DIVING AT WORK REGULATIONS, 2017

The Honourable Minister of Labour and Employment, by the powers conferred in Section 49 of the Factories Act, CAP F1, Laws of the Federation of Nigeria, 2004, and after consultations with the relevant stakeholders, made these Regulations.

CITATION AND COMMENCEMENT

1. These Regulations may be cited as the *Diving at Work Regulations, 2017*.

INTERPRETATION

2. In these Regulations,

"Minister" means the Honourable Minister of Labour and Employment

"acceptable standard" means an applicable standard that is acceptable to the Director of Factories

"accident" means a fortuitous event that results in the death of or injury to any person involved in a diving operation;

"breathing mixture" means a mixture of gases used for human respiration and includes pure oxygen and any therapeutic mixture;

"Class I dive" means a dive to a depth of 30 metres using surface oriented diving techniques and a breathing mixture of air, but no other breathing mixture except in cases of decompression;

"Class I diving operation" means a diving operation in which a Class I dive is made;

"Class II dive" means a diving which a diving basket or a wet-bell is used to a depth of 50 metres using a breathing mixture of air, or to a depth of 50metres or more using a breathing mixture of mixed gas other than air, but does not include a saturation dive;

"Class II diving operation" means a diving operation in which a Class II dive is made

"Class III dive" means a saturation dive;

"Class III diving operation" means a diving operation in which a Class III dive is made;

"compression chamber" means a pressure vessel that is suitable for human occupancy at internal pressures greater than atmospheric pressure;

"vessel" means any craft, includes a self-propelled, tethered, towed or Jack-up barge and light boats, but does not include an installation;

"decompression" means the gradual reduction of the pressures of the inert components of a breathing mixture in the body;

"decompression sickness" means a condition caused by the reduction or other changes of pressure on or in the body;

"decompression table" means a table or set of tables that:

(*a*) shows a schedule of rates for safe descent and ascent and the appropriate breathing mixture to be used by a diver during a dive, and

(*b*) has been approved in accordance with section 5;

"diver" means a person who meets the requirements of sections 40, 42 or 44 who is involved in a diving operation that is part of a diving program and who may be subject to pressures greater than atmospheric pressure;

"diving contractor" means a person who employs a diver for a diving operation or who holds a contract to supply diving services for a diving operation, but does not include a self-employed diver;

"diving doctor" means a medical doctor who is licensed and registered to practice in the Federal Republic of Nigeria, who has completed a diving medical course acceptable to the Director of Factories and who has been accepted in writing by the Director of Factories to certify divers for the purposes of paragraph 40(*b*);

"diving medical technician" means a person who has successfully completed an advanced hyperbaric first-aid course acceptable to the Director of Factories;
"diving operation" means any work or activity that is associated with a dive and that takes place during the total dive time and includes
(*a*) any work or activity involving a diver , (*b*) the activities of a person assisting a diver or ROV operation in the dive;

"ROV" means remote operated vehicle

"diving safety specialist" means a person who meets the criteria set out in section 21;

"life-support technician" means a person who has successfully completed a life-support technician's course acceptable to the Director of Factories and who has satisfied the Director of Factories that the person has attained a level of competence in all aspects of all types of diving techniques, including emergency procedures, hyperbaric first-aid and operation of life-support systems;

"diving advisory board" means the board set up by the Honourable Minister of Labour and Employment pursuant to section 47, responsible for all diving activities in Nigerian territorial waters to make decision on issues affecting the diving industry and draft approved code of practice to guide on training and diving operational issues.

"specialized diving doctor" means a diving doctor who has completed an advanced diving medical course class 2 and who has been accepted in writing by the Director of Factories to provide medical assistance under pressures greater than atmospheric pressure;

" medical examiner of divers" means a diving doctor who has completed a diving medical course class 1 or 2 and who has been accepted in writing by the Director of Factories to provide medical assistance under pressures greater than atmospheric pressure

"supervisor" means a person appointed in writing by a diving contractor, to supervise as a diving supervisor to supervise a diving operation;

"surface-oriented diving technique" means a diving procedure in which the use of a diving bell is not required;

mixture, power, heat, communications and other services, as required for a diving operation.

"diving program" means any work or activity related to the exploration, drilling, production, conservation, processing, marine, civil engineering, construction, hydroelectric dams or transportation of oil or gas that involves a diving operation;

"installation" means any fixed inshore, onshore or offshore structure used in connection with the exploration or drilling for or the production, conservation, processing or transportation of oil or gas;

"Operator" means a person who has been authorized to operate, own or give out a work or activity that is a diving program or that includes a diving program;

"diving contractor" means a person who has been authorized by the Director of Factories and has been given a work or activity that is a diving program by the operator;

"pressure vessel" means a closed container capable of withstanding internal or external pressures, or both, greater than one atmosphere;

"onshore" means on the shore;

"inshore" means in the sea but close to the shore;

"offshore" means situated at sea, at a far distance from the shore;

"recognized body" means an organization, a classification society, a certifying agency, a group of persons or an individual that is acceptable to the Director of Factories as having the expertise and experience to set standards for, or to inspect and certify, diving plant and equipment or parts thereof;

"saturation diving technique" means a diving procedure that essentially equilibrates the total pressure of inert gases in the body of a diver with the ambient pressure and allows extended periods of bottom time without additional decompression time required;

"SCUBA" means a self-contained underwater breathing apparatus;

"LARS" means a stage, cage, basket or wet bell in which a diver may be lowered to or raised from an underwater work site;

"DMAC" means Diving Medical Advisory Committee;

"MDCN" Medical and Dental Council of Nigeria;

"IMCA" International Marine Contractors Association;

"NIMASA" Nigerian Maritime Administration and Safety Agency;

"Chief Inspector" means a qualified diving supervisor appointed by the Minister to monitor and enforce the Diving at Work Regulations 2017.

APPLICATION

3. These Regulations shall apply to any diving operation carried out offshore, inshore and onshore within the territorial waters of the Federal Republic of Nigeria.

PROPOSED DIVING PROGRAMS

4. (1) A person may apply for an authorization under the Regulation in respect of a proposed diving program by forwarding to the Director of Factories of the Federation an application, completed in triplicate, in the form prescribed by the Director of Factories recommended by the diving advisory board.

(2) An authorization of a proposed diving program is, in addition to any other requirements of these Regulations, subject to the requirements that the operator and the diving contractor, if any, of the diving program shall maintain the level of performance of the diving crew, diving plant and equipment and any vessel or installation used in the diving program at or above the level of performance indicated in the application referred to in subsection (1);

(3) No authorization maybe given in respect of a proposed diving program unless the applicant provides the Director of Factories with evidence:

(*a*) that a diving safety specialist was consulted on all safety aspects of the diving program;

(*b*) that a diving safety specialist will be available on a 24 hour a day basis to advise any person involved in the diving program, including any person making decisions affecting the safety of divers involved in the diving program, on all safety aspects of the diving program;

(*c*) that any supervisor who will be involved in the diving program meets the criteria set out in regulations 22, 24 or 26 to supervise the Class of dive the supervisor will be supervising;

(*d*) that the services of a specialized diving doctor registered with MDCN and has completed an advance class 2 course in diving medicine and approved by the Director of Factories, who is familiar with the diving procedures to be used in the diving operation that will form part of the diving program and who is within a travelling distance of the diving operation that is acceptable to the Director of Factories, will be available on a 24-hour a day basis to any person involved in the diving program;

(*e*) of any certificates issued by the manufacturer or a recognized body in respect of the diving plant and equipment to be used in the diving program; and

(*f*) where a diving program is to be conducted by a diving contractor who is not also the operator of the diving program, that the diving contractor is able to meet any liability for loss, damage, costs or expenses that may be incurred by the diving contractor as a result of the diving program.

(g) that a diving system technician or engineer who has trained in the maintenance and installation of the diving equipment in use for the operation and is approved by the Director of Factories is available on a 24-hours a day basis.

(h) that a Diving Project Plan is available based on an assessment of the risks to the health and safety of any person taking part in the diving project and must consist of a record of the outcome of the planning carried out in accordance with the Regulations, including all the information, instructions and procedures that are necessary to give advice to and to regulate the behavior of those so taking part to ensure, as far as is reasonably practicable, their health and safety.

5. (1) The Director of Factories is authorized to grant, in accordance with subsection (2), any approval prescribed in these Regulations and to make that approval in consultation with the Diving Advisory Board.

(2) The Director of Factories shall provide a person with evidence of any approval granted pursuant to sub-

section (1).

(3) The Director of Factories is authorized to suspend or revoke an approval referred to in subsection (1) for failure to comply with, or for contravention of, the terms and conditions subject to which the approval was granted.

