DEPARTMENT OF EMPLOYMENT AND LABOUR

NO. R. 2091 **20 May 2022**

OCCUPATIONAL HEALTH AND SAFETY ACT, 1993 (ACT NO. 85 OF 1993)

COMMERCIAL DIVING REGULATIONS, 2022

The Minister of Employment and Labour has, under section 43 of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), and after consultation with the Advisory Council for Occupational Health and Safety, made the regulations in the Schedule.

MR T W NXESI, MP
MINISTER OF EMPLOYMENT AND LABOUR
DATE: 22/03/2022

SCHEDULE

TABLE OF CONTENTS

Annexure D – Diving operations: Minimum personnel required (Parts 1 and 2)
Annexure E – Notification of diving project
Annexure F – Registration form

Definitions

1. In these regulations, a word or expression to which a meaning has been assigned in the Act has the meaning so assigned and, unless the context otherwise indicates—

"air" means normal compressed air suitable for breathing while diving;

"airline diving" means diving with the use of diving plant and machinery comprising an air supply, airline, diver safety harness, demand regulator or full face mask;

"benign conditions" means a tank or pool artificially constructed for the purpose of swimming or diving or for use as an aquarium or for aquaculture, where—

(a) the diver is in full view from the surface or viewing windows at all times;

(b) there is no significant risk of entanglement or entrapment; and

(c) the water depth does not exceed 8 m;

"Chief Director: Provincial Operations" means the provincial director as defined in regulation 1 of the General Administrative Regulations, 2003, published as Government Notice R. 929 in *Government Gazette* No. 25129 of 25 June 2003;

"class I commercial diver" means a registered saturation commercial diver who is competent in all aspects of saturation and bell diving;

"class II commercial diver" means a registered commercial diver who is competent in all aspects of air diving using surface supplied diving plant and machinery with an open bell or diving stage, to a maximum depth of 50 m; and

"class II commercial diver (m)" means a registered commercial diver who is competent in all aspects of mixed gas diving using surface supplied diving plant and

machinery, with an open bell or diving stage, excluding saturation diving, to a maximum depth of 75 m;

"class III commercial diver" means a registered commercial diver who is competent in all aspects of air diving using surface supplied diving plant and machinery, to a maximum depth 30 m;

"class IV commercial diver" means a registered commercial diver who is competent in all aspects of air diving using scuba, to a maximum depth of 30 m;

"class V commercial diver" means a registered commercial scientific diver who is competent in air scuba diving and may dive under the code of practice for scientific diving, to a depth not exceeding 20 m;

"class VI commercial diver" means a registered commercial diver who is competent in air scuba diving and may dive under the code of practice for diving in benign conditions, to a depth not exceeding 8 m;

"client" means a person or organisation for whom a diving project is performed;

"code of practice" means a document of best practice incorporated under these regulations;

"commercial diver" means a person registered as a diver in any of the classes listed in these regulations or who has an international qualification recognised by the chief inspector;

"commercial diving operation" begins when the first diver who takes part in the operation starts to prepare to dive under the instruction of the supervisor and ends when the last diver who took part in the operation leaves the water, any other liquid or pressurised environment in which the dive took place and has completed any necessary decompression procedures;

"compensation fund" means the compensation fund as defined in the Compensation for Occupational Injuries and Diseases Act, 1993 (Act No. 130 of 1993);

"competent person" means a person who has in respect of the work or task to be performed the required knowledge, training and experience and, where applicable, qualifications specific to commercial diving operations and is familiar with the Act and the applicable regulations made under the Act;

"designated medical practitioner" means an occupational medicine practitioner registered with the Health Professions Council of South Africa (HPCSA), who has completed a course in underwater medicine through an organisation recognised by the chief inspector;

"dive" means entering water or any other liquid, or a pressurised environment in which a person is subjected to pressure greater than 100 millibars above atmospheric pressure, where, in order to survive in such an environment, a person breathes air or other gas at pressure greater than atmospheric pressure;

"diving apparatus" means plant and machinery that can enable a person to breathe while diving;

"diving operations record" means the record containing the required particulars for each diving operation set out in Annexure B;

"diving project" means any activity made up of one or more commercial diving operations;

"diving supervisor" means a person registered as a diving supervisor in any of the classes listed in these regulations, who has adequate practical and theoretical knowledge and experience of the diving techniques to be used;

"diving system" means all plant and machinery required to be readily available in support of a commercial diving operation;

"Diving Technical Committee" means a Committee established in terms of regulation 24;

"IMCA" means International Marine Contractors Association;

"inshore commercial diving" means commercial diving operations within the 12 nautical mile limit of territorial waters and inland waters in which the full range of national legislation applies;

"instructor" means a person registered as an instructor in any of the classes listed in these regulations, who has adequate practical and theoretical knowledge and experience of the diving techniques to be used;

"life-support supervisor" means a life-support technician appointed by the employer to supervise life-support operations;

"life-support technician" means a person trained in the physics, physiology, medical and technical aspects of supporting life in high pressure environments;

"line attendant" means a person appointed in writing to tender a diver's lifeline or umbilical during a dive and who is not necessarily a registered diver, but must be trained and have been assessed as competent for the task by the employer;

