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# On Her Majesty's Service

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Rules of BOPF  
Waltham Abbey  
1922

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**RULES**

OF THE

**ROYAL  
GUNPOWDER FACTORY,  
WALTHAM ABBEY.**

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**1922.**

## General Instructions and Definitions.

1. The following Rules have been drawn up with a view to the due regulation of the Royal Gunpowder Factory, and to the prevention of accidents.

2. Any infringement of Rules will render the offender liable to suspension or dismissal.

3. The expression "Factory workman" in these Rules includes any person, of whatever rank or position, employed in the Factory under the Superintendent.

4. The word "workman" in these Rules includes any person, of whatever rank or position, employed in the Factory by the Building Works Department, or by Contractors, and also includes a "Factory workman."

5. The expression "Danger Building" means any building or part thereof, in which any process of the manufacture of explosives is carried on, or in which any packages, or ingredients, or any explosives, either in any stage of manufacture or in the finished state, are kept. The expression also includes boats and trucks used for the conveyance of explosives and their ingredients in any stage of manufacture.

6. The word "clean" as applied to buildings, boats, trucks, platforms, clothing, etc., means that such buildings, etc., are reserved exclusively for use in work on and in connection with explosives.

The word "dirty" is to be taken as the converse of "clean," as defined above.

7. Every Factory workman on joining the Factory will be provided with a copy of these Rules, as well as with a copy of the Rules and Regulations of the Ordnance Factories which they supplement. These copies are to be kept in good order and produced when required.

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7. Every Factory workman on joining the Factory will be provided with a copy of these Rules, as well as with a copy of the Rules and Regulations of the Ordnance Factories which they supplement. These copies are to be kept in good order and produced when required.

8. Every Factory workman is to make himself thoroughly acquainted with *all* Rules which concern his employment. Ignorance of Rules will not be accepted as an excuse for their non-observance or contravention.

9. The General and Special Rules are to be read to Factory workmen as laid down. All who are responsible for reading Rules are to sign the prescribed certificate before leaving the Factory.

10. Every Factory workman is at once to report to his Chargeman, or to superior authority, any infringement of Rules which comes to his notice.

## General Rules.

1.

No one is to smoke in any part of the Factory.

2.

No matches of any kind, or other means of striking or procuring a light, are to be used in the Factory except by workmen, duly authorised in writing, who are responsible for their safe custody and employment.

No fire or light, other than those for which standing authority is given, will be lighted except on the written authority of the Officer in charge of Danger Buildings who will specify the

## R.G.P.F. RULES.

### Amendment Approved December, 1942

Delete Rule 3 and substitute the following :—

#### RULE 3.

Any workman, other than those provided for in Rule 2, found inside the Factory with matches or other means of striking or procuring a light, with tobacco in any form, with tobacco pipes or any other appliance for smoking, or with chemicals or any other dangerous article will be at once expelled from the Factory and not allowed to re-enter without permission of the Superintendent. A Factory workman will be temporarily suspended from work, and, if a previous breach of this rule is recorded against him, he may be discharged; any other workman may be permanently forbidden to re-enter the Factory.

A breach of this rule entails liability to prosecution and summary dismissal.

Medicines are not to be brought into the Factory except by permission in writing, which will only be granted on production of a medical certificate.

Should a workman or other person when inside the Factory find himself in possession of any of the prohibited articles mentioned in these rules, he should deliver such article at once to the nearest Factory Official.

8. Every Factory workman is to make himself thoroughly acquainted with all Rules which concern his employment. Ignorance of Rules will not be accepted as an excuse for their non-observance or contravention.

9. The General and Special Rules are to be read to Factory workmen as laid down. All who are responsible for reading Rules are to sign the prescribed certificate before leaving the Factory.

10. Every Factory workman is at once to report to his Chargeman, or to superior authority, any infringement of Rules which comes to his notice.

R.C.P.F. RULES  
Approval Certificate  
I, the undersigned, do hereby certify that the above Rules have been read to the workmen of the Factory and that they have been explained to them in the best manner possible. I also certify that the workmen have signed the prescribed certificate before leaving the Factory.

### General Rules.

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#### RULE 3.

Any workman, other than those provided for in Rule 1, found inside the Factory with matches or any other means of striking or procuring a light, with tobacco in any form, with tobacco pipes or any other appliance for smoking, or with chemicals or any other dangerous article will be at once expelled from the Factory and not allowed to re-enter without the permission of the Superintendent. A Factory workman will be temporarily suspended from work, and, if a previous breach of this rule is recorded against him, he may be discharged; any other workman may be permanently forbidden to re-enter the Factory.

#### AND SUMMARY DISMISSAL

A breach of this rule entails liability to prosecution. Should a workman or other person inadvertently bring any prohibited article inside the Factory and deliver it up himself at once, and certainly before passing into a building, etc., containing explosives, he will suffer no penalty, provided he is not in the habit of making this most undesirable mistake.

The person to whom the article is delivered will at once report the case, and a note will be made of the occurrence.

Medicines are not to be brought into the Factory except by permission in writing, which will only be granted on production of a medical certificate.

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No beer, wine, or spirits are to be brought into the Factory without the written permission of the Superintendent.

8. Every Factory workman is to make himself thoroughly acquainted with *all* Rules which concern his employment. Ignorance of Rules will not be accepted as an excuse for their non-observance or contravention.

9. The General and Special Rules are to be read to Factory workmen as laid down. All who are responsible for reading Rules are to sign the prescribed certificate before leaving the Factory.

10. Every Factory workman is at once to report to his Chargeman, or to superior authority, any infringement of Rules which comes to his notice.

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No fire or light, other than those for which standing authority is given, will be lighted except on the written authority of the Officer in charge of Danger Buildings who will specify the place in which the fire is to be lighted, the hours during which it may be kept alight, and the person responsible for lighting and extinguishing it.

### Rule 3A.

Should a workman or other person inadvertently bring any prohibited articles inside the Factory and deliver it up himself *at once*, and certainly before passing into a building, etc., containing explosives he will suffer no penalty, provided he is not in the habit of making this most undesirable mistake.

The person to whom the article is delivered will at once report the case, and a note will be made of the occurrence.

Any person, however, who *knowingly* introduces any forbidden article will be discharged.

(B 25/1091)T Wt. P132A—W12 1000 5/24 H & S, Ltd. Gp. 25

enter the factory.

Any workman discovered to be under the influence of liquor when inside the Factory, if he is a Factory workman will be at once discharged. Any other workman will be at once removed and not allowed to re-enter the Factory.

No beer, wine, or spirits are to be brought into the Factory without the written permission of the Superintendent.

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No fire or light, other than those for which standing authority is given, will be lighted except on the written authority of the Officer in charge of Danger Buildings who will specify the place in which the fire is to be lighted, the hours during which it may be kept alight, and the person responsible for lighting and extinguishing it.

Workmen in Danger Building clothes are not to approach any fire or gas or other open flame.

3.

Any workman, other than those provided for in Rule 2, found inside the Factory with matches or other means of striking or procuring a light, with tobacco in any form, with tobacco pipes or any other appliance for smoking, or with chemicals or any other dangerous article, if he is a Factory workman will be at once discharged. Any other workman will be at once removed and not allowed to re-enter the Factory.

Medicines are not to be brought into the Factory except by permission in writing which will only be granted on production of a medical certificate.

4.

No workman under the influence of liquor will be allowed to enter the Factory.

Any workman discovered to be under the influence of liquor when inside the Factory, if he is a Factory workman will be at once discharged. Any other workman will be at once removed and not allowed to re-enter the Factory.

No beer, wine, or spirits are to be brought into the Factory without the written permission of the Superintendent.



5.

No workman, unless authorised by the Superintendent, is to enter or leave the Factory except by the main entrance in Powder Mill Lane, or by the entrance in the Sewardstone Road.

Workmen having keys of the Factory gates are only to use them for themselves when on duty.

No Factory workman under the rank of Chemist, or Principal Foreman, is to leave the Factory at any but his authorised time without a pass duly signed.

No Factory workman below the rank of Chemist-in-Charge or Principal Foreman is to sign passes out "on duty," except under exceptional circumstances, when a Foreman or the Assistant Foreman of the shift is to do so.

Passes out "without pay" are not to be signed by anyone below the rank of Assistant Foreman.

6.

Workmen below the rank of Assistant Foreman, on entering and leaving the Factory and the Danger Building Enclosures, must submit to be searched, and must allow any bag, basket, or parcel of any kind they may be carrying, to be examined by the Police, Warders, or other authorised persons.

