at the one time and no other shot-hole shall be charged until the shot is fired:

Provided that the Chief Inspector may authorise the charging, stemming and firing of two or more shots at the one time for the purpose of—

- (a) shooting down tops; or
- (b) conducting experiments in simultaneous shot-firing.

Such operations shall be carried out in accordance with any condition expressed in the authority.

**Coal Mines Regulation (Amendment) Act.**

**No. 16, 1941.** 9. Where in any longwall face shots to bring down the coal are fired between shifts, the requirement of Regulation 8 of this Schedule as to the charging of shot-holes shall not apply if and in so far as this observance would necessitate the firing of any such shot during a working shift.

10. If a shot misses fire, the following provisions of this regulation shall be observed:—

- (a) The person firing the shot shall not approach or allow anyone to approach the shot-hole until an interval has elapsed of not less than ten minutes.
- (b) The person firing a shot shall before approaching or allowing anyone to approach the shot-hole disconnect the cable from the firing apparatus and carry such apparatus himself until the cable has been disconnected from the shot.
- (c) If the person firing the shot has occasion to leave the place before the shot has exploded he shall fence off the place before leaving, and shall affix a danger board or fence indicating the presence of a miss-fire shot.
- (d) Except where the miss-fire is due to a faulty cable or a faulty electrical connection, and the shot is fired as soon as practicable after the defect is remedied, another shot shall be fired in a fresh hole which shall be drilled not less than twelve inches away from the hole in which the shot has missed fire, and shall, as far as practicable, be parallel with it.
- (e) A second charge shall not be placed in the same hole.
- (f) The person firing the second shot shall, before doing so, attach a string to the electric leads of the miss-fired shot, and secure it by attaching it to the cable or to a prop or otherwise.
- (g) After the second shot has been fired no person shall work in the place until the person firing the shot or an official of the mine has made a careful search for the detonator and charge of the miss-fired shot.

If the detonator and charge are not found, the stone or mineral shall be loaded under the supervision of the person firing the shot, or an official, and sent to the surface in a skip or skips specially marked.

The search for the detonator and charge, and the loading of any stone or mineral which may contain a detonator, shall be carried out as far as possible without the use of tools.

- (h) Should the miss-fired shot not be dislodged by the second shot the person firing the shot shall report to the manager or other official, who shall take such action as he may deem desirable.
- (i) The person or persons firing the shots shall report the circumstances to the manager, under-manager, or deputy, and the number of cartridges, if any, which have not been found, and hand to him the detonator and charge, if found.

11. The provisions of Regulation 4 of this Schedule as to the pulling out of detonator leads shall not apply in cases in which an exemption is granted by the chief inspector on the ground that water is used for stemming.

12. No shot shall be fired except by means of electrical apparatus so enclosed as to afford reasonable security against the ignition of inflammable gas and of a type approved by the chief inspector.

If the shot-firing apparatus is fitted with a detachable handle or key, the said handle or key shall be detached by the person firing the shot and retained by him when not required to fire a shot.

If not so fitted, the said apparatus and fittings shall not pass from the personal custody of the said person whilst on duty except to a person authorised to fire shots.

13. Before a shot is connected to a firing cable the exploder shall be in the physical possession of the person about to fire the shot who shall himself connect the cable to the shot and the cable to the firing apparatus.

14. Explosives which are not on the permitted list shall not be used or taken into any mine except for use in the sinking of shafts which are not in coal or in the driving of stone drifts where inflammable gas has not been found.

15. Shot-firing cables shall be properly insulated and used in such a manner that there is no danger of their coming in electrical contact with any electric apparatus, cables, or other electric shot-firing cables.

16. Shot-firers shall make daily a record in a book kept at the mine of the results of all examinations made by them, the number of shots fired and the number of miss-fired shots (if any).

*Additional Regulations applicable to Gassy Places.*

17. A competent person (called a shot-firer) shall be appointed in writing by the manager for the purpose of firing shots.

No person shall be so appointed if his wages depend upon the amount of mineral to be gotten.

No shot shall be fired except by a shot-firer appointed as aforesaid.

Such person shall not fire the shot or allow it to be fired until he has immediately before the shot is fired examined with a locked oil flame safety-lamp or other device for the detection of gas of a type approved by the chief inspector, both the place itself where the shot is to be fired and all contiguous accessible places within a radius of 20 yards, and has found such places free from inflammable gas and in all other respects safe for firing to take place.

18. Every shot-firer shall before commencing his shot-firing round refer to the last recorded inspection under General Rule 4 of section fifty-four of this Act of the ventilating district in which the shot is to be fired prior to his entering the said ventilating district, to ascertain in what places inflammable gas has been reported to be present in the said ventilating district, and shall initial such report.

## Coal Mines Regulation (Amendment) Act.

**No. 16, 1941.** 19. Every shot shall be charged and stemmed by or under the supervision of a shot-firer.

Before the hole is charged the shot-firer shall examine it for breaks running along or across, and if any such break is found the hole shall not be charged, except in stone drifts.

20. In any district that falls within the definition of a gassy place no person other than those mentioned in Regulation 17 of this Schedule shall have in his possession any means of firing a shot.

21. Grunching or shooting of coal which has not previously been holed may be carried out in gassy places where such practice was in operation on or immediately before the thirtieth day of June, one thousand nine hundred and thirty-nine, provided that only permitted sheathed explosives when commercially procurable are used with electric means of detonation and copper or other detonators of a type approved by the chief inspector.

22. In any gassy place where grunching was not practised on or immediately before the thirtieth day of June, one thousand nine hundred and thirty-nine, such practice shall not be allowed if the chief inspector gives notice to the manager in writing to that effect, stating his reasons, subject to the right of appeal by the manager to the court upon notice to the Minister, the Miners' Federation and the Deputies and Shotfirers' Union, who may appear at their own cost.

Upon such appeal the onus shall be on the chief inspector to establish that in the particular mine the risks are substantially greater than in other mines where grunching is in operation in gassy places.

Sec. 54.  
General  
Rule 12.

### SIXTH SCHEDULE.

#### INTRODUCTION.

The regulations herein set forth shall, as far as is reasonably practicable, be observed by the several officials under whose names or descriptions the same are respectively enumerated, and by all workmen and other persons to whom the same for the time being apply.

It shall be the duty of the officials of a mine to enforce, to the best of their ability, the observance of this Act and the regulations.

The manager or under-manager in the manager's absence or the deputy within his district in the absence of both shall have power to suspend from duty any person subordinate to him in any mine who acts or attempts to act in contravention of or fails to comply with this Act or regulations and to order such person out of and from the mine.

In this Schedule "general rule" means a general rule contained in section fifty-four of this Act.

#### MANAGER.

1. The manager shall have full charge and control of all persons employed, and of all operations in, at or about the mine, and shall in

in all respects comply with the requirements of this Act and No. 16, 1941. regulations, and shall enforce the observance of this Act and regulations by all other persons employed in, at, or about the mine.

2. He shall see that such competent persons as may be necessary for carrying out the provisions of this Act and regulations, and to provide for the safety and proper discipline of the persons employed in or about the mine or mines under his control, are appointed.

3. He shall decide as to the working places in which blasting may be permitted.

4. He shall order locked safety-lamps of a type approved by the chief inspector to be used where this Act so requires and shall see that they are maintained in proper order.

He shall see that all the necessary requisites are provided for charging and locking and maintaining safety-lamps and for cleaning, trimming, locking and the proper assembling of oil flame safety-lamps at the mine.

5. He shall fix the position of all stations in the mine in accordance with the requirements of General Rules 4 and 11, and shall cause their position to be clearly indicated by notices constructed of durable material.

6. He shall search, or empower others to search, at least once in each fortnight, the person and clothing of at least ten per centum of the workmen employed in the mine for matches, cigars, cigarettes, and tobacco-pipes, or other articles whatsoever prohibited by these regulations or by those contained in the Fifth Schedule to this Act.

7. He shall see that printed notices relating to the codes of signals to be used in the shafts and on inclines and engine planes, and to the maximum number of persons to descend or ascend at one time in shafts are hung up in proper and conspicuous places, and renewed when obliterated or defaced.

8. He shall give attention to, and cause to be carefully investigated, any representations or complaints that may be made to him as to any matter affecting the safety or health of persons in or about the mine.

9. If no under-manager has been appointed for the mine, the manager shall carry out the duties imposed by these regulations on the under-manager.

**UNDER-MANAGER.**

10. In the absence of the manager, the under-manager shall have full control and charge of the mine, and of all persons employed in, at, or about the mine.

He shall personally, or by deputy, give all necessary instructions to the officials and workmen in the mine respecting their work.

He shall see that they understand and fulfil their duties and comply with the requirements of this Act and regulations.

11. He shall visit every part of the mine as often as is practicable, or as circumstances determine, and see that the air course and stoppings are in good repair, and that an adequate quantity of air is constantly supplied to the workmen.

**No. 16, 1941.** 12. Should any sudden or dangerous discharge or accumulation of inflammable or other noxious gas occur in any portion of the mine, or should any sudden danger, accident, or peril occur, he shall immediately adopt such measures as may seem to him most advisable for the removal of the gas or to avert or minimise such danger, accident or peril, and shall, as soon as practicable, report or cause the same to be reported, to the manager.

13. He shall see that in any working approaching a place which may be reasonably suspected of containing a dangerous accumulation of gas or water, proper precautions are observed as may be required by the general rules and regulations or by the special circumstances of the case, and that no dangerous quantity of gas or water is intentionally released during a working shift.

14. He shall stop the use of any road, place, shaft, plane, machinery, or structure which does not appear to him to be safe.

15. He shall see that bulls, drags or other appliances are available where necessary to guard against runaway skips.

16. He shall see that all airways, air crossings, travelling roads, manholes, and communications between shafts or outlets are properly constructed, and maintained of sufficient dimensions to comply with this Act.

17. He shall see that the mine is supplied with all necessary and suitable materials required under this Act or the regulations for the safety of the workmen, and that the roads and working places generally are maintained in a proper state of repair, and all dry and dusty places adequately treated in accordance with General Rule 12B, and shall at once report to the manager where there is any scarcity of supplies.

18. Should he receive a report that the ventilating fan or furnace has been stopped for repairs, or for any other reason, he shall immediately take such steps as he may deem necessary for the safety of the workmen and the safe working of the mine.

19. He shall daily make a true report, in a book to be kept at the mine for the purpose, of the parts of the mine he has inspected and as to their general safety.

20. In the temporary absence from duty of any deputy or other responsible official, he shall appoint a competent substitute.

He shall report any such appointment to the manager at the earliest opportunity.

21. Where doors are required between main intakes and returns he shall cause double wooden or steel doors to be erected, but this shall not prevent the erection of single man-hole trap doors and stoppings in suitable circumstances.

In main headings, and in other places he shall cause to be erected such screens or wooden doors as circumstances may require.

22. He shall cause all doors referred to in Regulation 21 of this Schedule to be so erected that they shall properly close automatically and shall also cause any such door not in use to be lifted off its hinges.

23. He shall without delay report to the manager any case of serious injury to any person, or any matter or thing coming under his

his notice which he cannot himself observe or perform, but which **No. 16, 1941.** is necessary to be observed or performed in order to comply with this Act or regulations, or to secure the safety of the persons employed in, at, or about the mine.

24. He shall see that ambulances or stretchers, together with such splints, bandages, blankets, antiseptics, chemicals, drugs, materials and appliances as may be stipulated from time to time by the chief inspector, are kept ready for immediate use in case of accident, at convenient places, both outside and inside the mine.

25. He shall cause two persons, not being under the age of twenty-one years or contractors for getting minerals in the mine, one of whom shall be a person registered as holding at least a third-class certificate of fitness to be deputy, to inspect with a locked oil flame safety-lamp or other device for the detection of gas of a type approved by the chief inspector and with an electric light of a type approved by the chief inspector at least once within each seven days every part of the old and waste workings, which are safely accessible, such inspection to be made on the day shift, and the persons appointed shall ascertain the condition of such workings with respect to the presence of inflammable gas, ventilation, self-heating, and general safety and whether such examination occupy one day or more, or less than one day, the persons appointed shall before leaving the mine on each and every day, make and sign a report of such examination in a book to be kept for the purpose.

The certificated person shall mark with chalk his initials and the date at each dead-end and at such other places as will clearly indicate the course they have taken.

If a report indicates the existence of any self-heating in any place, then such place shall be examined daily instead of weekly.

26. He shall see that manholes or places for refuge are provided on all engine planes, inclines and horse roads, as required by this Act.

He shall see that the manholes or places of refuge so provided are kept clear.

27. Subject to the instructions of the manager he shall have control of the regulators, and prevent if possible any improper interference with them and in all cases see that they are kept securely fastened; and shall see that all doors leading into any old workings or goaves are kept securely fastened or protected by danger boards, to prevent any unauthorised persons inadvertently entering the same.

28. He shall see that all regulators controlling the flow of ventilation in any district shall be of substantial construction.

29. He shall take all reasonable care to see that all relighting apparatus, lead locking plugs, cutting and stamping pliers, and all other apparatus required at the lamp station are not in the possession of any unauthorised person and are properly stored in a locked box.

30. He shall not, without the knowledge and consent of the manager, himself undertake or permit any subordinate officer or person in the mine to undertake any work or make any alteration which

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**No. 16, 1941.** which would materially affect the system of ventilation in or the method of working the seam, or deviate in any important respect from the instructions of the manager, except in such circumstances as are referred to in Regulation 12 of this Schedule.

31. He shall give attention to any complaint, and inspect or cause to be inspected such parts of the mine as may be reported to him to be unsafe and to need attention.

32. He shall examine each report made in pursuance of this Act or regulations as to conditions below the surface and shall countersign or initial each such report or copy thereof on the day on which the report is made or the day following.

33. He shall see that a deputy when appointed to a district shall be made fully acquainted with the district or districts assigned to him.

34. He shall make provision for the watering of horses during the working shift and to ensure that any horse which develops sores **or** is injured receives immediate remedial treatment.

### DEPUTIES.

35. A deputy shall act under the orders of the manager or under-manager and during their absence shall, in his district, have full charge over all miners, wheelers, and other workmen, and shall give effect to the orders of his superior officers.

36. Where he is the competent person appointed to make the inspection and report before the commencement of each shift as required by General Rule 4, he shall make such inspection within four hours of the commencement of each shift.

He shall mark with chalk his initials and the date of such inspection in some conspicuous place on or near the face or dead-end of all places examined during the course of the inspection.

In order to carry out the duties necessary in his examination for the presence of gas, ascertaining the sufficiency of ventilation, state of roof and sides, or other source of danger, he shall travel the road taken by the main ventilating current of the district or districts assigned to him, he shall examine all places, temporarily or permanently idle, which are safely accessible on the intake side of the last working place, all working places and all roads where persons may be required to pass along during the shift.