"logbook" means a book in a form compliant with the requirements contemplated in Annexure A whereby daily dives are recorded and which must be signed by both the diver and the supervisor;

"medical certificate of fitness" means a certificate of fitness issued by a designated medical practitioner and logged on the online fitness registry, certifying that the holder is medically fit, and is valid for a maximum period of 24 months;

"medical certificate of fitness to dive" means a certificate of fitness issued by a designated medical practitioner and logged on the online fitness registry, certifying that the holder is medically fit to dive, and is valid for a maximum period of 12 months;

"mixed gas" means a combination of gases, including oxygen, blended for the purpose of breathing during commercial diving operations;

"offshore diving" means commercial diving operations in international waters, specifically beyond the 12 nautical mile territorial limit;

"operations manual" means the document containing standard operating procedures and policies covering the full range of the commercial diving techniques of the employer, including contingency and emergency procedures, and health and safety requirements in accordance with the Act, applicable regulations and incorporated codes of practice;

"recompression chamber" means a pressure plant and machinery for human occupation having internal dimensions sufficient to accommodate at least one diver lying in a horizontal position, as well as one other person, and which allows the ingress and egress of personnel while the occupants are under pressure;

"recompression chamber operator" means a person registered as a chamber operator, who is competent to operate an occupied air-diving chamber;

"registered commercial diving contractor" means an employer who employs commercial divers;

"registered commercial diving school" means an institution registered by the chief inspector to train learner dive supervisors and learner commercial divers to the standards published in terms of these regulations;

"scuba" means self-contained underwater breathing apparatus in which the supply of breathing gas carried by the diver is independent of any other source;

"standby diver" means a commercial diver who is medically fit to dive, fully qualified, dressed and ready immediately to dive the maximum depth required by the particular commercial diving operation, and who is not prevented from diving by an excess of inert gas in his system;

"territorial waters" means the territorial waters as defined in section 4 of the Maritime Zones Act, 1994 (Act No. 15 of 1994);

"the Act" means the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993); and

"training standard" means a document incorporated under these regulations.

Scope of application

2. (1) Subject to subregulation (2), these regulations apply to all commercial diving operations and all persons engaged in commercial diving operations in the Republic of South Africa or the territorial waters.

(2) These regulations do not apply to persons who are—

(a) involved in diving operations where no diving apparatus is used;

(b) involved in diving operations performed by the South African National Defence Force;

(c) engaged in work as recreational diving instructor or dive master;

(d) engaged in diving projects where they are not considered employees at work;

(e) medical personnel who have to take part in recompression chamber dives in case of an emergency;

(f) involved in the care or treatment of patients in a hyperbaric facility in a hospital or other place not under the control of an employer: Provided that such facility is accredited by an institution recognised by the chief inspector for the treatment of those patients;

(g) involved in the commissioning of recompression chambers as part of the manufacturing process; or

(h) involved in underwater survival training.

Registration

3. (1) An application for registration as a registered commercial diving school, commercial diver, commercial diving supervisor, diving instructor,

recompression chamber operator and a commercial diving contractor must be made to the chief inspector in the form of Annexure F together with the prescribed fee.

(2) A registered commercial diving school must undertake only commercial diver, commercial diving supervisor and chamber operator training for which it is registered by the chief inspector.

(3) Subject to subregulation (1), a commercial diving school must be registered with IMCA when conducting class II commercial diver training.

(4) A registered commercial diver must perform diving projects in terms of these regulations.

(5) A registered commercial diving supervisor must perform diving projects in terms of these regulations.

(6) A registered diving instructor must provide training and assess the competency of learners in terms of these regulations.

(7) A registered recompression chamber operator must operate a chamber in terms of these regulations.

(8) Subject to subregulation (12), a registered commercial diving contractor must be registered with the chief inspector to undertake commercial diving projects.

(9) Designated medical practitioners must be registered with the chief inspector.

(10) All the registered entities in terms of subregulations (2) to (9) must be issued with a registration certificate approved by the chief inspector.

(11) The registration of commercial diving schools, commercial divers, diving supervisors, instructors, recompression chamber operators and designated medical practitioners, contemplated in subregulations (2), (3), (4), (5), (6), (7) and (9), is valid for a period of four years.

(12) The registration of diving contractors contemplated in subregulation (8) is valid for a period of one year.

Withdrawal of registration

4. (1) Subject to subregulation (2), the chief inspector may withdraw any registration issued in accordance with regulation 3, if the holder of the registration certificate—

(a) does not comply with any of the conditions required for registration as indicated in the registration certificate; or

(b) does not comply with the Act or its regulations.

(2) The chief inspector must, in writing, within 30 days of non-compliance with any of the conditions in the registration certificate, inform the holder of the registration certificate of the intention to withdraw registration and the grounds for the withdrawal, and afford the holder of a registration certificate an opportunity to comply with the conditions, where applicable, within 30 days.

Plant and machinery

5. An employer must ensure that all plant and machinery used for any diving operation are—

(a) checked and tested before use by the diving team;

(b) designed, manufactured and maintained in accordance with the Act and applicable regulations;

(c) used properly and kept in safe working condition; and

(d) available for commercial divers to safely enter and leave water or other liquid.