(4) Where the Director of Factories, pursuant to subsection (3), suspends or revokes an approval granted to a person, the Director of Factories shall give the person an opportunity to show cause why the approval should not be suspended or revoked.

DUTIES OF OPERATORS

6. (1) The operator of a diving program shall

(*a*) arrange for the services of a diving safety specialist who will be available on a 24hour a day basis to advise any person involved in the diving program, including any person making decisions affecting the safety of divers involved in the diving program, on all safety aspects of the diving program;

(*b*) make available a suitable place from which any diving operation that is part of the diving program may be conducted;

(*c*) in the event that a member of a diving crew involved in the diving program meets with an accident, notify the Director of Factories of the accident by the most rapid and practicable means and submit to the Director of Factories a report of the accident in the form set out in Schedule II;

(*d*) use, in a diving operation, any vessel that has insufficient power or stability for the safe conduct of the diving operation; and

(*e*) not prevent any diving contractor involved in the diving program from complying with any of the provisions of these Regulations.

DIVING CONTRACTORS

7. (1.) No diving contractor shall conduct a diving operation that includes:

(*a*) a Class I dive unless the diving contractor has appointed in writing a person who meets the criteria set out in regulations 22, 24 or 26 to supervise the diving operation and such a supervisor is present at all times during the diving operation;

(*b*) a Class II dive unless the diving contractor has appointed in writing a person who meets the criteria set out in section 24 or 26 to supervise the diving operation and such a supervisor is present at all times during the diving operation;

(*c*) a Class III dive unless the diving contractor has appointed in writing a person who meets the criteria set out in section 26 to supervise the diving operation and such a supervisor is present at all times during the diving operation;

(2.) No diving contractor shall, in a diving operation conducted by the diving contractor, employ a person:

(*a*) to make a Class I dive unless the person meets the criteria set out in sections 40, 42 or 44;

(*b*) to make a Class II dive unless the person meets the criteria set out in section 42 or 44;

(*c*) to make a Class III dive unless the person meets the criteria set out in section 44;

(3.) A diving contract or who conducts a diving operation that is part of a diving program shall:

(*a*) follow the procedures set out in the Diving project plan for the diving program;

(*b*) maintain, at the vessel or installation from which the diving operation is conducted, two copies of these Regulations and a copy of the applicable procedures manual and make them available to any person involved or to be involved in the diving operation and, on request, to the Director of Factories;

(*c*) provide or arrange for the provision of any diving plant and equipment necessary for the safe conduct of the diving operation, including:

(i) adequate firefighting equipment, and

(ii) a two-compartment compression chamber that:

(A) has been approved for the diving program, in accordance with section 5, for use at a pressure that is not less than six atmospheres absolute and, where the maximum working pressure that may be encountered during any dive that is part of the diving operation is greater than six atmospheres absolute, for use at the maximum pressure plus one atmosphere,

(B) is suitable for the diving operation, and

(C) is located in a readily accessible place on board the vessel or installation from which the diving operation is conducted, except in the case of a diving operation that is conducted at a depth of 10 m or less, and, where the supervisor of the diving operation approves, may be located within one hour's travelling time from the dive site;

(*d*) provide for the protection of the diving plant and equipment used in the diving operation from malfunction in the environmental conditions under which the diving plant and equipment are to be used, including conditions of low or high temperatures;

(*e*) permit only such repair, replacement and alteration of diving plant and equipment used in the diving operation as has been approved and ensure that routine repair, replacement or alteration is carried out by a competent person;

(*f*) provide a diving operations logbook that is permanently bound and has numbered pages;

(*g*) retain any diving operations logbook for a period of not less than two years after the day of the last entry made in it; and

(*h*) produce, on request, any logbooks, records or copies for inspection by the Director of Factories.

(4.) A diving contractor who conducts a diving operation that is part of a diving program shall:

(*a*) ensure that, except in the case of an emergency, each member of a diving crew involved in the diving operation, in every 24-hour period,

(i) has a rest period of not less than eight consecutive hours, and

(ii) is required to work not more than 12 hours;

(*b*) provide adequate illumination of the dive site and the underwater work site of the diving operation

(i) during any period of darkness or low visibility, and

(ii) where the supervisor of the diving operation requests the illumination and where the nature of the diving operation so permits;

(5.) Where continuance of a diving operation would compromise or is likely to compromise the safety or would endanger or is likely to endanger the health, wellbeing or life of, any person involved in the diving operation, the diving contractor who conducts the diving operation shall forthwith interrupt or discontinue the diving operation.

EXAMINATION AND TESTING OF DIVING PLANT AND EQUIPMENT

8. (1) A diving contractor who conducts a diving operation shall use or permit to be used in the diving operation

(*a*) only diving plant and equipment that has been examined and, where appropriate, subjected to a pressure leak test using an appropriate breathing mixture to a pressure that is not less than six atmospheres absolute and, where the maximum working pressure that may be encountered during any dive that is part of the diving operation is greater than six atmospheres absolute, to the maximum pressure plus one atmosphere

(i) not more than three months prior to the day on which it is to be used,

(ii) on mobilization and assembly, and

(iii) following any repair, replacement or alteration of the diving plant and equipment that might affect its safety;

(*b*) in the case of a compression chamber, only a compression chamber that

(i) not more than two years prior to the day on which it is to be used, has been subjected to a pressure leak test to the maximum working pressure of the chamber using an appropriate breathing mixture, and

(ii) not more than five years prior to the day on which it is to be used, has been subjected to an internal pressure test of at least 1.25 times the maximum working pressure of the chamber;

(*c*) in the case of a pressure vessel for compressed gases that is not intended to be immersed in water, including compressed air cylinders, only a pressure vessel that has been subjected to

(i) a thorough examination and internal pressure test not more than five years prior to the day on which it is to be used, and

(ii) an internal inspection for corrosion not more than two years prior to the day on which it is to be used,

(*d*) in the case of a pressure vessel for compressed gases that is intended to be immersed in water, only a pressure vessel that has been subjected to

(i) a thorough examination and internal pressure test not more than two years prior to the day on which it is to be used, and

(ii) an internal inspection for corrosion not more than one year prior to the day on which it is to be used,

(*e*) in the case of lifting equipment for a launch and recovery system, only lifting equipment that has been tested

(i) on first installation and, thereafter, before operational use of the lifting equipment following a repair, replacement or alteration, other than a routine repair, replacement or alteration carried out by a competent person, , and

(ii) every six months following a functional test carried out pursuant to subparagraph(i),by means of a test that tests the capability of the lifting equipment to operate safely under its maximum working load.

(2) A diving contract shall ensure that:

(*a*) each examination and test required to be carried out for the purposes of subsection (1) is carried out by or under the supervision of a recognized classification body and in accordance with an acceptable standard; and

(*b*) where a pneumatic or hydrostatic pressure test is carried out for the purposes of subsection (1), adequate precautions are taken to ensure the safety of the personnel involved, the diving plant and equipment and the vessel or installation used in the test.

(3) A diving contractor who conducts a diving operation shall keep a register in which are inserted or to which are attached certificates

(*a*) containing details and results of examinations and tests carried out pursuant to subsection (1), and

(*b*) signed by the person by whom or under whose supervision the examinations or tests were carried out,

and shall retain the register

(*c*) in the case of a register that contains certificates relating to pressure vessels, for at least five years after the day of the last entry in it; and

(*d*) in any other case, for at least two years after the day of the last entry in it.

DIVING PLANT AND EQUIPMENT

9. (1) A diving contractor who conducts a diving operation shall not use or permit to be used any diving plant and equipment in the diving operation unless the design thereof is such that

(*a*) it enables divers to safely enter and leave the water;

(*b*) divers can be safely compressed or decompressed in accordance with the relevant schedule in the appropriate decompression table;

(2) A diving contract or who conducts a diving operation shall ensure that

(*a*) prior to the time a diver involved in the diving operation enters the water, the diver is provided with

(i) a diving harness complete with pelvic support and lifting ring,

(ii) a depth indicator that is, where practicable, a type that can be monitored from the surface, and

(iii) during any period of darkness or low visibility or where requested by the supervisor of the diving operation, a lamp or other suitable device that indicates the diver's location;

(*b*) the first-aid supplies listed in DMAC015, or equivalent first-aid supplies approved in accordance with section 5 for the diving program of which the diving operation is a part, are

(i) packed in such a manner that they fit through the medical lock of any surface compression chamber used in the diving operation, and

(ii) kept on the vessel or installation from which the diving operation is conducted, except where it is impracticable in a class I diving operation and where the supervisor of the diving operation approves, in which case the supplies may be kept readily available within a travelling distance of the diving operation that is acceptable to the supervisor .

