

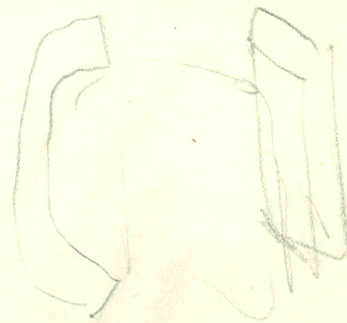
WASC

534

WASC 534



WASC 534



Rules
of the
Royal Gunpowder Factory
Waltham Abbey

General Instructions & Definitions

- I. 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.
- II. Every workman on joining the Factory will be provided with a copy of these Rules, as well as with a copy of the Rules & Regulations of the Ordnance Factories which they supplement. These copies are to be kept in good order and shown when required.
- III. Every workman employed in the Factory 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.
- IV. Every workman is at once to report to his Chargeman or to superior authority, any infringement of Rules which comes to his notice.
- V. Any infringement of Rules will render the offender liable to suspension or dismissal.
- VI. The word "workman" in these Rules, includes every man and boy, of whatever rank or position, employed in the Factory under the Superintendent.
- VII. The word "person" in these Rules, includes every man and boy, of whatever rank or position, employed in the Factory, by the Building Works Department, or by contractors.

General Instructions & Definitions

- I. 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.
- II. Every workman on joining the Factory will be provided with a copy of these Rules, as well as with a copy of the Rules & Regulations of the Ordnance Factories which they supplement. These copies are to be kept in good order and shown when required.
- III. Every workman employed in the Factory 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.
- IV. Every workman is at once to report to his Chargeman or to superior authority, any infringement of Rules which comes to his notice.
- V. Any infringement of Rules will render the offender liable to suspension or dismissal.
- VI. The word "workman" in these Rules, includes every man and boy, of whatever rank or position, employed in the Factory under the Superintendent.
- VII. The word "person" in these Rules, includes every man and boy, of whatever rank or position, employed in the Factory, by the Building Works Department, or by Contractors.
- VIII. 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 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. It does not include the buildings of the Gun cotton Factory, except the Packing House.

IX. 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 work being conducted in strict accordance with the Rules.

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

General Rules.

1.

Smoking

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

2.

Matches,
Gas lighters,
Lanterns.

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

(a) Matches. Only safety matches and vesuvians are allowed; they are issued to :-

Bargemasters. (safety matches)

Chemist-in-charge, N.G. Section. (Vesuvians)

(b) Electric gas lighters. The places where they are kept, the workmen in whose custody they are, and the workmen who are authorised to use them, are detailed in Appendix 1.

(c) Lanterns. The places where they are kept, the workmen in whose custody they are, and the workmen who are authorized to use them, are detailed in Appendix 2.

3.

Prohibited
Articles.

Any workman or person when inside the Factory, found with matches of any kind, with means of procuring a light, with a tobacco pipe, or with any dangerous article such as an explosive of any sort, will be discharged.

Tobacco in any form, is not to be brought into the Factory either in the hands or in the clothes.

4.

Intoxicants

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

Any workman discovered to be under the influence of liquor when coming to work, or when inside the Factory, will be at once removed and discharged.

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

5.

Entrance
Gates
and
Keys.

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

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

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

Passes out "without pay" are to be signed by the Asst. Foreman of the shift.

6.

Searching
on
Entering
and
Leaving.

Workmen and persons ^{below the rank of} 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 authorized individual.

7

Clothing.

(a) All workmen, except those of the Machinery, Plumbers, Labour & Store sections, and those employed in Offices, are to proceed at once from the entrance gates to the shifting rooms appointed them, where they are to change

their own clothes for the clothes provided. These clothes depend upon the nature of the workman's employment; detailed lists are posted up in the shifting rooms.

- (b) Special clothes are provided for men of the Machinery, Plumbers, Labour & Stores Sections for use in certain specified cases.
- (c) All factory clothes are to be marked with the workman's number to whom they are issued.
- (d) Factory clothes are not to be altered in any way.
- (e) Trousers and sleeves of danger building clothes are not to be turned up.
- (f) No loose article, other than a handkerchief, is to be taken into a danger building.
- (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 under-clothes are to be of bone. Pieces of chalk are not to be placed behind the ear.
- (h) Jackets are always to be worn and fastened up in all danger buildings, except in Gun-cotton & Cordite Stoves, and Paste Mixing Houses.
- (i) The great coats provided, when not in use, are to be hung up in the shoe rooms or porches of danger buildings; they are not to be worn or hung up inside 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.
- (l) Clothing is issued to workmen by the storemen at the shifting rooms, at the times appointed in the Shifting Room Rules.

8.

Boots and
Shoes

- (a) Boots and shoes are provided for workmen as detailed in the lists posted up in the Shifting Rooms.