Risk assessment

6. (1) An employer must conduct a risk assessment, in writing, which must include—

(a) an identification of the hazards to which persons are likely to be exposed;

(b) an identification of persons who may be affected by hazards identified;

(c) an explanation of how persons may be affected by hazards identified;

(d) an analysis and evaluation of the hazards identified;

(e) a prioritisation of risks; and

(f) an emergency response and evacuation plan.

(2) An employer must review the risk assessment contemplated in subregulation (1) when—

(a) there is a reason to believe that such an assessment is no longer valid;

(b) control measures are no longer effective;

(c) technological or scientific advances allow for more effective control methods; or

(d) there has been—

(i) a change in work methods;

(ii) a change in the type of work carried out;

(iii) a change in the type of plant and machinery used to control exposure;

(iv) an incident or medical surveillance which revealed inadequate control of the risk.

(3) An employer must ensure that copies of the risk assessments of the relevant sites are available on site for inspection by an inspector, the client, any employee, a health and safety representative or any member of the health and safety committee.

(4) An employer must, in terms of the risk assessment—

(a) consider the recommendations identified by the competent person in the risk assessment; and

(b) develop a documented action plan for the implementation of the recommendations.

Medical surveillance

7. (1) An employer must establish and maintain a documented system of medical surveillance of employees if—

(a) the employer is registered as a commercial diving contractor;

(b) in the opinion of a designated medical practitioner, after consideration of the results of the risk assessment carried out in terms of regulation 6, it is reasonably likely that a diving-related disease may occur under the particular conditions of an employee's work; or

(c) the designated medical practitioner recommends that relevant employees must be under medical surveillance.

(2) In order to comply with subregulation (1), an employer must appoint, in writing, a designated medical practitioner to document the system of medical surveillance of employees, including—

(a) the consideration of—

(i) the risk of developing occupational diving-related diseases; and

(ii) medical fitness to dive;

(b) an initial health evaluation before commencement of employment, which includes—

(i) an evaluation of the employee's medical, occupational, exposure and social history;

(ii) an appropriate physical examination; and

(iii) any other additional medical examination, which, in the opinion of the designated medical practitioner, is necessary to enable such practitioner to perform an appropriate health evaluation;

(c) periodic health evaluations conducted at intervals, not exceeding two years, specified by a designated medical practitioner;

(d) a documented exit health evaluation upon termination of employment;

(e) providing the employee with a copy of the exit health evaluation, in accordance with subregulation (2)(d), upon termination of employment; and

(f) that the appointed designated medical practitioner must notify the employer, in writing, of the outcomes of the medical surveillance.

(3) The appointed designated medical practitioner must notify the employer, in writing, of the outcome of the health evaluation by issuing the medical fitness certificate and medical fitness to dive certificate, subject to the following:

(a) The information provided to the employer is limited to the presence of an occupational disease and the fitness to perform the inherent requirements of the job, and must not include confidential medical information;

(b) the employee is informed of the outcome of the health evaluation; and

(c) the restrictions placed on the medical fitness certificate of an individual diver.

(4) An employer must not permit an employee who has been certified by a designated medical practitioner as medically unfit, to perform or supervise commercial diving operations: Provided that the employee may return to perform that work after being certified medically fit by a designated medical practitioner, and after—

(a) being informed of the results of the exposure assessment; and

(b) being prescribed medical tests in the frequency that they should be repeated, based on the risks.

Designated medical practitioners

8. A designated medical practitioner must—

(a) carry out a medical examination, including any test required by the chief inspector: Provided that when an examination of a specialised nature is required, the designated medical practitioner is not required personally to perform such examination, but remains responsible for the decision based on the result of such specialised examination;

(b) issue a medical certificate of fitness or medical certificate of fitness to dive based on the results of a medical examination of a person;

(c) capture on the online fitness registry whether the diver is fit or unfit to dive as required in regulation 7; and

(d) if required in terms of the risk assessment as contemplated in regulation 6, render medical assistance as part of a diving project, including operational medical advice and recompression treatment assistance for operations involving all classes of diving.

Information, instruction and training

9. (1) An employer who undertakes commercial diving operations which may expose an employee to hazardous conditions must inform the relevant health and safety representatives or health and safety committee established for that workplace of—

(a) the intention to conduct—

(i) a risk assessment contemplated in regulation 6;

(ii) medical surveillance contemplated in regulation 7; and

(iii) training contemplated in subregulation (2);

(b) documented outcomes of—

(i) the risk assessment contemplated in regulation 6; and

(ii) medical surveillance contemplated in regulation 8.

(2) An employer must, before the commencement of a commercial diving operation, ensure that all employees are informed, instructed and trained in both practical aspects and theoretical knowledge with regard to—

(a) the potential hazards and risks to health and safety resulting from the diving operation;

(b) the measures to be taken by the employer to protect an employee against such risks;

(c) the precautions to be taken by an employee for protection against the risks associated with the diving project, including the wearing and use of personal protective equipment;

(d) the necessity, correct use, maintenance and limitations of control measures provided;

(e) the necessity of medical fitness certification and medical surveillance;

(f) the safe working procedures associated with the diving project;

(g) the procedures to be followed in the event of injury, disease, exposure to hazards or any emergency situation; and

(h) procedures for reporting, correcting and replacing defective diving apparatus and control measures.