He shall examine all falls, cavities and seals along the course of the main ventilating current on the intake side of the last working place. In the case of stoppings if the roof is normal, and stoppings can be observed to be intact, a visual examination of such shall be sufficient. He shall examine the edges of goaves and waste workings abutting the working places and travelling and wheeling roads.

37. A deputy shall, according to his judgment and experience, see that the roof and sides of all travelling roads and working places are made secure, and should he find or should it come to his knowledge that any travelling road or working place is in a dangerous or insecure state, he shall not authorise any workman to pass through or allow any workman to remain in such place (except for the purpose of effecting necessary repairs) until it is made safe.

38. A deputy shall, immediately before the workmen proceed to their working places, meet them at the appointed station, and report to them the state of their working places.

In the absence of any special danger, he may allow the workmen to pass inbye without any remark; the workmen shall then be authorised to proceed to their working places, and commence work, unless they find a danger board or cross (X) sticks in their way.

39. He shall suspend, or otherwise place danger boards, cross (X) sticks, or a fence, at the entrance to every place containing firedamp or other noxious gas to a dangerous extent, or which is otherwise unsafe, so as to prevent any person inadvertently entering such place.

40. He shall cause any person who unless authorised so to do, passes a danger board, cross (X) sticks or fence to instantly withdraw and shall take any further action he deems necessary against such person, and shall report the occurrence to his superior officer.

41. He shall see that in all places in his district a sufficient supply of all necessary and suitable materials required under this Act or regulations for the safety of the workmen is maintained and shall at once report to the under-manager or manager where there is any scarcity of supplies.

42. He shall have charge of any lamp station in his district, and shall not allow any unauthorised person to light, lock, or unlock any safety-lamp.

43. Where he is the competent person appointed for the purpose he shall examine every safety-lamp before it is taken inbye the station for his district unless such lamp has been previously examined by an authorised official underground.

44. He shall immediately suspend any workman who has taken into the mine, or has in his possession in the mine, any article or appliance prohibited by this Act or by any regulations thereunder and shall report the fact to his superior official.

45. The person appointed for the purpose of General Rule 4 shall not leave the mine until he has finished his inspection or inspections, as required by General Rule 4, or until relieved by a duly appointed substitute.

46. He may at his discretion search the person and clothes of any workman or other person in the mine for matches, tobacco-pipes, or other articles prohibited by this Act or by any regulations provided always that the search is made in the presence of another official and of such other person or workman concerned.

Before starting to search, the deputy or other person empowered to search must himself be searched by some official of, or person employed in, the mine.

The result of any such search shall be recorded in a book kept at the mine for the purpose and signed by the person or persons making the search.

47. He shall see that all doors in use in his district are hung so as to comply with Regulation 22 of this Schedule.

48. He shall see that all manholes or refuge places in his district are easily accessible, and are kept clear and free from debris or materials and are of the dimensions required by General Rule 14.

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**No. 16, 1941.** 49. He shall see that every opening leading into any place which is temporarily or permanently abandoned, or which is not being worked, is properly fenced off, as required by General Rule 6.

50. He shall suspend every operation attended with exceptional risk until he shall have received special instructions thereon from his superior official.

51. He shall, as far as is reasonably practicable, see that each workman attends to the security of the roof and sides of the working place in which he is employed, and sprags the coal seam where necessary and in the event of finding any workman failing so to secure such working place by propping the same or otherwise, he shall point out to such workman any such failure, and should the workman refuse or fail to take such precautions, or do such work as may, in the opinion of the deputy, be necessary to make the place secure, he shall require the workman and all other persons working therein to remove instantly from the place and fence it off.

52. He shall put up or remove, or cause to be put up or removed, all stoppings, doors, brattices, or other fittings necessary for proper ventilation, and shall not make or permit any alteration which would materially affect or alter the system of ventilation, method of working the seam, or deviate in any important respect from the instructions of the manager or under-manager without the knowledge and consent of the manager or under-manager as the case may be.

53. He shall see that all places are driven true to direction and also that such places are not more than the maximum width as specified in writing by the manager.

54. He shall, without delay, report to the manager or under-manager any matter which may come to his knowledge and which in his opinion is likely to, or does, constitute a danger to the safety of the mine, and shall make an entry of such matter in his report for the shift.

#### SHOT-FIRERS.

55. A shot-firer shall make himself thoroughly acquainted with the provisions of the Fifth Schedule to this Act, and shall see that such provisions are strictly complied with.

#### SURVEYOR.

56. The Surveyor shall have, subject to the instructions of the manager, control of the surveying staff of the mine, and carry out such instructions as the manager may direct for driving underground workings in the proper direction.

He shall set out the working places and headings at such distances, and of such widths as the manager may from time to time in writing direct.

He shall call the attention of the workmen or officials of the mine to any neglect or deviation from the centres, or marks, or instructions given, and should the deviation be excessive, shall report to the manager.

He shall make such surveys, or levels, as the manager shall direct, or as may be required by this Act, and have such surveys and levels

as

as required by this Act plotted with reasonable despatch; and he shall **No. 16, 1941.** without delay report to the manager any matter or thing coming under his notice which he cannot himself perform, but which is necessary to be observed or carried out in order to comply with the general rules or regulations or to secure the safety of employees.

**MECHANICAL ENGINEER.**

57. The mechanical engineer shall, subject to the directions of the manager, or in his absence, the under-manager, have full control of the surface and underground machinery, excepting such machinery and workmen as are under the control of the mine electrician.

58. He shall receive, initial and give particular attention to all reports made to him as to the state of the machinery, ropes, cages, chains, boilers and the like, and shall see that all materials necessary for the regular working and the keeping of the machinery and other plant in and about the mine in a proper state of efficiency, are constantly supplied.

59. He shall give particular attention to the ventilation fan and machinery and see that the fan is kept going regularly at the speed ordered by the manager.

He shall see that the duplicate engines, if any, are kept ready for work, the boilers blown off as required, the safety valves loaded to the pressure ordered by the manager, and all defects repaired as speedily as circumstances permit.

60. He shall see that every winding engine used for the purpose of raising or lowering men and worked by steam or compressed air, is provided with a pressure-gauge and so placed that the engine-driver can readily see the pressure available.

61. Should he find it necessary to stop the ventilation fan or to reduce its speed materially, he shall without delay send a report of his action to the manager or under-manager, or in their absence the person in charge underground.

62. He shall give particular attention to the winding ropes, cages, conductors and winding engines and all other machinery and plant, upon which the safety of the workmen depends, and, as promptly as circumstances require, remedy any material defects and if they should prove serious and likely to endanger life, he shall suspend operations until the defects have been remedied.

He shall also see that in the case of shafts and inclined planes in which workmen regularly descend or ascend the winding ropes are recapped and chains removed, thoroughly cleaned and examined, and the diameter of the links of the chains measured at least once in every six months and shall keep a record of same; and where safety hooks are used he shall see that they are cleaned and refitted at least once in every three months and a record kept of same.

Unless the results of examinations and tests indicate the necessity for earlier treatment he shall see that the chains are treated once in each year by the annealing or normalising process if possible in a furnace with controlled heating.

He shall see also that there is a minimum safety load factor of fifteen to one on a static load basis for new chains.

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**No. 16, 1941.** 63. He shall see that the fences are fixed and maintained at the top of every shaft, and that the guides, signals, covers, flanges or horns, appliances, brakes, indicators, fences, valves, gauges, and things required by General Rules 18, 20, 26, 27, 28, 28A, 30, 31, 32, 33 and 42 or any of them are fixed and maintained as therein required, and that the provisions of General Rules 25 and 29 are carried out.

Provided that where some other competent person is appointed in writing by the manager to exercise and perform the duties imposed by this regulation, such duties shall be exercised and performed by that person instead of by the mechanical engineer.

64. He shall see that all dangerous or exposed parts of machinery are, and are kept, securely fenced in compliance with General Rule 32.

65. He shall carefully examine or cause to be examined and report upon any machinery ropes and appliances above and below ground as required by General Rule 5.

Provided that when some other competent person is appointed in writing by the manager to exercise and perform the duties imposed by this regulation, such duties shall be exercised and performed by that person instead of by the mechanical engineer.

66. He shall, without delay, report to the manager any matter or thing coming under his notice which he cannot himself perform, but which is necessary to be observed or carried out, in order to comply with the general rules or regulations, or to secure the safety of employees and the mine.

67. He shall see that no boy under the age of sixteen (16) years is allowed to move railway waggons.

68. He shall prevent any unauthorised person entering the engine room, workshops, or other similar places at the mine, without the special authority of the manager.

69. At any winding shaft where the provisions of General Rule 27 (2) apply he shall see that the point in the shaft within thirty (30) feet of the surface or the bottom of the shaft as the case may be are marked on the indicator.

### MINE ELECTRICIAN.

70. The mine electrician shall, subject to the direction of the manager, or in his absence, the under-manager, have full control of all electrical machinery above and below ground, and such other plant or machinery as the manager may direct, and of all workmen employed in connection therewith.

71. He shall receive and attend to all reports made to him as to the state of the machinery under his charge, and shall see that all materials necessary for the regular working and keeping of the plant and machinery under his control in and about the mine in a proper state of efficiency, are constantly supplied.

72. He shall give particular attention to all plant and machinery under his control in and about the mine upon which the safety of the workmen depends, and, as promptly as circumstances require, remedy any defects, and if they should prove serious and likely to endanger life, he shall suspend operations until the defects have been remedied.

73. He shall see that all the regulations contained in sections III, No. 16, 1941. IV, V, VI, VII and VIII of and the appendices to the Seventh Schedule to this Act are strictly adhered to.

74. He shall see that all dangerous or exposed parts of the plant and machinery under his control are, and are kept, securely fenced in compliance with General Rule 32.

75. He shall carefully examine and report upon all apparatus as stipulated in the regulations contained in the Seventh Schedule to this Act.

Provided that where some other competent person is appointed in writing by the manager to exercise and perform the duties imposed by this regulation, such duties shall be exercised and performed by that person instead of by the mine electrician.

76. Where the ventilation fan is electrically driven, should he find it necessary to stop such fan, or to reduce its speed materially, he shall, without delay, send a report to the manager or under-manager or in their absence, the person in charge underground.

77. He shall, without delay, report to the manager any matter or thing coming under his notice which he cannot himself perform, but which is necessary to be observed or carried out in order to comply with this Act, general rules or regulations, or to secure the safety of employees and the mine.

78. He shall prevent any unauthorised person from entering the engine room, workshops, or other similar places at the mine under his control without the special authority of the manager.

**ALL OFFICIALS.**

79. Every person appointed by the owner, agent or manager to be an official of the mine shall to the best of his power see that the persons under his charge understand and attend to their respective duties.

**ENGINEMEN.**

80. An engineman shall once a day when on duty thoroughly examine, as far as practicable, the engines, drums, valve gear, brakes, signal bells, indicators, and other gear under his charge and shall satisfy himself that they are in working order, and if any defects are discovered he shall immediately report such defects to the mechanical engineer in charge or manager.

81. He shall acquaint himself thoroughly with the signals in use and attend to them, and on no account start his engine until he has received the proper signal.

If the signal is indistinct he shall not start his engine until it has been repeated, and he clearly understands it.

82. He shall not allow any unauthorised person to interfere with the engine or machinery under his charge or to remain in the engine house.

83. He shall not on any pretext leave the handles whilst the engine is in motion or whilst anyone is in the shaft, but this provision shall not apply to any winding engine while under automatic control, where

**No. 16, 1941.** where exemption is granted by the chief inspector: Provided that if such exemption is not granted by the chief inspector the applicant may appeal to the court.

84. If winding has been suspended for more than four hours, he shall run the cages at least once up and down the shaft before commencing to raise and lower men.

He shall attend as required by General Rule 25 during the whole time any person is below ground in the mine or until relieved.

85. The engineman shall stop his engine at once without any signal if he sees or hears or detects the slightest movement of the rapper or winding rope of an unusual nature, or if he feels any impediment to winding. When this occurs he shall instantly report the circumstances to the mechanical engineer or manager.

86. Where an attendant is employed in charge of the ventilation fan and engine he shall exercise and perform such of the duties required by the regulations to be exercised and performed by an engineman as are applicable to him.

He shall strictly adhere to the instructions of the manager in regard to the speed at which the fan is to be driven.

87. Where a fan attendant is employed he shall at least once a shift as far as practicable make an inspection of the engine and machinery under his charge, and shall make and sign a true report of the state thereof in a book kept for the purpose.

He shall not leave his post until such time as the manager directs, or until relieved by the driver of the succeeding shift.

88. Where the coal in a mine or seam is liable to self heating, the fan attendant or another competent person appointed by the manager shall at least once in every three hours enter the fan drift or bottom of the upcast shaft, and see that there is nothing unusual in the state of the air and shall make and sign a true report of the state thereof in a book kept for the purpose.

89. The haulage enginemen shall exercise and perform such of the duties required by the regulations to be exercised and performed by an engineman as are applicable to their department.

They shall drive the engines at such speed as the manager, under-manager or mechanical engineer may from time to time direct, or as signalled.

Should they have reason to suspect from any unusual strain on the ropes or otherwise that a derailment of the train or skips, or any defect or accident in the haulage arrangements underground or on the surface has occurred they shall immediately report to the person in charge, and, if necessary, stop the engines until signalled to proceed.

They shall observe such signals as the manager may prescribe in writing.

#### LOCOMOTIVE DRIVERS.

90. A locomotive engine driver shall observe the regulations set out under the head of "engineman" in so far as they are applicable to his duties. He shall not leave his engine or delegate his duty to another or allow any unauthorised person to travel on the engine or train.

BOILER FIREMEN.

No. 16, 1941.

91. A boiler fireman shall carefully examine from time to time, during his shift, the feed pump, injector, boiler fittings, damper, floats and gauges, and see that they are in good working order, and shall at once report any defect to the mechanical engineer or engineman.

He shall not absent himself from duty without notifying the mechanical engineer.

He shall not leave his duty until relieved by the fireman of the succeeding shift unless with the consent of the mechanical engineer.

92. He shall see that steam is regularly kept up, feed water regularly supplied, and boilers regularly blown off as directed, that the prescribed pressure of steam is on no account exceeded and that the safety valves are in proper working order.

93. He shall keep the water in each boiler at the proper working level, as far as practicable, but if from any cause it is below the point of safety he shall at once lower the dampers, damp the fire down and report to the mechanical engineer or engineman.

94. He shall strictly observe and carry out the instructions of the manager and the mechanical engineer in the management and working of the boilers, and shall not alter the position of the safety valve weight nor add extra weight.

MAGAZINE KEEPER.

