

1967/219



THE FUMIGATION REGULATIONS 1967

BERNARD FERGUSSON, Governor-General

ORDER IN COUNCIL

At the Government House at Wellington this 27th day of September 1967

Present:

HIS EXCELLENCY THE GOVERNOR-GENERAL IN COUNCIL

PURSUANT to the Health Act 1956, His Excellency the Governor-General, acting by and with the advice and consent of the Executive Council, hereby makes the following regulations.

ANALYSIS

- | | |
|--|--|
| <ol style="list-style-type: none"> 1. Title and commencement 2. Interpretation 3. Application of regulations 4. Operator and fumigation staff 5. Certificates of competence 6. Entry into risk area 7. Equipment and its use 8. Storage of fumigants 9. Disposal of fumigation residues 10. Fumigation register 11. Notice of intended fumigation 12. Notice of completion of fumigation 13. Notice of accident <p style="text-align: center;"><i>Fumigation of Ships and Aircraft</i></p> <ol style="list-style-type: none"> 14. Prescribed procedure to be followed 15. General safety precautions 16. Fumigants in liquid form 17. Supervision 18. Final safety precautions | <p style="text-align: center;"><i>Fumigation of Buildings</i></p> <ol style="list-style-type: none"> 19. Prescribed procedure to be followed 20. General safety precautions 21. Fumigants in liquid form 22. Supervision 23. Final safety precautions <p style="text-align: center;"><i>Fumigation Cells</i></p> <ol style="list-style-type: none"> 24. Inspection and certification 25. Construction 26. Final safety precautions <p style="text-align: center;"><i>Miscellaneous Provisions</i></p> <ol style="list-style-type: none"> 27. Fumigation under sheets 28. Soil fumigation 29. Discretionary powers of medical officer of health 30. Inspection 31. Offences 32. Revocation <p style="text-align: center;">Schedules</p> |
|--|--|

REGULATIONS

1. Title and commencement—(1) These regulations may be cited as the Fumigation Regulations 1967.

(2) These regulations shall come into force on the 31st day of March 1968.

2. Interpretation—In these regulations, unless the context otherwise requires,—

“The Act” means the Health Act 1956:

“Aircraft” has the same meaning as in the Civil Aviation Act 1964:

“Contractor” means any person who causes any fumigation to be undertaken by himself or by his agent:

“Commercial grower” means the occupier of any land who derives a substantial proportion of his income from the use by him of that land for any agricultural or horticultural purpose:

“Fumigant” means a substance specified in the First Schedule to these regulations:

“Fumigation” means the use of a fumigant for the purpose of the destruction of rodents, pests, or other undesirable plant or animal organisms:

“Fumigation area” means the ship or aircraft or building or fumigation cell or soil area, or any covered space, or the part of the ship, aircraft, or building, in which fumigation is being or is intended to be carried out:

“Fumigation cell” means a sealed chamber, set aside entirely and exclusively for the fumigation of materials:

“Fumigation register” means the register required by regulation 10 of these regulations to be kept by an operator:

“Fumigation staff” means the persons carrying out a fumigation under the supervision of an operator:

“Inspector” means an Inspector of Health, and, in relation to ships and aircraft, includes any person authorised in writing by the Medical Officer of Health, pursuant to section 128 of the Act, to exercise the powers conferred by that section on a person so authorised:

“Operator” means the person appointed, pursuant to regulation 4 of these regulations, to be in charge of any fumigation:

“Risk area” means the fumigation area and any building, ship, aircraft, space, or structure to which in the opinion of an Inspector the fumigant may penetrate from the fumigation area:

Provided that where the fumigation is being or is intended to be carried out in a building the “risk area”, unless an Inspector otherwise directs, shall include:

(a) If the fumigant is hydrogen cyanide, every part of the building which is less than 30 ft from the nearest boundary of the fumigation area unless that part is separated from the fumigation area by a yard, street, or other open space at least 20 ft in width:

(b) If the fumigant is methyl bromide, every part of the building which is less than 10 ft from the nearest boundary of the fumigation area:

“Ship” includes any boat or other vessel whether used in navigation or not and whether having means of propulsion or not:

“Soil area” means that area of soil to which a fumigant is applied by or on behalf of a contractor or a commercial grower.

3. Application of regulations—(1) Subject to subclauses (2) to (4) of this regulation, no person shall carry out or cause to be carried out any fumigation except in accordance with these regulations.

(2) Nothing in subclause (1) of this regulation or in the succeeding provisions of these regulations, except regulation 13 and regulation 31 in relation to regulation 13, shall apply in respect of any fumigation carried out by or on behalf of a Rabbit Board constituted under the Rabbits Act 1955.

(3) Nothing in regulations 4, 7, 10, or 11 of these regulations shall apply in respect of any fumigation carried out by or on behalf of a commercial grower on land owned or occupied by him and used exclusively for agricultural or horticultural purposes.

(4) Nothing in regulations 7, 10, 20, 22, 23, or 28, or in paragraph (a) of regulation 4, or in subclauses (1) to (3) of regulation 11, of these regulations shall apply in respect of any fumigation carried out by the direct injection of methyl bromide, or calcium cyanide granules or pellets, into rat or rabbit harbours or burrows in a building or in the ground.