(3) An employer or a self-employed person must ensure, as far as is reasonably practicable, that persons other than employees who may be affected by the diving operation are given information, instruction and training concerning the potential hazards and risks related to the diving project.

(4) An employer must ensure that employees are informed of the content of the latest version of the Act and regulations.

Control of commercial diving operations

10. An employer must—

(a) ensure that all diving operations are controlled in accordance with ~~all applicable~~ the latest version of all applicable regulations, the standards, the relevant code of practice and any other relevant document;

(b) ensure that all diving operations are conducted in accordance with the employer's operations manual and in accordance with the applicable class of diving;

(c) ensure that the risks identified in terms of regulation 6 are as far as is reasonably practicable eliminated, minimised or controlled, and ensure that the diving project plan is implemented;

(d) develop emergency procedures, including hyperbaric evacuation in the case of intended saturation diving operations, and ensure that persons involved in the project are made aware of the contents thereof;

(e) verify the qualifications, certification and competency of personnel and the validity thereof before involving them in the diving project;

(f) ensure that the dive site is clearly demarcated by means of a flag, lights or physical barrier;

(g) ensure that all commercial diving operations are conducted by a registered commercial diving school or registered commercial contractor; and

(h) for each diving project undertaken, ensure that any person taking part receives information, instruction and training in all procedures, plant and machinery appropriate to the diving project to be performed.

Training standards, assessment criteria and codes of practice

11. (1) The chief inspector may, in consultation with the Diving Technical Committee—

(a) develop or review standards for the conduct of training and assessments in terms of these regulations;

(b) evaluate and approve appropriate assessment criteria for the registration of qualifications derived from training in terms of these regulations; and

(c) develop or review approved codes of practice relevant to commercial diving in order to guide and regulate commercial diving and training operations.

(2) The training provided for class II commercial divers must be in accordance with the latest version of the relevant regulations, training standards, code of practice for offshore diving, relevant IMCA standards and any other relevant documents.

(3) The training provided for class III, IV, V and VI commercial divers must be in accordance with the latest version of the relevant regulations, training standards, code of practice for inshore diving and any other relevant documents.

Duties of client

12. (1) The client must—

(a) prepare a suitable, sufficiently documented and coherent site-specific health and safety specification for the intended diving project for integration with the employer's risk assessment;

(b) include the health and safety specification in the tender documents;

(c) ensure that potential employers submitting tender documents have made adequate provision for the cost of health and safety measures;

(d) ensure that the employer to be appointed is registered and in good standing with the compensation fund or with a licensed compensation insurer as contemplated in the Compensation for Occupational Injuries and Diseases Act, 1993 (Act No. 130 of 1993);

(e) appoint, in writing, an employer who is registered with the chief inspector to perform the diving project;

(f) ensure that the employer takes the prepared health and safety specification into consideration during the planning and execution of the diving project;

(g) ensure that the employer carries out all responsibilities contemplated in these regulations;

(h) take reasonable steps to ensure co-operation between the employer and other persons on site who may affect or be affected by the diving operation, to enable the employer to comply with these regulations;

(i) ensure that an initial baseline health and safety audit and document verification is conducted before the commencement of the diving project;

(j) ensure that periodic health and safety audits and document verification are conducted, at intervals mutually agreed upon with the employer;

(k) ensure that a copy of the health and safety audit contemplated in paragraphs (i) and (j) is provided to the employer within seven days after the audit;

(l) stop any employer from executing a diving project which poses a risk to the health and safety of persons, or which is not in accordance with the client's health and safety specifications for the site;

(m) where changes are made to the diving project, make sufficient health and safety information and appropriate resources available to the employer to execute the diving project safely; and

(n) ensure that the health and safety file is kept and maintained by the employer and available at the work site.

(2) The client may appoint a representative, in writing, and where such an appointment is made, the responsibilities imposed by these regulations upon a client apply, as far as reasonably practicable, to the person so appointed.

(3) No client may appoint any person as the client's representative unless the client is reasonably satisfied that the person that the client intends to appoint has the necessary information, instruction and training as contemplated in regulation 9, as well as the necessary competencies and resources to perform the duties imposed on a client by these regulations.

(4) The appointment of an employer or representative does not relieve the client of any duty imposed on the client by the Act.