(*c*) any airtight container used to pack any of the first aid supplies referred to in paragraph(*b*) for use in the diving operation has a suitable means of equalizing pressure;

(*d*) where the safe use of the diving plant and equipment depends on the pressure or depth at which it is used, the diving plant and equipment is clearly marked with the maximum working pressure or the maximum depth at which it may be used;

(*e*) any lifeline used in the diving operation has a manufacturer's breaking strength rating in accordance with an acceptable standard;

(*f*) any gas bottle used in the diving operation is clearly marked with the name and chemical formula of its contents;

(*g*) any winch used in the diving operation to raise or lower diving basket or diving bell

(i) is so constructed that:

(A) a brake or mechanical locking device is applied when the control lever, handle or switch is not held in the operating position,

(B) the brakes have the capability of stopping and holding 100 per cent of the maximum working load with the outermost layer of wire on the drum,

(C) the brakes engage automatically on loss of power, and

(D) the lowering and raising of loads is controlled by power drives independent of the brake mechanism,

(ii) is not fitted with a pawl and ratchet gear on which the pawl has to be disengaged before commencing a lowering or raising operation,

(iii) is so designed as to prevent the possibility of freeze-up when in operation,

(iv) is equipped with a lifting wire capable of withstanding a functional test in accordance with an acceptable standard, and

(v) complies with an acceptable standard of construction for man-riding winches

(*h*) any power pack used in the diving operation to operate lifting equipment for a diving basket or diving bell, is not used for any other purpose;

(*i*) any diving basket or diving bell used in the diving operation is equipped with

(i) a secondary lifting eye or similar device that is of at least the same strength as the primary lifting eye, and

(ii) where practicable, an additional cable in the form of a guide wire so designed that, in the event that the primary lifting cable breaks during a water-air interface transport, the tag rope will not permit the diving basket or diving bell to descend to a depth greater than 20 m,
and has readily available, for use in an emergency, a secondary lifting cable that has at least the same strength as the primary lifting cable and that is compatible with the secondary lifting eye or similar device;

(*j*) any basket or bell used in the diving operation to transport divers through the water-air interface is

(i) large enough to carry, in un-cramped conditions, at least two divers with their personal diving equipment,

(ii) secured against tipping or spinning,

(iii) not encumbered by any equipment that may interfere with an occupant's foothold or handhold,

(iv) equipped with handholds arranged in such a manner that crushed-hand injuries during launch or recovery are avoided,

(v) so constructed or equipped that its occupants are secure against falling out of the basket or bell, and

(vi) in the case of a basket or wet bell, equipped with an additional band mask or full face mask;

(*k*) a secondary source of power that will operate in the event of a failure of the primary source of power is provided for the diving operation, can be brought on- line rapidly and has sufficient capacity to

(i) operate the handling system for any basket or bell used in the diving operation,

(ii) sustain the life-support system of any compression chamber used in the diving operation and of any diver who makes a dive that is part of the diving operation,

(iii) illuminate the interior of any compression chamber used in the diving operation, and

(iv) operate any communication system and monitoring system used in the diving operation; and

(*l*) where any vessel is used in the diving operation, there is provided a safe means of ensuring that the vessel is, during the diving operation,

(i) at anchor,

(ii) made fast to the shore or to an installation,

(iii) maintained in position using its propulsion system in accordance with section 24, or

(iv) used in such a manner as the Director of Factories determines or as approved in accordance with section 5 for the diving program of which the diving operation is a part.

COMMUNICATION SYSTEMS

10. No diving contractor shall conduct a diving operation unless there is available for use in the diving operation

(*a*) communications between the supervisor of the diving operation and any diver involved in the diving operation

(i) a primary communication system that has sound reproduction adequate to enable breathing to be clearly heard and oral communications to be clearly heard and understandable, and

(b) a recording device that continuously records all oral communications while a dive is in progress, and

(ii) a secondary communication system that allows the supervisor and the divers to communicate orally in the event of a failure of the primary communication system.

PRESSURE VESSELS

11. No diving contractor who conducts a diving operation shall use or permit to be used in the diving operation a pressure vessel intended for human occupancy unless the pressure vessel is equipped with

(*a*) a breathing mask for each occupant of the pressure vessel;

(*b*) a means of maintaining the oxygen, carbon dioxide, temperature and humidity in the pressure vessel at levels and pressures that are safe for the occupants; and

(*c*) for use in an emergency, a back-up capability to maintain the levels and pressures referred to in paragraph(*b*) for a minimum of, in the case of a diving bell, 24 hours and, in any other case, 48 hours.

COMPRESSION CHAMBERS

12. No diving contractor who conducts a diving operation shall use or permit to be used a compression chamber in the diving operation unless the compression chamber

(*a*) meets the requirements of section 11;

(*b*) is designed and constructed in accordance with an acceptable standard;

(*c*) provides a suitable environment for its occupants, including amenities appropriate to the type, depth and duration of the diving operation;

(*d*) is equipped with doors that act as pressure seals and that can be opened from both the inside and the outside;

(*e*) is designed to minimize the risk of fire and

(i) is constructed of only non-combustible or fire- resistant materials, and

(ii) is equipped with suitable firefighting capabilities;

(*f*) is fitted with adequate equipment, including facilities for

(i) supplying to and maintaining for its occupants an appropriate breathing mixture,

(ii) lighting and cooling the compression chamber, and

(iii) removing carbon dioxide;

(*g*) is equipped with valves, gauges and other fittings necessary to indicate and control the internal pressures of each compartment from outside the compression chamber;

(*h*) is fitted with piping that has at least one external shut-off valve, where practicable, immediately outside the point at which the piping enters the compression chamber and one internal shut-off valve immediately inside that point;

(*i*) is fitted with hull integrity valves that clearly indicate whether the valves are in the open or closed position and that are clearly labeled by name and number;

(*j*) other than a diving bell, is equipped with a built-in breathing system that permits outside dumping of exhaled gas;

(*k*) where appropriate, is equipped with an emergency shut-off valve that automatically shuts off the flow of gas from the compression chamber if the velocity or volume of gas exceeds the preset limit;

(*l*) is equipped with relief valves resistant to marine corrosion;

(*m*) has all of its internal electrical wiring insulated and in conduit, except for the wiring for low-power devices such as telephones;

(*n*) is cleaned and disinfected using only products that are

(i) recommended by the manufacturer for that type of use,

(ii) well proven for that purpose, (iii) non-toxic at any pressure, (iv) non-corrosive, and

(v) safe to use;

(*o*) where used in a class III dive or, where practicable, in a class II dive, is provided with a coupling arrangement that is suitable for the safe transfer of persons under pressure and that is designed to prevent accidental release;

(*p*) is provided with a clamping mechanism that

(i) is suitable for coupling a diving bell with the surface compression chamber,

(ii) clearly indicates when the clamping mechanism is fully engaged, and

(iii) cannot be disengaged while pressurized;

(*q*) is supplied with breathing mixture through a gas control panel that

(i) has distinct indicators of the function of each valve and gauge, and

(ii) is designed so as to minimize the possibility of supplying an incorrect breathing mixture;

(*r*) where practicable, is provided with a means to permit video monitoring of its occupant

SURFACE COMPRESSION CHAMBER

13. No diving contractor who conducts a diving operation shall use or permit to be used a surface compression chamber in the diving operation unless the surface compression chamber

(*a*) meets the requirements of sections 11 and 12;

(*b*) contains at least two independently sealable compartments;

(*c*) contains sufficient space in at least one of its compartments to enable each occupant to lie down comfortably in the compartment;

(*d*) where a person will be in the surface compression chamber for a period of eight consecutive hours or less, has an internal vertical diameter of at least 1.5 m;

(*e*) where a person will be in the surface compression chamber for a period of more than eight consecutive hours, has an internal vertical diameter of at least 2 m;

(*f*) is equipped with a medical lock;

(*g*) where the surface compression chamber will be used for a period of more than 12 consecutive hours, has adequate sanitation facilities;

DIVING BELLS

14. No diving contractor who conducts a diving operation shall use or permit to be used a diving bell in the diving operation unless the diving bell

(*a*) meets the requirements of sections 11 and 12;

(*b*) is equipped to permit the safe transfer of persons under pressure to and from a surface compression chamber;

(*c*) is of a design that

(i) provides for an internal space of at least 2 m^3 for two-person occupancy and 3 m^3 for three-person

occupancy,

(ii) enables divers to enter and exit without difficulty, and

(iii) allows at least two divers dressed-in for a diving operation to be seated comfortably therein;

(*d*) is equipped with valves, gauges and other fittings necessary to control the internal pressure and to indicate both inside the diving bell and at the diving station the internal and external pressures;