4. Operator and fumigation staff—No person shall carry out or cause to be carried out any fumigation unless—

- (a) The fumigation is carried out by an adequate number of persons being not less than two in any case; and
- (b) The fumigation is carried out under the supervision of an operator who holds a certificate of competence issued to him by any Medical Officer of Health pursuant to subclause (1) of regulation 5 of these regulations and who is appointed in writing by the contractor for the purposes of fumigation; and
- (c) All persons who will be engaged in the fumigation have received adequate instruction and training.

5. Certificates of competence—(1) A Medical Officer of Health shall issue a certificate of competence to any person if he is satisfied that that person has sufficient knowledge of and skill in—

- (a) The effective use of gas masks or other approved appliances for respiratory protection;
- (b) First aid measures and remedies including resuscitation by approved methods;
- (c) The storage, safe handling, and distribution of the fumigant and of any generating equipment, and the disposal of fumigant residues;
- (d) The fumigating procedure prescribed by these regulations;
- (e) The use of testing apparatus provided for the detection of fumigants.

(2) A certificate of competence shall specify the fumigants to which it applies and shall have no application in respect of any other fumigant.

6. Entry into risk area—(1) No person shall enter a risk area otherwise than in the course of duty.

(2) No person shall remain in a risk area after he has been requested by the operator or an Inspector to leave the risk area.

7. Equipment and its use—(1) Every contractor shall at all times provide and maintain in efficient condition and, when not in use during any fumigation, keep readily available for use close to the risk area, the following equipment, namely—

- (a) A number (sufficient to ensure the safety of the fumigation staff) of gas masks or canister respirators or positive pressure respiratory apparatus of design approved by the Director-General of Health, which, when used in conformity with the maker's directions, will afford protection against the fumigant to persons who may wear them;
- (b) All such equipment as may be necessary for carrying out one of the tests specified in the Third Schedule to these regulations and applicable to the fumigant being used;
- (c) For each member of the fumigation staff a pair of overalls and a pair of gloves made of a material that will not absorb the fumigant; and an efficient gas tight electric torch;
- (d) A portable resuscitator together with full containers of oxygen or air if required for the use of the resuscitator;
- (e) A card bearing particulars of the procedure for artificial respiration by an approved method;
- (f) A card bearing the telephone numbers and addresses of at least two medical practitioners, the nearest ambulance service, the nearest police station, and the nearest fire brigade.

(2) Where any fumigation is carried out the operator shall take all reasonable steps to ensure, during the whole of the period commencing immediately before the fumigant is released and ending when the operator has certified in the fumigation register that the fumigation has been completed, that—

- (a) Every person in every part of the risk area has readily available for immediate use a gas mask or other appliance conforming to the requirements of this regulation, and, if so directed by an operator or an Inspector, wears the said gas mask or other appliance, and has in his possession ready for immediate use an efficient gas tight electric torch;
- (b) All other equipment referred to in subclause (1) of this regulation is ready for immediate use.

8. Storage of fumigants—Every contractor shall take all reasonable steps to ensure that—

- (a) Every container for a fumigant is clearly marked with the name of the fumigant and the words, "Poison. Not to be stored near heat or acids";
- (b) Except where a container is permanently attached to a fumigation cell or other building or is stored as a liquid in a cylinder under pressure, every such container, when not in use, is kept in a suitably constructed cupboard or box marked with the name of the fumigant which it contains and with the word "Poison":

- (c) Every such container when not in use is kept securely closed:
- (d) The said cupboard or box is securely locked when not in use.

9. Disposal of fumigation residues—Any person disposing of residues of any materials used in the process of fumigation shall do so safely and so as to avoid any contamination of the atmosphere by the fumigant and any subsequent use of the residues.

10. Fumigation register—(1) Every operator shall keep a register in form 1 in the Second Schedule to these regulations and shall enter, in respect of every fumigation carried out by him, the particulars specified in that form.

(2) Every operator under whose supervision the fumigation is carried out shall forthwith, after the completion of the fumigation and the adequate ventilation of the fumigation area in accordance with these regulations, sign the certificate prescribed in the said form.

(3) On the completion of the entries in the fumigation register and of the certificate of the operator therein in respect of any fumigation, the contractor shall sign that register.

(4) The operator shall maintain the fumigation register in good condition, and available for inspection by the Medical Officer of Health or an Inspector for a period of not less than three years after the date of the last entry therein.

(5) Notwithstanding the provisions of subclause (1) of this regulation, the Medical Officer of Health may permit the use of a fumigation register not in form 1 in the Second Schedule to this regulation if—

- (a) The information given is substantially the same as the information required in the said form 1; and
- (b) That register was in use on the date of the commencement of these regulations.

11. Notice of intended fumigation—(1) Every contractor shall, before commencing any fumigation send a notice in form 2 in the Second Schedule to these regulations to each of the following persons, namely—

- (a) The Medical Officer of Health:
- (b) The officer in charge of the police station nearest to the ship, aircraft, building, or other place where the fumigation is to be carried out:
- (c) The officers in charge of fire brigades in the district in which the ship, aircraft, building, or other place is situated:
- (d) In the case of the proposed fumigation of a ship or any part thereof or anything therein, the harbourmaster for the harbour in which the ship is lying, and the master or other person for the time being in charge of the ship:
- (e) In the case of the proposed fumigation of an aircraft, the pilot in command or other person for the time being in charge of the aircraft:
- (f) In the case of the proposed fumigation of a building or any part thereof or anything therein, the owner and occupier of the building and every part of the building in which the fumigation is to be carried out.