95. The magazine keeper shall keep the area clear of any weeds and rubbish.

He shall refuse to supply explosives to any person who has not come provided with a proper case or canister required by the Fifth Schedule of this Act.

He shall carry out the requirements of the Explosives Act, 1905, a copy of which shall be posted up at the magazine.

BANKSMEN.

96. A banksman subject to the directions of the manager, under-manager and mechanical engineer shall have full control of the pit bank and of the workmen engaged in loading and unloading cages, and shall have command with the engine-drivers of the signals down the shaft and shall see that not more than the number of persons specified in the notices posted pursuant to Regulation 7 of this Schedule ride in one cage.

97. He shall be responsible for the state of the pit top and shall see that all frames, cages, and the surface near the pit top are kept free from loose coal, stones or rubbish.

98. He shall not allow any unauthorised person to descend in the cage along with tools, timber, or other materials unless for the purpose of effecting repairs in the shaft.

99. He shall, during the course of his duties, frequently observe the conditions of the ropes, chains, cages, kegs and pit heads, and immediately report any defect therein, and should the defect be likely to endanger life or property he shall stop winding operations and shall report the matter to the person in charge and shall not permit winding to be resumed until the person in charge so directs.

**No. 16, 1941.** 100. He shall not knowingly allow any person who is under the influence of intoxicating liquor or any person who has in his possession cigarettes, cigars, tobacco-pipes, matches, lamp-keys, or any contrivance for opening lamps, or striking lights, or any article prohibited by this Act or by regulations thereunder to descend.

101. He shall not knowingly allow workmen to get on or off the cage while it is in motion and shall report to a superior official if any workman attempts this or any other dangerous practice.

102. At least one banksman or other person, and one onsetter or other person appointed by the manager, under-manager or deputy in writing for that purpose shall be at their respective posts at the proper time to give the necessary signals, and see the men and boys carefully into and out of the cages at the top and bottom of the shaft.

103. The signals prescribed shall be carefully observed by the banksman, or other person appointed by the manager, under-manager or deputy in writing to give such signals.

On idle days or when a few workmen only are employed officials, or other persons appointed by the manager, under-manager or deputy in writing for that purpose, are empowered to give the necessary signals in the absence of the banksman.

104. He shall not allow any unauthorised person to go into the cage.

#### ONSETTER.

105. An onsetter, or other person appointed by the manager, under-manager or deputy in writing for that purpose, shall, subject to the direction of the manager or under-manager, have full control of the pit bottom and the signals up the shaft, and shall carefully observe the signals authorised by the manager. He shall not allow any unauthorised person to interfere with the rapper. On idle days, or when a few workmen only are employed, officials or authorised workmen are empowered to give the necessary signals in the absence of the onsetter.

106. He shall not allow more than the number of men specified in the notices posted pursuant to Regulation 7 of this Schedule to ride on the cage at one time, and shall not allow any unauthorised person to ride on the cage with an empty or full skip or with any tools except for repairs in the shaft, and shall see that a loaded cage is not sent up against men.

107. He must report to a superior official any fall of strata from the sides of the shaft, or if he becomes aware of any defect in the shaft or shaft fittings.

108. He shall be at his post before the workmen descend, and he shall not leave his station whilst persons are being raised or lowered. In the event of the onsetter not being available a qualified substitute may be appointed and such substitute shall exercise and perform the duties imposed by the regulations on the onsetter.

109. He must frequently observe during his shift the state of the cages, chains, cage fittings, and signal apparatus, and if he becomes aware of any defect he must immediately report the same to a superior official.

110. He shall not allow any person to cross the shaft bottom except **No. 16, 1941.** it be necessary to do so for the performance of some work in the shaft bottom, and then only after the "block cage" signal has been given and answered by the winding engine driver.

Where there are roads past the sides of the shaft such roads shall be used whenever it is possible in preference to crossing the bottom of the shaft.

111. He shall not knowingly permit any person to get on or off the cage while it is in motion and shall immediately report to a superior official if any employee attempts this or any other dangerous practice.

112. Should the onsetter hear any unusual noise in the shaft when the engines are in motion he shall at once rap "one" for "stop." After the engineman has stopped his engine the onsetter shall immediately report to a superior official.

113. He shall see that the skips are properly placed and secured on the cage before signalling and shall not allow the cage to ascend with one skip unless the same be secured in the cage.

114. He shall not allow any rubbish or inflammable material to accumulate in the vicinity of the shaft bottom.

#### **CLIPPERS.**

115. A clipper shall see that the skips are properly placed and securely attached to the ropes.

If any part of the roof or roadway is defective or dangerous, or if any defect of any kind in connection with the appliances comes under his notice, he shall immediately report same to the deputy or some other responsible official.

#### **FURNACEMEN.**

116. A furnaceman shall see that the fires are always kept in vigorous operation during working hours, and that the bars are cleaned when required, and that hot ashes drawn from the furnace are immediately cooled off and not allowed to accumulate.

117. If any stoppages should occur in the ventilation he shall at once report the circumstances to the manager or under-manager. He shall not leave his duties without permission of the manager or under-manager.

#### **HORSE-KEEPER.**

118. A horse-keeper shall see that no animal under his charge is allowed to go to work in an unfit state or not free from sores calculated to cause pain to such animal and shall report to the manager, under-manager, or deputy, any injury received by any such animal.

#### **WHEELERS AND DRIVERS.**

119. Wheelers and drivers shall be under the control of the deputy, or, in his absence, of any person appointed by the management.

120. They shall report the fact to the under-manager or deputy if any part of the road or roof is defective or dangerous or if any defect of any kind in the condition of the mine or appliances comes under their notice.

**No. 16, 1941.** 121. They shall take in without delay any timber or other material required, and shall at all times carry out the orders of the officials in order to facilitate and promote the work of the mine.

122. They shall carefully close all doors or brattice sheets through which they pass and should they injure or notice any injury to any door, brattice or stopping shall immediately report the matter to the deputy or under-manager.

123. They shall in no circumstances ride on horses, full skips, or shafts of limbers unless expressly so permitted by the manager or under-manager.

124. Every person in charge of any animal shall report to the horse-keeper and deputy any sore developed on or other injury received by such animal whilst in his charge.

125. Every person in charge of any animal shall immediately report to the manager, under-manager or deputy in case he finds that such animal cannot pass along any road without rubbing against the roof or timbering.

126. No person shall take a horse on to, or travel along, any incline or plane, either in the mine or on the surface which is self-acting or worked by machinery while the machinery is in motion, without special instructions from an official of the mine, or in the performance of his duties.

127. Every person shall take the utmost care of any horse entrusted to his charge and return it at the end of his shift to the horse-keeper or other person in charge and report to him any defect in the harness or any sores which have developed on, or any other injuries of any kind which have been sustained by, any horse during the time it is in his charge.

128. Any person ill-treating any horse or permitting any horse to receive injuries by his wilful act or negligence shall be guilty of an offence against this Act.

Wheelers and drivers shall at all times obey the instructions of the horse-keeper or his assistants in respect of the care and treatment of horses.

#### TRAPPERS AND DOOR ATTENDANTS.

129. Every person employed in attending to a door, or doors used for ventilating purposes, shall during his shift remain constantly at the post assigned to him and shall on no account leave such post without the special permission of some responsible official and shall carefully observe the directions received from the deputy or other official.

130. Should a door under his charge receive any damage he shall immediately report the matter to some responsible official.

131. He shall keep the doors in his charge constantly closed except during the time they are necessarily open for traffic.

#### SET RIDERS.

132. A set rider shall carefully attach the ropes to the set and inspect the connections and the like, and if any defect is discovered he shall at once report the same to the under-manager or person in charge.

He

He shall permit no unauthorised person to ride on the set **No. 16, 1941.** and upon any person refusing to comply with his orders in this respect or in any way violating this regulation he shall immediately report the circumstances to the manager or under-manager.

**PROHIBITED ARTICLES—MATCHES, &c.**

133. A person shall not have in his possession underground in any mine nor take underground in any mine any naked light or any matches or any contrivance for striking or sustaining a light unless specially authorised by the manager in a particular case.

The foregoing shall not be taken to prohibit the use of an electrical appliance for relighting lamps in charge of duly authorised persons at the lamp station.

134. A person shall not smoke tobacco underground in any mine nor have in his possession therein any tobacco-pipe, cigarette, cigar, or any receptacle or device suitable for smoking tobacco.

135. A person shall not have in his possession underground in any mine nor take underground in any mine any unlocked safety-lamp, lamp key or contrivance for opening lamps, lead locking rivets, cutting or stamping pliers, or any of the locking arrangements of a safety-lamp unless specially authorised by the manager.

Any person may at the discretion of the manager, under-manager or deputy be personally searched for such articles, and when search is being made, such person shall not convey information of the fact to any other persons in the mine: Provided that the person or persons who are about to carry out such search shall themselves first be searched by any other two persons underground.

**SAFETY-LAMPS.**

136. A person shall not take any safety-lamp past the station appointed for the mine until it has been submitted for the inspection of a competent person appointed for the purpose, and passed by him.

137. Every safety-lamp for use in any mine, other than a lamp approved by the manager or under-manager to be used by an inspector or on an inspection under General Rule 39, shall be supplied by the owners, and be of a type approved by the chief inspector.

No person shall leave an oil flame safety-lamp alight and unattended in any part of the mine, except with the approval of the manager.

Any person supplied with a safety-lamp shall be held to be responsible for the same and for its safe return to the lamp-room.

138. No unauthorised person shall or shall be permitted to clean, refill, recharge, lock or unlock, any safety-lamp or to light or relight any oil flame safety-lamp.

139. Before giving out a lamp, the lampman in charge of the general lamp-room on the pit bank or his assistant shall see that it is properly assembled, cleaned, trimmed and locked.

140. The lampman in charge of the general lamp-room on the pit bank or his assistant shall on no account allow their lamp locking or unlocking devices to be used outside the lamp-room.

No. 16, 1941.

141. Every person on receiving a lamp from the lampman shall satisfy himself that the lamp is numbered, properly put together and in working order, and should he observe any defect he shall at once return it to the person from whom he obtained it and report the nature of the defect.

At the end of the shift he shall personally return his own lamp, and if by reason of any accident to it he has received any other lamp during the shift he shall return it to the lamp-room and notify the lampman of any injury to his own.

142. Should any person get into fire-damp while using an oil flame safety-lamp he shall not throw away his lamp nor attempt to blow it out, but shall draw down the wick, avoid jerking the lamp, and remove it steadily into fresh air, and if the gas fires in the lamp (where he cannot remove it into fresh air) he shall smother out the light or extinguish it in water.

143. No person shall hang or place a hand safety-lamp within two (2) feet from the swing of any pick, hammer or other tool.

144. Should the light in any oil flame safety-lamp be extinguished, the lamp shall, before it is again used, be taken back to the lamp station and delivered there to the person appointed for relighting lamps to be examined and relighted, and before it is removed from the lamp station it shall be again examined and locked by the said person.

145. No person to whom an oil flame safety-lamp is entrusted, or who has charge or possession of one, shall interfere in any way with it, beyond the necessary trimming of the wick by the pricker or other appliance, except to put it out as required by Regulations 142 and 146 of this Schedule.

146. Should any accident happen to any oil flame safety-lamp in use by which it or the gauze is damaged, or the oil spilt, or by which it is in any way made unsafe or if the person in charge of the lamp shall observe that it or the gauze is damaged in any way or out of order or that it is unlocked he shall instantly put it out by drawing down the wick into the tube with the pricker or other appliance.

He shall then immediately himself take the lamp and deliver it to the person in charge and shall truly state to him the facts attending such accident, defect or default and such lamp shall not be again used until it is repaired. All damages to lamps must be reported to the manager or under-manager by the person in charge of the damaged lamp before he will be permitted to resume work.

147. Any person who has an unlocked safety-lamp, whether oil flame or electric, in his possession or one that has been damaged in any way or the lock of which has been tampered with or damaged shall be deemed himself to have wilfully committed the damage or defect unless he can clearly satisfy the deputy or superior official that he was not aware of the damage or defect or that he was in the act of returning to the lamp station with it.

148. Every person using an oil flame safety-lamp shall frequently examine his lamp and if it shows a blue cap indicating the presence of fire-damp or is dangerously heated such person shall carefully draw down the wick, cease working, leave the place, and report the circumstances to the deputy or other official.

149. No person unless authorised by the manager in writing shall use the stamping or cutting pliers where lead locking plugs are in use or use any lamp key for any type of lock that may be at present in use or be hereafter devised.

In the absence of persons usually employed for locking or unlocking lamps, the manager or under-manager may appoint competent substitutes.

No unauthorised person shall open any box of batteries or apparatus for lighting lamps.

150. Any person entrusted with the duty of cleaning any gauze or other part of any safety-lamp or with the duty of putting any safety-lamp or part thereof together shall as soon as practicable report any defect to the lampman or person in charge.

151. Whenever any defective or damaged oil flame safety-lamp or damaged electric lamp is received from any person by any lampman he shall report the fact to the manager or under-manager, and shall cause such lamp to be kept in the state in which he received it until seen by one of them.

The lampman shall enter all such reports in a book to be kept at the mine for the purpose.

152. The lampman shall see that all oil, spirit, and other inflammable articles under his charge are carefully and properly stored and used, and that no greasy waste or other refuse is allowed to accumulate in or near the lamp-room.

153. No official or workman shall allow any gas to explode in his oil flame safety-lamp under any circumstances where it can be avoided. In testing or examining for gas, the safety-lamp shall not be moved any higher or lower than will allow the presence of gas to be detected.

154. Every lampman, deputy, or other person who becomes aware of any breach of the Act or regulations regarding the use of safety-lamps shall immediately report the facts to a superior official.

#### STONE-DUSTING REGULATIONS.

155. No dust shall be used for the treatment of a dry and dusty place except crushed limestone or other incombustible dust of a type approved by the chief inspector.

156. The dust used for the purpose of the regulations shall be—

(i) Of such fineness that, of the dry dust which passes through a 60-mesh sieve not less than 50 per cent. by weight and, except with the permission in writing of the chief inspector, not more than 75 per cent. by weight shall pass through a 240-mesh sieve;

(ii) Of such character that it is readily dispersable into the air and, when in use in places where it is not directly wetted by water from the strata, does not cake but is dispersed into the air when blown upon with the mouth or by a suitable appliance.

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**No. 16, 1941.** 157. For the purpose of determining whether a part of a mine is dry and dusty within the meaning of this Act samples of all dust, from the roof, floor and sides shall be collected in the manner following, that is to say:—

- (i) By a method of strip sampling, by which the dust is collected from a succession of transverse strips as nearly as possible of equal width and equally spaced not more than five yards apart, of an aggregate area not less than one per cent. of the total area sampled; or
- (ii) By a method of spot sampling by which one sub-sample or increment of dust for each yard of the length sampled is collected, as nearly as possible, at regularly spaced intervals along a zig-zag path.