7.

(a) All Factory workmen except those of the Machinery, Plumbers, Labour, and Store Sections, and those employed in offices, are to proceed at once from the entrance gates to the appointed Shifting Rooms, where they are to change their own clothes for the clothes provided. Workmen are to take every precaution to prevent "clean" clothing from becoming contaminated with dirt or grit.

(b) All Factory clothes are to be marked with the number of the workman to whom they are issued.

(c) Factory clothes are not to be altered in any way.

(d) Trousers and sleeves of Danger Building clothes and underclothes are not to be turned up, except by men working in the Guncotton Nitrating House and Pulping and Moulding Room who are permitted to turn up their sleeves, but must turn them down before leaving the buildings.

(e) No loose article, other than a handkerchief, is to be taken into a Danger Building.

(1242) Wt. 29513/980 4M. 9/42 C.&Co. 745(8).

## R.G.P.F. RULES, 1934.

### AMENDMENT APPROVED 15.9.42.

Delete 1st paragraph of Rule 7 (g) and substitute the following :—

Workmen in Danger Building clothes are not to carry or wear any articles of, or containing iron, steel or metal, without the Superintendent's authority. All buttons on private underclothes are to be either of bone or plastic material. Any workmen in doubt should consult their foreman.

Water-warders, Warders, and Motor Wagon Drivers.

(l) All workmen who change into Danger Building clothes are prohibited from coming to work in any under garments made of "flannelette."

Any workman disobeying this rule will not be permitted to proceed to work, and will be liable to punishment for disobedience of orders.

Flannelette is a cotton fabric, and when new has one or both sides with a raised pile surface.

To assist workmen in identifying flannelette, samples of this material, of flannel, and of cotton and flannel mixtures can be seen on application to the workmen's foreman.

Workmen are warned that some flannelettes are chemically treated and appear to be non-inflammable when new, but that after washing they become inflammable.

(m) Workmen who are permitted under sub-section (i) of this rule to work in Danger Buildings without jackets, must wear *flannel* shirts.

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(c) Factory clothes are not to be altered in any way.

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(e) No loose article, other than a handkerchief, is to be taken into a Danger Building.

(f) Pockets are not allowed in any garments worn with Danger Building clothes.

(g) Workmen in Danger Building clothes are not to carry or wear any articles of, or containing iron, steel or metal, without the Superintendent's authority. All buttons on private underclothes are to be of bone.

No man of the productive sections is to enter a Danger Building wearing glasses unless authorised in writing by the Superintendent. In the case of men authorised to wear them for booking purposes only, they are only to be worn while booking is actually being done and when not in use are to be kept in the leather pocket provided for that purpose.

(h) Jackets are always to be worn completely fastened up in all Danger Buildings, except in Guncotton and Cordite Stoves, Paste Mixing Houses, Box Houses, Cotton Picking, Teasing and Drying Rooms and Guncotton Vat House. Caps and Jackets will be put on, and Jackets fastened up before leaving the buildings.

(i) The great coats provided are not to be worn or hung up inside the clean barriers of Danger Buildings.

(j) Factory clothes are to be taken off and left in the Shifting Rooms, or other appointed places, before the workmen leave the Factory.

(k) No Factory Clothes are to be taken or worn outside the Factory, except in the case of Bargemen, Firemen, Messengers, Water-warders, Warders, and Motor Wagon Drivers.

(l) All workmen who change into Danger Building clothes are prohibited from coming to work in any under garments made of "flannelette."

Any workman disobeying this rule will not be permitted to proceed to work, and will be liable to punishment for disobedience of orders.

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Workmen are warned that some flannelettes are chemically treated and appear to be non-inflammable when new, but that after washing they become inflammable.

(m) Workmen who are permitted under sub-section (i) of this rule to work in Danger Buildings without jackets, must wear *flannel* shirts.

(n) Men working in acids or dangerous corrosive liquids where there is a risk of personal injury from splashes or otherwise will wear goggles and gloves unless otherwise ordered by a foreman or higher authority. Gloves will be collected at the end of the day's work by the Chargeman, and will be examined and washed before being again issued.

8.

(a) All workmen are to scrape their boots on the scrapers, and wipe them on the mats, before entering the Shoe Rooms, porches, or entrances of Danger Buildings.

(b) Workmen working in Danger Buildings are to take the shoes provided with them to the Danger Buildings, and are to put them on before entering the Danger Buildings on the shoe boards in the Shoe Rooms or porches, or at the "clean" barriers, leaving their own boots or shoes in the appointed places. A similar procedure is to be observed in changing back into their own boots.

Danger Building shoes are not at any time to be deposited in any place where they can come in contact with dirt or grit.

The shoe boards are to be kept "clean," and folded back except when actually in use.

(c) Boots worn in Cordite Stoves are not to be used in any other building.

(d) "Clean" shoes issued to Millmen for use when oiling and cleaning the mill cross-heads are to be kept on the shelves in the mill cabins.

(e) "Clean" overboots placed in the Gunpowder Mill Magazines for the use of Millmen are not to be removed.

9.

The overboots for the use of Officials in Danger Buildings are not to be worn by workmen below the rank of Assistant Foreman. They are to be kept on the "clean" side of the barriers, or in the "clean" cupboards provided.

They are to be put on and taken off on the "dirty" side of the barrier on the "clean" boards provided.

Anyone wearing overboots is to have the bottoms of his trousers down and tucked inside the overboots.

10.

Sticks and umbrellas are not to be taken into Danger Buildings.

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will include the complete turning out of all pockets. The fact that this search has been carried out will be recorded on a Search Certificate which will be kept in the Danger Building concerned while the men are at work.

Each individual workman will be held responsible for reporting to the appropriate person in order to be searched before commencing work in any Danger Building.

The Chargemen are to be searched by the Assistant reman of their shift.

All who are responsible for searching are to sign the scribed certificate before leaving the Factory.

7. Wt.186/P.1531. 1000. 8/35. Wy.L.P.Co.,Ltd. Gp.656.

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All who are responsible for searching are to sign the pre-scribed certificate before leaving the Factory.

14.

No workman is to enter any part of the Factory, or any Danger Building in which he is not employed.

**Rule 7.**

(o) No wood, explosive article, or inflammable substance is ever to be allowed to come within six inches of steam pipes or boilers, and the closest watch will be kept that this precaution is observed.

(p) Grass in the vicinity of buildings containing explosives should never be allowed to become long. After cutting it should never be allowed to lie unduly long before removal. If for any unavoidable reason the grass should have been allowed to grow to any serious length, or if after cutting, it has been allowed to lie for some time, it must, in dry weather, be well soaked with water in the immediate neighbourhood of magazines, or buildings containing explosives, at the close of work for the day.

(q) Direct sunlight must not be allowed to fall upon explosives.

(r) All belts on machines should be covered by a guard.

(B 25/1091A)F Wt. P132A—W12 1000 5/24 H & S, Ltd. Gp. 25

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(c) Boots worn in Cordite Stoves are not to be used in any other building.

(d) "Clean" shoes issued to Millmen for use when oiling and cleaning the mill cross-heads are to be kept on the shelves in the mill cabins.

(e) "Clean" overboots placed in the Gunpowder Mill Magazines for the use of Millmen are not to be removed.

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The overboots for the use of Officials in Danger Buildings are not to be worn by workmen below the rank of Assistant Foreman. They are to be kept on the "clean" side of the barriers, or in the "clean" cupboards provided.

They are to be put on and taken off on the "dirty" side of the barrier on the "clean" boards provided.

Anyone wearing overboots is to have the bottoms of his trousers down and tucked inside the overboots.

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**R.G.P.F. RULES.—AMENDMENT APPROVED JULY, 1935.**

*Delete Rule 13 and substitute the following :—*

**13.**

All Danger Building workmen are to be thoroughly searched by the Chargeman under whom they work immediately before beginning work at the commencement of the shift, after meals, and after absence from the Danger Building from any other cause.

Danger Building shoes are to be examined by the Chargeman before they are put on at the commencement of the shift.

Workmen who change into non-Danger Building clothes, or who do not change at all, will be thoroughly searched by their Chargeman before proceeding to work.

Workmen of Service Sections will be thoroughly searched by the Foreman or Chargeman of the shop before proceeding to work in the Danger Building.

The Chargeman of the Danger Building in which repairs are carried out will thoroughly search all workmen of Service Sections before entering the building.

In the case of men wearing their own clothing the search will include the complete turning out of all pockets. The fact that this search has been carried out will be recorded on a Search Certificate which will be kept in the Danger Building concerned while the men are at work.