(*e*) contains adequate equipment, including reserve facilities, for supplying the appropriate breathing mixture to persons occupying or working from the diving bell, which reserve facilities shall be protected against inadvertent operation and be capable of being brought online from inside the diving bell without the assistance of any other person;

(*f*) is equipped with a two-way oral communication system by means of which a person inside the diving bell can communicate with the diving supervisor of the diving operation and, via the diving supervisor, with other persons;

(*g*) contains equipment for lighting and heating the diving bell;

(*h*) is equipped with suitable emergency life-support equipment and provisions for each occupant of the diving bell;

(*i*) is equipped with a lifting device sufficient to enable an unconscious or injured diver to be hoisted into the diving bell by a person located in it;

(*j*) is provided with lifting equipment that enables the diving bell to be lowered to the depth at which the diving operation is to be conducted, to be maintained in its position and to be raised, all without excessive lateral, vertical or rotational movement;

(*k*) is provided with a means whereby, in the event of the failure of the lifting equipment referred to in paragraph (*j*), the diving bell can be returned to the surface and, where that means involves the shedding of weights, the controls for that shedding can be operated from within the diving bell, and a means is incorporated to prevent the accidental shedding of those weights;

(*l*) in addition to a primary lifting cable, is equipped with a suitable tag rope so designed that, in the event the primary cable breaks during a water-air interface transport, the tag rope will not permit the diving bell to descend to a depth greater than 20 m;

(*m*) is equipped with a secondary lifting eye, or similar device that is of at least the same strength as the primary lifting eye, and is provided with a secondary lifting cable that is readily available and that has at least the same strength as the primary lifting cable and is compatible with the secondary lifting eye or similar device;

(*n*) is fitted with equipment to enable occupants of the diving bell to monitor the temperature, oxygen and carbon dioxide levels within the diving bell.

OXYGEN SUPPLY SYSTEMS

15. Where an oxygen supply system is to be used in a diving operation, the diving contractor who conducts the diving operation shall use or permit to be used only an oxygen supply system the design of which complies with the requirements that:

(*a*) the use of hoses and piping be kept to a minimum;

(*b*) the materials used be compatible with oxygen at the pressures and temperatures for which the oxygen supply system is designed;

(*c*) the possibility of contamination of the oxygen by other gases, and vice versa, be minimized;

(*d*) high velocity flows of oxygen be avoided;

(*e*) the differential pressure throughout the oxygen supply system be kept as low as is practicable; and

(*f*) quick-shut-off valves not be installed in the oxygen supply system.

BREATHING MIXTURE SUPPLY SYSTEMS

16. A diving contractor who conducts a diving operation shall use or permit to be used in the diving operation only a breathing mixture supply system that is so designed that

(*a*) any interruption of the supply of breathing mixture to a person will not affect in any manner the supply of breathing mixture to any other person; and

(*b*) any failure of the primary supply of breathing mixture to a person will not affect in any manner the supply of breathing mixture to that person from that person's bailout gas bottle or from the reserve supply

QUANTITY AND QUALITY OF BREATHING MIXTURE

17. (1) No diving contractor who conducts a diving operation shall conduct or permit the commencement or continuation of the diving operation unless

(*a*) the total quantity of appropriate breathing mixture that is available at any time during the diving operation consists of

(i) an adequate quantity to complete the diving operation,

(ii) a reasonable quantity for a reserve supply, and

(iii) for use in an emergency, an additional supply that is

(A) in the case of a diving operation in which a diving bell is used, a sufficient quantity to meet the needs of the occupants of the diving bell for a minimum of 24 hours,

(B) in the case of a diving operation in which an on-line gas blender or diver's gas recovery system is used, a sufficient quantity to allow the divers to continue, interrupt or discontinue the diving operation safely, and

(C) in the case of a diving operation in which a surface compression chamber is used, a quantity that is twice the amount required to pressurize the surface compression chamber to a pressure equivalent to the pressure at the greatest depth in respect of which the surface compression chamber will be used in the diving operation;

(b) 90 m3 of 100 percent oxygen is made available at all time for therapeutic recompression purpose; and

(*c*) the purity of the breathing mixture is of an acceptable standard; and

(*d*) the quantities referred to in subparagraphs (*a*)(ii) and (iii) are available for immediate use at a flow rate, temperature and pressure that are safe for the user, and

(2) No diving contractor shall conduct a diving operation unless

(*a*) any breathing mixture to be used in the diving operation is

(i) analyzed for the accuracy of its oxygen content and, where practicable, its other contents immediately prior to the commencement of the dive that is part of the diving operation, and

(ii) supplied at temperature and humidity levels that are safe; and

(*b*) the levels of oxygen and carbon dioxide in the breathing mixture to be used in the diving operation are maintained at levels that are suitable for the type, depth and duration of the diving operation.

18. (1) A diving contractor who conducts a diving operation shall provide for the availability of evacuation,

rescue and treatment facilities and devices that

(*a*) are suitable for the type, depth and duration of the diving operation and for the environmental conditions under which the diving operation is conducted; and

(*b*) have been approved in accordance with section 5 for the diving program of which the diving operation is a part.

(2) The evacuation, rescue and treatment facilities and devices referred to in subsection (1) shall be available

(*a*) for use by persons involved in the diving operation as quickly as possible and within the period of time for which the life-support system of the surface compression chamber or diving bell used in the diving operation is capable of maintaining the life of the occupants; and

(*b*) where practicable, on site.

MEDICAL SERVICES

19. A diving contractor who conducts a diving operation shall

(*a*) ensure that at all times during the diving operation each diving crew involved in the diving operation includes two diving medical technician available on the vessel or installation from which the diving operation is conducted;

(*b*) arrange for the services, on a 24 hour a day basis, of a specialized diving doctor who is familiar with the diving procedures to be used in the diving operation and who is within a travelling distance of the diving operation that is acceptable to the Director of Factories, to provide medical assistance in the event of an emergency;

(*c*) ensure that an adequate means of communication exists on a 24 hour a day basis between

(i) the diving station, or

(ii) the vessel or installation from which the diving operation is being conducted and the specialized diving doctor referred to in paragraph (*b*); and

(*d*) locate the nearest surface compression chamber that is compatible with the equipment used in the diving operation and that is suitable for the type, depth and duration of the diving operation to be conducted and shall make arrangements for the use of that surface compression chamber in the event of an emergency.

VESSEL IN DYNAMICALLY POSITIONED MODE

20. No diving contractor who conducts a diving operation shall use or permit to be used a vessel in the dynamically positioned mode in the diving operation unless that use was specifically approved in accordance with section 5
for the diving program of which the diving operation is a part and the following requirements are complied with:

(*a*) only vessel registered with NIMASA and classified under the major classification society are acceptable, and

(b) the vessel is so designed and constructed that;

(i) there are on line at least three reference systems independently linked into each computer system referred to in subparagraph (vi),

(ii) in the event of the failure of any maneuvering unit of the vessel, the position of the vessel can be maintained during the period it would take for the safe recovery of divers,

(iii) the arrangement of the thrusters and their size and number enable, in the event of the loss of any thruster of the vessel, the heading and the position of the vessel to be maintained within the environmental and operational capacity limits of that vessel for the time it takes to safely recover any basket, or diving bell used in the diving

operation,

(iv) for each maneuvering unit necessary to maintain the vessel in the dynamically positioned mode, other than the propellers and energy plant units, there is a reserve duplicate unit and an automatic and a manual system to switch from the online unit to the duplicate unit,

(v) the supervisor on duty at the diving station on the vessel can, by means of an alarm system connecting the bridge of the vessel to the diving station the vessel, be kept informed by the person who controls the dynamic positioning system of any station keeping problems or any other problems that might affect the safety of the diving operation,

(vi) a computer system controls the dynamic positioning of the vessel and another independent, duplicate computer system is available to take over control automatically in the event of failure of the online computer system,

(vii) DP status lights are provided for the safe conduct of diving operations and are to be used only for this purpose. RED; Emergency Status, GREEN; Normal Operational Status and YELLOW; Degraded Operational Status.

(*c*) during any time that a person involved in the diving operation is in the water

(i) a person who is responsible for the navigation of the vessel and a person who is responsible for the control of the dynamic positioning system are in the control room of the vessel,

(ii) the machinery spaces of the vessel are manned, and

(iii) in any one maneuver, the vessel is not moved more than 5 m or the heading of the vessel is not changed more than 5°, whichever is the lesser movement in relation to the location of the dive site of the diving operation, and

(iv) prior to each maneuver is committed to the diving supervisor

DIVING SAFETY SPECIALISTS

21. No operator, pursuant to paragraph 6(1) shall engage the services of a person as a diving safety specialist unless the person holds a diving supervisor's certificate that is issued pursuant to section 22, 24 or 26 and that is appropriate to the class of dive in respect of which that person will be giving advice and has passed an IMCA dive supervisors exam that;

(i) is acceptable to the Director of Factories; and

(ii) indicates that the person has an adequate knowledge of the safety, personnel, technical, operational, management, marketing and regulatory aspects of diving operations appropriate to the class of diving supervisor's certificate that person holds.