The samples so collected shall be sieved and that portion which passes through a 100-mesh (Institute of Mining and Metallurgy or equivalent British Standards Institute standard) sieve shall be weighed and a representative portion thereof shall be analysed in order to determine the weight of the combustible volatile content in such portion analysed.

Such weight shall be assumed to represent the proportionate weight of combustible volatile content in the sample of dust collected.

For the purpose of the said analysis the carbon dioxide and moisture shall firstly be eliminated by a method approved by the chief inspector and thereafter the procedure as prescribed by the British Standards Institute for analysis of coal, shall be followed.

In order to determine whether the dust in a part of a mine (including the floor, roof and sides) has been adequately treated in compliance with General Rule 12B, the same procedure as hereinbefore set out as regards collection of samples, sieving, weighing and analyses shall be adopted, except that the collection of the sample of dust shall extend over a length of 50 yards and that the dust from the floor and from the roof and sides shall be collected, sieved, weighed and analysed separately.

158. The result of all analyses shall be recorded in a manner approved by the chief inspector, and shall indicate the date of the collection of the samples, the percentage of combustible volatile matter in the dust, from what places the samples have been collected, and, if the place upon such analyses falls within the definition of a dry and dusty place, what steps have been taken to reduce the combustible volatile content within the standard prescribed by General Rule 12B (11) and the date when those steps are effective.

159. The said samples shall be collected from the full depth of the dust on the floor, roof and sides and no surface stratum to the depth of one quarter of an inch shall be left in such a condition that it falls within the definition of a dry and dusty place.

**WORKMEN AND GENERAL.**

160. All workmen shall quietly take their places at the pit bottom or pit top in the order they arrive and are strictly prohibited from entering or attempting to enter a cage before their turn.

No

No workman is privileged to ride before his turn except with the **No. 16, 1941.** authority of the manager or when required by the exigencies of the work to do so.

They shall strictly obey the orders of the onsetter and banksman.

161. They shall not proceed into the travelling roads or working places beyond the station appointed in pursuance of General Rule 4 until the deputy or other competent person appointed for that purpose has reported the part of the mine beyond such station to be safe.

If no other place or station has been appointed they shall understand that the pit bottom or tunnel mouth is the station at which they are required to await the necessary examinations and report.

A working place is to be considered safe and the workman authorised to proceed thereto, provided the place or roads thereto are not barred by danger fence, danger boards or cross (X) sticks.

162. They shall travel to and from their working places only by the roads prescribed by the manager, under-manager or deputy.

163. They shall on first entering their working place satisfy themselves that it has been examined by the deputy or other competent person appointed by observing whether the date has been marked with chalk on or near the face of the working place in accordance with Regulation 36 of this Schedule; and if it has not been so marked, they shall not commence to work therein, but shall immediately retire and report the matter to the deputy or under-manager and await his instructions.

164. They shall be generally subject to the control of the manager and under-manager, but they shall also be subject to any directions which the deputies, banksmen, onsetters, mechanical engineers, electrician, screen overseer, or surveyor may give in their respective departments.

They shall also pay particular attention and strictly adhere to the driving instructions and marks given by the surveyor or other officials.

165. They shall strictly observe the directions of the deputy or other official in all matters relating to the safety of their working place, and shall at the commencement of each shift, before they commence work and at frequent intervals during the shift carefully examine the roof and sides of their working place, and satisfy themselves that the same are safe for working or passing therein.

166. If upon any such examination by a workman of his working place he finds any danger, want of repair or insecurity he shall cease ordinary operations therein until such time as the danger is removed or insecurity or want of repair remedied.

167. Every workman shall securely sprag and up-hold the coal whilst holing, and shall prop up and secure the roof and sides of the working place in which he is employed, and if he should not be provided with a sufficient quantity of timber, he shall cease working and report the deficiency to the manager, under-manager or deputy.

168. Besides being bound to prop and secure his working place, and sprag the coal whilst holing, a workman shall place sprags, props, or

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**No. 16, 1941.** or other timber within his working place in such manner as the deputy or other responsible official may deem necessary and shall direct for the safety of the workman and the mine.

169. Every workman shall, whenever practicable, order props or other timber or material in anticipation of his requirements, and must see that all material is out of a skip before commencing to fill it with coal.

170. The seam of coal must be wrought strictly in accordance with the orders of the manager or under-manager.

171. No workman shall—

- (a) go into or near any place where danger is known or suspected to exist unless by the express permission of the deputy or other official and then only for the purpose of effecting repairs or removing such danger;
- (b) remain or continue at any face where an outburst of gas has occurred, and where a lamp indicates a dangerous accumulation or dangerous percentage of inflammable or noxious gas.

172. No employee shall enter or remain in any part of the mine other than that in which he is immediately employed without permission from the manager, under-manager or deputy except for the purpose of rendering assistance in case of accident or assisting in the working of the mine if called upon to do so.

173. Any miner or other workman tapping or holing into any old workings or waste shall at once close the opening and report the matter to the under-manager or deputy.

174. Before any person moves a skip in any bord adjacent to a steep incline or jig he shall see that a safety block is at or near the entrance of the bord and in good order and set across the rail.

175. Workmen are prohibited from filling coal off or interfering with any pillar, or removing any timber from under the roof unless authorised by the manager, under-manager or deputy.

176. No person shall withdraw or attempt to withdraw from out of any waste, or from under any heavy roof, any timber in use for supporting the roof, except by means of ringer and chain or other similar appliance, unless such person is fully protected by other timber.

177. No timber shall be withdrawn from pillar or other workings unless at least two experienced workmen of whom one shall have had previous experience of drawing timber are employed in such work.

178. No person shall come to or remain at the mine in a state of intoxication and no person shall take any intoxicating drink to or into the mine, nor drink it at the mine, except by permission of the manager.

179. Any person swearing, quarrelling, fighting, using abusive, obscene, profane or insulting language, throwing any stone, coal, or other missile, or inciting men or boys to disobedience or impeding work shall be deemed to have committed an offence against these regulations.

180. Workmen are expressly forbidden from holding or attending meetings in any part of the mine. **No. 16, 1941.**

181. No person shall take or interfere with the tools of another workman.

182. No person shall descend or ascend a shaft without authority, or get on or off the cage whilst it is in motion.

183. No person shall enter a cage for the purpose of descending or ascending a shaft if the number specified on the notice board as the maximum number for the cage is already therein.

184. Where persons are engaged sinking tunnels or jigs on an inclined plane, the workmen shall be adequately protected from the danger of falling material. There shall be a horizontal bar or gate across each roadway opening on to such inclined plane or jig.

185. Spliced ropes shall not be used for the purpose of raising or lowering men in any shaft or in any inclined plane except with the approval of the chief inspector.

186. No person shall pass through or beyond any danger board, cross (X) sticks, or fence without the permission of the manager, under-manager or deputy of the district.

187. (a) No person shall ride upon any moving platform, or in any carriage or train upon any incline or plane worked by machinery or which is self-acting, without permission of the manager.

(b) No person shall ride upon a train or skip on any underground roadway, or plane, and no person shall ride on any rope, hook, coupling, or buffer between trains or skips above or below ground except in accordance with and subject to the rules and/or instructions made for that purpose by the manager.

(c) Paragraph (a) of this regulation shall not apply to persons travelling on any railway or plane above or below ground by any means specially provided for carrying persons. Such persons, however, shall not enter or alight from any train so provided while it is in motion.

188. No person shall open any door, unless it is necessary to pass through it, or by any wilful act or neglect, injure any door, brattice, air crossing, air-course, stopping or caution mark, or any other property, or break, injure or put out of repair, out of order, or out of gear any machinery or structure or do any other act whereby the lives or safety of the persons employed at the colliery may be imperilled or the mine rendered unsafe or any machinery or structure be made dangerous, defective or out of order.

189. No unauthorised person shall interfere with signals or signs or commit any act whereby the operations of the mine may be impeded.

190. Every person passing through a doorway shall see that the door is carefully closed after him notwithstanding that the door is self-closing. Where double doors are provided no person shall open or keep open more than one of such doors at any one time. Every person discovering a door open shall immediately report the matter to some responsible official.

**No. 16, 1941.** 191. Should any person discover any derangement or defect in ventilation, or injury to any machinery or structure, or any appearance of fire-damp, choke-damp, or water, or any fall of roof, or any indication of danger in the roof and sides of any heading or road, or any obstruction in any air-course he shall immediately report the matter to some responsible official of the mine.

192. No person shall construct or use any seat or bunk made of brattice, bag, or any highly inflammable material.

193. No person shall sleep whilst on duty.

194. When supplied with an electric or other safety-lamp which does not indicate the presence of noxious gases workmen shall cease working and leave their places if they observe any stagnation in the ventilation, increase of temperature, or other causes suggesting defect in the ventilating arrangement or an unusual omission of or accumulation of dangerous gases, and they shall forthwith report the circumstances to the under-manager or deputy of the district.

195. No person shall put coal, rubbish or any other obstruction in any air-course, manhole, or place of refuge. No person shall leave paper or cardboard boxes about the workings of the mine.

196. Any person working with a skip or skips on any incline, brow or slope shall secure his skip from getting loose and before he attempts to take a skip down shall ascertain that he has proper and sufficient sprags or scotches or other means of stopping it on the way if required.

197. Every workman shall satisfy himself as to the safety of any skip, chain, rope, windlass, or other appliance in his personal use before commencing work and whilst at work; and if any defect likely to be dangerous is discovered he shall cease working and report the defect to an official.

198. Any person observing any unusual occurrence or practice that is likely to endanger life shall immediately report the occurrence to his superior official.

199. No person shall in any way interfere with any notice, danger board, caution board, or fence unless by order of the manager, under-manager or deputy.

200. No person shall without authority from the manager, destroy, injure or deface any book or any entry therein or injure, deface, or pull down any signboard, notice board, notice or copy of this Act or regulations or the name or address of the inspector or the name of the owner, agent, superintendent, assistant superintendent or manager appended thereto.

201. Every person in the event of his being required to effect repairs or remove danger or to do any other work of actual necessity to improve the ventilation or comfort of the persons employed in the mine or to do work that could not well be performed during ordinary working hours, shall be bound to render his assistance and proceed to work when called upon by the manager or his officers at any time he or they may deem necessary.

202. Any person who shall knowingly or carelessly make a false report, or suppress, or neglect to make a report or statement concerning the state of the ventilation, the presence of gas, safety of roof and sides, condition of any place in the mine generally, or machinery or appliances connected therewith shall be guilty of a breach of these regulations.

203. The manager shall cause every person employed in, at, or about a mine to be furnished with a printed copy of the abstract of this Act and the regulations thereunder, before or forthwith after the commencement of his employment at such mine and such person shall acknowledge in writing the receipt of such documents.

204. Every person employed at the mine shall make himself thoroughly acquainted with the provisions of this Act and regulations so far as they relate to his employment and duty, and shall observe the same.

205. Any person who does not obey any provision of this Act or regulations or any order or direction of any official of the mine to whom he is subordinate may be ordered by any such official to leave the mine immediately and he shall obey such order. Every such occurrence shall be reported to the manager by the official concerned.

206. Nothing in these regulations shall prevent the countersigning of a duplicate of the reports required to be made in lieu of the original.

#### **MISCELLANEOUS.**

207. Where by the regulations any duty is imposed upon, or authority is given to, any official of the mine, that duty may be observed or fulfilled or that authority exercised by and at the discretion of any official who is his superior at the mine.

No person acting in a place of trust shall depute anyone else to do his work without the sanction of his superior official.

208. No person shall interfere with the function of the manager, under-manager or other official in the operation of any department of the mine.

209. Every person shall in all matters relating to the management and working of the mine or to safety obey strictly the orders of the manager, under-manager or other official or person placed in authority.

210. Any person in or about the mine, whether workman or otherwise, is subject to the regulations, except as otherwise provided in this Act.

#### **ADDITIONAL REGULATIONS FOR SINKING.**

211. For the purpose of Regulations 211 to 230 both inclusive "bucket" includes kibble, hoppit, skip, barrel or cage.

212. In addition to the daily examination required by General Rule 5, the master sinker, or when there is no master sinker the competent person appointed for the purpose by the manager shall once at

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**No. 16, 1941.** at least in every twenty-four hours examine thoroughly the state of the shaft and the state of all gear by which cradles, platforms, or pumps are slung in the shaft or by which persons or materials are raised or lowered.

213. The manager shall specify, by a notice which shall be kept posted at the top of the shaft in a prominent position, the number of persons who may ride in the bucket at one time and the banksman or chargeeman, as the case may be, shall not allow any number of persons in excess of that number to ride in the bucket.

214. No person shall ride on a full bucket or on the edge of a bucket except with the permission of the manager.

215. No engine worked by mechanical power other than a fixed engine shall be used for lowering and raising persons and material in the shaft.

216. Every cradle or platform used in the shaft shall be constructed with a grid or other suitable contrivance, when necessary to secure the efficient ventilation of the whole of the shaft.

217. As far as is reasonably practicable every cradle or platform on which men are working in the shaft shall be so protected as to prevent anyone falling off.

218. While men are at work on any cradle or platform in the shaft the following precautions shall be strictly observed:—

- (a) The cradle or platform shall be so secured as to prevent it swinging unduly.
- (b) The flap over the bucket hole shall be securely fastened.
- (c) If the cradle or platform is constructed of two or more pieces hinged the pieces shall be securely bolted to the hinge or hinges.
- (d) The cradle or platform shall not be moved except by the express direction of the manager, under-manager, mastersinker or chargeeman.

219. If work is carried on during the night the surface at the shaft top shall be efficiently lighted.

220. The competent person appointed under General Rule 4 shall during his shift have entire charge of the operations in the shaft bottom subject, however, to the directions of the master sinker or of the manager or under-manager of the mine, and is in these Regulations referred to as the chargeeman.

221. The examination required to be made by the chargeeman before the commencement of work shall be made immediately before the descent of the workmen in a shift.

222. The chargeeman shall as part of his examination before the commencement of work, or if work is carried on without any interval by a succession of shifts, then as part of his examinations during his shift, examine carefully the sides of the shaft, take off any loose stones, and otherwise satisfy himself that the shaft is in a safe condition for men to work at the bottom. When men are engaged in walling or tubbing the shaft a similar examination shall be made by a competent person appointed by the manager.

223. The chargeman shall be the last man to ride at the end of the No. 16, 1941. shift, and if his shift is succeeded immediately by another shift, he shall not leave the bottom of the shaft until after the descent of the chargeman of the next shift.

224. The chargeman shall in all cases be present at the firing of shots, and shall not allow anyone to fire shots excepting under his supervision. He shall see that all shot-firing regulations contained in the Fifth Schedule to this Act which are applicable are carried out.