(2) Except when it is necessary that fumigation should be carried out urgently, every notice required by subclause (1) of this regulation to be sent to a person shall be sent so as to arrive not less than 72 hours before the commencement of the fumigation, unless the contractor has otherwise arranged with the person in respect of the fumigation.

(3) Forthwith after the sending of any such notice the contractor shall enter or cause to be entered in the fumigation register, the date and time when the notice was sent.

(4) Notwithstanding anything in subclauses (1) to (3) of this regulation, those subclauses shall not apply to an operator, who intends to fumigate by the direct injection of methyl bromide, or calcium cyanide powder granules or pellets, into rat or rabbit harbours or burrows in a building or in the ground, if that operator gives notice in writing of that intention to the Medical Officer of Health before carrying out the first such fumigation after the commencement of these regulations and before carrying out any further fumigation at any time after the expiration of one year from the date on which the last such notice was given to the Medical Officer of Health.

(5) Any notice given pursuant to subclause (4) of this regulation shall specify the places or areas in which it is intended to carry out the fumigation and shall be effective only in respect of the person signing the notice.

12. Notice of completion of fumigation—Every contractor who is required by subclause (1) of regulation 11 of these regulations to send a notice to the persons specified in that subclause shall forthwith upon completion of the fumigation send to the like persons a notice in form 3 in the Second Schedule to these regulations.

13. Notice of accident—(1) If in the course of any fumigation there occurs an accident which causes the death of, or bodily injury to, any person, the contractor shall forthwith give notice thereof to the Medical Officer of Health in form 4 in the Second Schedule to these regulations.

(2) For the purposes of this regulation the expression “bodily injury” includes—

- (a) Any condition requiring first aid treatment:
- (b) A loss of consciousness for any period:
- (c) Any symptom of illness attributable to the fumigant, whether temporary or permanent.

Fumigation of Ships and Aircraft

14. Prescribed procedure to be followed—(1) Subject to the provisions of these regulations, the fumigation of a ship or aircraft or any part of a ship or aircraft, or of anything in any ship or aircraft, shall be carried out in accordance with regulations 15 to 18 of these regulations.

(2) The requirements of these regulations are additional to those imposed by regulations 15 to 19 of the Quarantine (Ship) Regulations 1957* but if there is any inconsistency between the said regulations 15 to 19 and these regulations the said regulations 15 to 19 shall prevail.

*S.R. 1957/15

Amendment No. 1: S.R. 1962/113

Amendment No. 2: S.R. 1963/185

15. General safety precautions—(1) Before commencing the fumigation, the operator shall take all reasonable steps to ensure that—

- (a) Arrangements have been made with the master or other person for the time being in charge of the ship or aircraft for the removal from the fumigation area of all bedding and other materials that are not to be fumigated:
- (b) All water tanks and waterbottles have been emptied:
- (c) Arrangements have been made with the master or other person for the time being in charge of the ship or aircraft for the removal from the fumigation area of all foodstuffs likely to be contaminated by the fumigant:
- (d) All boiler fires in the fumigation area have been drawn and extinguished and all other boiler fires in the ship have been banked down and all other fires and naked lights in the ship have been extinguished:
- (e) All electric generators in the ship or aircraft have been shut down:
- (f) All holds have been cleared and openings to the outside (with the exception of doors) are closed; ventilators have been covered and openings that are not gas tight have been sealed; and in particular 'tween deck hatch covers have been removed, and top access to the hatch has been covered with at least two tarpaulins battened down securely on all sides except for two corners or covered by other means so as to give a gas-tight seal:
- (g) All mechanical ventilation on the ship or aircraft has been stopped:
- (h) All gangways, accommodation ladders, jacob's ladders, and ropes over either side of the ship or aircraft have been hauled up with the exception of one gangway for the use of fumigation staff:
- (i) Arrangements have been made for the gangway to be under effective supervision until the operator has certified in the fumigation register that the fumigation has been completed:
- (j) A signed statement has been given to the operator by the master or other person for the time being in charge of the ship or aircraft to the effect that—
 - (i) The ship or aircraft is ready for fumigation, and that all persons other than those specifically engaged in the fumigation work have left the ship or aircraft and that they will not be permitted to return until the operator has certified in the fumigation register that the fumigation has been completed; and
 - (ii) A search has been carried out for stowaways and that none are present on board; and
 - (iii) In the case of a ship, the moorings are adequate to meet any contingencies likely to arise before the fumigation has been completed:
- (k) There are placed on each side of the ship or aircraft and at the foot of the gangway and at the boundary of the risk area where they may be readily seen by any person approaching the risk area, notices bearing in block letters, in colour contrasting to the background and of not less than 6 in. in height, the words, "DANGER—POISON GAS—KEEP AWAY", and arrangements have been made to ensure that all such notices are illuminated during the hours of darkness:

- (l) There is readily available for use during the fumigation a sufficient number of life-lines of adequate strength and length:
- (m) In the case of a ship, steel-wire hawsers sufficiently strong to enable the ship to be hauled away from the berth are placed over the fore and after ends of the ship and made securely fast on board.

