Sealed with the Official Seal of the Ministry of Labour and National Insurance for Northern Ireland this 1st day of May, nineteen hundred and sixty-three.

(L.S.) *W. Slinger,*
Assistant Secretary.

EXPLANATORY NOTE

(This Note is not part of the Regulations, but is intended to indicate their general purport.)

These Regulations impose requirements for the safety and health of persons employed in diving operations in any place to which the Factories Act (Northern Ireland), 1938, applies.

1963. No. 85 **[C]**

FACTORIES

Work in Compressed Air

SPECIAL REGULATIONS, DATED 1ST MAY, 1963, MADE BY THE MINISTRY OF LABOUR AND NATIONAL INSURANCE UNDER THE FACTORIES ACTS (NORTHERN IRELAND), 1938 TO 1959.

The Ministry of Labour and National Insurance for Northern Ireland in exercise of the powers conferred by Section 65 of the Factories Act (Northern Ireland), 1938(**a**), Section 8 of the Factories Act (Northern Ireland), 1949(**b**), Section 28 of the Factories Act (Northern Ireland), 1959(**c**), and of all other powers in that behalf, hereby makes the following Special Regulations:—

Citation and Commencement

1. These Regulations may be cited as the Work in Compressed Air Special Regulations (Northern Ireland), 1963, and shall come into operation on the 2nd day of September, 1963.

Application of Regulations

2.—(1) These Regulations shall apply as respects work in compressed air carried out therein—

(*a*) to all factories; and

(*b*) to all premises, places, processes, operations and works to which the provisions of Part IV of the principal Act with respect to special regulations for safety and health are applied by sections 107 to 112 of that Act.

(2) These Regulations shall not apply to work in a gasholder where the pressure does not exceed two pounds per square inch.

(a) 2 Geo. 6. c. 23 (N.I.). (b) 1949. c. 6. (c) 1959. c. 16.

(3) If the Chief Inspector is satisfied that in the case of any particular class or description of plant, equipment or appliance or of any special description or method of work any requirement of these Regulations relating to safety or health is, in any class or description of circumstances, not necessary for the protection of the persons employed or not reasonably practicable, he may by certificate in writing (which he may at his discretion revoke at any time) grant an exemption from that requirement in the case of that class or description of plant, equipment or appliance or of that special description or method of work in such circumstances and subject to such conditions as may be specified in the certificate.

Interpretation

3. In these Regulations unless the context otherwise requires the following expressions have the meanings hereby assigned to them respectively, that is to say:—

"Appointed Doctor" means any Appointed Factory Doctor appointed under section 132 of the principal Act for a district or any duly appointed medical practitioner approved for all or any of the purposes of these Regulations;

"approved" means approved for the time being by certificate of the Chief Inspector of Factories;

"man-lock" means any air lock or decompression chamber used for the compression or decompression of persons, but does not include an air lock which is only so used in emergency or a medical lock used solely for treatment purposes;

"pressure" means pressure in pounds per square inch above atmospheric pressure;

"the principal Act" means the Factories Act (Northern Ireland), 1938, as amended by or under any other Act.

Obligations under Regulations

4.—(1) It shall be the duty of every contractor and employer of workmen who is undertaking any work to which these Regulations apply to comply with such of the requirements of Regulations 5 to 21 as affect any workman employed by him; provided that the requirements of the Regulations shall be deemed not to affect any workman if and so long as his presence in any place is not in the course of performing any work on behalf of his employer or is not expressly or impliedly authorised or permitted by his employer.

(2) It shall be the duty of every person employed to comply with the requirements of such Regulations as relate to the doing of or abstaining from an act by him and to co-operate in carrying out these Regulations and if he discovers any defect in the plant, equipment or appliances to report such defect without unreasonable delay to his employer or foreman, or to a person appointed by the employer to supervise the safe conduct of the work.

(3) No person shall be held not to have complied with a requirement of any of these Regulations by reason of any matter proved to have been due to causes over which he had no control and against the happening of which it was not reasonably practicable for him to make provision, including (without prejudice to the generality of the foregoing) physical conditions which were unknown and which could not have been reasonably foreseen by a person experienced in the work or in the use of any material, appliance or equipment involved.

Supervision of compressed air operations

5. Where persons are employed in compressed air, their employer shall make arrangements to ensure that, at all times when they are actually so employed, a person competent to take charge of compressed air operations is in charge of the operations and in attendance on the site.

Construction and maintenance of bulkheads, air locks, etc.

6. Every bulkhead, air lock or other structure used in connection with work in compressed air shall be of good construction, sound material and adequate strength and shall be properly maintained.

Air supply plant

7. The plant for the production and supply of compressed air to any working chamber or air lock shall be of suitable design, and in the case of a working chamber shall deliver a supply sufficient to provide at the pressure in the chamber ten cubic feet of fresh air per minute per person for the time being in the chamber. The plant shall be in the immediate charge of a competent person who shall be in attendance whilst any person is in compressed air.

Size and equipment of man-locks

8.—(1) Every man-lock shall be of adequate internal dimensions and capacity for the purposes for which it is used and shall be suitably equipped.

(2) Without prejudice to the generality of the preceding paragraph, there shall be provided in connection with every man-lock—

(*a*) pressure gauges which will readily indicate (i) to the man-lock attendant the pressure in the man-lock and the pressure in each working chamber to which the man-lock affords direct or indirect access, and (ii) to persons in the man-lock the pressure in the man-lock;

(*b*) a clock or clocks in a suitable position or suitable positions so that the man-lock attendant and persons in the man-lock can readily ascertain the time;

(*c*) efficient means of verbal communication between the lock attendant, the lock and the working chamber or chambers, and means enabling the person in the lock to convey visible or other non-verbal signals to the lock attendant outside; and

(*d*) efficient means enabling the lock attendant, from outside the lock, to reduce or cut off the supply of compressed air into the lock.