Each individual workman will be held responsible for reporting to the appropriate person in order to be searched before commencing work in any Danger Building.

The Chargemen are to be searched by the Assistant reman of their shift.

All who are responsible for searching are to sign the scribed certificate before leaving the Factory.

7. Wt.186/P.1531. 1000. 8/35. Wy.L.P.Co.,Ltd. Gp.656.

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All who are responsible for searching are to sign the prescribed certificate before leaving the Factory.

**14.**

No workman is to enter any part of the Factory, or any Danger Building in which he is not employed.

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Rule 7.

(o) No wood, explosive article, or inflammable substance is ever to be allowed to come within six inches of steam pipes or boilers, and the closest watch will be kept that this precaution is observed.

(p) Grass in the vicinity of buildings containing explosives should never be allowed to become long. After cutting it should never be allowed to lie unduly long before removal. If for any unavoidable reason the grass should have been allowed to grow to any serious length, or if after cutting, it has been allowed to lie for some time, it must, in dry weather, be well soaked with water in the immediate neighbourhood of magazines, or buildings containing explosives, at the close of work for the day.

(q) Direct sunlight must not be allowed to fall upon explosives.

(r) All belts on machines should be covered by a guard.

(B 25/1091A)T Wt. P132A—W12 1000 5/24 H & S, Ltd. Gp. 25

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The shoe boards are to be kept "clean," and folded back except when actually in use.

(c) Boots worn in Cordite Stoves are not to be used in any other building.

(d) "Clean" shoes issued to Millmen for use when oiling and cleaning the mill cross-heads are to be kept on the shelves in the mill cabins.

(e) "Clean" overboots placed in the Gunpowder Mill Magazines for the use of Millmen are not to be removed.

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The overboots for the use of Officials in Danger Buildings are not to be worn by workmen below the rank of Assistant Foreman. They are to be kept on the "clean" side of the barriers, or in the "clean" cupboards provided.

They are to be put on and taken off on the "dirty" side of the barrier on the "clean" boards provided.

Anyone wearing overboots is to have the bottoms of his trousers down and tucked inside the overboots.

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Danger Building shoes are to be examined by the Chargeman before they are put on at the commencement of the shift.

Workmen who change into non-Danger Building clothes, or who do not change at all, will be thoroughly searched by their Chargeman before proceeding to work.

Workmen of Service Sections will be thoroughly searched by the Foreman or Chargeman of the shop before proceeding to work in the Danger Building.

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In the case of men wearing their own clothing the search will include the complete turning out of all pockets. The fact that this search has been carried out will be recorded on a Search Certificate which will be kept in the Danger Building concerned while the men are at work.

Each individual workman will be held responsible for reporting to the appropriate person in order to be searched before commencing work in any Danger Building.

The Chargemen are to be searched by the Assistant Foreman of their shift.

All who are responsible for searching are to sign the prescribed certificate before leaving the Factory.

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The overboots for the use of Officials in Danger Buildings are not to be worn by workmen below the rank of Assistant Foreman. They are to be kept on the "clean" side of the barriers, or in the "clean" cupboards provided.

They are to be put on and taken off on the "dirty" side of the barrier on the "clean" boards provided.

Anyone wearing overboots is to have the bottoms of his trousers down and tucked inside the overboots.

10.

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11.

After having changed into Danger Building or other clothes, workmen are to assemble outside the Shifting Rooms and are to proceed in gangs under their respective Chargemen to the Dining Rooms, taking with them their food baskets and drink cans. These baskets and cans are to be searched in the Dining Rooms as the workmen enter, and are then to be left in the Dining Rooms.

On leaving the Dining Rooms, the workmen are to proceed in gangs under their respective Chargemen to the danger or other buildings in which they work. There is to be no loitering and skylarking in proceeding to and from the Danger and other buildings.

On the cessation of work, similar arrangements to the above are to be observed.

All who are responsible for searching are to sign the prescribed certificate before leaving the Factory.

On pay days silence is to be observed in the vicinity of, and at the pay table.

12.

Workmen proceeding from place to place in the Factory are to follow the roads, paths, and waterways prescribed.

Workmen are not to cross over or stand on any bridge when explosives boats are passing underneath it.

13.

All Danger Building workmen are to be searched by the Chargeman under whom they work immediately before beginning work at the commencement of the shift, after meals, and after absence from the Danger Building from any cause.

Danger Building shoes are to be examined by the Chargemen before they are put on at the commencement of the shift.

Factory workmen who change into non-Danger Building clothes, or who do not change at all, are to be searched by their Chargemen before proceeding to work. Workmen of the Machinery and Plumbers' Sections are to be searched by the Foreman or Chargeman of the shop before going to work in any Danger Building, whether they change into Danger Building clothes or not.

The Chargemen are to be searched by the Assistant Foreman of their shift.

All who are responsible for searching are to sign the prescribed certificate before leaving the Factory.

14.

No workman is to enter any part of the Factory, or any Danger Building in which he is not employed.

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No Factory workman is to leave any building in which he is working without the permission of the Chargeman.

No workman is to enter the Shifting Rooms, or the Dining Rooms, except at the appointed meal hours, during his working hours without a pass signed by the Assistant Foreman or senior Chargeman of the shift.

No Factory workman is to leave the Dining Room before the expiration of his meal time, or to enter any building during his meal time, without the authority of his Chargeman.

Work is to be continued until the authorised time for leaving the Danger and other buildings.

## 15.

Meals are only to be taken in the appointed Dining Rooms at the appointed times, except by Engine Drivers and Stokers, who are to take their meals in the Engine and Boiler Houses.

## 16.

Before commencing work in any Danger Building, all doors are to be unlocked and unbolted, the keys hung up on the hooks provided, and the bolts withdrawn and placed in the loops, or secured back by means of the pins provided. Chargemen are responsible that this is done.

Doors when not locked are to be either closed or fastened back. All keys are to be removed from the locks as soon as the doors are unlocked or locked.

Nothing is to be placed in front of doors or windows whilst work is going on.

Doors of all other buildings are to be unlocked and unbolted whilst the buildings are in use.

When not in use all Danger and other buildings are to be kept locked up.

## 17.

Before commencing work, Chargemen are to inspect their respective Danger Buildings and plant, and are to report at once anything found damaged or out of order to their Assistant Foreman, or to superior authority.

## 18.

The Chargeman of each Danger Building is responsible that the limits posted up at the Danger Building for the number of workmen, and for the quantities of explosives, are always strictly adhered to.

No one is to approach or carry out work of any nature without authority in the vicinity of Danger Buildings in which work is going on.

## 19.

No tools, implements, or movable articles of any kind are to be used in any danger Building, except those provided and entered on the "Use List" posted up at the building. All such tools, implements, and articles are to be marked with the name and number of the Danger Building to which they belong, and from which they are not to be removed without authority. When not in use they are to be deposited in the appointed places in the Danger Buildings.

Tools for cleaning Guncotton Stoves and Nitro-glycerine Houses are not entered on the Use Lists of these buildings. They are only to be taken in when the buildings have been freed from explosives, for cleaning out.

Consumable stores not on the Use Lists, such as sponge cloths, chalk, oil, lubricants, etc., are to be used as economically as possible. Only one layer of chalk is to be kept in the chalk rests.

Pieces of chalk, pencils, and similar articles are not to be placed behind the ear.

## 20.

Chargemen are to keep all hand fire pumps and fire buckets filled with clean water and ready for use. These are not to be removed from the positions assigned to them, nor used for any but fire purposes.

Chargemen are to see that in frosty weather fire buckets are kept free from ice.

Drenching tanks are to be kept filled with clean water.

## 21.

Workmen are not to interfere with anything in the Factory, such as tram lines and points, buildings and their fittings, plant, machinery, tools, implements, and materials, either in course of manufacture or manufactured, except in the fulfilment of their duty.

## 22.

Workmen employed in Danger Buildings are to carry on their work in as gentle and careful a manner as possible. No greater force is to be employed than is absolutely needed to effect the object in view under normal conditions. Should any operation whatever appear to require the employment

of unusual force, it is to be at once suspended and a report made to superior authority.

All tools and implements are to be used with the greatest care; all movements of the nature of blows or friction are to be avoided. Tools and implements are never to be thrown down, or allowed to fall or drop on the floor.

Clothing is not to be shaken out in a Danger Building with the object of removing dry gun-cotton or paste.

Workmen handling drums containing, or which have contained, Acetone, Alcohol, Ether, Benzol, Naphtha, or any other inflammable liquid, will make themselves acquainted with the special rules relating to that work.