225. When coal, stone, debris, or gear, tools, or materials are being sent to the surface the chargeman shall see—

- (a) that the bucket is properly loaded;
- (b) that no stones, coal, or debris are packed above the level of the top of the bucket;
- (c) that gear, tools, or materials are put into an empty bucket and if they project above the level of the top of the bucket are securely fastened to the bow or chains of the bucket before the bucket is sent away; and
- (d) that the bucket, before being sent away from the bottom, is put into line with the pulley and carefully steadied, and that the bottom and sides are free from adhering stones and dirt.

226. No person shall descend after any cessation of work in the shaft caused by the withdrawal of the workmen for shot-firing or other purposes until the chargeman, accompanied if necessary by not more than two other persons, has descended and examined the shaft and found it to be safe in all respects. The examination shall be made with a locked oil flame safety-lamp or with a device approved by the chief inspector of a type which will indicate the presence of gas.

227. The winding engineman shall not work the winding engine when men are in the shaft except in pursuance of a signal received from the banksman or chargeman.

228. When lowering the bucket the winding engineman shall stop it when it has reached a point approximately 18 feet above the bottom of the shaft or above any cradle or platform upon which the bucket is to alight, and shall await the signal from the chargeman to let it down. When raising the bucket he shall stop the engine as soon as the bucket has been raised approximately 4 feet from the bottom in order that the chargeman may see that the rope is steadied, and shall not again move his engine until he has received the signal from the banksman or chargeman.

229. When gear, tools, or materials are being lowered the banksman shall see—

- (a) that the bucket is properly loaded;
- (b) that no loose material is packed above the level of the top of the bucket;
- (c) that gear or tools are put into an empty bucket and if they project above the level of the top are securely fastened to the bow or chains of the bucket, and
- (d) that timber and other bulky articles are safely slung.

**No. 16, 1941.** 230. The banksman shall not leave the pit top while men are in the shaft unless the opening over the shaft mouth is protected and he is within hearing of the signals nor shall he allow any person to remain about the pit top, or to approach the mouth of the shaft, without the authority of the manager. He shall see that the pit top doors, or trolley, are properly shut down or placed over the shaft before the bucket or any material is landed. He shall see that the bucket is lifted clear of the doors or trolley and properly steadied before he opens the doors or removes the trolley and on no occasion shall he allow anything to be put into the bucket while it is hanging over the open shaft. He shall at all times keep the shaft top and landing edge free from loose metal.

231. The following signals shall be used:—

To raise up .. .. .. .. .. .. ..	1
To lower down .. .. .. .. .. .. ..	2
To stop when in motion .. .. .. .. .. .. ..	1
When men are to ride, a preliminary signal of .. .. ..	3
To raise slowly .. .. .. .. .. .. ..	4
To lower slowly .. .. .. .. .. .. ..	5

The manager shall fix other signals as required.

232. No person other than the banksman or chargeman, or other authorised person, shall give any signals.

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Rule 12.

#### SEVENTH SCHEDULE.

##### REGULATIONS FOR THE INSTALLATION AND USE OF ELECTRICAL EQUIPMENT.

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## SECTION I—DEFINITIONS.

1. In these Regulations, unless the context otherwise indicates or requires:

“Apparatus” means all electrical appliances, machines and fittings in which conductors are used or of which they form a part.

“Approved” means approved by the Chief Inspector of Coal Mines.

“Approved form” means a form approved as provided in these regulations and kept at the mine for the purpose of entering therein reports as required by these regulations.

“Authorised person” means a competent person authorised by the manager of the mine to carry out the duties incidental to these regulations.

“Bare” means not covered with insulating material.

“Circuit” means an arrangement of conductors for the purpose of carrying electrical current.

“Competent person” means a person appointed by the manager to undertake the work referred to in the regulation in which the term is used. Such person shall have the necessary knowledge and experience in order adequately to avoid danger.

“Conductor” means a wire, cable or other form of metal suitable for carrying current, but not including wires, cables or other metallic parts directly employed in converting electrical energy into another form of energy.

“Dead” means at or about earth potential, and disconnected from any live system.

“Earthing system” means all those conductors, clamps, earth clips and earth plates or pipes which are installed and/or used for the purpose of maintaining any portion or portions of an electrical installation at earth potential, including any metallic piping system to which such conductors, clamps or earth clips are attached.

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A "flame-proof enclosure" for electrical apparatus means one that will withstand without injury any explosion of inflammable gas that may occur within it under practical conditions of operation within the rating of the apparatus (and recognised overloads, if any, associated therewith), and will prevent the transmission of flame such as will ignite any inflammable gas which may be present in the surrounding atmosphere.

"Live"—an object shall be said to be live when a difference of potential exists, or may normally exist between it and earth.

"Mine electrician" means the person appointed in accordance with the provisions of section 22 of this Act.

"Open sparking" means sparking which, owing to lack of adequate provision, would be liable to ignite inflammable gas external to the apparatus.

"Regulation" means regulation contained in this Schedule.

"Switchgear" means apparatus for controlling the distribution of electrical energy or for controlling and/or protecting circuits, machines, transformers, and/or other apparatus.

"System" means an electrical system in which all the conductors and apparatus are electrically connected to a common source of electro-motive force.

"Voltage" means the potential difference between any two conductors.

Where in relation to "voltage" any of the terms "extra-low," "low," "medium," "high" or "extra-high" is used that term shall have the meaning below set opposite to it, and the value of the voltage is to be regarded as at the point at which the supply is delivered.

Extra-low—Normally not exceeding thirty-two volts alternating current or one hundred and fifteen volts direct current.

Low—Normally exceeding thirty-two volts alternating current or one hundred and fifteen volts direct current, but not exceeding two hundred and fifty volts in either case.

Medium—Normally exceeding two hundred and fifty volts, but not exceeding six hundred and fifty volts.

High—Normally exceeding six hundred and fifty volts, but not exceeding six thousand six hundred volts.

Extra-high—Normally exceeding six thousand six hundred volts.

## SECTION II.

2. These regulations shall be observed as far as is reasonably practicable by all persons acting in the management of or employed in or about coal or shale mines where electricity is used and by all other persons to whom they apply; and except as may be otherwise expressly indicated, it shall be the duty of the mine electrician to ensure that apparatus is installed, worked, and maintained in compliance with these regulations.

3. These regulations shall commence on the date of the commencing No. 16, 1941. of the Coal Mines Regulation (Amendment) Act, 1941.

In the case of existing installations which do not at that date fully comply therewith a period of twenty-four months thereafter shall be allowed within which they may be brought into compliance.

4. Every addition to or alteration of an existing electrical installation shall be deemed to be a new installation and these regulations shall apply to such alteration or addition.

5. The Minister on the recommendation of the chief inspector may grant exemption from compliance with any part or parts of these regulations on the ground of emergency or special circumstances for such time and extent and subject to such conditions as he may determine, and any question as to whether such exemption has been unreasonably withheld, shall be determined by the court on appeal being made thereto in the manner and within the time prescribed by the rules of the court.

6. The manager shall send to the inspector for the district notices as follows:—

- (1) Notice of intention to commence the use of electricity in a mine or in any ventilating district in a mine;
- (2) Notice of intention to introduce or reintroduce electricity into a mine where the use of such has been previously prohibited.

This regulation shall not apply to a telephone, telegraph, or signalling apparatus in other than a gassy place.

7. For the purpose of determining whether the holder of a certificate of competency as a mine electrician shall be appointed at a mine, the Chief Inspector may by order under his hand arrange for a sealed maximum demand meter reading in kilowatts to be installed at the mine for such length of time as he thinks fit in order to determine the load.

8. The manager or, in his absence, the under-manager, shall appoint in writing such competent persons as may be necessary for the efficient supervision of installation, maintenance, and testing of the electrical equipment and also to ensure compliance with these regulations.

9. In every mine where electricity is used below ground for power or lighting purposes, direct telephonic or other equivalent means of communication shall be provided between the surface and each main distributing centre underground.

10. Electrical equipment shall not be installed in any part of a mine where the percentage of inflammable gas in the general body of the air in such part is one and one-quarter per cent. or upwards.

11. These regulations shall not apply to requirements for shot-firing or battery hand-lamps.

### SECTION III.—GENERAL REQUIREMENTS AND WORKMANSHIP.

#### (1) General.

12. (a) All apparatus, including conductors, shall:

- (i) be adequately constructed and of sufficient capacity for the work it may be called upon to perform,

(ii)

No. 16, 1941. (ii) be efficiently insulated or have all exposed live parts enclosed, isolated or protected, and  
 (iii) be so placed, installed, worked and maintained as to minimise the risk of accidental shock, fire, overheating or mechanical damage.

(b) The covering and/or enclosure of all apparatus installed or to be installed in any gassy place shall be so constructed and maintained that there shall be no danger of open sparking during normal or abnormal working of the apparatus.

13. A rope or belt-driven machine shall not be operated inside the mine unless—

(i) there is present an attendant during the whole time such machine is in use; or  
 (ii) a device is so fitted as to ensure the automatic cutting off of the supply of power to the driving motor in the event of any fault occurring in the running of the belt.

14. (a) Adequate working space and means of access, clear of obstruction and free from danger, shall be provided for all apparatus that has to be worked or attended to by any person, and handles or controls intended to be operated shall be conveniently placed for that purpose.

(b) All inflammable material placed within three feet of any current-carrying part of apparatus shall be properly protected unless such apparatus is so constructed, protected and worked as to obviate the risk of fire.

15. (a) Any unattended motor room, switch room or transformer room on the surface containing exposed conductors or switchgear that can be interfered with shall be kept locked.

(b) Except with the permission of the manager, no person other than an authorised person shall enter a machine room or motor room; and no person shall damage, interfere with, or without proper authority remove or render useless, any electric line or any machine, apparatus or part thereof, used in connection with the supply or use of electricity.

16. During the time any conductor inside the mine is live, an authorised person shall be readily available to operate, in case of emergency, the switchgear controlling the power entering the mine.

17. Where the live parts of apparatus working at a voltage exceeding the limits of extra-low voltage may have to be handled for the purpose of adjustment or for wiping or oiling, gloves, mats or shoes of rubber or other non-conducting material shall be supplied by the manager and shall be used by the attendants.

In all cases where work is required to be carried out on high or extra-high voltage circuits the current shall be cut off and the circuits concerned effectively earthed.

18. (a) The occurrence of any personal accident involving an electric shock or burn shall be promptly reported to an official of the mine, who shall within twenty-four hours record the same in the approved form.

(b)

(b) The occurrence of any serious breakdown of or injury **No. 16, 1941.** or damage to apparatus or of overheating or of sparks or arcs outside enclosing casings or of any portion of the apparatus (not being a proper part of the electrical circuit) becoming live, shall be promptly reported to an official of the mine, who shall record the accident in the approved form at the end of the shift or otherwise within twelve hours after receiving such report.

(c) Any person suffering or witnessing an accident or breakdown as aforesaid shall, where practicable, be shown the record and shall append his signature, together with any additional report or comment in relation thereto.

19. Should any defect be detected at any time which would render an installation hazardous, steps shall be taken to bring such installation into compliance with the requirements of these regulations without delay.

20. In any gassy place where it is permissible to fire a shot, a blow lamp may be used or a joint may be soldered only by or in the presence of the person authorised for that purpose by the manager.

Before a blow lamp is used or a joint soldered the safeguards and precautions prescribed by paragraph (h) of Regulation 6 of the Fifth Schedule shall be first observed.

A blow lamp shall not be used in a dry and dusty place.

21. In any gassy place a flame-proof enclosure shall not be permitted to remain open, nor shall it be opened when the voltage is switched on except by or in the presence of an authorised person for the purpose of making adjustments, and then only subject to the observance of the same conditions and precautions as are laid down under Regulation 20.

22. Each trailing cable in use inside the mine shall be examined daily for abrasions and other defects by a competent person, who shall daily report in the approved form the result of such examination.

23. Each machineman shall carefully observe the trailing cable while in use, so as to detect defects; and, in the event of any defect becoming apparent, he shall immediately put the cable out of service and send notice of the same to an official of the mine.

24. (a) Trailing cables shall at all times, where practicable, be kept clear of the rails and traffic except when flitting.

(b) Special care shall be taken to prevent injury to and undue strain on the trailing cables during flitting, cutting and loading the machine on to or unloading it from the power truck.

(c) All horse and mechanical traffic shall be suspended on that part of every road along which a trailing cable is extended during the flitting of a machine.

25. In any gassy place, a locked oil flame safety-lamp or other approved apparatus for the detection of inflammable gas shall be provided for the use of the attendant with each stationary machine, when working; and, should any indication of such gas appear on the flame of the safety-lamp or such other apparatus, the person in charge shall immediately stop the machine, cut off the voltage at the nearest switch, and report the matter to an official of the mine.

**No. 16, 1941.** 26. In any gassy place the machineman in charge for the time being of a coal-cutting, boring or loading machine shall be a competent person, capable of examining the roof and sides and detecting the presence of inflammable gas, who has obtained from a duly qualified medical practitioner a certificate in the form prescribed by the Minister that his eyesight is such as to enable him to make accurate tests for inflammable gas, and who shall obtain at intervals of not more than three years a similar certificate.

27. (a) In any gassy place before an electric coal-cutting, boring or loading machine is brought within 20 yards of the working face, the operator of the machine shall first make an examination for inflammable gas with a locked oil flame safety-lamp in the place where the machine is to work, unless such an examination is then made by some other authorised person being the holder of at least a third-class certificate of fitness as a deputy and if any inflammable gas is found in the place, the machine shall not enter therein.

(b) Such an examination for inflammable gas shall be made—

- (1) Upon completion of every operation of an electric coal-cutting, boring or loading machine;
- (2) In any case within half an hour after the commencement or re-commencement of operation of such a machine at the face;

and if inflammable gas is found whilst the machine is present, the voltage shall be cut off, the trailing cable disconnected at the junction box and not re-connected until the deputy of the district or other such competent person has examined the place and found the conditions safe to resume operations or to withdraw the machine.

(c) (1) The person finding the inflammable gas shall—

- (a) at once erect a danger fence to warn persons against entering the place;
- (b) forthwith report the finding of the gas to the deputy of the district or senior official.

(2) The deputy of the district or senior official shall forthwith examine the place and satisfy himself that—

- (a) a danger fence had been erected;
- (b) the power switch on the machine is in the "off" position;
- (c) the trailing cable had been disconnected at the junction box.

(d) A competent person shall not deem a place safe for the normal operation of the machine (i.e., cutting, boring or loading) if inflammable gas is detected; but he shall deem it safe for withdrawal of the machine if the general body of the air in the vicinity of the machine is free from inflammable gas.