(3) Valves or taps for controlling the flow of air into or from the lock shall be such as to enable the flow to be controlled with sufficient accuracy to ensure compliance with paragraph (3) of Regulation 10.

(4) The arrangements shall be such that persons in the lock cannot reduce the air pressure except under the control of the lock attendant otherwise than by special means which shall be operated only in emergency and which shall normally be kept so sealed or protected as to disclose their use:

Provided that this paragraph need not be complied with when no person in the lock has been exposed to a pressure exceeding eighteen pounds per square inch.

(5) An approved notice which can be easily read, indicating precautions which should be taken by persons during their compression or decompression and after decompression, shall be affixed in each man-lock.

Use of man-locks

9.—(1) Subject to paragraphs (2) and (3), a man-lock shall be used solely for the compression or decompression of persons and not for the passage of plant or material and shall be maintained in a reasonably clean and sufficiently warm state; so, however, that nothing in this paragraph shall prevent any person carrying with him into the man-lock any hand-tools or hand-instruments used for the purpose of the work.

(2) Paragraph (1) shall not apply where it is not reasonably practicable to provide a separate man-lock for persons only, but in any such case not excepted by paragraph (3) a lock when in actual use for the compression or decompression of a person or persons shall not be put, simultaneously, to any other use and shall be in a reasonably clean and sufficiently warm state.

(3) Nothing in the two preceding paragraphs shall apply to a lock which does not afford direct or indirect access to a working chamber in which the pressure exceeds eighteen pounds per square inch; and in so far as a lock affords only indirect access to such a working chamber those paragraphs shall apply only whilst persons who have worked in the chamber are in the lock.

Lock attendants, and Rules as to compression or decompression

10.—(1) Every man-lock shall, whilst any person is in that man-lock or in a working chamber to which the man-lock affords direct or indirect access, be in charge of a competent lock attendant who shall control the maximum rate of compressions and shall perform all decompressions in the man-lock. Where persons are employed in compressed air at pressures exceeding eighteen pounds per square inch the lock attendant shall enter in a register kept in such form as may be prescribed—

(*a*) the times at which each person enters and leaves the man-lock;

(*b*) the pressures at the times of his entering and leaving the working chamber;

(*c*) the times taken to decompress each person and such other particulars as may be prescribed as to conditions in the man-lock or working chamber.

(2) Subject to the overall control by the lock attendant of the admission of compressed air into the lock he may, on behalf of and if so authorised by his employer, allocate to a competent person who is to be compressed in the lock a duty of regulating, from inside the lock, in accordance with the Rules for the compression of persons, the admission of compressed air, and a duty to signify to the lock attendant (unless the lock attendant is clearly aware of it) any complaint of discomfort by a person in the lock and any report by that person that the discomfort has ceased.

(3) Compression of a person in a man-lock shall not be carried out otherwise than in accordance with the Rules set forth in Part I of the Schedule; and decompression of a person in a man-lock after being in a working chamber shall not be carried out otherwise than in accordance with the Rules set forth in Part II of the Schedule: Provided:—

(i) that compression or decompression, as the case may be, may be carried out in accordance with such alternative Rules (if any) as are approved for the purposes of this Regulation, either generally or in such circumstances and subject to such conditions as may be specified in the certificate of approval; and

(ii) that this paragraph shall not apply as respects the emergency re-compression and subsequent decompression of a person on health grounds.

(4) Save in an unforeseen emergency, no person shall be compressed to a pressure exceeding fifty pounds per square inch unless Rules for the decompression of persons from such a pressure have been approved under the foregoing paragraph.

(5) Where a person who has within the immediately preceding period of five hours been exposed to a pressure greater than eighteen pounds per square inch is to be compressed in a man-lock other than the lock in which he was last decompressed, he shall, before compression, produce to the lock-attendant written particulars, signed by the lock-attendant of the lock where he was last decompressed, indicating his last working period as defined in Part II of the Schedule. The said particulars shall as soon as practicable be entered in the prescribed register for the lock where he is compressed, and shall as soon as practicable be communicated to the attendant at any other lock from which the person is liable to return to the open air.

Egress from working chamber

11. Whilst any person is in a working chamber the door between such chamber and any man-lock providing for his egress towards a lower pressure and not in use shall be kept open except when this is not reasonably practicable.

Temperature in working chamber

12.—(1) No person shall be employed or allowed to remain in any part of a working chamber under pressure where the wet bulb temperature exceeds eighty degrees Fahrenheit, except where and when his presence is essential for work which has to be done and all reasonably practicable steps have been and are being taken towards securing that the wet bulb temperature does not exceed that figure.

(2) A wet bulb thermometer, in good working order, shall be provided in every working chamber.

Employment of persons without previous experience

13. No person shall be employed on work in compressed air unless he has had previous experience of such work or, if he has not had such experience, is under the supervision of a person experienced in such work; and in the case of a person not previously employed in compressed air, compressions shall not be carried out unless he is accompanied in the man-lock by a person competent to advise him as to the appropriate conduct of persons during compression.

Medical supervision and certification

14.—(1) Where persons are employed in compressed air, their employer shall make arrangements for their medical supervision by an Appointed Doctor and for their medical examination at a suitable place or places in accordance with these Regulations.

(2) Subject to the provisions of paragraph (7), no person shall be employed in compressed air unless he has been examined by an Appointed Doctor and certified by him, by signed entry in that person's Compressed Air Health Register as provided in Regulation 15, to be fit for such employment and either—

(*a*) the date of such certificate is not more than three days earlier; or