(2) After preparation of the ship or aircraft for fumigation and the receipt of the signed statement by the master or other person for the time being in charge of the ship or aircraft in terms of paragraph (j) of subclause (1) of this regulation the operator shall satisfy himself by all necessary search that all persons, except members of the fumigation staff, have left the risk area, and that the requirements of this regulation have been complied with.

(3) After release or, in the case of methyl bromide, the dispersal of the fumigant has been completed, the operator shall take all reasonable steps to ensure that all electrical supply to the ship or aircraft is discontinued and that the supply is not resumed except on the instructions of the operator, until the fumigation area has been properly ventilated.

16. Fumigants in liquid form—(1) If as part of the process of applying the fumigant it is necessary to transfer it in liquid form from one container to another, the transfer shall be carried out only within the risk area after full compliance with regulation 15 of these regulations.

(2) The fumigant shall not be applied in such manner as to be absorbed in liquid form by any cargo, dunnage, or other materials in the holds, engine rooms, boiler rooms, storerooms, or other parts of the ship or aircraft or by any furniture, fittings, and effects.

17. Supervision—(1) The operator shall take all reasonable steps to ensure that, during the whole of the period commencing immediately before the fumigant is released and ending when the operator has certified in the fumigation register that the fumigation has been completed, at least one member of the fumigation staff remains in attendance in the risk area and all means of access to the risk area are under effective supervision.

(2) Every member of the fumigation staff shall obey all instructions given by the operator or an Inspector for the purpose of complying with this regulation.

(3) No person shall smoke in the risk area.

18. Final safety precautions—(1) After the fumigation has been completed the operator shall take all reasonable steps to ensure that—

- (a) The fumigation area has been properly ventilated in such a manner and for such a period as is sufficient, in the opinion of the operator or an Inspector, to ensure that the fumigant is dispersed from all parts of that area and in particular from all confined spaces:
- (b) All apparatus, containers, and residues of materials used for generating the fumigant have been removed from the ship or aircraft and safely disposed of:

- (c) Arrangements have been made for all bedding, clothing, and furnishings likely to have absorbed the fumigant to be aired in such a manner and for such a period as to ensure that they are free from residues that may subsequently produce dangerous concentrations of the fumigant:
- (d) Arrangements have been made with the master or other person for the time being in charge of the ship or aircraft for all liquids, foodstuffs, and articles, not being articles to which paragraph (c) of this subclause applies, that may constitute a danger through having been contaminated by the fumigant, to be removed from the ship or aircraft and safely disposed of.

(2) When the operator is satisfied that it is safe for persons to enter the ship or aircraft, the master or other person for the time being in charge of the ship or aircraft shall take all reasonable steps to ensure that all bedding, clothing, furnishings, liquids, foodstuffs, or articles to which paragraph (c) or paragraph (d) of subclause (1) of this regulation applies are aired, or, as the case may require, removed and disposed of in accordance with those paragraphs.

(3) Before any electric generators are started or the mechanical ventilation system switched on, the air in the engine room and boiler rooms and connecting passages shall be tested by one of the tests for the fumigant specified in the Third Schedule to these regulations to ensure that it is safe for persons to enter and that all intakes to ventilators and the air in the ventilating system are completely free from any concentration of the fumigant.

(4) After the ventilation of the ship or aircraft the operator shall satisfy himself by tests, which shall include one of the tests for the fumigant specified in the Third Schedule to these regulations, that in no part of the risk area does the concentration of the fumigant exceed the maximum concentration prescribed in respect of that fumigant in the Fourth Schedule to these regulations.

(5) No contractor, operator, or member of the fumigation staff shall permit any person to enter any part of the risk area until at least two hours have elapsed after the completion of the ventilation of the ship or aircraft, and until the operator has certified in the fumigation register that the fumigation has been completed:

Provided that this subclause shall not apply—

- (a) To the entry by a servant or agent of the Crown in the course of his duties as such servant or agent; or
- (b) To such entry by any other person as may be necessary or expedient for the purpose of dealing with any fire or any emergency or, in the case of a ship, for the purpose of tending to its moorings if that person has been warned that the fumigation area is being fumigated with poisonous gas, and if he is wearing an efficient gas mask or other efficient apparatus for affording protection against the fumigant.

(6) No person shall sleep or permit any person to sleep in any part of the ship or aircraft until the expiration of the period of 12 hours after such certification as aforesaid.

Fumigation of Buildings

19. Prescribed procedure to be followed—Subject to the provisions of these regulations the fumigation of any building other than a glasshouse or any part thereof or of anything in any building shall be carried out in accordance with regulations 20 to 23 of these regulations.