Workmen are forbidden to carry out experiments in Danger Buildings or with explosives.

Workmen are immediately to check, both in themselves or others, any tendency towards trifling, skylarking, carelessness, or the employment of undue force in their work.

Whistling, singing, or making noises of any description, is not allowed.

Spitting in any place where workmen congregate is forbidden.

## 23.

Receptacles of all kinds, including cordite reels and trays, and packages for explosives, whether full or empty, are not to be roughly handled or dropped. They are to be lifted clear from place to place; they are not to be pushed, slid, dragged along, or sharply put down.

Bags containing explosives are to be securely tied up for conveyance by boat or truck.

Barrels containing explosives are to be rolled on the chine, each one separately, except headed-up barrels of gunpowder which are to be rolled on the bilge. Open barrels are not to be placed one inside the other. Bags containing dry gun-cotton or paste are to be wiped over with a dry cloth to remove gun-cotton dust before loading into a boat or truck.

All receptacles and packages provided with covers are to be kept covered. Covers of all kinds are to be put on and taken off with care.

Receptacles and packages, whether full or empty, are not to be allowed to stand in the sun.

All packages are to be examined for cleanliness and freedom from foreign substances before explosives are put into them.

Should any foreign substance be found in the contents of any package containing explosives, the package and its

contents are to be put on one side, and an immediate report made to the Chargeman, and by him to superior authority. Bags will be turned inside out for examination.

## 23A.

All explosives are to be kept covered except when work is being carried out upon them. Empty packages are not to be stored in magazines.

(28/423) P 406—W 3 1000 6/25 H & S Ltd., Gp 28

In Gunpowder Danger Buildings, the floor is to be kept wet, when barrels or cases containing gunpowder in any stage of manufacture, are being loaded into, or unloaded from boats.

The clean wood platforms are to be constantly wetted, especially in hot, dry, and windy weather.

In Nitro-glycerine Danger Buildings, every care is to be taken to prevent nitro-glycerine escaping from the apparatus. Should any be spilled, it is to be immediately wiped up with a damp cloth.

## 25.

In the event of the accidental upsetting or spilling of explosives on tram lines, platforms, or "dirty" places generally, the Chargeman or superior authority is to be informed at once, and no attempt is to be made to clear up the explosives until someone in authority arrives to superintend.

## 26.

Sponge cloths and cotton waste which have been used with oil or turpentine are not to be taken into any building in the Factory, or kept in it, except for immediate use, and upon the cessation of such use they are to be removed to the iron cupboards provided outside the buildings. These sponge cloths and cotton waste are to be removed from the cupboards to the receptacles provided, as follows:—In the case of buildings working day-work, single-shifts, or two shifts, at the end of the day's work; in the case of buildings working three shifts, when no longer serviceable and at the end of the week's work. The receptacles are situated as follows:—

Upper Works.—Between main Fire Station and Stores Office.  
Quinton Hill.—East side of General Stores.



of unusual force, it is to be at once suspended and a report made to superior authority.

All tools and implements are to be used with the greatest care; all men are to be avoided.

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Workmen are forbidden to carry out experiments in Danger Buildings or with explosives.

Workmen are immediately to check, both in themselves or others, any tendency towards trifling, skylarking, carelessness, or the employment of undue force in their work.

Whistling, singing, or making noises of any description, is not allowed.

Spitting in any place where workmen congregate is forbidden.

## 23.

Receptacles of all kinds, including cordite reels and trays, and packages for explosives, whether full or empty, are not to be roughly handled or dropped. They are to be lifted clear from place to place; they are not to be pushed, slid, dragged along, or sharply put down.

Bags containing explosives are to be securely tied up for conveyance by boat or truck.

Barrels containing explosives are to be rolled on the chine, each one separately, except headed-up barrels of gunpowder which are to be rolled on the bilge. Open barrels are not to be placed one inside the other. Bags containing dry guncotton or paste are to be wiped over with a dry cloth to remove guncotton dust before loading into a boat or truck.

All receptacles and packages provided with covers are to be kept covered. Covers of all kinds are to be put on and taken off with care.

Receptacles and packages, whether full or empty, are not to be allowed to stand in the sun.

All packages are to be examined for cleanliness and freedom from foreign substances before explosives are put into them.

Should any foreign substance be found in the contents of any package containing explosives, the package and its

contents are to be put on one side, and an immediate report made to the Chargeman, and by him to superior authority.

Bags will be turned inside out for examination.

## 24.

The clean platforms, and the floors and interiors of Danger Buildings, boats and trucks, as well as the plant and machines, are to be kept perfectly free from dirt and grit, and from all accumulations of explosives and of unnecessary materials. Any water spilled on to asphalt and lead floors, is to be mopped up at once to prevent the chance of workmen slipping.

In Gunpowder Danger Buildings, the floor is to be kept wet, when barrels or cases containing gunpowder in any stage of manufacture, are being loaded into, or unloaded from boats.

The clean wood platforms are to be constantly wetted, especially in hot, dry, and windy weather.

In Nitro-glycerine Danger Buildings, every care is to be taken to prevent nitro-glycerine escaping from the apparatus. Should any be spilled, it is to be immediately wiped up with a damp cloth.

## 25.

In the event of the accidental upsetting or spilling of explosives on tram lines, platforms, or "dirty" places generally, the Chargeman or superior authority is to be informed at once, and no attempt is to be made to clear up the explosives until someone in authority arrives to superintend.

## 26.

Sponge cloths and cotton waste which have been used with oil or turpentine are not to be taken into any building in the Factory, or kept in it, except for immediate use, and upon the cessation of such use they are to be removed to the iron cupboards provided outside the buildings. These sponge cloths and cotton waste are to be removed from the cupboards to the receptacles provided, as follows:—In the case of buildings working day-work, single-shifts, or two shifts, at the end of the day's work; in the case of buildings working three shifts, when no longer serviceable and at the end of the week's work. The receptacles are situated as follows:—

Upper Works.—Between main Fire Station and Stores Office.  
Quinton Hill.—East side of General Stores.

Cob Mead and Cob Field.—Outside Dining and Shifting Room.

## 27.

The red danger signals are to be displayed when the machinery is at work in any Gunpowder Danger Building, and in the Blank Cutting House, and no boat or truck containing explosives is to approach within the red boundary posts until the machinery has been stopped and the signal lowered.

The red signal is to be displayed when the loading of a cordite incorporating machine is going on, and when no traverse intervenes no truck or workman is to approach nearer than the centre bay of the adjacent half group, or than the red posts or marks.

A red flag is to be displayed when a guncotton stove is being unloaded, and work in the stove is to stop whilst a boat containing explosives is passing.

## 28.

Workmen are immediately to report to their Chargeman, or to superior authority, anything which they may observe unusual or apparently dangerous in the operations, in the plant, machinery, tools and implements, or in the appearance of the materials with which they are working, or in the acts or conduct of their fellow workmen.

Should the plant or machinery in any Danger Building appear out of order, or should anything go wrong with it, the operation or machine is to be stopped at once and an immediate report made to superior authority. Work is not to be resumed without the permission of Chemist-in-charge or Principal Foreman.

## 29.

Neither alterations or repairs to Danger Buildings, nor alterations, repairs, or adjustments to plant or machinery in them, are to be carried out; nor on the completion of such alterations, repairs, or adjustments, is work to be resumed until the Special Rules in connection with alterations, repairs and adjustments, have been complied with.

Danger Building workmen are not to carry out any alterations or repairs, however trivial, to Danger Buildings, plant, machinery, tools or implements.

## 30.

Driving belts are not to be put on or taken off pulleys on either shafting or machinery, nor is overhead shafting to be lubricated or adjusted by any but the authorised workmen.

If a ladder is employed, it is to be held by another man; boys are not to hold ladders.

## 31.

All Danger Buildings and their machinery are to be examined periodically under the direction of the Officer-in-charge of Danger Buildings.

## 32

On the cessation of work daily, charcoal, whether ground or unground, is to be removed to the Charcoal Store, and all gunpowder in any stage of manufacture is to be removed from the boats to the magazines.

On cessation of work for the week, all gunpowder in any stage of manufacture is to be removed from Danger Buildings to the Magazines.

This rule does not, however, apply to Incorporating Mills, the Stove and the Blending House.

The Chargemen are to sign the prescribed certificate daily before leaving the Factory.

On Saturdays, the buildings and machines are to be thoroughly swept and cleaned out, and the leather floors washed.