SUPERVISORS

SUPERVISION OF A CLASS I DIVING OPERATION

22. No person shall supervise a Class I diving operation unless the person

(*a*) has been appointed in writing pursuant to paragraph 7(1)(*a*);

(*b*) has been certified to be medically fit

(i) to dive, in accordance with paragraph 40(*b*), or

(ii) to supervise by a medical doctor who has examined the person not more than 12months prior to the date on which the diving operation is to be conducted and who has recorded the results of the examination on a medical examination record in the form set out in Schedule I, and in a diving supervisor's medical certificate in that person's supervisor's log- book, referred to in section 39;

(*c*) holds a valid diving supervisor's certificate issued pursuant to section 23, 25 or 27, or a valid document that is

(i) issued by IMCA on the basis of training and experience that are equivalent to the training and experience required of a person to obtain a certificate pursuant to section 23, 25or 27, and

(ii) acceptable to the Director of Factories; and

(*d*) has satisfied the diving contractor who conducts the diving operation that

(i) the person has sufficient diving and supervisory experience and adequate knowledge in the use of the diving plant and equipment to be used in the diving operation, or a similar type of diving plant and equipment, and the breathing mixture to be used in the diving operation, and is familiar with the relevant provisions of the procedures and the contingency plan used in the diving operation.

CLASS I DIVING SUPERVISOR'S CERTIFICATE

23. (1) The Director of Factories may, on application, issue a Class I diving supervisor's certificate to a person who

(*a*) has been, for at least three years, the holder of a class I diving certificate issued pursuant to section 41,43 or 45, or a document that is

(i) issued by a country other than Nigeria on the basis of training and experience that are equivalent to the training and experience required of a person to obtain a certificate pursuant to section 41; and

(ii) acceptable to the Director of Factories;

(iii) been, during the 12 months preceding the application, an assistant diving supervisor for at least 16 class I dives and has supervised at least two real or mock incidents involving decompression sickness,

(iv) passed an IMCA dive supervisors exam for an equivalent of class 1 diving supervisor certificate.

SUPERVISION OF A CLASS II DIVING OPERATION

24. No person shall supervise a class II diving operation unless the person

(*a*) has been appointed in writing pursuant to paragraph 7(1)(*b*);

(*b*) meets the criteria set out in paragraphs 22(*b*)and

(*c*) holds a valid diving supervisor's certificate issued pursuant to section 25 or 27, or a valid document that is

(i) issued by IMCA other than Nigeria on the basis of training and experience that are equivalent to the training and experience required of a person to obtain a certificate pursuant to section 25 or 27, and

(ii) acceptable to the Minister.

CLASS II DIVING SUPERVISOR'S CERTIFICATE

25. The Director of Factories may, on application, issue a class II diving supervisor's certificate to a person who

(*a*) has been, for at least two years, the holder of a class II diving certificate issued pursuant to section 43 or a document that is

(i) issued by a country other than Nigeria on the basis of training and experience that are equivalent to the training and experience required of a person to obtain a certificate pursuant to section 23, and

(ii) acceptable to the Director of Factories,

(iii) been, during the 12 months preceding the application, an assistant diving supervisor for at least ten class II dives and 10 class I dives and has supervised at least two real or mock incidents involving decompression sickness.

(iv) passed an IMCA dive supervisors exam for an equivalent of class II diving supervisor certificate.

SUPERVISION OF A CLASS III DIVING OPERATION

26. No person shall supervise a class III diving operation unless the person

(*a*) has been appointed in writing pursuant to paragraph 7(1)(*c*);

(*b*) meets the criteria set out in paragraphs 24(*b*)and
(*c*); holds a valid Class III diving supervisor's certificate issued pursuant to section 27 or a valid document that is

(i) issued by a country other than Nigeria on the basis of training and experience that is equivalent to the training and experience required of a person to obtain a certificate pursuant to section 27, and
(ii) acceptable to the Minister.

CLASS III DIVING SUPERVISOR'S CERTIFICATE

27. (1) The Director of Factories may, on application, issue a Class III diving supervisor's certificate to a person who
(*a*) has been, for at least two years, the holder of a Class III diving certificate issued pursuant to section 45 or a document that is

(i) issued by a country other than Nigeria on the basis of training and experience that are equivalent to the training and experience required of a person to obtain a certificate pursuant to section 45, and

(ii) acceptable to the Director of Factories

(iii) been, during the 12 months preceding of the application, an assistant diving supervisor for at least 16 dives of which at least two were saturation dives and six were class II dives and has supervised at least two real or mock incidents involving decompression sickness,

(iv) passed an IMCA dive supervisors exam for an equivalent of class III diving supervisor certificate.

RESTRICTIONS RESPECTING SUPERVISOR'S CERTIFICATE AND DOCUMENT

28. (1) The Director of Factories may insert in a supervisor's certificate issued pursuant to section 23, 25 or 27, or attach to a document referred to in subparagraph 23(1)(*a*)(i), 25(1)(*a*)(i) or 27(1)(*a*)(i) restrictions with respect to the supervision of a diving operation by the holders of the certificate or the document where the Director of Factories considers such restrictions necessary for safety reasons.

(2) Where the Director of Factories inserts a restriction in a certificate or attaches a restriction to a document, pursuant to subsection(1), the Director of Factories shall give the holder of the certificate or the document, as the case may be, an opportunity to show cause why the restriction should not be so inserted or attached.

INVALIDATION OF SUPERVISOR'S CERTIFICATE

29. (1) The Director of Factories may invalidate a supervisor's certificate issued pursuant to section 23, 25, or 27 where, in the opinion of the Director of Factories, the holder of the certificate has become incompetent or incapacitated.

(2) Where the Director of Factories proposes to invalidate a supervisor's certificate pursuant to subsection (1),

the Director of Factories shall give the holder of the certificate at least 30 days' notice in writing setting out the reasons for the proposed invalidation and shall give the holder an opportunity to show cause why the certificate should not be invalidated

RESTRICTIONS RESPECTING DIVE SITES

30. (1) No diving supervisor shall permit a diver supervised by the supervisor to make a dive that is part of a diving operation from

(*a*) a place referred to in paragraph 6(1)(*b*) that is unsuitable;

(*b*) a vessel that has insufficient power or stability for the safe conduct of the dive;

(*c*) a dive site located more than 1.5 m above the water unless a suitable basket or diving bell is used to transport the diver through the air water interface;

(*d*) a dynamically positioned vessel unless

(i) the vessel has been operating in the dynamically positioned mode for at least 30 minutes before the diver enters the water,

(ii) the range of surge or sway movement of the water at the dive site is less than 80 per cent of the maximum operational capacity limit of the vessel,

(iii) a basket or a diving bell is positioned as close as possible to the diver's underwater work site,

(iv) all reasonable precautions are taken to prevent any umbilical used in the dive from coming into contact with any propeller or maneuvering unit of the vessel,

(v) any change of heading or positioning of the vessel, at any time a diver involved in the diving operation is in the water, is made only after the diving supervisor has granted permission for the change and the diver has been notified, and

(vi) the vessel complies with the requirements of section 20; and

(*e*) a vessel that is under way.

(2) For the purposes of subsection (1), a vessel that is operating in the dynamically positioned mode and that complies with the requirements of section 20 is not considered to be underway.

(3) No supervisor shall conduct a diving operation unless the person in charge of the vessel or installation from which the diving operation is to be conducted has been notified of the proposed diving operation.

(4) The diving supervisor shall ensure that the International Code "A" Flag, hoisted from any vessel or installation used in support of a dive in such a manner as to ensure all-round visibility of the dive site flags are conspicuously displayed at or in close proximity to the dive site whenever diving operations are conducted.

RESTRICTED USE OF SCUBA

31. No diving supervisor shall use or permit to be used SCUBA in a diving operation supervised under this regulation.

APPROACH TO WATER CONTROL AND INTAKE FACILITIES

32. (1) No diving supervisor or employer shall permit a diver supervised by the supervisor to make a dive that is part of a diving operation to approach water control and in- take facilities where underwater pressure differentials may be encountered, except it shall be made in accordance with sections 32 (1) to (4).

(2) Every employer shall ensure that a diver working near a facility referred to in section 32 use a surface supplied diving equipment and wears a lifeline tended from a position outside the approach area.