20. General safety precautions—(1) Before commencing the fumigation the operator shall take all reasonable steps to ensure that—

- (a) All bedding which is not to be fumigated has been removed from the fumigation area:
- (b) In the case of fumigation with hydrogen cyanide all foodstuffs and liquids likely to be contaminated have been removed from the fumigation area and all cisterns and water tanks have been emptied:
- (c) All boiler fires in the fumigation area have been drawn and extinguished and all other fires and naked lights have been extinguished:
- (d) All electric generators in the fumigation area have been shut down:
- (e) Except when, in the case of fumigation with methyl bromide, electric fans operated from a source of power outside the fumigation area and fitted with motors protected against electric sparking are used to assist ventilation, all electric supply and gas supply to the risk area have been discontinued and arrangements have been made to ensure that the supply is not resumed except on the instruction of the operator until the fumigation area has been properly ventilated:
- (f) All persons except members of the fumigation staff, have left the risk area:
- (g) Every door and every means of access to the risk area, except such door or means of access as is required for the use of the fumigation staff, has been securely fastened and possession of all keys thereof has been taken by the operator or some other responsible member of the fumigation staff, and arrangements have been made for every such door and other means of access to be under effective supervision until the operator has certified in the fumigation register that the fumigation has been completed:
- (h) All practical steps have been taken to seal all openings, cracks, and crevices so as to prevent effectively the escape of the fumigant from the fumigation area, or, in the case of fumigation with methyl bromide under regulation 25 of these regulations, the provisions of that regulation are complied with:
- (i) Notices bearing in block letters in colour contrasting to the background and of not less than 6 in. in height, the words, "DANGER—POISON GAS—KEEP AWAY", have been placed where they may be readily seen by any person approaching the risk area and arrangements have been made to ensure that all such notices are illuminated during the hours of darkness.

(2) After the preparation of the building for fumigation and before the fumigant is released, the operator shall satisfy himself by personal search that all persons, except members of the fumigation staff, have

left the risk area, and that the requirements of subclause (1) of this regulation and of any material certificate under subclause (2) of regulation 29 of these regulations have been complied with.

21. Fumigants in liquid form—(1) If as part of the process of applying the fumigant it is necessary to transfer it in liquid form from one container to another, the transfer shall be carried out only within the risk area after full compliance with regulation 20 of these regulations.

(2) The fumigant shall not be applied in such a manner as to be absorbed in liquid form by floors, walls, ceilings, household effects, or commodities of any kind.

22. Supervision—(1) The operator shall take all reasonable steps to ensure that, during the whole of the period commencing immediately before the fumigant is released and ending when the operator has certified in the fumigation register that the fumigation has been completed:

- (a) At least one member of the fumigation staff remains in attendance in or adjacent to the risk area:
- (b) Any member so remaining has possession of all keys of which possession has been taken pursuant to paragraph (g) of subclause (1) of regulation 20 of these regulations:
- (c) The risk area and any enclosed space in the adjoining area are under effective supervision.

(2) Every member of the fumigation staff shall obey all instructions given by the operator or an Inspector for the purpose of complying with this regulation.

- (3) No person shall smoke in the risk area.

23. Final safety precautions—(1) After the fumigation has been completed, the operator shall take all reasonable steps to ensure that—

- (a) The fumigation area has been properly ventilated in such a manner and for such period (being not less than 24 hours in the case of a dwelling house except where a portable fan is used for ventilation) as is sufficient, in the opinion of the operator or an Inspector, to ensure that the fumigant is dispersed from all parts of that area and in particular from all confined spaces:
- (b) All apparatus, containers, and residues of materials used for generating the fumigant have been removed from the fumigation area and safely disposed of:
- (c) All bedding, clothing, and furnishings likely to have absorbed the fumigant have been aired in such a manner and for such period as to ensure that they are free from residues that may subsequently produce dangerous concentrations of the fumigant:
- (d) All liquids, foodstuffs, and articles, not being articles to which paragraph (c) of this subclause applies, that may constitute a danger through having been contaminated by the fumigant have been removed from the fumigation area and safely disposed of.

(2) After the ventilation of the fumigation area, the operator shall satisfy himself by tests, which shall include one of the tests for the fumigant specified in the Third Schedule to these regulations, that in no part of the risk area does the concentration of the fumigant exceed the maximum concentration prescribed in respect of that fumigant in the Fourth Schedule to these regulations.

(3) No contractor, operator, or member of the fumigation staff shall permit any person to enter any part of the risk area until the operator has certified in the fumigation register that the fumigation has been completed:

Provided that this subclause shall not apply—

- (a) To the entry by a servant or agent of the Crown in the course of his duties as such servant or agent; or
- (b) To such entry by any other person as may be necessary or expedient for the purpose of dealing with any fire or any emergency if that person so entering has been warned that the fumigation area is being fumigated with poisonous gas, and if he is wearing an efficient gas mask or other efficient apparatus affording protection against the fumigant.

Fumigation Cells

24. Inspection and certification—No person shall carry out any fumigation in a fumigation cell unless the fumigation cell has been inspected by or on behalf of the Medical Officer of Health within the period of 12 months immediately preceding the fumigation and after such inspection the Medical Officer of Health has certified in writing that the fumigation cell complies in all respects with regulation 25 of these regulations.

25. Construction—(1) Every fumigation cell shall be so constructed that under operating conditions it is gas tight and shall be of such form and construction as to comply with the requirements of subclauses (2) to (7) of this regulation.