Duties of employer

13. Before the commencement of a diving project, an employer must—

(a) provide and demonstrate to the client proof of registration as a commercial diving contractor with competency for the diving operation being planned;

(b) provide and demonstrate to the client that the health and safety specifications contemplated in regulation 12(1) have been incorporated into the risk assessment, and that adequate provision is made for the cost of health and safety measures;

(c) open and keep on site a health and safety file and all other documentation required in terms of the Act and applicable regulations, which must be made available on request to an inspector, the client or the client's representative;

(d) ensure that all employees taking part in the diving project are in possession of their registration documents and able to provide a copy to an inspector upon request;

(e) ensure that all employees requiring a valid medical certificate of fitness or medical certificate of fitness to dive in terms of regulation 8 have such a certificate and are able to provide a copy to an inspector upon request;

(f) ensure that the diving project is planned, managed and conducted in a manner which protects the health and safety of all persons taking part in that diving project;

(g) appoint, in writing, a commercial diving supervisor with appropriate levels of experience and competency to supervise the diving operation;

(h) provide the appointed commercial diving supervisor with a copy of the operations manual and relevant procedures for the intended operation;

(i) ensure that the required number of registered, competent employees, as contemplated in Annexure D, are appointed in writing to carry out the diving project and any necessary associated action, including the provision of first aid, is carried out safely and without risk to health;

(j) ensure that plant and machinery are available to carry out both the diving project and any action without risk to the health and safety of all persons involved in the diving project;

(k) ensure that any employee taking part in the diving project carries out all responsibilities contemplated in these regulations;

(l) ensure that a diving operations record, containing the minimum required particulars, as contemplated in Annexure B, is completed within 24 hours of completion of a diving operation;

(m) engage the services of a designated medical practitioner to fulfil the duties contemplated in regulations 7(3) and 8; and

(n) ensure that, for an intended saturation diving operation, a recompression chamber evacuation plan is in place, suitably equipped and manned.

Duties of registered commercial diving schools

14. (1) A registered commercial diving school must—

(a) have in place an ISO 14001 quality management system certified by the South African Bureau of Standards;

(b) comply with the requirements of the training standards and code of practice;

(c) provide training for the class of diver or diving supervisor for which that school is registered;

(d) provide training within the borders of South Africa;

(e) provide the necessary staff, materials, venue, plant and machinery to ensure that training will comply with the training standards issued in terms of these regulations; and

(f) appoint, in writing, an instructor to provide training or assessment in terms of regulation 11.

(2) Commercial diver training must be conducted at the approved premises of a registered commercial diving school for the classes of diving for which it is registered.

(3) Only one instructor must be appointed to have overall responsibility for a specific training course, irrespective of whether other persons are involved in the presentation of the same course.

Duties of persons involved in commercial diving

15. Any person who is involved in commercial diving operations must obey any lawful instruction given to him or her by the registered commercial diving contractor, or his or her representative, regarding—

(a) the use of measures adopted for risk control;

(b) the immediate reporting of defective or damaged diving apparatus to the health and safety representative or the employer;

(c) the correct use of personal protective plant and machinery;

(d) co-operation with the employer in the task of determining the employee's exposures in the workplace;

(e) the reporting for medical fitness certification and for medical surveillance as required by regulation 7; and

(f) information, instruction and training received as contemplated in regulation 9.

Commercial diving supervisor and instructor

16. A commercial diving supervisor and instructor must—

(a) have a valid medical certificate of fitness;

(b) be present at all times at the control point of the diving operation and must directly control the diving operation;

(c) ensure that the diving operation is carried out, as far as it is reasonably practicable—

(i) without risk to the health and safety of all those taking part in that operation and of any other person who may be affected thereby; and

(ii) in accordance with the requirements and prohibitions imposed on him or her by the relevant regulations;

(d) be competent to provide level 2 first aid, including the ability to deal with diving-related emergencies;

(e) confirm, before the commencement of each diving operation, that all persons taking part are competent to perform the duties expected of them during the performance of the diving project;

(f) enter the particulars, as required by Annexure B, in the diving operations record;

(g) maintain the daily training record, as contemplated in Annexure C, in the diving operations record;

(h) maintain a daily record in the logbook in accordance with the requirements contemplated in Annexure A;

(i) ensure that the particulars of any recompression therapy are recorded in the logbook of the commercial diver in accordance with the requirements contemplated in Annexure A;

(j) be available at all times to deal with emergencies at the site where diving operations are carried out; and

(k) in the event of an accident, take such measures as are necessary to provide treatment to any person injured in the accident, to ensure the safety of the persons involved in the diving operation, and stop the diving operation or any portion of the diving operation that may have caused or contributed to the accident until the diving operation or portion of the diving operation can be safely resumed.

Commercial diver

17. A commercial diver engaged in a diving project must—

(a) have a valid medical certificate of fitness to dive;

(b) maintain a daily record of his or her diving in the diver's logbook in accordance with the requirements contemplated in Annexure A;

(c) inform the commercial diving supervisor if he or she is not competent to carry out the diving tasks in a safe manner as required in the diving operation;

(d) inform the commercial diving supervisor if he or she knows of anything, including any illness or other condition, which makes him or her unfit to dive;

(e) comply with any lawful instruction given by the commercial diving supervisor appointed for that diving operation; and

(f) comply with any applicable instruction in the operations manual.

Line attendant

18. A line attendant must—

(a) be informed, and fully aware, of the dive operation and any changes to it;

(b) inform the commercial diving supervisor if he or she is not competent to carry out the line attendant duties required in the diving operation in a safe manner;

(c) inform the commercial diving supervisor of any hazard or danger arising during the course of the diving operation;

(d) comply with any lawful instruction given by the commercial diving supervisor appointed for that diving operation; and

(e) comply with any applicable instruction in the operations manual.