Least
when coats overcoats are
generally used

- (b) Workmen not working in danger buildings are to change their own boots for the boots or shoes provided in the Shifting Rooms.
- (c) All workmen and persons are to scrape their boots on the scrapers, & wipe them on the mats, before entering the shoe rooms, porches, or entrances of danger buildings.
- (d) 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. The same procedure is to be observed in changing back into their own boots. The shoe boards are to be kept "clean".
- (e) The danger building shoes are not to be taken off in the danger buildings. They are not at any time to be deposited in any place where they can come in contact with dirt or grit.
- (f) "Clean" shoes are issued to Millmen for use when oiling and cleaning the mill crossheads. They are to be kept on the shelves in the mill cabins.
- (g) "Clean" overboots are placed in the gunpowder mill magazines for the use of millmen, they are not to be removed.

Overboots

9.
The overboots for the use of officials in danger buildings are not to be worn by workmen below the rank of Asst. Foreman. They are to be kept on the "Clean" side of the barriers. They are to be put on & 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 &
Umbrellas

Sticks and umbrellas are not to be taken into danger buildings.

11.

Proceeding to
and
leaving work.

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 + cans are to be searched in the Dining Rooms as the workmen enter, as laid down in the Special Rules for Searching, and are then to be left in the Dining Rooms. Workmen of the acid factories + of the acid portions of the guncotton factory may take their drink cans with them.

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 or from the danger and other buildings.

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

On pay days, workmen, after shifting, are to form up outside the Shifting Rooms in numerical order, and are to proceed in that order past the office where they are given their pay tickets, to the pay table. Silence is to be observed in the vicinity of, and at the pay table.

12.

Roads, paths
& cuts

The roads, paths + cuts to be taken by workmen and persons, when proceeding from place to place in the Factory, are as follows:-

No one is to cross over any bridge when explosives boats are passing underneath it.

The old "Long Walk" is only to be used by workmen of the Gunpowder Section, & by Chemists & Principal Foremen.

All workmen and persons are to keep to the roads & paths.

13.

Searching
before
work.

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, & after absence from the danger building from any cause.

Danger building shoes are to be examined 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 are to be searched by their chargemen before proceeding to work.

Workmen of the Machinery & 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 Asst. Foreman of their shift.

All who are responsible for searching are to sign the prescribed certificate before leaving the Factory. See also Special Rules for Searching.

14.

Entering &
Leaving
Buildings.

No workman is to enter any part of the Factory or any danger building in which he is not employed.

No 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 Asst. Foreman of the Shift.

No 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.

Workmen are not to leave the Shifting Rooms in order to proceed to the gates before the time authorised in the Special Rules for Shifting Rooms.

Workmen who wish to see the Medical Officer are not to be allowed to leave their buildings for changing clothes until 9.30 am; when possible they are to obtain a Shifting Room pass before proceeding to work.

When a workman is ordered to see the Medical Officer, he is to do so at the earliest opportunity.

15.

Meals

Meals are only to be taken in the appointed Dining Rooms at the appointed times, except by engine drivers & stokers who are to take their meals in the Engine & Boiler Houses.

16.

Opening
buildings
for
work.

Before commencing work in any danger building, all doors are to be unlocked & unbolted, and the bolts withdrawn and placed in the loops or secured back by means of the pins provided. Chargemen are responsible that this has been done.

Doors when not locked must 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 at work or in use all danger and other buildings are to be kept locked up.

17.

Inspecting
danger
buildings
& plant
before
commencing
work.

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 Asst. Foremen, or to superior authority.

18.

Limits of
Workmen
&
Explosives.

The chargeman of every danger building is responsible that the limits posted up at the danger building, for the number of workmen, & for the quantities of explosives, are always strictly adhered to.

Neither workmen nor unauthorized persons are to approach or to carry out work of any nature in the vicinity of danger buildings in which work is going on.

19.

Use Lists
and
Stores for
danger
buildings.

No tools, implements, or moveable 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 & 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 G/L Stores & N/G 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.

Expendible 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.

Tools, implements & stores generally, are delivered to the danger buildings by the storeman.

20.

Fire pumps
and
buckets.

All hand fire pumps & fire buckets are to be kept filled with clean water & ready for use. They 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, ice does not form in their fire buckets kept outside danger buildings.

21.

Workmen to
keep to their
own work.

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

22.

Care in
work.

Workmen employed in danger buildings are to carry on their work in as gentle and careful a manner as possible. No undue haste is ever to be made and no greater force employed than is absolutely needed to effect the object in view under normal conditions. Should any operation for which tools or implements are allowed, 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 move-

ments 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.

Workmen are immediately to check either in themselves or others, any tendency towards trifling, stalling, carelessness, undue haste, 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.

Anything
unusual
to be
reported.