(2) The materials of construction of the cell shall be—

- (a) Dense poured concrete smooth finished and sealed to give a smooth, glossy, and impervious finish; or
- (b) Brickwork 9 in. thick cement plastered and sealed to give a smooth, glossy, and impervious finish; or
- (c) Breeze blocks cement plastered internally and sealed to give a smooth, glossy, and impervious finish; or
- (d) Welded steel treated internally to give a smooth, glossy, and impervious finish; or
- (e) Four-ply wood or plaster board carried on stout wooden framing with protective strips secured over the broad surfaces and sealed to give a smooth, glossy, and impervious finish.

(3) Doors shall be adequately gasketed all round with neoprene, natural rubber, hard felt, lead, or soft copper; gaskets shall be maintained in an undamaged condition; and positive pressure clamps shall be set at intervals around the entire perimeter so as to ensure proper contact with the gasket at all points.

(4) Heaters if fitted shall be totally enclosed so that the fumigant shall not have access to naked flames or glowing filaments.

(5) The fumigation cell shall be situated so that it can be directly entered from a ventilated space.

(6) The fumigation cell shall be equipped with an efficient exhaust ventilation system discharging into the open air in such a position that the gases can be rapidly diluted with no possibility of danger to any person.

(7) A permanent notice bearing in block letters, in colour contrasting to the background and of not less than 6 in. in height, the words "DANGER—POISON GAS—KEEP AWAY", shall be placed in a prominent position on the door of the fumigation cell where it may be readily seen by any person approaching the risk area.

26. Final safety precautions—After ventilation of the fumigation cell following the completion of fumigation the operator shall satisfy himself by tests, which shall include one of the tests for the fumigant specified in the Third Schedule to these regulations, that in no part of the risk area does the concentration of the fumigant exceed the maximum concentration prescribed in respect of that fumigant in the Fourth Schedule to these regulations.

Miscellaneous Provisions

27. Fumigation under sheets—When fumigation is carried out in a building by the use of methyl bromide or ethylene dibromide and the isolation of the risk area under plastic sheets or sheets of tarpaulins or sheets of other materials the following provisions shall apply in addition to the provisions of regulations 20 to 23 of these regulations:

- (a) Sheets shall be of an impervious material, and shall, before use, be examined for holes and leaking seams, and tarpaulins shall be coated with ethyl cellulose, neoprene, rubber, or other impervious coating:
- (b) The tarpaulins or other sheets, as the case may require, shall be large enough to provide at least a 12 in. lap at the ground and shall be effectively held down with sandbags or other weights, or with the edges entirely covered by 3 in. of soil:
- (c) The tarpaulins or other sheets, as the case may require, shall, when placed in position and sealed, be sufficiently gas tight to contain the fumigant for the period of time required:
- (d) Respiratory protective equipment shall be worn during fumigation if there is any indication of gas concentration in excess of 20 parts by volume in one million parts of air as detected by one of the tests for the fumigant specified in the Third Schedule to these regulations.

28. Soil fumigation—(1) When fumigation is carried out in a soil area, whether in the open air or in a glasshouse, the operator shall cause the whole of the fumigation area to be covered with gasproof sheets throughout the period during which the fumigant is applied and the fumigation is carried out.

(2) Paragraphs (a) to (d) of regulation 27 of these regulations shall apply in respect of the sheets required by subclause (1) of this regulation and in respect of the fumigation of any soil area.

29. Discretionary powers of Medical Officer of Health—(1) A Medical Officer of Health may in his discretion exempt any contractor or operator from complying with—

- (a) Regulations 11 and 12 of these regulations in respect of any fumigation proposed to be carried out in a fumigation cell:
- (b) Paragraph (b) of subclause (1) of regulation 20 of these regulations, if the building is used in the business of manufacturing or storing foodstuffs, in respect of foodstuffs within the fumigation area:
- (c) Regulations 11, 12, 20 (other than paragraphs (h) and (i) of subclause (1) of regulation 20) and subclause (1) of regulation 23, of these regulations in respect of the fumigation of closed grain bins, hoppers, cribs, or similar enclosed containers in a factory if no other part of the factory is intended to be fumigated at the same time.

(2) Any exemption pursuant to subclause (1) of this regulation shall be granted by the Medical Officer of Health by certificate under his hand and may be expressed to be granted for such period as may be specified in the certificate or to relate only to a particular occasion or particular occasions and may be granted either absolutely or subject to such conditions to be specified in the certificate as the Medical Officer of Health may think necessary to prevent danger to the health of any person or the contamination of any foodstuff by exposure to the fumigant.

(3) When any certificate of exemption is granted under this regulation the contractor shall comply with or take all reasonable steps to ensure that the operator complies with, as the case may require, every condition specified in that certificate.

30. Inspection—Without prejudice to the powers conferred on a Medical Officer of Health or an Inspector by section 128 of the Act, a Medical Officer of Health or Inspector may at all reasonable times inspect any fumigation register and make copies thereof and may inspect any equipment required by these regulations to be kept for the purposes of any fumigation and the performance of the duties imposed by these regulations after a fumigation.

31. Offences—Every person commits an offence who contravenes or fails to comply with any provision of these regulations, other than regulation 5, or with any direction, requirement, or condition made or given under these regulations.