When it is necessary to remove any gunpowder incrustations, whether from the machinery or floors, which cannot be easily brushed off, they are to be removed by means of water, supplemented if necessary when the whole of the incrustation has been thoroughly saturated, by a suitable wooden implement gently applied.

## 33.

When the operations of pre-washing and washing nitro-glycerine are finished for the day, the plant is to be thoroughly washed down.

On the cessation of nitro-glycerine making for the week, the whole of the plant and apparatus is to be thoroughly cleaned and freed from nitro-glycerine. When this has been done the Foreman Plumber, accompanied by the Chemist-in-charge and the Assistant Foreman on duty, is to make a thorough inspection of the whole of the plant and apparatus, and all defects are to be repaired and everything put into working order, before the manufacture of nitro-glycerine is resumed.

Condemned nitro-glycerine and guncotton plant and apparatus is to be cleaned under the direction of the Chemist-in-charge, before it is destroyed.

## 34.

In the Cordite Section, all buildings and machines are to be thoroughly cleaned on the cessation of work for the week.

All cordite is to be removed from the Press Houses, and from the Reeling House, except that in closed boxes or barrels, or on drums and reels actually in use on the drumming and reeling machines.

35.

No plank or gangway, other than that provided for the purpose, shall be placed across or inside any uncovered vessel containing acid, hot water, or any other dangerous substance.

36.

No spades, scrapers or pails made of iron or any other metal are to be used in cleaning out or removing residues from any still, tank or other vessel which has contained sulphuric acid or other substance which may cause evolution of arseniuretted hydrogen.

37.

Before any person enters, for any purpose except that of rescue, any boiler, flue, still, tank or tower, or any other place where there is reason to apprehend the presence of dangerous gas or fume, the Head of the section concerned, or some responsible person under his direction, shall personally examine such place, and shall certify in writing, in a book kept for that purpose, either:—

1. That such place is isolated and sealed from every source of such gas or fume and is free from danger, or
2. That it is not so isolated and free from danger.

No person shall enter such place if certified not to be isolated and free from danger unless he is wearing a breathing apparatus and (where there are no cross-stays or obstructions likely to cause entanglement) a life-belt, the free end of the rope attached to which shall be left with a man outside, whose sole duty shall be to keep watch and to draw out the wearer if he appears to be affected by gas or fume. The belt and rope shall be so adjusted and worn that the wearer can be drawn up head foremost through any manhole or opening.

No person shall enter any such place for the purpose of rescue unless he is wearing a breathing apparatus and life-belt as above-mentioned.

38.

In the Acid Factories when any work of an unusual nature has to be done which is in any way likely to result in the

evolution of nitrous fumes, the Chemist-in-charge is to be present whilst it is carried out, or he is, at his discretion, to detail the Foreman or Assistant Foreman to be present and is to furnish him with written instructions for the performance of the work.

Should at any time anything unusual happen during ordinary routine work, whereby a workman is exposed to nitrous fumes, or should a workman in the performance of his ordinary duty feel the effects of nitrous fumes, he is to immediately report the fact to his Chargeman, who is to inform the Assistant Foreman or superior authority. The workman is to be treated in the manner laid down in the cautionary Notice against Gassing, posted at the First Aid Boxes.

39.

No machines in the Factory are to be cleaned, nor are the safety guards to be removed whilst the machines are in motion. Machines and plant in the Cordite Section, are, however, to be wiped over, as laid down in the respective working instructions.

40.

On the approach of a thunderstorm the machinery in all Danger Buildings is to be stopped, and all doors and windows are to be closed and boats tied up. The Factory workmen are to retire to the Dining Rooms until the storm has passed over and orders are given to return to work.

Should, however, the Manager or Chemist-in-charge consider it unsafe or impracticable to suspend any process in hand, such men only as are necessary for its continuance are to remain at work.

During a thunderstorm telephones are not to be used.

41.

No workman below the rank of Chargeman is to turn the electric light switches on or off.

Should anything go wrong with the electric lights an immediate report is to be made to the Assistant Foreman of the shift, or to superior authority.

Electric lights which go out are not to be replaced till next morning, unless they are absolutely necessary; if this is the case, the electric light of the particular building is to be switched off before the defective lamp is replaced by the Assistant Foreman of the shift.

In Gunpowder mills, during shifts on which no Assistant Foreman is on duty, the defective lamp will be replaced by the senior Millman.

## 42.

Workmen are not to interfere with the wires, lamps or anything connected with the electric or gas lighting or heating apparatus or fires.

Gas burners and fittings throughout the Factory are not to be used for any but the authorised purposes.

## 43

Delete para. 1 and substitute the following :—

Except where otherwise specified, the temperature in buildings heated by steam is to be kept as closely as possible to the following :—

- (a) In workshops and danger buildings, 13°C. (55°F.).  
 (b) In offices, stores, shifting and dining rooms, 16°C. (61°F.).

The chargeman or senior employee in each building will be held responsible that these temperatures are maintained when steam heating is in use.

Steam is to be regulated by means of the inlet valves ; the outlet valves are always to be kept fully open.

For opening and closing lock gates, the ropes and chains provided are to be used. The hand rails are not to be used for these purposes, and the ropes are to be first cast off from the hooks. When done with, the ropes are to be recoiled and replaced clear of the water, on the hooks.

Lower gates of locks are not to be closed by opening the upper slackers and allowing a rush of water through the lock.

Boat poles are not to be used in the puddled cuts.

All boats passing up and down the Mill Head stream are to keep outside the hoods of the guncotton Stoves.

## 45.

Chargemen are not to leave on the suspension or cessation of work, until the windows, shutters, and doors of their Danger Buildings have all been fastened and bolted, all outer doors

## 46.

Apparatus operated by internal combustion engines is not to be used within 30 yards of any building containing explosives without the specific approval of the Superintendent in writing in each case. Boats containing such apparatus are not to approach within 30 yards of any boat containing explosive until the engine has been stopped.

## Special Rules.

### Repairs, Alterations, Adjustments, Inspections.

When repairs, alterations, adjustments, or inspections, to, or in a Danger Building have to be carried out, the following procedure is to be observed :—

1.—Except as hereinafter mentioned, all explosives are to be removed and the building, plant, and machines are to be thoroughly cleaned out by washing or otherwise, under the supervision of a Visitor of Danger Buildings, or, in the case of the Nitro-glycerine Section, of the Chemist-in-charge.

In the case of minor repairs and adjustments to Rifle Cordite Presses and Reeling Machines, only the particular machine needing repair or adjustment need be cleaned. The Head of the Cordite Section will decide what is a minor repair for the purpose of this rule.

2.—The Visitor of Danger Buildings having satisfied himself that all is safe for the work to proceed, is to report to that effect to the head of the section.

3.—In the case of work on buildings, the head of the Section is to inform the Clerk of Works, Building Works Department, that the Building is ready.

4.—In the case of work on plant or machines, the head of the Section is to direct the Foreman of Machinery, or of Plumbers to proceed.

5.—During the whole time work is going on to, or in a Danger Building, a Danger Building workman is to be present to keep everything " clean " and to remove or thoroughly wet any explosives which may come to light.

6.—On the completion of the work, the building, plant, and machines are to be thoroughly cleaned out under supervision of a Visitor of Danger Buildings, or, in the case of the Nitro-glycerine Section, of the Chemist-in Charge.

7.—The Visitor of Danger Buildings having satisfied himself that everything is in a fit condition for work to be resumed, is to report to that effect to the head of the Section.

In Gunpowder mills, during shifts on which no Assistant Foreman is on duty, the defective lamp will be replaced by the senior Millman.

42.

Workmen are not to interfere with the wires, lamps or anything connected with the electric or gas lighting or heating apparatus or fires.

Gas burners and fittings throughout the Factory are not to be used for any but the authorised purposes.

43.

In all buildings, other than drying stoves, heated by steam pipes, the temperature is to be kept between 55° and 68° F (13° and 20° C.), if possible. Steam is to be regulated by means of the inlet valves; the outlet valves are always to be kept full open.

The head of the section concerned is to be informed when steam is shut off from any building.

Nothing is to be placed on or near steam pipes, and every care is to be taken to prevent explosives getting on to them.

Workmen are not to interfere with steam traps.

44.

For opening and closing lock gates, the ropes and chains provided are to be used. The hand rails are not to be used for these purposes, and the ropes are to be first cast off from the hooks. When done with, the ropes are to be recoiled and replaced clear of the water, on the hooks.

Lower gates of locks are not to be closed by opening the upper slackers and allowing a rush of water through the lock.