(3) Every employer shall ensure that any diver required to approach an underwater intake pipe, tunnel or duct is provided with the means to differentiate the in- take from any other similar intake in the dive area.

(4)(a) Subject to subsection (b), every employer shall ensure that

(*i*) a diver is not allowed to approach any underwater intake or structure where underwater pressure differentials may be encountered until the flow of water is stopped or controlled; and

(*ii*) the flow of water is not re-established until the diver leaves the water or until the dive supervisor has determined that the diver is clear of the approach area referred to in paragraph (*a*).

(b) Where the flow of water referred to in subsection (4)(a)(i) cannot be stopped, the employer shall assess the safety of a diver approaching the intake by determining flow patterns using reliable indicators, direct measurements or calculations.

RESTRICTIONS RESPECTING CLASS I DIVING OPERATIONS

33. No diving supervisor shall conduct a class I diving operation unless

(*a*) a suitable LARS is used to transport the divers involved in the diving operation to an underwater work site that is 30 m or more in depth and, where practicable, to an underwater work site that is less than 20m in depth;

(*b*) an umbilical directly from the surface is used to supply the appropriate breathing mixture to the divers involved in the dive that is part of the diving operation;

(*c*) the supervisor is in oral communication with any divers, stand-by divers and attendants involved in the diving operation at all times during the diving operation;

(*d*) the supervisor has a means of monitoring the depth of each diver involved in the diving operation and the pressure of the breathing mixture being supplied to each diver and standby diver involved in the dive; and

(*e*) the diving crew for the duration of the diving operation, includes one diving supervisor, one diver, one diver medical technician and a minimum of

(i) one stand-by diver equipped with an umbilical at least 3m longer than the umbilical of the diver for whom the standby diver acts as standby,

(ii) one diver tender at the dive site of the diving operation who is certified medically fit to dive, and

(iii) as many additional attendants as the supervisor considers necessary to ensure the safety of the divers involved in the diving operation.

RESTRICTIONS RESPECTING CLASS II DIVING OPERATIONS

34. No diving supervisor shall conduct a class II diving operation unless

(*a*) the requirements referred to in paragraphs 33(*a*)to (*e*) are complied with;

(*b*) a diving basket or bell is used for any descent or ascent of a diver to or from the underwater work site of the diving operation;

(*c*) the diving crew, for the duration of the diving operation, includes one diving supervisor, two diver medical technician and a minimum of

(i) two divers who are in the wet-bell or basket used in the diving operation, one of whom is equipped with an

umbilical at least 3 m longer than the umbilical of the diver for whom the standby diver acts as standby,

(ii) one additional standby diver of whom is a diver medical technician and one attendant at the dive site of the diving operation, and

(iii) as many additional attendants as the supervisor considers necessary to ensure the safety of the divers involved in the diving operation.

RESTRICTIONS RESPECTING CLASS III DIVING OPERATIONS

35 (1) No diving supervisor shall, in a saturation dive supervised by the supervisor, permit the total dive time of any diver involved in the dive to exceed 28 days.

(2) No diving supervisor shall conduct a class III diving operation unless the diving crew, for the duration of the dive, includes the persons referred to in paragraph 34(*c*) and as many additional medical specialists and life-support technicians as the diving supervisor considers necessary to ensure the safety of the divers involved in the dive

RESTRICTION RESPECTING DIVING SUPERVISORS

36. No diving supervisor shall make a dive while supervising a diving operation, even in the case of an emergency.

ADDITIONAL DUTIES

37. (1) Where a basket or diving bell is used in a diving operation is being lowered into or raised from the water, the supervisor of the diving operation shall ensure that the basket or diving bell, as the case may be, is continuously within the supervisor's vision, either directly or by any other means.

(2) Where a diver involved in a diving operation exhibits any unusual psychological or physiological symptoms or any severe symptoms of decompression sickness, the diving supervisor of the diving operation shall advise the specialized diving doctor referred to in paragraph4(3)(*d*) and the operator responsible for that diving operation of those symptoms and shall supervise any therapeutic recompression or decompression of the diver.

(3) A diving supervisor shall take all reasonable precautions to ensure that, except in the event of the evacuation of a diver during a diving operation supervised by the diving supervisor,

(*a*) a diver involved in the diving operation who has completed a dive does not fly in an aircraft

(i) for 12 hours following a non-decompression dive,

(ii) for 24 hours following decompression, or

(iii) for such longer period as the diving supervisor considers necessary to ensure that the diver does not suffer decompression sickness; and

(*b*) a diver involved in the diving operation who has completed a saturation dive remains under observation in the general area of the decompression chamber for at least 24 hours after decompression or such longer period as is sufficient in the opinion of the diving supervisor to ensure the wellbeing of the diver.

(4) A diving supervisor shall take all reasonable pre- cautions to ensure that, in the evacuation of a person during a diving operation supervised by the supervisor, a person involved in the diving operation who has completed decompression within the preceding 24 hours does not fly in an aircraft at an altitude greater than is operationally necessary in the circumstances.

(5) No supervisor shall, in a diving operation supervised by the supervisor, use or permit to be used

(*a*) compressed air as a breathing mixture at water depths greater than 50 m or at pressures that are equivalent to the pressures of water depths greater than 50 m except in the case of a class III dive; or

(*b*) pure oxygen as a breathing mixture except for decompression or therapeutic purposes.

(6 A supervisor shall protect any breathing mixture to be used in a diving operation supervised by the supervisor from any likelihood of contamination.

(7) Where a diving supervisor becomes aware of any oil or other contaminant in waters in which a diving operation supervised by the supervisor is being conducted, that supervisor shall take all necessary steps to avoid any contamination of any diver in the water and of the ambient atmosphere in any compression chamber used in the diving operation.

DIVING OPERATIONS LOG BOOKS

38. (1) A supervisor shall enter in the diving operations logbook referred to in paragraph7(3)(*f*), for each diving operation or portion of a diving operation supervised by the supervisor,

(*a*) the date and the time the diving operation was commenced and terminated including any time during which the diving operation was interrupted, or the date and the time at which the supervisor began the supervision and the time at which that supervision ended;

(*b*) the name of the diving contractor, if any, who conducted the diving operation;

(*c*) the name of the operator or the operator's representative responsible for the diving operation;

(*d*) the name or other designation and the location of the vessel or installation from which, or other dive site at which, the diving operation was conducted;

(*e*) the identification number of any dive supervised during the diving operation or during the period of supervision referred to in paragraph (*a*);

(*f*) the name of the supervisor, the names of all other persons involved in the diving operation including those who operated any diving plant and equipment used in the diving operation, the names of the persons consulted and the names of any other persons consulted in respect of the diving operation and the positions or titles of all the persons named;

(*g*) the procedures followed during the diving operation;

(*h*) the decompression table and the schedule in that decompression table that were used in the diving operation;

(*i*) the time at which any diver involved in the diving operation and any basket or diving bell used in the diving operation left the surface and returned to the surface;

(*j*) the maximum depth, bottom time, dive time and total dive time for each dive conducted during the period of supervision referred to in paragraph (*a*);

(*k*) the type of diving plant and equipment and the type of breathing mixture used in the diving operation;

(*l*) the type of discomfort, injury or illness, including decompression sickness, suffered by any person involved in the diving operation;

(*m*) the particulars of any environmental conditions that affected or might have affected the diving operation; and

(*n*) any other factor relevant to the safety or health of any person involved in the diving operation.

(1), immediately sign the entry and request the operator or the operator's representative responsible for the diving operation to countersign the entry as soon as possible.

(2) A supervisor shall, after completion of an entry in the diving operations logbook in accordance with subsection (1)

(3) No person shall make any alteration to an entry in a diving operations logbook referred to in subsection (1) unless the alteration is initialed by the supervisor who made the entry and by the person who countersigned the entry.

(4) The supervisor of a diving operation shall produce, on request, the diving operations logbook for the diving operation for inspection by a chief inspector of diving.

(5) At the time there is no space for further entries in a diving operations logbook for a diving operation, or at the time the diving operation is completed, whichever occurs first, the supervisor whom at the last entry in the logbook shall deliver the logbook to the diving contractor who conducted the diving operation, but, in the event of an accident in connection with the diving operation, the supervisor on duty at the time of the accident shall deliver the logbook to the operator responsible for the diving operation as soon as possible after the accident.

SUPERVISOR'S LOG BOOKS

39. (1) A supervisor shall keep a logbook that is permanently bound, has numbered pages and contains the name and signature of the supervisor and a photograph that is a likeness of the supervisor.