32. Revocation—The Cyanide Fumigation Regulations 1952* are hereby revoked.

SCHEDULES

FIRST SCHEDULE

Reg. 2

FUMIGANTS TO WHICH THESE REGULATIONS APPLY

- (1) Hydro-cyanic acid (hydrogen cyanide) discs or tablets, each disc or tablet containing 1/2 oz of hydro-cyanic acid (HCN) and 5 percent chloropicrin.
- (2) Calcium cyanide powder, granules or pellets.
- (3) Hydro-cyanic acid (hydrogen cyanide) in gaseous or liquid form.
- (4) Methyl bromide containing 2 percent chloropicrin.
- (5) Methyl bromide gas without the addition of chloropicrin or other warning agents.
- (6) Ethylene dibromide in gaseous form.
- (7) Phosphine gas.

SECOND SCHEDULE

Form 1

Regulation 10

FUMIGATION REGISTER

- 1. Name and address of contractor:
- *2. Fumigation of ship or aircraft [*name of ship or particulars of aircraft*] lying at [*location of ship or aircraft*] and owned (or chartered) by [*name of owner or charterer*].
- *3. Fumigation of premises at [*address or description*] occupied by [*name of occupier*].
- *4. Fumigation of soil area on that parcel of land known as [*legal description*] owned by
- 5. Notice of intended fumigation sent to—
 - (a) Medical Officer of Health
 - Date: Time:
 - (b) Officer in charge of the Police Station at
 - Date: Time:
 - (c) Officer in charge of Fire Brigades at
 - Date: Time:
 - †(d) Harbourmaster at
 - Date: Time:
 - ‡(e) Master (or person in charge) of ship (or aircraft)
 - Date: Time:
 - §(f) Owner or occupier of premises
 - Date: Time:
- 6. Name and address of operator:
- 7. Fumigant to be used:
- 8. Fumigation commenced
 - Date: Time:
- 9. Fumigation completed
 - Date: Time:
- 10. Certificate of operator—

I hereby certify that the fumigation of the above-named ship (or aircraft or premises) has been completed in accordance with the Fumigation Regulations 1967, and that the ship (or aircraft) is (or the premises are) free from danger.

Signature of Operator:
 Date: Time:

SECOND SCHEDULE—continued

11. Notice of completion of fumigation sent to—

- (a) Medical Officer of Health
Date: Time:
- (b) The Officer in charge of the Police Station at
Date: Time:
- (c) The Officer in charge of Fire Brigades at
Date: Time:
- †(d) The Harbourmaster at
Date: Time:
- ‡(e) Master (or person in charge) of ship (or aircraft)
Date: Time:
- §(f) Occupier of premises
Date: Time:
Signature of Contractor:
Date:

*Omit whichever does not apply
 †Applies only in the case of fumigation of ship
 ‡Applies only in the case of fumigation of ship or aircraft
 §Applies only in the case of fumigation of a building

Regulation 11

Form 2

NOTICE OF INTENDED FUMIGATION

[To be sent so as to arrive at least 72 hours before the commencement of the fumigation, unless otherwise arranged]

To:

- The Medical Officer of Health at
- The Officer in charge of the Police Station at
- The Officer in charge of Fire Brigades at
- *The Harbourmaster at
- †The Master (or person in charge) of the ship (or aircraft)
[name of ship or particulars of aircraft]
- ‡The Owner and occupier of the premises.

Take notice that we propose to begin the fumigation of:

- §(a) The ship (or aircraft) [name of ship or particulars of aircraft] lying at [location of ship or aircraft] and owned (or chartered) by [name of owner or charterer].
- §(b) The premises or part of premises or articles in premises at [address or description] occupied by [name of occupier].
- §(c) A soil area on the property owned by [name of owner] situated at [address].
on [date] at [Time].

The operator appointed to be in charge of the fumigation is [name and address of operator].

Signature of Contractor:
 Address:
 Date:

*Only in the case of fumigation of a ship
 †Only in the case of fumigation of a ship or aircraft
 ‡Only in the case of fumigation of a building or in a building
 §Omit whichever does not apply

SECOND SCHEDULE—*continued*

Form 3

Regulation 12

NOTICE OF COMPLETION OF FUMIGATION

- To: The Medical Officer of Health at
- The Officer in Charge of the Police Station at
- The Officer in Charge of Fire Brigades at
- *The Harbourmaster at
- *The Master (or person in charge) of the ship (or aircraft)
[*name of ship or particulars of aircraft*]
- *The Occupier of the premises at [*Address or description*]

We hereby give notice that the fumigation of the above-named or above-described ship (or aircraft) (premises) (soil area) was completed on [*date*] at [*time*] and that the ship (or aircraft) is (or the premises are) (or the soil area is) free from danger.

Signature of Contractor:

Address:

Date:

*Omit whichever does not apply

Form 4

Regulation 13

NOTICE OF ACCIDENT

To: The Medical Officer of Health at

We hereby give notice that the accident referred to below occurred during the fumigation of—

- * (a) The ship or aircraft [*name of ship or particulars of aircraft*]
lying at [*location of ship or aircraft*].
- * (b) The premises at [*address or description*].
- * (c) The soil area on the property owned by [*name*] situated at
[*address*].