Boat poles are not to be used in the puddled cuts.

All boats passing up and down the Mill Head stream are to keep outside the hoods of the guncotton Stoves.

45.

Chargemen are not to leave on the suspension or cessation of work, until the windows, shutters, and doors of their Danger Buildings have all been fastened and bolted, all outer doors locked, and all lights put out.

They are responsible that no workmen remain in Danger Buildings, that all is left correct, and that the keys are deposited in the appointed places.

## Special Rules.

### Repairs, Alterations, Adjustments, Inspections.

When repairs, alterations, adjustments, or inspections, to, or in a Danger Building have to be carried out, the following

explosives are to be removed from machines are to be repaired, otherwise, under the supervision of the head of the section, or, in the case of rifles, by the head of the section or in-charge.

Adjustments to Rifle barrels are to be made by the particular person in-charge. The head of the section is to be satisfied with the work.

When satisfied him- self, the head of the section is to report to that effect to the head of the section.

direct to the head of the section.

3.—In the case of work on buildings, the head of the Section is to inform the Clerk of Works, Building Works Department, that the Building is ready.

4.—In the case of work on plant or machines, the head of the Section is to direct the Foreman of Machinery, or of Plumbers to proceed.

5.—During the whole time work is going on to, or in a Danger Building, a Danger Building workman is to be present to keep everything "clean" and to remove or thoroughly wet any explosives which may come to light.

6.—On the completion of the work, the building, plant, and machines are to be thoroughly cleaned out under supervision of a Visitor of Danger Buildings, or, in the case of the Nitro-glycerine Section, of the Chemist-in Charge.

When the head of the section has reported to the head of the section, the head of the section is to be satisfied with the work, and to report to that effect to the head of the section.

When the head of the section has reported to the head of the section, the head of the section is to be satisfied with the work, and to report to that effect to the head of the section.

8.—The head of the Section is then to order work to be resumed, and is to report finally to the Officer-in-charge of Danger Buildings.

9.—In the case of inspections, the head of the Section is to notify the results to the Officer-in-charge of Danger Buildings.

10.—For the purpose of carrying out work of any kind in Gunpowder Danger Buildings, metal tools only are to be used as a rule. If steel or iron tools are necessary, special authority for their use is to be obtained through the Officer-in-charge of Danger Buildings.

In the Cordite Section, no tools or implements of iron, steel or metal are to be used for cleaning plant or machines.

### Shifting Rooms.

The Caretakers are responsible for the observance of the following Special Rules. The Chargemen are to assist them in supervising the workmen.

1.—Order, decorum, and cleanliness are to be maintained in the Shifting Rooms. The Caretaker is to report any workman causing a disturbance, or guilty of any irregularity.

2.—“Clean” clothes are to be kept in the receptacles provided and no other article is to be put therein.

3.—When any article requires drying, the fact is to be reported to the Caretaker.

4.—No workman is to enter the Shifting Room during his working hours on any pretence whatever, unless provided with a pass signed by the Assistant Foreman of the shift, or by superior authority.

5.—Any workman who leaves his work, or attempts to enter the Shifting Room before the time approved for the Section or group of men in which he works, is to be reported.

### Dining Rooms.

1.—The Caretakers are responsible for the observance of the following Special Rules. The Chargemen are to assist them in supervising the workmen.

2.—Order, decorum, and cleanliness are to be maintained in the Dining Rooms. The Caretaker is to report any workman causing a disturbance, or guilty of any irregularity.

3.—In each Dining Room a table or tables are to be set apart for workmen not in Danger Building clothes.

4.—No tea-leaves, paper, or other refuse are to be thrown or left about the Dining Rooms or in their vicinity; anything of the sort is to be put into the receptacle provided, and burnt by the Caretaker.

5.—No clothes of any description are to be hung up to dry in the Dining Rooms.

6.—“Clean” shoes taken to the Dining Rooms are to be placed on the “clean” shelves provided.

7.—No workman is to enter the Dining Rooms during his working hours on any pretence whatever, unless provided with a pass signed by the Assistant Foreman of the shift, or superior authority.

### Engine Drivers and Stokers.

1.—On change of shift, incoming Engine Drivers are to satisfy themselves that everything connected with the engines is correct.

Stokers are to take note of the height of water in the boilers and to satisfy themselves that the feed valves and safety valves and everything connected with the boilers are in correct order.

2.—Engine Drivers and Stokers are not to enter any Danger Building nor allow workmen to enter the Engine Rooms and Boiler Houses with the sole exception of Gun-cotton Stove Chargemen who enter the Stove Engine Houses to record temperatures.

3.—Stokers are to make themselves thoroughly acquainted with the printed “Advice to Boiler Attendants,” which is hung up in every Boiler House.

4.—The Chargeman of the boiler cleaning gang is responsible, that before a workman goes into a boiler for cleaning it, the stop valves and blow-off cocks are padlocked.

5.—Stokers are always to have their boots or shoes laced up tight, in order to prevent hot ashes, etc., getting in between the boot or shoe and the foot.

6.—Engine Drivers and Stokers are not to give lights, or means of procuring a light, to anyone except the Fireman.

Engine Drivers and Stokers who receive written orders to light the fires are to do so themselves.

### Visitors of Danger Buildings.

The "Visitors of Danger Buildings" are directly under the Officer-in-charge of Danger Buildings, to whom they are to render all reports, etc.

Their duties are as follow :—

1.—They are constantly to visit all Danger Buildings and Houses except those of the Nitro-Glycerine Section, where work is going on, at uncertain periods during their tour of duty to ascertain :—

- (a) That the work is being carried on in a satisfactory manner and in strict accordance with the General and Special Rules.
- (b) That the "limits" laid down for the amount of explosives, and the number of workmen, are being strictly adhered to.
- (c) That the machines are in good working order.
- (d) That the workmen are correctly dressed.

2.—They are occasionally to visit and examine all Danger Buildings, Houses, and Shops not in actual use.

3.—They are to see that no sponge-cloths or cotton waste which have been used for oil or turpentine are left in Danger or other buildings not in actual use. An immediate report is to be made to the Officer-in-charge of Danger Buildings should any be found.

4.—They are frequently to examine all Boats and Boat-houses.

5.—They are frequently to check and examine the tools and implements enumerated on the "Use Lists" of all Danger and other buildings.

6.—They are to examine all Danger Buildings, machinery and plant, except in the Nitro-glycerine Section, before and after repairs, alterations, adjustments, or inspections, as laid down in the Special Rules.

7.—They are frequently, and not less than once a week, to search the Chargeman and workmen in all Danger and other buildings where work is going on.

8.—They are also authorised to search, for matches and other prohibited articles, all persons they may meet on their rounds.

### Danger Building Visitors.

The "Danger Building Visitors" are directly under the Inspector of Danger Buildings, Royal Arsenal, Woolwich, to whom they will report, and from whom they will receive instructions.

(1) They are constantly to visit all Danger Buildings and Houses, including those of the Nitroglycerine Section, where work is going on, at uncertain periods during their tour of duty to ascertain :—

- (a) That the work is carried on in a satisfactory manner and in strict accordance with the General and Special Rules.
- (b) That the "limits" laid down for the amount of explosives, and the number of workmen, are being strictly adhered to.
- (c) That the machines are in good working order.
- (d) That the workmen are correctly dressed.

(2) They are occasionally to visit and examine all Danger Buildings, Houses and Shops not in actual use.

(3) They are to see that no sponge-cloths or cotton waste which have been used for oil or turpentine are left in Danger or other buildings not in actual use. An immediate report is to be made to the Inspector of Danger Buildings should any be found.

(4) They are frequently to examine all Boats and Boat Houses.

(5) They are frequently to check and examine the tools and implements enumerated on the Use Lists of all Danger and other buildings, and see that none other than those authorised are in use.

(6) They are to examine all Danger Buildings, machinery and plant, except in the Nitroglycerine Section, before and after repairs, alterations, adjustments, or inspections, as laid down in the Special Rules.

(7) They are frequently to search the Chargeman and workmen in all Danger and other buildings where work is going on. A record of this will be entered in the book kept for the purpose.

When searching men dressed in Danger Building clothing they will carefully examine to see whether any unauthorised

9.—They are to make an immediate report of any unusual occurrence to the Officer-in-charge of Danger Buildings; and should any accident take place, or anything be out of order in a Danger Building, they are authorised to at once stop the work.

10.—A diary is to be kept in each Danger Building, House, and Shop, in which they are to record the hour of their visits, and all details in connection with them.