Life-support technician and life-support supervisor

19. (1) An employer must appoint, in writing, a life-support technician with appropriate levels of experience and competency for a particular diving operation.

(2) A life-support technician must, in respect of a diving operation in which he or she is involved—

(a) perform the relevant duties and functions under the supervision of the life-support supervisor;

(b) ensure that a record is maintained in the logbook in accordance with the requirements contemplated in Annexure A; and

(c) have a valid medical certificate of fitness.

(3) A life-support supervisor must, in respect of a diving operation for which he or she has been appointed—

(a) ensure that it is carried out, as far as it is reasonably practicable—

(i) without risk to the health and safety of all of those taking part in that operation and of any other person who may be affected thereby;

(ii) in accordance with the requirements and prohibitions imposed on him or her by the relevant regulations; and

(iii) in accordance with the diving operation;

(b) ensure that the particulars contemplated in Annexure B are entered in the diving operations record and the saturation recompression chamber record in the course of the diving operation; and

(c) ensure that a record is maintained in the logbook in accordance with the requirements contemplated in Annexure A.

(4) A life-support supervisor may, while supervising a recompression chamber operation in respect of which he or she has been appointed, give reasonable directions to any person taking part in that operation to ensure that it is carried out safely.

Systems technician

20. (1) An employer must appoint a systems technician in writing to perform mechanical and electrical maintenance, repairs and recertification on a diving system.

(2) A systems technician must—

(a) as a minimum have a suitable trade or engineering qualification applicable to the diving system;

(b) maintain an accurate record of all work performed on the diving system;

(c) maintain a record of work in a systems technician's logbook in accordance with Annexure A; and

(d) complete appropriate product training for safety-critical plant and machinery as determined by the employer.

(3) A systems technician may not perform any work on a diving system in the course of a diving operation without the approval of the commercial diving supervisor.

Recompression chamber operations

21. (1) An employer must ensure that a recompression chamber is available at the site where diving operations take place, when—

(a) diving takes place at a depth of 50 meters or more;

(b) the routine decompression time exceeds 20 minutes; or

(c) the routine decompression time is 20 minutes or less and an effective arrangement has not been made for a diver requiring therapeutic recompression to be brought to a suitable chamber within two hours from the time when the need for recompression is identified.

(2) Where a recompression chamber is not required on site as contemplated in subregulation (1), the employer must make arrangements to ensure that a recompression chamber is within two hours' drive of the dive site, and that the recompression chamber is in a safe and operational state.

(3) Where the available recompression chamber is not controlled by the registered commercial diving contractor, the registered commercial diving contractor must provide written proof of the operational status and immediate availability of the recompression chamber per the requirements of the specific dive operation.

(4) A recompression chamber may be operated only by—

(a) in the case of the recompression chamber being compressed with gas other than air, a life-support technician; or

(b) in the case of the recompression chamber being compressed with air—

(i) a class I commercial diver;

(ii) a class II commercial diver, under the supervision of a class I commercial diving supervisor or a class II commercial diving supervisor; or

(iii) a recompression chamber operator, who operates the recompression chamber under the supervision of—

(aa) a class I commercial diving supervisor;

(bb) a class II commercial diving supervisor;

(cc) a class III commercial diving supervisor also registered as a recompression chamber operator; or

(dd) a class IV commercial diving supervisor also registered as a recompression chamber operator.

Records

22. (1) An employer must ensure that records of—

(a) training provided in accordance with regulation 9 are kept for a minimum period of three years;

(b) diving operations are kept, in accordance with the requirements contemplated in Annexure B, for a minimum period of two years;

(c) risk assessments, as contemplated in regulation 6, are kept for a minimum period of two years; and

(d) medical surveillance, as contemplated in regulation 7, are kept for a minimum period of 40 years.

(2) A commercial diving school must ensure that records of—

(a) training operations are kept for a minimum period of six years;

(b) risk assessments, as contemplated in regulation 6, are kept for a minimum period of two years;

(c) diving operations are kept, in accordance with the requirements contemplated in Annexure B, for a minimum period of two years; and

(d) medical surveillance, as contemplated in regulation 7, are kept for a minimum period of six years.

(3) Every diver, diving supervisor and recompression chamber operator must keep a logbook, in accordance with the requirements contemplated in Annexure A, for a minimum period of two years since the last date of entry.

(4) If a commercial diving school or employer ceases activities, all its records contemplated in this regulation must be handed over or forwarded by registered post to the relevant Chief Director: Provincial Operations for safekeeping.

Notification of commercial diving project

23. (1) The employer and a commercial diving school that intends to carry out any diving project must, as far as is reasonably practicable, notify the chief inspector of the diving project, in writing, at least seven days before commencement of the diving project.

(2) The employer must notify the chief inspector of unplanned and emergency diving operations as soon as practicable or within 24 hours after completion of the diving project.

(3) A notification contemplated in subregulation (1) must contain the minimum information, as required in Annexure E.

(4) The employer and the commercial diving school must notify the chief inspector as soon as reasonably practicable of any change in the information provided in terms of subregulation (1) by submitting an updated version of Annexure E.

(5) The employer and the commercial diving school must ensure that copies of the forms contemplated in subregulations (3) and (4) are kept at the dive site for inspection by an inspector, client or employee.