All tests for the existence of inflammable gas in the general body of the air shall be carried out by means of a locked oil flame safety-lamp.

28. In order that the roof may be carefully examined, a coal-cutting or loading machine shall not be kept continuously at work for a length of time exceeding a maximum period of thirty minutes or such less time as may be specified by the manager.

29. The person in charge of an electric coal-cutting, boring or No. 16, 1941. loading machine shall not leave the machine while it is working, and shall, before leaving the working place, see that the voltage is cut off and the trailing cable disconnected from the junction box.

30. If any electric spark or arc be produced outside a portable motor or about the cables or rails, or if the frame becomes live, the machine shall be stopped, the voltage cut off and the trailing cable disconnected from the junction box.

The machine shall not be worked again until the defect has been remedied.

A machine-end plug shall not be replaced or removed except when the trailing cable is dead.

31. A portable machine shall not be repaired until the voltage has been cut off from the machine and the trailing cable disconnected from the junction box.

*(2) Duties of the Electrician and his Assistants.*

32. The mine electrician or a duly appointed competent person shall be in daily attendance at the mine when the electrical apparatus or machinery is in use.

33. A separate plan to a scale not smaller than four chains to one inch shall be kept at the mine showing the position, size, and duty of all permanent machinery and fixed cables inside the mine.

This plan shall be corrected as often as may be necessary to keep it as nearly as practicable up to date and never more than three months in arrears.

The inspector shall be entitled to examine the plan and, for official purposes only, to make a copy of every part thereof.

34. (a) With the exception of testing, adjusting, wiping and oiling, the maintenance, repair or alteration of any electrical apparatus shall be carried out only after the disconnection of such apparatus from the source of supply.

(b) Adequate precautions shall be taken by earthing or other suitable means to discharge electrically any conductor or apparatus, or any adjacent apparatus, if there is any risk of shock therefrom, before it is handled, and to prevent any conductor or apparatus from being accidentally or inadvertently electrically charged when persons are working thereon.

35. The insulation of circuits, sub-circuits and apparatus shall be so maintained that the leakage current between phase conductors or between outer conductors or between such conductors and earth shall not exceed the following values:—

(a) In the case of high-voltage circuits inside the mine, one ten-thousandth of the maximum supply current;

(b) In the case of low and medium-voltage circuits inside the mine, one two-thousandth of the maximum supply current.

36. Electric globes shall be replaced by an authorised person only. The voltage shall be switched off while the globes are being replaced.

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(3) *Testing and Reports.*

37. At intervals of approximately one calendar month but not exceeding thirty-six days or as more often as may be necessary to avoid danger, the following examination and tests shall be made of all apparatus and circuits used during the preceding month. There shall be at least twelve such examinations and/or tests each year.

- (a) An examination of all apparatus including the casing and/or inspection doors of all portable motors used inside the mine, the casing of their switches, all metallic coverings and earth conductors;
- (b) A test of the insulation of every complete lighting or power circuit, including all machinery and apparatus forming part of or in connection with such circuit, either collectively or in parts;
- (c) A test of the electrical continuity of all earthing conductors and metallic coverings if used as such;
- (d) A test of the insulation resistance of each conductor of every trailing cable.

38. The insulation resistance of trailing cables shall not be less than one megohm when measured by an approved method or as follows:—

- (a) between conductors; and
- (b) (i) in the case of cable having no earth screen, between the conductors and surrounding water in which the cable has been immersed for at least six hours; or
- (ii) between the conductors and the earth screen.

An approved instrument suitable for carrying out the required tests shall be provided by the manager and shall be used by the person making such a test.

39. All new apparatus, also that re-erected in a new position in the mine and apparatus about to be used after a stoppage exceeding one month, shall be examined and tested before being put into service.

40. All portable flame-proof apparatus shall be efficiently overhauled and properly re-assembled under approved conditions once every two years, or as more often as may be required.

41. The results of the examinations, tests, etc., prescribed in Regulations Nos. 37 and 39 shall be recorded in the approved form.

42. A report of every examination made under Regulations 25 and 27 and of every occurrence as set out in Regulation 30, shall be made in the approved form at the end of the shift or otherwise within twelve hours after the occurrence.

43. Every report made in accordance with the provisions of these regulations shall be entered in the approved form and shall be signed by the person making the report.

(4) *Miscellaneous.*

44. All high-voltage machines, apparatus and lines shall be marked by the use of the word "Danger" at frequent intervals, or by red paint properly renewed when necessary or by some other conspicuous means so as clearly to indicate that they are at high voltage.

45. Fire buckets, filled with clean dry sand or stone-dust shall be No. 16, 1941. kept in every place containing fixed apparatus other than cables, gate-end boxes, isolated remote control switches, telephone and signalling apparatus, ready for immediate use in extinguishing fires.

Inside the mine a chemical fire-extinguisher shall not be kept or used unless it is of an approved type and is maintained in proper condition ready for immediate use.

46. (a) All persons working in connection with apparatus shall acquaint themselves with the contents of the following notices which shall be exhibited in every place containing fixed apparatus other than cables, junction boxes, isolated remote control switches, telephone and signalling apparatus:—

- (i) An approved notice containing directions as to resuscitation of persons suffering from electric shock;
- (ii) A notice containing directions as to procedure in case of fire;
- (iii) A notice prohibiting any person other than an authorised person from handling or interfering with apparatus.

(b) A notice containing instructions for communicating with the persons appointed under Regulation 16 shall be exhibited at each main distributing centre underground.

(c) All notices shall be constructed of durable material, and when defaced, obliterated or destroyed, shall be renewed forthwith.

47. Every room or chamber in which electrical apparatus is housed shall be kept as dry as practicable and free from debris.

#### SECTION IV.—GENERATION AND SUPPLY, TRANSMISSION AND DISTRIBUTION.

##### (1) General.

48. (a) A higher voltage than a medium voltage shall not be used inside the mine except for transmission and for application to switchgear, transformers and the stationary circuits of motors.

(b) Where energy is transformed or converted, suitable provision shall be made to guard against danger by reason of the lower voltage apparatus becoming charged above its normal voltage by leakage from or contact with higher voltage apparatus.

(c) For work inside the mine when furnished with a current at a voltage higher than medium voltage—

- (i) A transformer other than an instrument transformer shall not be of less normal rating than one kVA per phase for voltages ranging between 650 volts up to 2,300 volts, and not less than two kVA per phase for greater voltages;
- (ii) an instrument transformer shall be housed in a suitably constructed enclosure or contained in a metal case;
- (iii) a potential transformer shall be protected by suitable fuses;
- (iv) a motor shall not be of less normal rating than twenty brake-horse-power.

No. 16, 1941. 49. (a) A higher voltage than a medium voltage shall not be transmitted in any gassy place.

(b) Electrical apparatus or cables shall not be used in a dry and dusty place.

50. In any gassy place all transforming, rectifying and generating apparatus shall have all their current-carrying parts, terminals and connections completely enclosed in approved flame-proof enclosures.

51. Effective lightning arresters shall be provided on all overhead circuits above ground.

*Subsection (2)—Cables and Conductors.*

*Division (a)—General.*

52. All conductors with the exception of bare overhead surface cables, trolley wires and earthing conductors, shall be continuously covered with insulating material specially chosen with regard to the circumstances of its proposed use.

The material shall be of mechanical strength sufficient for its purpose, and so far as is practicable shall be of such a character or so protected as to maintain fully its insulating properties under working conditions of temperature and moisture.

The cables shall comply with specifications and tests adopted by the Standards Association of Australia and in vogue at the time of purchase of the cable.

53. The size of the cables, except in the case of main transmission lines on the surface and connections inside motors, transformers and switchgear, shall not be less than that provided in the tables for various classes of cables showing the maximum current for copper conductors.

The maximum current to be carried or calculated or assumed to be carried by a cable shall not exceed its current-carrying capacity as limited by the maximum safe operating temperature of the insulating material of the cable which shall be 120 degrees Fahrenheit for rubber insulated cables and 170 Fahrenheit in the case of paper insulated cables.

The Tables in the Appendix to these regulations showing current-carrying capacity of rubber and paper insulated cables, are to be regarded as an approximate guide only, and it is necessary to give special consideration in each particular case to the type of cable and the conditions under which the cable is used in order that compliance with this regulation may be ensured.

Higher continuous ratings than those shown in such Tables shall not be permitted for any reason whatsoever.

54. Unless fixed out of reach of injury, all cables other than overhead conductors above ground shall, in addition to the insulation, be protected by a suitable covering to guard against mechanical damage.

Where a medium or higher voltage supply is used, all cables shall be completely enclosed in strong armouring or metal conduit or casing or other suitable covering; except that in non-gassy places they

they may be fixed at such a distance apart and at such a height or **No. 16, 1941.** in such a manner that risk from fire or shock is minimised without being so enclosed.

Cables where buried shall be adequately protected against damage.

The ends of cables entering apparatus shall be properly protected and finished off so that moisture cannot creep along the insulating material within the water-proof sheath, and so that the insulating material, if of an oily nature, cannot leak out of the cable.

55. All joints in conductors shall be mechanically and electrically efficient. They shall be suitably soldered, except where a mechanical connector is used.

Where soldering is used in a gassy place, the requirements of Regulation 20 shall be observed.

56. All material located immediately adjacent to or in contact with a fixed cable shall be so shaped that abrasion of the cable or of its insulation which could lead to its mechanical or electrical failure will not take place.

Where conductors and cables (including flexible cables and cords) are to be threaded through tubes or channels or passed through openings formed in metal work, such tubes, channels or openings shall be of ample size and shall have no sharp angles or projecting edges which would be likely to damage a conductor or the insulating material.

Open ends through which cables pass shall be bushed or so shaped as to prevent abrasion of the insulation of the cables.

Where bushes are used they shall be securely fixed in position.

All motors, generators and fully enclosed metal-clad apparatus shall be provided with suitable glands, screwed apertures, or clamps for securing thereto the protective covering of the connected cables or with suitable bushed or shaped apertures for the entry of cables.

*Division (b)—Fixed Cables and Conductors.*

57. All cables used in shafts shall be adequately protected and substantially fixed and if not capable of sustaining their own weight shall be properly supported at intervals appropriate to the weight and type of cable. Where cables are not completely boxed in and protected from falling material, space shall be left between them and the side of the shaft so that they may yield and thus lessen the effect of a blow.

58. Where cables in haulage roads cannot be kept at least one foot from any part of a skip and its contents or other moving transport equipment liable to occasion damage to the cables, they shall be specially protected.

59. (a) Cables inside the mine shall be adequately spaced. If separate unprotected cables are used for lighting purposes they shall be kept at least 2 inches apart and shall not be brought together except at lamps or switches or fittings.

(b) All insulators for the support of cables shall be of ample capacity and of sufficient mechanical strength.

(c)

No. 16, 1941.

(c) Cables inside the mine when suspended shall be supported by leather, or other flexible material which will not damage the cable, or in such other manner as to allow of their readily breaking away when struck, before the cables themselves can be seriously damaged, and sufficient slack cable shall be provided to avoid the risk of damage to connections.

(d) Unarmoured cables inside the mine:

- (i) shall not be directly supported on wooden cleats or metallic fastenings;
- (ii) shall be supported on insulators when in damp places;
- (iii) shall be kept clear of the roof, floor and ribs and also of any timber or metal supports; and
- (iv) shall be suitably bushed where they pass through any stopping or screen.

(e) Cables for lighting circuits inside the mine:

- (i) shall be conveyed in either conduit or approved casing; or
- (ii) shall be suspended from or tied to porcelain insulators in such a manner that they do not touch any timbering or metal work;
- (iii) shall not be fixed with staples.

(f) When main or other roads are being repaired or blasting is being carried out, suitable temporary protection shall be provided so that the cables are reasonably protected from risk or damage.

60. Stranded hard drawn bare copper cables not smaller than 7/036 in spans not exceeding 100 feet, or not smaller than 7/044 in spans not exceeding 150 feet, or not smaller than 7/064 in spans not exceeding 200 feet, may be used as aerial conductors attached to buildings or structures on the surface provided they are erected in a safe manner, and properly supported on insulators, and so spaced that adequate clearance between the conductors themselves and between the conductors and any material other than the supporting insulators shall be maintained under all conditions. All such conductors shall be placed at a distance of not less than 18 feet above the ground and 7 feet from all buildings.

*Division (c)—Trailing Cables.*

61. Trailing cables for portable electric face machines shall comply with the specifications and tests adopted by the Standards Association of Australia and in vogue at the time of purchase of the cable, or otherwise shall be of an approved type.

62. Joints, if any, made in trailing cables, shall be made in an approved manner.

Mechanical connectors of any kind shall not be used for jointing the conductors.

63. Separate lengths of trailing cables may be coupled together only by means of an approved bolted coupling such as a flit plug, except that a free plug and socket coupling of an approved design may be used provided that the system is protected in such a manner that removal of the plug from the socket shall automatically disconnect the supply from the trailing cable.

64. The separate conductors of a twin or multi-core trailing cable **No. 16, 1941.** shall be divided only for such a length as is necessary for the making of connections.

The cable, with its outer covering complete, shall be securely held by suitable clamps in such a manner as to protect the trailing cable from injury and to prevent any mechanical strain at the terminals.

65. A spare trailing cable shall be kept in the mine where an electric portable face machine is in use; and in the event of the trailing cable in service becoming defective or being damaged in any way or inflicting a shock upon any person, it shall be at once put out of service and the spare cable shall be substituted therefor.

The faulty cable shall not again be used until after it has been repaired and tested in the manner prescribed in Regulations 37 and 38, at the surface of the mine or at an approved underground workshop and passed by a competent person.

66. Each trailing cable shall have a distinguishing number, which shall be clearly indicated on a suitable label securely attached to the cable.

**SECTION V—CONTROL AND PROTECTION.***Subsection (1)—General.*

67. Efficient means shall be provided for indicating any defect in the insulation of a system, except in the following cases:

- (a) Circuits which are included within a circle of less than one hundred feet radius;
- (b) Circuits having approved automatic earth leakage protection equipment operating on ten per cent. or less of the normal full load current.

68. Every circuit shall be protected by one of the following methods—

- (a) By an automatic circuit-breaker controlling each pole and equipped with suitable over-current protection;
- (b) By a safety replacement fuse on each pole;
- (c) By a switch and fuse on each pole;

except where the system has a solidly earthed neutral or mid-wire, in which case no switch, fuse or circuit-breaker on the neutral (or mid-wire) conductor shall be required.

69. The electric power supply shall be promptly disconnected from any cables or apparatus in any part of the mine where the percentage of inflammable gas in the general body of the air in such part is one and one-quarter per cent. or upwards.

70. In the event of a failure of the main ventilation system in a mine any part of which comes within the meaning of a gassy place the electric power supply to all face machinery including coal cutting, boring and loading machines in such part shall be cut off as soon as practicable and every locomotive therein shall be brought out to the main intake airways.