(2) A supervisor shall, as soon as possible after supervision of a dive or after a period of supervision of a portion of a dive, enter in the logbook referred to in subsection (1), for each dive or portion of a dive supervised by the supervisor,

(*a*) the date of the dive;

(*b*) the name of the diving contractor, if any, who conducted the dive;

(*c*) the name of the operator or the operator's representative responsible for the diving operation;

(*d*) the name or other designation and location of the vessel or installation from which, or other dive site at which, the dive was conducted;

(*e*) the dive identification number referred to in paragraph 38(1)(*e*);

(*f*) the name of each diver supervised;

(*g*) the maximum depth, bottom time and dive time of the dive;

(*h*) the decompression table and the schedule in that decompression table that were used in the dive;

(*i*) details of any medical care or advice given and the type of therapeutic treatment used, if any;

(*j*) any emergency in connection with the dive; and

(*k*) any other factor relevant to the safety or health of any person involved in the dive.

(3) A supervisor shall, after completion of an entry in the supervisor's logbook in accordance with subsection (2), immediately sign the entry and request the operator or the operator's representative responsible for the dive to countersign the entry as soon as possible.

(4) No person shall make any alteration to an entry in a supervisor's logbook referred to in subsection (1) un less the alteration is initialed by the supervisor and by the person who countersigned the entry.

(5) A supervisor shall produce, on request, the supervisor's logbook referred to in subsection (1) for inspection by

(*a*) chief inspector of diving; and

(*b*) the diving doctor who examines the supervisor for the purposes of these Regulations, at the time of the examination.

(6) A supervisor shall keep in the supervisor's log-book referred to in subsection (1)

(*a*) the supervisor's diving supervisor's certificate;

(*b*) the supervisor's written appointment as a supervisor pursuant to subsection 7(1);

(*c*) any certificates or other evidence of qualification in addition to those referred to in paragraph (*a*); and

(*d*) any certificates or other evidence of medical examination received from a diving doctor.

(7) A supervisor shall retain the supervisor's logbook referred to in subsection (1) for a period of not less than two years after the day of the last entry made in it.

DIVERS

CLASS I DIVES

40. No person shall make a class I dive in a diving operation unless the person

(*a*) is 18 years of age or older;

(*b*) has been certified to be medically fit to dive by a diving doctor who has

(i) examined the person not more than 12 months prior to the period during which the diving operation is to be conducted, and

(ii) recorded the results of the examination including, the results of a stress ECG performance test on a treadmill or a bicycle, on a medical examination record in the form set out in Schedule I or in another form acceptable to the Director of Factories, and on a diver's medical certificate in the person's diver's logbook;

(*c*) has delivered a copy of the diver's medical certificate referred to in paragraph (*b*) to the diving contractor who conducts the diving operation;

(*d*) holds

(i) a valid class I diving certificate issued pursuant to section 41,

(ii) during the first year in which the person makes class I dives in a diving operation, a valid document that is

(iii) issued by a country other than Nigeria on the basis of training and experience that are equivalent to the training and experience referred to in paragraph 41(*a*), and

(iv) acceptable to the Director of Factories,

(v) a valid class II diving certificate issued pursuant to section 43 or a valid document referred to in paragraph 40 (*b*), or

(vi) a valid class III diving certificate issued pursuant to section 45 or a valid document referred to in paragraph 45 (*b*); and

(*e*) has satisfied the supervisor of the diving operation that the person is capable of using, and has sufficient experience in the use of, the type of diving plant and equipment and breathing mixture to be used in the diving operation.

CLASS I DIVING CERTIFICATES

41. The Director of Factories may, on application, issue a class I diving certificate to a person who has attained a standard of competence in class I diving and holds a first-aid certificate acceptable to the Director of Factories and has

(a) successfully completed, at a school or institution acceptable to the Director of Factories, training in the theoretical and practical aspects of diving appropriate to class I diving, including

(i) the use of air as a breathing mixture, and surface-oriented diving techniques procedures,

(ii) diving techniques and operational procedures for use with SCUBA,

(iii) the use and operation of any diving plant and equipment, including hand-held tools,

(iv) the use of communications systems,

(v) the use of decompression tables,

(vi) emergency procedures, including hyperbaric first-aid techniques and the operation of surface Compression chambers, and

(vii) a thorough study of these Regulations, and

(b) made at least 50 dives in various environmental conditions and locations and for various purposes with a bottom time totaling at least 50 hours, including

(c) at least 40 dives to depths of up to 20 m with a bottom time totaling at least 43 hours, of which at least10 were dives to depths of between 15 m and 20 m with a bottom time totaling at least seven hours, and

(d) at least 10 dives to depths of between 20 m and 30 m with a bottom time totaling at least seven hours, of which at least three hours were at depths of 30m;

(*e*) holds a valid document referred to in paragraph 40(*d*).

CLASS II DIVES

42. no person shall make a class II dive in a diving operation unless the person

(*a*) meets the criteria set out in paragraphs 40(*a*) to (*e*); and

(*b*) holds a valid class I diving certificate issued pursuant to section 41,

(c) during the first year in which the person makes a class II dive in a diving operation, a valid document that is

(i) issued by a country other than Nigeria on the basis of training and experience that are equivalent to the training and experience referred to in paragraph 41(1)(*a*), and

(ii) acceptable to the Director of Factories, or

(iii) a valid class III diving certificate issued pursuant to section 45.

CLASS II DIVING CERTIFICATES

43. The Director of Factories may, on application; issue a class II diving certificate to a person who has attained a standard of competence in class II diving that is acceptable to the Director of Factories and who

(*a*) has successfully completed, at a school or institution acceptable to the Director of Factories, training in the theoretical and practical aspects of diving appropriate to class II diving, including

(i) the use of air as a breathing mixture,

(ii) wet-bell diving techniques and operational procedures,

(iii) the use and operation of any diving plant and equipment,

(iv) any type of underwater work generally done by a diver,

(v) the use of communications systems,

(vi) emergency procedures, including hyperbaric first-aid techniques and the operation of compression chambers, and

(b) at least 10 dives to depths of between 30 m and 50m with a bottom time totaling at least seven hours, of which at least three hours were at depths of between 40m to 50m and at least one hour was at a depth of at least 50 m;

(c) a thorough study of these Regulations, and
(*d*) holds a valid document referred to in paragraph 42 (*b*).

CLASS III DIVES

44. No person shall make a class III dive in a diving operation unless the person

(*a*) meets the criteria set out in paragraphs 40(*a*) to (*e*); and

(*b*) holds a valid class III diving certificate issued pursuant to section 45 or during the first year in which the person makes a class III dive in a diving operation, a valid document that is

(i) issued by a country other than Nigeria on the basis of training and experience that are equivalent to the training and experience described in paragraph 45(1)(*a*), and

(ii) acceptable to the Minister

CLASS III DIVING CERTIFICATES

45 The Director of Factories may, on application, issue a class III diving certificate to a person who has attained a standard of competence in class III diving that is acceptable to the Director of Factories and who

(*a*) has successfully completed, at a school, institution acceptable to the Minister, training in the theoretical and practical aspects of diving appropriate to class III diving, including

(i) at least one saturation dive to a depth of not less than 75 m with at least two lock-out dives with a bottom time totaling at least 30 minutes per lock-out dive,

(ii) saturation diving techniques and operational procedures,

(iii) the use and operation of any diving plant and equipment,

(iv) any type of underwater work generally done by a diver,

(v) emergency procedures relevant to saturation diving, including hyperbaric first-aid techniques and the operation of compression chambers, and

(vi) a thorough study of these Regulations, and
(vii) been employed to make class II dives for at least the two years preceding the application and has made at least 24 class II dives;
(*b*) holds a valid document referred to in paragraph 40 (*b*).

RESTRICTIONS RESPECTING MEDICAL CERTIFICATES

46. (1) A diving doctor who examines a diver for the purposes of paragraph 40(*b)* shall not practice unless he or she is a medical practitioner registered with MDCN and has completed a Class 1 or 2 course in diving medicine and approved by the Director of Factories.

(2)A diving doctor who examines a diver for the purposes of paragraph 40(*b*) may insert in the diver's medical certificate medical restrictions on diving by the holder of the medical certificate where the diving doctor considers those restrictions necessary for safety reasons.

(3) Where a diving doctor inserts medical restrictions in a diver's medical certificate pursuant to subsection (1) or certifies in a medical certificate in a diver's logbook that the diver is medically unfit to dive, the Director of Factories shall, on application by the diver within one month after the insertion or certification by the diving doctor, review that certificate and the diver's medical examination record related to the certificate with one or

more specialized diving doctors.