Diving Technical Committee

24. (1) The Council may establish a Diving Technical Committee consisting of—

(a) an officer of the Department of Employment and Labour, who is the chairperson;

(b) one inspector;

(c) one person representing the Department of Mineral Resources and Energy;

(d) one designated medical practitioner;

(e) one instructor;

(f) one employer;

(g) one supervisor, holding the minimum of a class II supervisor's qualification; and

(h) one person representing the South African Maritime Safety Authority.

(2) The Council may in writing—

(a) authorise the Diving Technical Committee to co-opt persons who have specialised knowledge of the matters dealt with by the Diving Technical Committee;

(b) appoint the members of the Diving Technical Committee for a period of four years; and

(c) discharge a member of the Diving Technical Committee before the termination of his or her period of appointment if he or she has failed to comply with the conditions of his or her appointment as indicated in the appointment letter and afford that member a reasonable opportunity to respond to the reasons for the intended discharge.

(3) The Diving Technical Committee must—

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

(b) advise the Council regarding any matter referred to the Diving Technical Committee by the Council;

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

(d) refer appeals against decisions of the Diving Technical Committee to the Council; and

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

Prohibitions

25. (1) No employer or commercial diving school may—

(a) allow a person to dive without having an alternate breathing gas supply available that is sufficient for that person to reach a place of safety in case of an emergency; and

(b) commence diving operations without an emergency response plan and, in case of saturation diving projects, a hyperbaric evacuation plan.

(2) A commercial diving supervisor may not—

(a) dive while supervising other commercial divers;

(b) act as a standby diver; or

(c) supervise diving operations outside of the scope of his or her class of registration.

(3) A commercial diver may not dive outside of the scope of his or her class of registration.

(4) A line attendant may not leave a post while responsible for tending a diver, unless the line attendant is relieved by another person duly instructed by the commercial diving supervisor.

(5) Airline diving may not take place unless approved by the chief inspector.

Fees payable

26. The Minister must from time to time, by notice in the *Government Gazette*, after consultation with the Minister of Finance, prescribe the fees payable in respect of an application for registration contemplated in regulation 3.

Offences and penalties

27. Any person who contravenes or fails to comply with the provisions of regulation 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23 or 25 is guilty of an offence and is liable, on conviction, to a fine or imprisonment for a period not exceeding 12 months.

Repeal

28. The Diving Regulations, 2009, published under Government Notice No. R. 41 in *Government Gazette* No. 32907 of 29 January 2010, are hereby repealed.

Short title and commencement

29. These Regulations are called the Commercial Diving Regulations, 2022, and commence on the date of publication thereof in the *Government Gazette*.

Annexures

A. Minimum details required for personal logbooks (Parts 1 to 6)

B. Minimum details required for diving operations records (Parts 1 to 5)

C. Minimum details for training records (Parts 1 and 2)

D. Diving operations: Minimum Personnel Required (Parts 1 and 2)

E. Notification of diving project

F. Registration form

ANNEXURE A

MINIMUM DETAILS REQUIRED FOR PERSONAL LOGBOOKS (PARTS 1 TO 6)

[Regulations 16(g), 16(h), 17(2)(b), 19(2)(b), 19(3)(c), 20(2)(c), 22(3)]

PART 1 – OFFSHORE DIVERS

1.	Personal details
1.1	Full name
1.2	Signature
1.3	Date of birth
1.4	Address
1.5	Contact telephone number
1.6	Email address
1.7	Photograph of diver
1.8	Changes in address and contact details
1.9	Next of kin contact details
2.	Medical certificates and notes
2.1	Full name of diver
2.2	Passport or identity number of diver
2.3	Date of medical examination
2.4	Result of medical examination
2.5	Medical restriction on diving or compression (if applicable)
2.6	Date of commencement
2.7	Date of expiry
2.8	Space for designated medical practitioner practice stamp, indicating:
2.8.1	Initials and surname of designated medical practitioner
2.8.2	Address and contact numbers of designated medical practitioner
2.8.3	HPCSA registration number of designated medical practitioner
2.8.4	Designation number of medical practitioner
2.9	Date on which the medical practitioner designation will lapse
2.10	Signature of designated medical practitioner
3.	Qualifications and certificates
3.1	Date
3.2	Qualification or certificate
3.3	Subject
3.4	Awarding body or organisation
3.5	Course certification reference (if applicable)
4.	Training record
4.1	Date
4.2	Training received
4.3	Training body or organisation
4.4	Location
4.5	Authorisation
5.	Competence assessment record
5.1	Date
5.2	Competence code
5.3	Comments
5.4	Assessor's name
5.5	Assessor's company and position
5.6	Assessor's signature or stamp
6.	Record of dive
6.1	Date of dive
6.2	Signature of diver
6.3	Name of employer
6.4	Address of employer
6.5	Dive location
6.6	Vessel or installation
6.7	Type of dive
6.8	Bell bounce or surface dives
6.8.1	Maximum depth of dive
6.8.2	Time left surface or started pressurisation

Commercial Diving Regulations, 2022
Annexure A: Personal logbooks: Minimum details required