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 any foreign substance be found in the contents of any package containing explosives, the package & its contents are to be put on one side, & an immediate report made to the chargeman & by him to superior authority.

24.

Handling of
Packages etc.

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.

Barrels containing explosives are always to be rolled on the chine each one separately. Open barrels are not to be placed one inside the other. All receptacles & packages provided with covers are to be kept covered when containing explosives. 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 stood in the sun.

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

25.

Buildings,
plant and
machinery
to be kept
clean.

The clean platforms, & the floors & interiors of danger buildings, boats and trucks; as well as the plant & machines, are to be kept perfectly free from dirt and grit, and from all accumulations of explosives & of unnecessary materials. Any leakage etc. of water onto asphalt & 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 loaded into or unloaded from boats. The clean wood platforms are to be constantly wetted, especially in hot, dry & windy weather.

In Nitroglycerine danger buildings, every care is to be taken to prevent nitroglycerine escaping from the apparatus. Should any splash over the tanks or get about, it is to be immediately wiped up with a damp cloth.

26.

Oily and
turpentine
Sponge cloths
and waste.

Oily & turpentine sponge cloths & cotton waste 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. The oily & turpentine sponge cloths & 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 2 shifts, at the end of the day's work; in the case of buildings working 3 shifts when no longer serviceable & at the end of the week's work. The receptacles are situated as follows:-

Upper Works:- Outside north side of Stores Office.

Quinton Hill:- Outside Farm House.

Cob Mead & Cob Field:- Outside Dining & Shifting Room.

27.

Danger Signals.

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

The red signal or red light is to be displayed when the loading of a cordite incorporating machine is going on, & no truck or ^{unauthorised} workman is to approach nearer than the centre bay of the adjacent half group, or than the boundary posts.

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

28.

Defective plant & machinery

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 the Chemist-in-charge or Principal Foreman.

29.

Alterations,
Repairs
Adjustments.

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 & adjustments have been complied with.

Workmen are not to carry out any alterations repairs or adjustments however trivial, to danger buildings, plant, machinery, tools or implements.

30.

Inspection of
Danger
Buildings.

All danger buildings, & the machinery in gunpowder danger buildings are to be examined periodically by heads of sections ^{or other authorized workmen} under the direction of the Officer-in-charge of Danger Buildings. For either purpose all explosives are to be removed from the buildings & machines, and the buildings cleaned out.

31.

Clearing
Gunpowder
Buildings &
cleaning
Machinery &
plant.

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 danger buildings & boats to the magazines.

This rule does not however apply to Incorporating mills, the Stove & the Blending House.

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

On Saturdays the buildings & machines are to be thoroughly swept down & cleaned out & 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.

32

Cleaning &
Inspection
of
N.G. Plant.

When the operations of prewashing + washing nitroglycerine are finished for the day the plant is to be thoroughly washed down.

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

Condemned plant + apparatus is to be cleaned, as laid down in the Special Rules, before it is destroyed.

33.

Cleaning
Cordite
plant.

In the Cordite Section all buildings + machines are to be thoroughly swept down + cleaned on the cessation of work for the week.

34.

Machines
in motion
not to be
cleaned.

No machines in the Factory are to be cleaned nor are the safety guards to be removed whilst the machines are in motion.

35.

Thunderstorms

On the approach of a thunderstorm the machinery in all danger buildings is to be stopped, + all doors + windows are to be closed + boats tied up. The workmen are to retire to the Dining Rooms until the storm has passed over + 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.

36.

Electric
Lights.

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

Workmen are not to touch the wires, lamps, or anything connected with the electric lighting.

Should anything go wrong with the electric lights an immediate report is to be made to the Asst. 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 Asst. Foreman of the shift.

37.

Gas

Workmen are not to touch anything connected with the gas lighting.

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

38.

Steam
Heating,
Traps etc.

In all buildings, other than drying stores, heated by steam pipes, the temperature is to be kept between $55^{\circ} + 68^{\circ} \text{F.}$ ($13^{\circ} + 20^{\circ} \text{C.}$) if possible. Steam is to be regulated by means of the inlet valves, the outlet valves are always to be kept full open.

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

Workmen are not to touch or interfere with steam traps.

Hot water is not to be collected for any purpose from the outlet pipes of steam traps or from condensed water tubs & tanks.

At the end of the week or other closed periods, sufficient steam is to be kept on in all danger buildings to keep them at the usual temperature.

39.

Locks &
Cuts

For opening & closing lock gates, the ropes & 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 & replaced clear of the water, on the hooks.

No 3 Dushing House Lock is not to be used without the authority of the Manager.

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

All boats passing up & down the Mill Head Stream are to keep outside the hoods of No 2 Gunpowder Stove & the hoods of the Guncotton Stoves.

40.

Locking up
Buildings.

Chargemen are not to leave on the cessation of work until the windows shutters & 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.