If the duration of the stoppage exceeds one half hour the whole electric supply inside the mine shall be cut off and it shall not be restored in any part of the mine until an examination of that part of the

**No. 16, 1941.** the mine and of the airways on the intake side thereof has been made by an authorised person or persons and unless there is less than one and one-quarter per cent. of inflammable gas in the general body of the air in that part.

71. The electric power supply inside the mine shall be controlled by a linked main switch and fuse on each pole or a main circuit-breaker capable of automatically cutting off the supply in the event of an overload.

This equipment shall be located within four hundred yards of the shaft mouth or mine entrance, except that this distance may be increased provided that there is effective telephonic communication between the shaft mouth or mine entrance and the place where the switch gear is located.

72. A record of each instance of the opening of a main fuse or circuit-breaker provided under Regulation 71 shall be made in a book kept at the mine or generating station within twenty-four hours of the occurrence.

73. The current setting of circuit-breakers shall be adjusted by an authorised person only.

The re-wiring of fuses shall be carried out by an authorised person only at the surface of the mine or at an approved workshop inside the mine.

The fuses shall be replaced by an authorised person, but in a non-gassy place, fuses of the cartridge type protecting portable face machinery may be replaced by the operator, if permitted by the manager.

Before any fuse is replaced the electricity shall be switched off.

74. At points where trailing cables are joined to main cables, a fixed terminal box with switch capable of entirely cutting off the supply to the trailing cable shall be provided.

The terminal box shall be provided with an interlock to prevent the cable from being connected or disconnected while the power is switched on.

The use of hooks or other makeshifts is prohibited.

Trailing cables shall be adequately protected with circuit-breakers, thermal relays or fuses.

Trailing cables may be protected by fuses within the junction box plug; but the capacity of such fuse shall not exceed ten amperes.

*Subsection (2)—Control Equipment and Devices.*

*Division (a)—General.*

75. (a) All live parts of switches, circuit-breakers, fuses and other apparatus unless placed in proper machine rooms or in compartments specially arranged for the purpose shall be so placed, arranged and/or protected that no person can accidentally make contact therewith. Covers shall be of non-ignitable, non-hygroscopic material and shall be either non-conducting or of rigid metal clear of all internal mechanism.

(b) Boxes or covers protecting fuses, circuit-breakers or other apparatus shall not be used for storing articles of any description.

76. No fuse shall be installed in such a manner that it is merely No. 16, 1941.  
held in position by its connecting wires, nor shall it be mounted on  
an unprotected, inflammable base.

77. All circuit-breakers shall be of the trip-free type.

Circuit-breakers shall be arranged so that when the contact lever  
opens outwards there is no danger of its striking the attendant.

78. In any gassy place all switches, starters and other control and  
protective equipment shall have all their current-carrying parts,  
terminals and connections completely enclosed in approved flame-  
proof enclosures.

79. In any gassy place the covers of all switches, fuses and circuit-  
breakers, except those incorporated in portable machines, shall be so  
interlocked with the mechanism as to preclude the opening or removal  
of the cover while any such circuit-breaker or switch is in the closed  
position or while any such fuse is live.

80. Every switch, fuse and circuit-breaker shall be rated at and  
marked with the current rating of the circuit in which it is to be used,  
except that where there is no standard size of switch fuse or circuit-  
breaker of the same rating as the circuit, it shall be rated and marked  
at the next highest standard rating.

All marking of cut-outs shall be plainly and indelibly marked on  
both base and carrier in such positions that it will be legible when  
the cut-out is fixed or mounted in position.

81. (a) A fuselink shall be of such size that it would be melted in  
one minute or less if of tinned copper, or in two minutes or less in  
the case of lead-tin alloy fuse, by current equal to twice the maximum  
current-carrying capacity of the smallest conductor protected by it:

Provided that no fuselink rated to melt at less than ten amperes  
need be inserted in any final sub-circuit.

(b) Fuses and automatic circuit-breakers shall be so constructed  
and so adjusted as effectually to interrupt the current in order that  
the cables, motors and other current-consuming devices may be ade-  
quately protected.

(c) Where fuse wire is used, each coil or reel shall be stamped  
or labelled to indicate its rated maximum safe working current.

82. Unenclosed fuses are prohibited.

All cartridge fuses shall be of an approved type.

83. Every motor shall be provided with a control switch, circuit-  
breaker or starter, fixed in a convenient position and capable of en-  
tirely cutting off the voltage.

Except in the case of any motor having automatic control, a suit-  
able ammeter shall be provided for—

(a) Every rope haulage motor of 10 b.h.p. and over; and

(b) Every motor underground of 10 b.h.p. and over, except port-  
able motors.

84. (a) Where a motor is operated by means of remote control it  
shall be so arranged that the motor cannot be started until released  
at the point where it was stopped.

(b)

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(b) Remote control haulage systems inside the mine shall be provided with a convenient means of stopping the rope at any point along the haulage road or in any case at points not exceeding one chain apart.

(c) Apparatus operating by means of remote control shall be so designed that any failure will not endanger any person, and in the event of a failure allowing the apparatus to operate against the normal control, provision shall be made for alternative means of stopping the apparatus.

*Division (b)—Switchboards.*

85. Switchboard panels shall consist wholly of durable, non-ignitable, non-hygroscopic materials which, unless all live parts of apparatus mounted on the panels or connected thereto are adequately insulated therefrom, shall also be of insulating material of permanently high electric strength and insulation resistance.

Insulating switchboard panels shall:

- (a) in the case of marble and slate panels, conform to Standards Association of Australia Specification No. C. 19—Marble and Slate Slabs for Electrical Purposes;
- (b) in the case of composition panels with an organic base conform to Standards Association of Australia Provisional Specification No. C. 108, 1937 P., Composition Switchboard Panels until a standard specification is promulgated by that association and thereafter to that standard specification.
- (c) in the case of composition panels with mineral base, conform to British Standard Specification No. 737, 1937—Non-ignitable and Self-extinguishing Boards (with mineral base) for Electrical Purposes.

A marble or slate panel shall be used only provided all conducting parts to be mounted thereon are insulated from the panel by a coating of suitable varnish or other non-hygroscopic insulating material.

*86. Switchboards: Clearance and Passage Ways—*

- (a) *General Accessibility:* Every switchboard shall be installed in an accessible position. The floor at the front and back of every switchboard shall be firm and even.
- (b) *Space in Front of Switchboards:* Clear space shall be provided and maintained in front of every switchboard ample for the purpose of safely and effectively operating and adjusting all equipment mounted thereon.

In the case of main generating or sub-station switchboards, such space shall be not less than four feet wide measured from the switchboard panels.

*(c) Open Type Switchboards:*

- (1) *Space Behind Open Type Switchboards:* Where it is necessary to have access to the back of a switchboard for wiring purposes or where any exposed live metal is mounted on the back of a switchboard, the switchboard shall be so placed that there is a space between the back of the board and any wall or immoveable structure behind the board.

Provision

Provision shall be made for easy access to such No. 16, 1941. — space, and the minimum distance from the back of the board to such wall or immovable structure shall be as shown below.

Should any live metal project from the back of the board, the minimum distance of the board from the wall or immovable structure shall be greater than that shown below by the greatest distance any such metal projects from the back of the board;

- (i) one and a half inches in the case of two-circuit boards with a total loading of not more than ten amperes, and three inches in all other cases where either the height or the width of the board does not exceed fifteen inches;
- (ii) four inches where either the height or the width of the board does not exceed twenty-four inches but both dimensions exceed fifteen inches;
- (iii) twelve inches where either the height or the width of the board does not exceed four feet but both dimensions exceed twenty-four inches;
- (iv) thirty inches where both the height and the width of the board exceed four feet.

In cases where both the width and height of the board exceed four feet, all stays and conductors shall be so arranged as to allow a clearance above floor level over the space behind the board of not less than six feet for stays and insulated conductors and seven feet for bare conductors.

For the purpose of this clause (c) (1), if a switchboard panel is mounted more than twelve inches from any other panel, it shall be deemed to be a separate switchboard, but if a panel is mounted within twelve inches of any other panel, such panels shall be deemed to be one switchboard.

Where new panels are required because of additions, alterations or extensions to an installation and any such panel is mounted within twelve inches of an existing switchboard or within twelve inches of any other such panel, the existing switchboard and new panels shall be deemed to be one switchboard if their combined height and combined width exceed twenty-four inches.

(2) *Access to Passage Behind Open Type Switchboards:* Unless the switchboard is situated in a room accessible only to authorised attendants, the space behind every switchboard which is required to be spaced thirty inches from a wall or immovable structure shall be enclosed so as to make it inaccessible to any but

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but authorised attendants, and access to such space shall be provided by a door or doors each not less than eighteen inches wide and of a height permitting easy access.

Such door or doors shall open outwards, and shall be kept locked when not open for access, but shall at all times be capable of being opened from the inside without the use of a key.

Where passage room is provided behind a board which is more than 6 feet in length, an access door as described above shall be provided at each end of the board.

Such passage room shall not be used for the storage of any article.

87. Every generator shall be provided with a switch and fuses or a circuit-breaker on each active pole between the generator and the busbars.

Linked switches, except in the case of equaliser switches with direct current generators and neutral switches with alternating current machines in excess of ten kilowatts shall be provided by means of which each generator may be completely disconnected from its load and/or from any source of electrical energy.

Suitable instruments shall be provided for indicating the current and voltage of each generator.

Every main feeder connected to the busbars in the generating or transforming station shall be furnished with an ammeter on the main switchboard.

#### SECTION VI—EARTHING.

88. No earthing conductor shall be used to carry the normal current of any circuit.

89. All metallic sheaths, coverings, handles, joint boxes, switch-gear frames, instrument covers, switch and fuse covers, and boxes and all lamp-holders unless efficiently protected by an insulating covering made of fire-resisting material, and the frames and bedplates of generators, transformers, and motors, including portable motors shall, if the voltage exceeds extra-low voltage, be protected to guard against dangers of shock or undue rise of potential by being efficiently connected to an effective earthing system at the surface of the mine, or by being connected to an approved underground earth, or by being protected in such a manner as will ensure at all times the isolation of any defective portion of any installation through the operation of a circuit-breaker or cut-out or cut-outs.

90. All portable face machinery operating at a voltage above extra-low shall be protected by approved automatic leakage protection.

Hand-held electric boring machines operating at a voltage above extra-low shall, in addition, be protected with automatic earth continuity equipment.

#### *Minimum Size of Earthing Conductors.*

91. Copper earthing conductors shall be—

(i) stranded cable; or

(ii)

- (ii) flat copper strip not less than  $\frac{1}{4}$  of an inch wide by No. 18 No. 18, 1941. gauge; or
- (iii) circular or rectangular copper bar not smaller than 0.15 square inch in cross section.

The minimum cross-sectional area of any stranded copper earthing conductor shall be 0.0045 square inch (7/.029 in.).

The metallic covering of every cable shall be electrically continuous throughout, and of a conductivity at all parts and at all joints at least equal to 50 per cent. of the conductivity of the largest conductor enclosed by the said metallic covering, provided that where a metallic covering is not of such conductivity it shall be augmented by sufficient additional earthing conductors so that the combined conductivity shall be as specified, and cross bonding between the metallic covering and the additional earthing conductors shall be provided at intervals not exceeding 250 yards, or at each joint box. Where the conductors of trailing cables are provided with individual screens, the screens used for earthing shall be bonded at or near each end of the cable.

If the cross-sectional area of the largest live conductor of a flexible cord used with a portable appliance is smaller than 0.0045 square inch, the cross-sectional area of the earthing conductor in the flexible cord shall not be less than but need not be greater than that of such live conductor.

#### **SECTION VII—CONSUMING DEVICES.**

##### *Subsection (1)—General.*

92. In any gassy place, all apparatus and consuming devices, including motors, shall have all their current-carrying parts, terminals and connections completely enclosed in approved flame-proof enclosures.

##### *Subsection (2)—Lighting.*

93. In any gassy place, electric lamps shall be enclosed by fittings of an approved type.

94. In all machine rooms and other places underground where a failure of electric light is likely to cause danger, some approved alternative system of lighting shall be provided for use in the event of such failure.

95. Not more than ten lamps shall be allowed on any final sub-circuit.

Series lighting shall be permitted only under approved conditions.

96. Electric hand lamps shall be of robust construction and shall be operated at a voltage not exceeding fifty volts.

##### *Subsection (3)—Motors.*

97. (a) Motors of coal-cutting or other portable machines shall not be used at a voltage higher than medium voltage.

(b) A hand-held electric boring machine may be operated at a voltage—

(i) within the limits of extra-low voltage without there being the special electrical protective devices required by these regulations; or

(ii)

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- 
- (ii) up to 440 volts provided that there are installed the special electrical protective devices set out in these regulations, including the neutral point earthed or other device answering the same purpose; or
- (iii) above 440 volts but within the limits of medium voltage, provided that there are installed the special electrical protective devices set out in these regulations and provided also that the machine is of an approved type.

*Subsection (4)—Locomotives.*

98. Electric locomotives used inside the mine shall be subject to the following additional regulations:—

- (1) A storage battery locomotive of an approved flame-proof type may be used in any part of a mine where the percentage of inflammable gas in the general body of the air in such part is less than one and a quarter per cent.
- (2) A storage battery locomotive, not being of an approved flame-proof type, shall not be used in any gassy place.
- (3) An electric locomotive on the trolley wire system—
  - (a) shall not be used in any gassy place or any dry and dusty place; and
  - (b) shall only be operated on main roads ventilated by intake air.
- (4) A room inside the mine used as a charging or repair station shall be of suitable fire-proof construction and ventilated with intake air.
- (5) Charging, repairing or inspection of batteries shall only be done in the charging or repair station, and this work shall be performed by an authorised person only.
- (6) Battery boxes and the covers thereof shall be so constructed as to minimise accidental or unauthorised interference with the battery, and shall be efficiently ventilated.
 

The covers shall be kept securely locked except when in the charging or repair station.
- (7) Every battery shall be provided with—
  - (1) enclosed fuses or circuit-breakers on each pole;
  - (2) an ampere hour meter which shall at all times indicate the condition of charge of the battery.
- (8) All electrical connections shall be so constructed, inspected and maintained that the risk of connections becoming loose during working is minimised.
- (9) All flame-proof enclosures shall be kept securely closed and locked or sealed, except that they may be opened only at the charging or repair station.
- (10) A competent person shall inspect at least once in each twenty-four hours in which the plant is worked, all flame-proof enclosures together with their locks or seals, and he shall record the result of his inspection in the approved form kept at the charging or repair station.