11.—Before going off duty they are to make out a report on the prescribed form, to the Officer-in-charge of Danger Buildings.

### Warders.

The Warders are directly under the Officer-in-Charge of Danger Buildings, to whom they are to render all reports.

Their duties are to search :—

- (a) All Factory workmen below the rank of Assistant Foreman, unaccompanied by a Chargeman.
- (b) All machinery workmen.
- (c) All Workmen belonging to the Building Works Department, or to Contractors.
- (d) Not less than 10% of all other workmen in gangs.

### Watchmen.

1.—The Factory is divided into five areas as indicated on the maps issued to the Watchmen. Each Watchman is to be in possession of a map of the area patrolled by him.

2.—Each Watchman will be responsible for one area, and will patrol it during his tour of duty.

3.—Watchmen will be responsible that no unauthorised person enters their area, and that no person enters it by any but the recognised means of access.

4.—They will challenge all persons whom they may suspect to have no business in their area, and if not satisfied will detain them and report the circumstances to the Officer-in-charge of Danger Buildings.

5.—They may search all workmen below the rank of Assistant Foreman. In the event of any contraband articles



being discovered they will take possession of them and report the facts to the Officer-in-charge of Danger Buildings.

6.—The Watchman in charge of No. 1 Area will be responsible that no person, except those on the Nitro-glycerine List, enters the Nitro-glycerine Enclosure, and that the gates to the Enclosure are kept locked.

7.—The Watchman in charge of No. 2 Area will open the Refinery Gate at 11.45 a.m. and will admit all patients attending to see the Medical Officer. He will remain on the gate until the Medical Officer and all patients have left the Factory and will then lock it and resume his patrol.

He is responsible that no contraband articles are brought into the Factory by any person admitted by him.

8.—The Watchman in charge of No. 4 Area will attend at the Guncotton Gate when workmen are entering and leaving the Factory and will assist the Police in searching.

9.—Watchmen will satisfy themselves that all fires lit in their area, except at the authorised burning grounds, have been duly authorised by the Officer-in-charge of Danger Buildings.

10.—Watchmen will attend all Fire Drills which take place in their area during their round of duty, and will make themselves acquainted with the position of all hydrants and hose houses.

They will also qualify in First Aid as soon as possible after appointment, if not already in possession of a certificate.

11.—They will report anything unusual which may happen in their area, and will sign the report Book at the end of their tour of duty before leaving the Factory.

12.—The Officer-in-charge of Danger Buildings is in charge of the Watchmen and they will report direct to him.

### Boats for Explosives.

The Chargeman, or when no Chargeman is present, the senior Boatman is responsible for the observance of the following Special Rules :—

1.—Boats are to be cleaned and examined before use ; they are also to be examined for any leakage after loading.

2.—Boats containing explosives or their ingredients are not to be left unattended, except during a thunderstorm.

3.—The slides of Boats are to be shut, except when loading or unloading. The end doors are not to be left open.

4.—The leather pads and loading boards, where provided, are to be used when loading or unloading.

5.—The " clean " towing ropes are not to be used for mooring purposes. Boats are to be moored by passing the mooring ropes through the rings on the wayling, and securing them.

6.—Boats in motion are to be kept clear of the waylings and banks.

7.—Boat poles are not to be used in puddled cuts.

8.—The floors and platforms of all Gunpowder Danger Buildings are to be wetted before loading into and unloading from boats.

9.—Boatmen are to see that bags containing explosives are securely tied up before they are loaded into or unloaded from boats.

10.—Boats with explosives are not to approach, or be moored within the red boundary posts of any Danger Building displaying a red signal, until the signal has been lowered.

11.—Boats with explosives are not to approach, or be moored within the red boundary posts while a boat is being loaded or unloaded under the hood at the lower Island.

12.—Boats either with explosives or empty are not to be taken under any bridge if anybody is standing on or crossing over the bridge.

13.—Boats with explosives are not to pass any barge or boat between the Lower Stores Yard crane and the entrance to the Lower Island Cut, until the boatmen have ascertained that there is no fire or light on board such barge or boat.

14.—Should a barge be passing through the water lying between the Hospital and the Lower Stores Yard crane, no boat with explosives is to enter that water until the barge has passed through, or has been moored so as to give a free passage.

15.—Boats with explosives are not to pass under the Refinery Bridge until the Chargeman has ascertained that no steam lorry or other dangerous traffic is in the vicinity.

16.—All boats passing up or down the Mill Head Stream are to keep outside the hoods of the Guncotton Stoves.

17.—When boats proceeding in opposite directions have to pass one another, the boat going up stream is to take the inside station.

18.—For opening and closing Lock gates, the ropes and chains provided are to be used. The hand rails are not to be used for these purposes, and the ropes are to be first cast off from the hooks. When done with, the ropes are to be recoiled and replaced clear of the water, on the hooks.

Lower gates of locks are not to be closed by opening the upper slackers and allowing a rush of water through the lock.

19.—The boats belonging to No.2 Granulating House and No. 1 Breaking-down House, are to be moored inside their respective boat-houses, when their Danger Buildings are at work.

20.—On the cessation of work at the end of the shift, day, or week, boats are to be emptied and cleaned out, and moored at the places appointed.

21.—Boats containing explosives are not to approach within 30 yards of boats or other apparatus containing internal combustion engines until such engines have been stopped.

#### TRUCKS.

All workmen using trucks are responsible for the observance of the following rules:—

1.—Explosive trucks are to be cleaned out and examined before use.

2.—The doors of explosive trucks are to be kept closed, except when loading or unloading.

3.—Open trucks, and trucks with loose flaps, are to be covered over, and the covers or flaps securely fastened, when the trucks are in use.

4.—Trucks containing explosives or their ingredients are not to be left unattended, except during a thunderstorm.

5.—Bags containing explosives are to be placed in trucks with their mouths inwards. Truckmen are to see that bags containing explosives are securely tied up before putting them into or removing them from trucks.

6.—Cases, barrels, boxes, and bags are not to project beyond the sides of the truck.

7.—When loading open trucks, the bottoms of cases and boxes, and the centres of barrels on the top tier, are not to be above the top of the truck ends.

8.—Workmen pushing trucks are not to go beyond a walk.

9.—Workmen must never let go of trucks when in motion.

10.—Workmen are not to sit or ride on any trucks.

11.—Trucks are not to be pulled or drawn from the front, they are to be pushed from behind, except only when it is necessary to pull them clear of porches, etc.

12.—Empty trucks are always to give way to loaded ones.

13.—All trucks at Quinton Hill are to make way for the red trucks containing dry guncotton.

If a truck containing dry guncotton or paste runs off the line, the Assistant Foreman, or superior authority, is to be informed at once, and no attempt is to be made to replace the truck on the line until someone in authority arrives to superintend. The dry guncotton, or paste, is to be removed from the derailed truck *before* attempting to replace the truck on the line.

14.—Trucks containing explosives are not to approach within the red boundary posts of Danger Buildings displaying a red signal or red light, until the signal is lowered.

Paste trucks delivering paste at Incorporating Houses are to stand close up against the stops on the sidings. Paste is only to be delivered through the openings in the traverses opposite the centres of these houses.

Dough may be removed from, and Mineral Jelly and Acetone may be delivered to Incorporating Houses through any of the openings in the traverses, provided General Rule 27 as to red signals is observed.

15.—Trucks are to be clear of points before the points are moved.

16.—Branch line points are to be altered after use, so that there is a clear course for traffic on the main lines.

17.—Trucks are not to be left standing on main lines.

18.—Trucks are never to be left standing unless the brake is full on.

16.—All boats passing up or down the Mill Head Stream are to keep outside the hoods of the Guncotton Stoves.

17.—When boats proceeding in opposite directions have to pass one another, the boat going up stream is to take the inside station.

18.—For opening and closing Lock gates, the ropes and chains provided are to be used. The hand rails are not to be used for these purposes, and the ropes are to be first cast off from the hooks. When done with, the ropes are to be recoiled and replaced clear of the water, on the hooks.

Lower gates of locks are not to be closed by opening the upper slackers and allowing a rush of water through the lock.

19.—The boats belonging to No.2 Granulating House and No. 1 Breaking-down House, are to be moored inside their respective boat-houses, when their Danger Buildings are at work.

20.—On the cessation of work at the end of the shift, day, or week, boats are to be emptied and cleaned out, and moored at the places appointed.

Boats used for dry guncotton, or paste, are to be thoroughly washed out with a hose every six months.