PARTICULARS OF ACCIDENT

1. Name and address of person affected:
2. Date of accident:
3. Time of accident:
4. Fumigant:
5. Nature of injury or illness:
6. Circumstances of accident:
7. Name and address of operator in charge of fumigation:

Signature of Contractor:

Address:

Date:

*Omit whichever does not apply

THIRD SCHEDULE

Regulations 18 (4), 23 (2), and 26

TESTS FOR FUMIGANTS

1. For Hydrogen Cyanide or Calcium Cyanide:

(1) A detector tube for hydro-cyanic acid approved by the Director-General of Health shall be used according to the manufacturer's instructions and in conjunction with the pump or device specified by the manufacturer for use with that type of tube; or

(2) A test as hereinafter described based on stock solutions.

Stock Solutions (a) Solution A shall be prepared by dissolving 0.3 gramme of cupric acetate in 100 ml. of distilled water:

(b) Solution B shall be prepared by mixing together in a small glass or porcelain mortar 0.6 ml of glacial acetic acid and 0.45 gramme of ortho-tolidine; the resultant plastic mass shall be ground with successive small quantities of distilled water, the aqueous suspension resulting from each grinding being poured off and filtered, and the process continued until the volume of the clear filtrate just exceeds 50 ml; 50 ml of the clear filtrate shall be diluted to 100 ml with distilled water:

(c) In respect of the stock solutions, the following requirements shall be observed:

The solution shall be prepared from chemicals of a high degree of purity as supplied for analytical work:

The solutions shall be kept in glass-stoppered dark glass bottles and stored in the dark:

Each bottle shall be labelled with a label showing the date on which the solution was prepared:

No solution shall be used more than 31 days after preparation.

Materials required for Use in the Test:

(a) *Test Solution:* The test solution shall be prepared by mixing together equal portions of stock solution A and stock solution B, and the following requirements shall be observed:

(i) The test solution shall be kept in a glass-stoppered dark glass bottle, the stopper being well fitting:

(ii) The bottle shall be kept closed, except when a test strip is being dipped therein during a test:

(iii) No test solution shall be used more than 24 hours after preparation.

(b) *Test Strips:*

(i) A test strip shall be made of Whatman No. 1 filter paper or exactly similar white absorbent paper in strips approximately 6 in. by $\frac{3}{4}$ in. in size:

(ii) There shall be printed on one-half of one side of each test strip a blue colour of approximately the same colour and density as that produced on the plain part of the test strip in a test, performed with the materials and in the manner described by this Schedule, in air in which there is a concentration of 10 parts by volume of hydrogen cyanide in one million parts of air.

(c) *A means for timing accurately a period of 10 seconds.*

THIRD SCHEDULE—*continued*

The Test: In making the test the following requirements shall be complied with:

- (a) The plain part of a test strip complying with the foregoing requirements relating to test strips shall be dipped into a test solution complying with the foregoing requirements relating to the preparation of the test solution and withdrawn from the solution in the air to be tested:
- (b) The excess solution shall be shaken off the test strip:
- (c) The test strip shall be waved gently in the air which is being tested:
- (d) Exactly 10 seconds after the test strip has been withdrawn from the test solution, the density of the colour produced on the plain part of the test strip shall be compared with that on the printed part. If the colour produced on the plain part of the test strip is more dense than that on the printed part of that strip, the concentration of hydrogen cyanide in the air tested exceeds ten parts in one million.

2. *For Methyl Bromide:* (1) A detector tube for methyl bromide approved by the Director-General of Health shall be used according to the manufacturer's instructions and in conjunction with the pump or device specified by the manufacturer for use with that type of tube; or

(2) A Halide lamp having sufficient sensitivity to measure concentrations of gas at 10 parts by volume of gas per million parts by volume of air shall be used in accordance with the manufacturer's instructions.

3. *For Ethylene Dibromide:* A detector tube for ethylene dibromide approved by the Director-General of Health shall be used according to the manufacturer's instructions and in conjunction with the pump or device specified by the manufacturer for use with that type of tube.

4. *For Phosphine Gas:* A detector tube for phosphine approved by the Director-General of Health shall be used according to the manufacturer's instructions and in conjunction with the pump or device specified by the manufacturers for use with that type of tube.

 FOURTH SCHEDULE

Regulations 18 (4), 23 (2), and 26

MAXIMUM CONCENTRATIONS

Fumigant	Maximum Concentration
Hydrogen cyanide	or 5 milligrams in 1 cubic meter of air expressed as cyanide.
Calcium cyanide	
Methyl bromide 20 parts by volume in 1 million parts of air.
Ethylene dibromide 25 parts by volume in 1 million parts of air.
Phosphine gas 0.3 parts by volume in 1 million parts of air.

P. J. BROOKS,
Clerk of the Executive Council.

EXPLANATORY NOTE

This note is not part of the regulations, but is intended to indicate their general effect.

These regulations, which come into force on 31 March 1968, replace the Cyanide Fumigation Regulations 1952. The main changes are—

- (1) The regulations are extended to cover fumigants other than cyanide:
- (2) The regulations are extended to cover fumigation of places other than ships and buildings.

Issued under the authority of the Regulations Act 1936.

Date of notification in *Gazette*: 28 September 1967.

These regulations are administered in the Department of Health.