ADDITIONAL PROVISIONS

DIVING GOVERNING BOARD

47. (1) The Minister shall establish a Diving Advisory Board, whose chairperson shall be the Permanent Secretary, and consisting of-

(a) the Director of Factories;

(b) one chief inspector of diving; holding a minimum of a Diving Supervisor Certification

(c) one diving medical specialist who is a member of MDCN

(d) one instructor from an accredited diving institution

(e) two representatives from diving association recognized by the Director of Factories

(f) one representative from the Nigerian Navy appointed by the Chief of Naval Staff.

(g) one representative from NIMASA

(2) The Diving Advisory Board shall-

(a) make recommendations and submit reports to the Minister regarding any matter to which these Regulations relate;

(b) advise the Minister regarding any matter referred to the Diving Advisory Board by the chief inspector of diving;

(c) perform other functions that may be requested by the Minister;

(d) refer appeals against decisions of the Director of Factories to the Minister; and

(e) conduct its work in accordance with the instructions and rules of conduct made by the Minister, and

(f) the reimbursement in terms of travels, accommodation and sitting allowance during sessions shall be in line with the Civil Service Rates.

(3) The Minister shall appoint a Chief Inspector of Diving, from the registered National Association of Professional Divers, who shall work in collaboration the local Inspector of Factories to monitor compliance with the Diving at Work Regulations 2017 and give monthly report to the Director of Factories;

(a) the Chief Inspector of Diving shall perform any other function assigned to him by the Diving Governing Board

(4) The Chief Inspector may constitute a working committee of 6 members consisting of-

(a) 5 approved experienced divers with a minimum of class 11 diving certification;

(b) 1 Diving medical specialist.

TRAINING STANDARDS, ASSESSMENTS AND CODES OF PRACTICE

48. The Minister shall, in consultation with the Diving Advisory Board

(a) make or amend the standards for the conduct of assessments and training as the occasion may require; and

(b) make or amend approved codes of practice relevant to regulate diving operations.

APPLICATION FOR REGISTRATION

49. An application for registration as class I, class II, class III diver, diving supervisor, life-support technician, diving medical technician, systems' technician, instructor, chamber operator, and any application for the reissue of a certificate that has been lost, damaged or destroyed, shall be made in the form and manner approved by the Diving Advisory Board after successful completion of training from an accredited diving institute acceptable to the Director of Factories.

FEES PAYABLE

50. The fees payable in respect of an application contemplated in section 49 shall from time to time be determined by the Minister.

WITHDRAWAL OF CERTIFICATE OF REGISTRATION

51. (1) Subject to sections 23, 25, 27, 41, 43, or 45 the Director of Factories may withdraw a certificate of registration issued in accordance with these Regulations, if the person;

(a) no longer complies with any of the conditions referred to in the Regulations or approved code of practice, or
(b) is convicted of an offence contemplated in section 52 or
(c) the recommendation of the chief Inspector .

(2) The chief inspector shall not recommend the withdrawal of a certificate of registration unless he or she has;
(a) informed the holder of that certificate of registration in writing of the intended withdrawal thereof and of the grounds upon which it is based; and
(b) afforded the holder a reasonable opportunity to state his or her case and, afforded such holder an opportunity to comply with those conditions within the period specified by the chief inspector.

OFFENCES AND PENALTIES

52. Any person who contravenes or fails to comply with any of the provisions of this regulation is guilty of an offence and liable upon conviction to a fine of the sum not less than ₦50,000 or to imprisonment for a period not exceeding 12 months.

SCHEDULE I

DIVER'S MEDICAL EXAMINATION RECORD

All abnormal findings shall be recorded on the diver's medical examination record.

Family name _____First name(s): _____Birth Date :_____Sex:M/F_____

Ht: _____ cm Wt: _____ kg Identifying features:_____

General appearance:

HEENT: Normal? Yes/No

URTI: Normal? Yes/No

Teeth & gums normal? Yes/No

Any dentures?

Yes/No Neck

normal? Yes/No

Sinuses normal?

Yes/No

Dental X-rays normal? Yes/No/Not done*

Normal colour vision? Yes/No

	Nasal airway	EAM	Eardrums	Eustacian tube	Audiometry
Rt. normal?Lt.normal'	Yes/No Yes/No	Yes/No Yes/No	Yes/No Yes/No	Yes/No Yes/No	Yes/No Yes/No

Vision: Distant	Dist. with glasses	Near	Near with glasses	Normal visual fields? Yes/No	Normal fundi? Yes/No
Right					
Left				Yes/No	Yes/No
Both				Yes/No	Yes/No

SKIN:

Rash? Yes/No

Infection? Yes/No

Parasites? Yes/No

Lymph glands normal? Yes/No

Skinfold thickness:

Lt. biceps: _____ mm

Lt. triceps: _____ mm

Lt. subscapular: _____mm

Lt. sacroiliac: _____mm

Breasts normal? Yes/No

RESP:

Any chest scars or deformity? Yes/No

Chest auscultation normal? Yes/No

_____ _____

* At the discretion of the examining doctor

Any adventitious sounds? Yes/No

Current chest X-ray normal? Yes/No

FVC: FEV_1/FVC% %.

CARDIOVASCULAR:

BP: /Pulse: / min.

Varicose veins? Yes/No

Peripheral pulses and circulation normal? Yes/No

Normal apex beat? Yes/No

Normal heart sounds? Yes/No

Murmurs present? Yes/No

ECG normal? Yes/No

Exercise tolerance test (eg. Ruffier test) normal? Yes/No

Stress ECG normal? Yes/No/Notdone.[+]

ABDOMEN: Organomegaly?

Yes/No Masses present? Yes/No

Herniae present? Yes/No

Genitourinary system normal? Yes/No

Rectal normal? Yes/No

MUSCULO-SKELETAL: Joint X-rays:[*]

	Shoulders	Hip	Knees
Rt. normal?	Yes/No	Yes/No	Yes/No
Lt. normal?	Yes/No	Yes/No	Yes/No

Spine normal? Yes/No

Limbs & joints normal? Yes/No

CNS:

Power & tone of limbs normal? Yes/No Normal sensation to pinprick? Yes/No Cranial nerves normal?

1. Yes/No
2. Yes/No
3. Yes/No
4. Yes/No
5. Yes/No
6. Yes/No
7. Yes/No

[+] Mandatory for divers over 35 years of age

[*] At the discretion of the examining doctor

8. Yes/No
9. Yes/No
10. Yes/No
11. Yes/No

12. Yes/No

Reflexes	BJ	TJ	SJ	KJ	AJ	Abdo.	Plantar
Clonus							
Right							
Left							

Cerebellar function normal? Yes/No

Vestibular function normal? Yes/No

Rombergism present? Yes/No

Nystagmus present? Yes/No

EEG normal? Yes/No/NotDone*

Electronystagmograms normal? Yes/No/NotDone*

LAB. INVESTIGATIONS:

Hb:_____g/dl

HCT: _____

Sickle cell trait absent? Yes/No* (initial medical examination)

Blood group: _____

BUN: _____*

Creatinine: _____

* Other _____

Urine PH: _____

Urine free of :

albumin? Yes/No

sugar? Yes/No

protein? Yes/No

blood? Yes/No

Comment on any abnormalities detected:_____

Is the candidate free from physical defect and disease? Yes/No

Has the candidate the physique for prolonged exertion? Yes/No

Is the candidate fit for work in all climates if inoculations are up-to-date? Yes/No

Is the candidate permanently unfit to dive? Yes/No

Is the candidate temporarily unfit to dive? Yes/No

Date for next examination:_____

Is the candidate fit to dive with restrictions? Yes/No Specify:_____

Name and address of examining

doctor:_____

Signed: _____ Date: _____ Place:_____

_____ _____

* At the discretion of the examining doctor

SCHEDULE II

DIVING ACCIDENT/INCIDENT REPORT

Name of vessel or installation: _____ Operator: _____

Supervisor: _____ Diving contractor: _____

Persons involved: _____ Date: _____

Type of dive:_____

Purpose of dive: _____

Personal diving equipment used: _____

Diving plant and equipment used: _____

Dive profile: _____

Depth: _____ Bottom time: _____

Time left surface: _____Tables used:_____

Ascent method:_____

Ascent rate & time: _____Time returned to surface:_____

Name of specialized diving doctor or medical attendant who treated diver : _____

Treatment: Name of diver treated: _____ Treatment table used: _____

Diver's medical condition after treatment: _____

Number of dives made by diver in the 24 hours preceding accident/incident: _____

Gas mixture(s) used: _____ _____
(in dive) (in treatment)

Air temperature: _____ Wind speed: _____ Sea state:_____

Type of sea bed: _____Visibility:_____

Condition of personal equipment after accident/incident:_____

Personal equipment examined at:_____

Summary of accident/incident _____

Signature of operator or operator's representative:_____ Signature of supervisor:_____