(11)

(11) No person shall operate an electric locomotive by means of No. 16, 1941.  
which men are transported in any part of the mine—

- unless he is registered as the holder of an Electric Motor Driver's Certificate of Competency issued under the provisions of the Mines Inspection Act, 1901;
- who (whether or not registered as the holder of such certificate) is wholly or partially deaf, or whose sight is defective or who is subject to fits, giddiness or any other infirmity likely to interfere with the efficient discharge of his duties.

(12) The driver of a locomotive of approved flame-proof type shall not operate the locomotive outside the charging or repair station unless all seals are intact, except that in the event of a fuse blowing while the locomotive is away from the station, the driver may break the covering seal, open the enclosure and replace the blown fuse with a spare fuse which has been inspected and passed for the purpose by a competent person. The driver on his return to the station shall report the matter to an authorised person who shall see that the enclosure is in proper condition and shall securely lock or re-seal it before the locomotive is moved from the station and shall make a record of the occurrence in a book kept at the station.

(13) In the event of any open sparking being noticed about a flame-proof battery locomotive, the driver shall immediately open the main switch, and if the sparking still persists he shall close the main switch and get the locomotive into a main intake airway as soon as possible, and report the occurrence to the deputy of the district or other senior official.

(14) In any gassy place the working faces in which a locomotive has to operate during a shift, shall be inspected twice during that shift by a competent person using a locked oil flame safety-lamp.  
The person making the inspection shall take adequate precautions to prevent a locomotive entering any place where inflammable gas is found to be present.  
He shall record in the approved form the result of his inspection and in the event of his having found gas, the steps taken to guard against danger.

(15) The driver of a locomotive shall not pass beyond any caution sign unless with the permission of the manager, under-manager or deputy.

(16) A trolley wire shall not be used in any road having an immediate roof of coal or inflammable shale.

(17) Where the trolley wire is less than 7 feet above the top of the rails, it shall be effectively guarded to prevent accidental contact.  
In cases where a risk of contact with a trolley wire exists, vehicles used for conveying men shall be covered.

(18) The current used on the trolley wire shall be at a voltage not exceeding the limits of low voltage.

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- (19) The trolley wire shall be divided into one or more sections in order to ensure that in the event of a fault developing the faulty section of the trolley wire shall be immediately disconnected from the supply; and the sectionalising switches shall be arranged so that they can be locked in the open position.
- (20) The tracks of all main haulage systems that use a rail return shall be bonded at every rail joint, and cross bonding shall be placed at intervals not exceeding 200 feet.  
Special provision shall be made for bonding around all switches, frogs, or openings in the track so as to ensure continuous return.  
The bonding shall be regularly tested for continuity in accordance with paragraph (c) of Regulation 37.
- (21) Suitable apparatus shall be provided to cut off automatically all voltage to the trolley wire in the event of the mine fan stopping or any derangement in the ventilation occurring.
- (22) No unauthorised person shall travel on foot along any road containing a trolley wire except during such periods as may be ordered by the manager.  
Notices shall be prominently exhibited at every entrance to such roadway, stating that a trolley wire exists therein, and that unauthorised persons are prohibited from travelling on roads equipped with a trolley wire, except during periods which shall be clearly set out in the notices.
- (23) No repair work of any kind shall be carried out in any part of the roadway containing a trolley wire unless such section of the trolley wire is first made dead or unless the manager has specially authorised in writing that the work be carried out while the trolley wire is live, and there is present during the whole of the time that such trolley wire is live a responsible official of the mine.
- (24) All proper precautions shall be taken to prevent the trolley wire from coming into contact with any other electrical circuit or any metal construction used in the roadway.
- (25) Adequate provision shall be made to effectively drain all wet or damp roadways, and any water dripping from the roof shall be conducted clear of trolley wire and track.
- (26) The manager of a mine where an electric locomotive is worked inside the mine shall, by notice posted in an appropriate position, specify the duties of the driver, the charging room attendant and other persons concerned with the operation, maintenance, or use of the locomotive, its accessories or adjuncts, and of all persons who are being or about to be hauled on any skip, trolley or other appliance by such locomotive, or who are working or travelling on any road used by a locomotive.

**SECTION VIII—SIGNALLING.**

99. The foregoing regulations shall not apply to apparatus used for telephone, telegraph and signalling purposes, which shall comply with the following requirements.

100. (a) The voltage used for signalling shall not exceed 25 volts. **No. 16, 1941.**

(b) The voltage used for telephony and telegraphy shall not exceed extra-low voltage, except that for ringing by means of a hand-operated magneto or other source of power (not exceeding 1,000 watts rated output) the voltage shall not exceed 115 volts.

(c) Where bare conductors have to be handled for the purpose of signalling, a system of automatic excess voltage protection shall, where practicable, be installed and so arranged that the supply likely to cause any excessive voltage will be disconnected when the voltage between the signalling system and earth exceeds 25 volts.

(d) All proper precautions shall be taken to prevent conductors from coming into contact with other electric conductors whether insulated or not.

The conductors shall be kept as far apart from lighting or power cables as possible and where it is necessary for them to cross the lighting or power cables, they shall be encased in rubber hose or otherwise equally efficiently protected.

(e) Where the power for signalling is obtained from a step-down transformer, the transformer shall be of an approved double-wound type and one of the following methods shall be adopted to prevent the secondary windings becoming charged in the higher potential:—

- (i) The primary and secondary windings shall be wound on separate legs of the transformer and the core of the transformer shall be efficiently earthed;
- (ii) If the primary and secondary windings are wound on the same cores, an earthed winding or metallic sheath shall be interposed between the two windings and insulated suitably from both primary and secondary windings.

101. In any gassy place the following requirements shall apply in addition to the foregoing requirements of this section:

- (a) All conductors, instruments and apparatus shall be constructed, installed, protected, worked and maintained in such a manner that there shall be no risk of open sparking;
- (b) All instruments and apparatus shall be of approved type;
- (c) Any type of battery may be used provided that one bell or relay only is included in any one circuit;
- (d) Any number of bells or relays may be connected in parallel or in series, with one battery, of approved type, only in the circuit;
- (e) Any number of bells or relays may be connected in series with two batteries of approved type, connected in opposition in the circuit;
- (f) A battery used in pursuance of the provisions of paragraphs (d) and (e) of this regulation shall be of not more than sixteen three-pint porous pot Leclanche cells connected in simple series, or of any other approved type.

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## APPENDIX I.

## CURRENT-CARRYING CAPACITY.

(SEVENTH SCHEDULE—REGULATION 53.)

TABLE I.—RUBBER INSULATED CABLES.  
(*Standard Annealed Copper.*)Based on Ambient Temperature of 80° Fahrenheit and Maximum  
Permissible Conductor Temperature of 120° Fahrenheit.

Number and Diameter (inches) of Wires comprising Conductor.*	Nominal Area, (1)	Current-carrying Capacity (Continuous). (Subject to Voltage-drop and Adjustments for Ambient Temperatures and Laying Conditions.)		
		Two Single-core Cables. (2)	One Twin Cable or Four Single- core Cables. (3)	One Three or Four-core or Six Single-core Cables. (4)
1/-044	sq. in. 0.0015	amps. 6.1	amps. 4.9	amps. 4.3
3/-029	0.002	7.8	6.4	5.5
3/-036	0.003	12.0	9.6	8.3
1/-064	0.003	12.9	10.3	9.1
7/-029	0.0045	18.2	14.6	12.6
7/-036	0.007	24.0	19.2	16.5
7/-044	0.01	34	27	24
7/-052	0.0145	43	34	30
7/-064	0.0225	55	44	39
19/-044	0.03	65	52	46
19/-052	0.04	78	63	55
19/-064	0.06	105	84	74
19/-072	0.075	123	98	86
19/-083	0.10	152	122	106
37/-064	0.12	174	140	122
37/-072	0.15	205	160	145
37/-083	0.20	254	200	180
37/-093	0.25	293	235	205
37/-103	0.30	330	265	230
61/-093	0.40	400	320	280
61/-103	0.50	460	370	325
91/-093	0.60	514	410	360
91/-103	0.75	592	...	...
127/-093	0.85	640	...	...
127/-103	1.00	712	...	...

\* The current-carrying capacity of a conductor having wires of a number or diameter not specified in this table shall be taken to be proportionate to that of the cases specified.

## NOTES.

(a) The ratings specified in the table are to be regarded as maxima and higher ratings are not permitted for any reason whatsoever.

(b) The figures in the table are based on Electrical Research Association Research Report FT/60.

(c) No rubber insulated cable shall be installed in any situation where the ambient temperature exceeds 120 degrees Fahrenheit and in all cases the current to be carried shall be sufficiently reduced to limit the maximum operating temperature of the conductor to 120 degrees Fahrenheit.

(d)

(d) The table refers to situations where the temperature of the surroundings in any part of the cable run does not exceed 80 degrees Fahrenheit. Where the temperature of the surroundings in any part of the cable run exceeds 80 degrees Fahrenheit the permissible current shall be reduced in accordance with the following reduction factors:—

Initial Ambient Temperature Degrees Fahrenheit.	Amperes permissible to be multiplied by
85 .. .. .. .. .. ..	0.928
90 .. .. .. .. .. ..	0.852
95 .. .. .. .. .. ..	0.770
100 .. .. .. .. .. ..	0.681
105 .. .. .. .. .. ..	0.580
110 .. .. .. .. .. ..	0.466

## APPENDIX II.

## CURRENT-CARRYING CAPACITY.

(SEVENTH SCHEDULE—REGULATION 53.)

TABLE II.—PAPER INSULATED AND LEAD COVERED CABLES.

(Standard Annealed Copper.)

Based on Ambient Temperature of 80° Fahrenheit and Maximum Permissible Conductor Temperature of 170° Fahrenheit.

Number and Diameter (inches) of Wires comprising Conductor.*	Nominal Area.	Current-carrying Capacity (Continuous). (Subject to Voltage-drop and Adjustments for Ambient Temperatures and Laying Conditions.)		
		Two Single-core Cables laid together.	One Concentric or Twin Cable, or Four Single-core Cables.	One Three-phase Cable or Six Single-core Cables.
(1)	(2)	(3)	(4)	(5)
7/-036	sq. in. 0.007	amps. 39	amps. 31	amps. 27
7/-044	0.01	58	46	41
7/-052	0.0145	79	63	55
7/-064	0.0225	105	84	73
19/-044	0.03	121	97	85
19/-052	0.04	146	117	102
19/-064	0.06	190	152	133
19/-072	0.075	217	173	152
19/-083	0.1	264	211	185
37/-064	0.12	292	234	204
37/-072	0.15	340	272	238
37/-083	0.2	410	328	287
37/-093	0.25	470	376	329
37/-103	0.3	535	428	374
61/-093	0.4	650	520	455
61/-103	0.5	740	592	518
91/-093	0.6	830	...	...
91/-103	0.75	930	...	...
127/-093	0.85	1,000	...	...
127/-103	1.0	1,100	...	...

\* The current-carrying capacity of a conductor having wires of a number or diameter not specified in this table shall be taken to be proportionate to that of the cases specified.

NOTES.

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## NOTES.

(a) The ratings specified in the table are to be regarded as maxima, and higher ratings are not permitted for any reason whatsoever.

(b) The figures in the table are based on Tables 5 and 6 of the Institute of Electrical Engineers Regulations for the Electrical Equipment of Buildings, 10th Edition.

(c) In all cases the current of paper insulated and lead covered cables shall be sufficiently reduced to limit the maximum operating temperature of the conductor of 170 degrees Fahrenheit.

(d) The table refers to situations where the temperature of the surroundings in any part of the cable run does not exceed 80 degrees Fahrenheit. Where the temperature of the surroundings in any part of the cable run exceeds 80 degrees Fahrenheit, the permissible current shall be reduced in accordance with the following reduction factors:—

Initial Ambient Temperature Degrees Fahrenheit.	Amperes permissible to be multiplied by
85 .. .. .. .. .. .. ..	0.970
90 .. .. .. .. .. .. ..	0.938
95 .. .. .. .. .. .. ..	0.904
100 .. .. .. .. .. .. ..	0.870
105 .. .. .. .. .. .. ..	0.834
110 .. .. .. .. .. .. ..	0.800
115 .. .. .. .. .. .. ..	0.762
120 .. .. .. .. .. .. ..	0.722
130 .. .. .. .. .. .. ..	0.638
140 .. .. .. .. .. .. ..	0.544

## APPENDIX III.

(SEVENTH SCHEDULE—REGULATION 53.)

## TABLE III.—FLEXIBLE CORDS AND CABLES.

(Standard Annealed Copper.)

Based on Ambient Temperature of 80° Fahrenheit and Maximum Permissible Conductor Temperature of 120° Fahrenheit.

Cross Sectional Area. sq. in.	Stranding.	Current Carrying Capacity. (Subject to Voltage-drop and Adjustment for Ambient Temperature.)	
		Continuous.	Intermittent.
0.0017 .....	40/-0.0076"	amps. 7.5	amps. 7.5
0.0030 .....	70/-0.0076"	10	10
0.0048 .....	110/-0.0076"	15	15
0.0070 .....	162/-0.0076"	20	20
0.010 .....	97/-0.012"	25	35
0.0145 .....	60/-0.018"	30	42
0.0225 .....	91/-0.018"	37	51
0.03 .....	117/-0.018"	42	59
0.04 .....	163/-0.018"	51	71
0.06 .....	248/-0.018"	61	92

NOTES.

## NOTES.

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(a) The ratings specified in the table are to be regarded as maxima, and higher ratings are not permitted for any reason whatsoever.

(b) The figures in the table are based on those of the Institute of Electrical Engineers Regulations for the Electrical Equipment of Buildings and of British Standard Specification No. 703 "Trailing Cables for Mining Purposes."

(c) No rubber insulated flexible cord or cable shall be installed in any situation where the ambient temperature exceeds 120 deg. Fahrenheit, and in all cases the current to be carried shall be sufficiently reduced to limit the maximum operating temperature of the conductor to 120 deg. Fahrenheit.

(d) The table refers to situations where the temperature of the surroundings in any part of the cable run does not exceed 80 deg. Fahrenheit. Where the temperature exceeds 80 deg. Fahrenheit the permissible current shall be reduced in accordance with the following reduction factors:—

Degrees Fahrenheit.	Initial Ambient Temperature							Ampères permissible to be multiplied by
	85	90	95	100	105	110	115	
85	..	..	..	..	..	..	..	0.928
90	..	..	..	..	..	..	..	0.852
95	..	..	..	..	..	..	..	0.770
100	..	..	..	..	..	..	..	0.681
105	..	..	..	..	..	..	..	0.580
110	..	..	..	..	..	..	..	0.466

(e) A flexible cord or cable may be said to be "intermittently rated if it is in use for not more than 30 minutes in each hour, provided that no two such 30 minute periods are consecutive."