### Trucks.

All workmen using trucks are responsible for the observance of the following rules :—

1.—Explosive trucks are to be cleaned out and examined before use.

2.—The doors of explosive trucks are to be kept closed, except when loading or unloading.

3.—Open trucks, and trucks with loose flaps, are to be covered over, and the covers or flaps securely fastened, when the trucks are in use.

4.—Trucks containing explosives or their ingredients are not to be left unattended, except during a thunderstorm.

5.—Bags containing explosives are to be placed in trucks with their mouths inwards. Truckmen are to see that bags containing explosives are securely tied up before putting them into or removing them from trucks.

6.—Cases, barrels, boxes, and bags are not to project beyond the sides of the truck.

7.—When loading open trucks, the bottoms of cases and boxes, and the centres of barrels on the top tier, are not to be above the top of the truck ends.

8.—Workmen pushing trucks are not to go beyond a walk.

9.—Workmen must never let go of trucks when in motion.

10.—Workmen are not to sit or ride on any trucks.

11.—Trucks are not to be pulled or drawn from the front, they are to be pushed from behind, except only when it is necessary to pull them clear of porches, etc.

12.—Empty trucks are always to give way to loaded ones.

13.—All trucks at Quinton Hill are to make way for the red trucks containing dry guncotton.

If a truck containing dry guncotton or paste runs off the line, the Assistant Foreman, or superior authority, is to be informed at once, and no attempt is to be made to replace the truck on the line until someone in authority arrives to super-

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Paste trucks delivering paste at Incorporating Houses are to stand close up against the stops on the sidings. Paste is only to be delivered through the openings in the traverses opposite the centres of these houses.

Dough may be removed from, and Mineral Jelly and Acetone may be delivered to Incorporating Houses through any of the openings in the traverses, provided General Rule 27 as to red signals is observed.

15.—Trucks are to be clear of points before the points are moved.

16.—Branch line points are to be altered after use, so that there is a clear course for traffic on the main lines.

17.—Trucks are not to be left standing on main lines.

18.—Trucks are never to be left standing unless the brake is full on.

19.—Trucks are not to be left standing over any points or in any position where they are liable to be fouled by a truck travelling on another line.

20.—On cessation of work at the end of the shift, day, or week, trucks are to be emptied and cleaned out, and left at the places appointed.

21.—Trucks used for dry guncotton, or paste, are to be thoroughly washed, inside and outside, with wetted cloths on the cessation of work for the week.

## Rules for the Protection of the Railway.

1.—Workmen and others must be careful not to throw any waste material on to the railway, and must not place obstructions over-hanging the railway walls between the swing bridges at Great Hoppit and Lovatt's Mead.

2.—If any Department finds it necessary at any time to place planks or other obstructions across the rails, the same should be properly protected by red flags by day and red lights by night. It is the duty of the Chargeman to remove these obstructions when work is finished.

No planks or other obstructions are to be left nearer than two feet to the nearest rail.

3.—Ropes for tying up boats are not to be placed across the railway in any circumstances whatever.

## Fire Rules.

1.—On the alarm of fire, all available hydrants in the vicinity of the fire are to be got to work at once by the men of the regular detachments.

2.—Should the hydrants not be available, or the supply of water be insufficient, all available engines are to be at once conveyed to the scene of fire.

3.—If both hydrants and engines are at work, the men of the regular detachments not required on the hydrants are to take the more important places on the engines, the handles being worked by untrained men.

4.—When it is necessary to employ the engines in a situation where the suction pipes cannot be used, water is to be supplied to the engines by means of buckets.

5.—To keep up a continuous supply of water to the engine, two lines are to be formed of the nearest available workmen, about six feet apart. The full buckets are then to be passed up one line to the engine, and the empty returned by the other line to the water.

6.—The senior Factory workman is to take charge until the arrival of an Officer of the Factory or a Fireman.

7.—The Police are to be at once informed of the fire, and are not to allow any persons who are not connected with the Factory to enter the grounds. They will inform the Hospital that a fire alarm has been given.

8.—Should the fire take place at night, the Police will immediately inform the Officers of the Factory, the Fireman, and the Hospital.

9.—The regular detachments are to be drilled by the senior Fireman once a month.

10.—The closest attention is to be paid by all to the instructions given at fire drills, and each man is to be thoroughly acquainted with all the duties of the detachment.

P. H. EVANS, Lt.-Col.,  
Supt. R.G.F.

November, 1922.

## First Aid Regulations.

1.—First Aid boxes are to be kept in the following buildings :—

Foreman's Office, Cordite Upper.

N/G Office.

Main Laboratory.

Machinery Shop, Upper.

Guncotton Office.

Asst. Foreman's Office, Guncotton.

Machinery Shop, Lower.

Carpenters' Shop.

Boxes will also be kept in the following buildings when they are opened for work :—

Acetone Recovery.

Cordite Office, Quinton Hill.

2.—A list of the authorised contents will be kept in each box.

3.—Each box will be in the charge of the Head of the Section in which it is situated and a book will be kept in which is to be recorded any withdrawals and the purpose for which used.

4.—A certificate will be rendered monthly to the Superintendent that the boxes are fully stocked and in good order.

5.—In addition to the above, an emergency dressing will be kept in each hose house throughout the factory. These will be in the charge of the Head of the Section in which they are situated who will inspect them monthly and report any deficiencies.

The removal of any of these dressings must be reported to the Foreman, who will arrange replacement.

6.—Stretchers, smoke helmets and life lines are stationed as under :—

Building No.		No. of Stretchers.	Smoke Helmets.	Life belt and lines.
5	Police Hut, Fishers Green .. ..	1	—	—
38B	Hose House, N/G .. ..	2	1	1
83A	Acid Shifting Room, Edmondsey ..	3	—	—
91A	Fire Engine House, G.C. Stoves ..	1	—	—
95B	Fire Engine House, C.E. Still House ..	1	—	—
96	Dining Room, C.E. .. ..	1	—	—
151	Fire Engine House, near No. 3 Incorporating House .. ..	2	—	—
138	Hose House, near No. 6 Incorporating House .. ..	3	—	—
162	Hose House, near No. 4 Press House ..	2	—	—
192A	Hose House, near No. 6 Press House ..	2	1	1
216	Hose House, Great Hoppit .. ..	2	—	—
233	Main Fire Station .. ..	1	—	—
243	Main Shifting Room .. ..	1	—	—
259A	Hose House, near No. 10 Press House ..	2	—	—
286A	Hose House, South of Hospital .. ..	1	—	—
388A	Fire Engine House, Lower Island .. ..	2	—	—
451A	Fire Engine House, Guncotton Factory ..	3	1	1
431A	Foreman's Office, Guncotton Factory ..	1	—	—
439	Shed near Police Box, Guncotton Gate ..	1	—	—
527A	Hose House, Cordite Shifting Room, Quinton Hill .. ..	3	—	—
621	Hose House, Reel Stoves, Cob Field ..	1	—	—
561	Hose House, Magazine, Cob Field .. ..	2	—	—
537	Hose House, Cob Mead.. .. ..	1	—	—
584	Hose House, Cob Mead.. .. ..	1	—	—
561A	Hose House, Cob Mead.. .. ..	1	—	—
599	Hose House, Cob Mead.. .. ..	1	—	—
570	Hose House, Acetone Recovery .. ..	1	—	—
508	Foreman's Office, Cordite Lower .. ..	1	—	—

Wheeled Stretchers are stationed near the Offices at N/G and G/C.

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## First Aid Boxes

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Foreman's Office, Cordite.  
Nitro-glycerine Office.  
Main Laboratory.  
Machinery Shop.  
Water Warder's Cottage, Lower Island.  
Guncotton Office.  
Assistant Foreman's Office, Guncotton.  
Acid Shifting Room, Quinton Hill.  
Machinery Shop, Quinton Hill.  
Cordite Office, Quinton Hill.  
Assistant Foreman's Office.  
Acetone Recovery.

## Breathing Apparatus and Lifebelts.

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Nitro-glycerine Office.  
Guncotton Office.  
Acetone Recovery,

First Aid Boxes

Foreman's Office, Corlies  
 New-England Office  
 Main Laboratory  
 Machinery Shop  
 Water Works, 100th Street  
 Amusement Office  
 Assistant Foreman's Office, Convent  
 4th Street, 100th Street  
 Machinery Shop, Convent Hill  
 Corlies Office, Convent Hill  
 Assistant Foreman's Office  
 Machine Shop

Refrigerating Apparatus and Mischelie

New-England Office  
 Amusement Office  
 Machine Shop