6.8.3 Bottom time
6.8.4 Decompression completed at
6.8.5 Surface decompression only
6.8.5.1 Surface interval
6.8.5.2 Time spent in chamber
6.8.6 Accumulated bottom time
6.8.7 Accumulated total time under pressure
6.9 Saturation dives
6.9.1 Storage depth
6.9.2 Maximum depth of dive
6.9.3 Bell lock-off time
6.9.4 Diver left bell
6.9.5 Diver returned to bell
6.9.6 Lock-out time
6.9.7 Bell lock-on
6.9.8 Accumulated lock-outs
6.9.9 Accumulated total time under pressure
6.10 Details of work and equipment
6.10.1 Breathing apparatus used
6.10.2 Breathing mixture used
6.10.3 Work description, equipment and tools used
6.10.4 Name of decompression schedules used
6.10.5 Notes regarding any decompression incident or other illness or injury
6.10.6 Any other remarks
6.10.7 Name of diving supervisor
6.10.8 Signature of diving supervisor
6.10.9 Date
6.10.10 Company stamp

7. Record of medical illness or injury
7.1 Date
7.2 Decompression illness or other illness or injury
7.3 Supervisor's name
7.4 Supervisor's signature
7.5 Company name

8. Cumulative diving experience
8.1 Page number from Part 6
8.2 Surface supplied bottom time
8.3 Surface supplied total time under pressure
8.4 Number of commercial surface dives
8.5 Number of saturation lock-outs
8.6 Lock-out hours
8.7 Number of commercial saturation dives
8.8 Saturation total time under pressure

Commercial Diving Regulations, 2022
Annexure A: Personal logbooks: Minimum details required

PART 2 – COMMERCIAL DIVERS

1.	Personal details
1.1	Full name
1.2	Signature
1.3	Date of birth
1.4	Address
1.5	Contact telephone number
1.6	Email address
1.7	Photograph of diver
1.8	Changes in address and contact details
1.9	Next of kin contact details
2.	Medical certificates and notes
2.1	Full name of diver
2.2	Passport or identity number of diver
2.3	Date of medical examination
2.4	Result of medical examination
2.5	Medical restriction on diving or compression (if applicable)
2.6	Date of commencement
2.7	Date of expiry
2.8	Space for designated medical practitioner practice stamp, indicating:
2.8.1	Initials and surname of designated medical practitioner
2.8.2	Address and contact numbers of designated medical practitioner
2.8.3	HPCSA registration number of designated medical practitioner
2.8.4	Designation number of medical practitioner
2.9	Date on which the medical practitioner designation will lapse
2.10	Signature of designated medical practitioner
3.	Qualifications and certificates
3.1	Date
3.2	Qualification or certificate
3.3	Subject
3.4	Awarding body or organisation
3.5	Course certification reference (if applicable)
4.	Training record
4.1	Date
4.2	Training received
4.3	Training body or organisation
4.4	Location
4.5	Authorisation
5.	Competence assessment record
5.1	Date
5.2	Competence code
5.3	Comments
5.4	Assessor's name
5.5	Assessor's company and position
5.6	Assessor's signature or stamp
6.	Record of dive
6.1	Date of dive
6.2	Signature of diver
6.3	Name of employer
6.4	Address of employer
6.5	Dive location
6.6	Vessel or installation
6.7	Type of dive
6.8	Dive details
6.8.1	Maximum depth of dive
6.8.2	Time left surface
6.8.3	Bottom time
6.8.4	Decompression completed at
6.8.5	Accumulated bottom time
6.8.6	Details of work and equipment
6.8.7	Breathing apparatus used
6.8.8	Breathing mixture used
6.8.9	Work description, equipment and tools used
6.8.10	Name of decompression schedules used
6.8.11	Notes regarding any decompression incident or other illness or injury
6.8.12	Any other remarks

Commercial Diving Regulations, 2022
Annexure A: Personal logbooks: Minimum details required

6.8.13 Name of diving supervisor
6.8.14 Signature of diving supervisor

7. Record of medical illness or injury
7.1 Date
7.2 Decompression illness or other illness or injury
7.3 Supervisor's name
7.4 Supervisor's signature
7.5 Company name

Commercial Diving Regulations, 2022
Annexure A: Personal logbooks: Minimum details required

PART 3 – OFFSHORE DIVING SUPERVISORS

1.	Personal details
1.1	Full name
1.2	Signature
1.3	Date of birth
1.4	Address
1.5	Contact telephone number
1.6	Email address
1.7	Photograph of supervisor
1.8	Changes in address and contact details
1.9	Next of kin contact details
2.	Medical certificates and notes
2.1	Full name of diver
2.2	Passport or identity number of diver
2.3	Date of medical examination
2.4	Result of medical examination
2.5	Medical restriction on diving or compression (if applicable)
2.6	Date of commencement
2.7	Date of expiry
2.8	Space for designated medical practitioner practice stamp, indicating:
2.8.1	Initials and surname of designated medical practitioner
2.8.2	Address and contact numbers of designated medical practitioner
2.8.3	HPCSA registration number of designated medical practitioner
2.8.4	Designation number of medical practitioner
2.9	Date on which the medical practitioner designation will lapse
2.10	Signature of designated medical practitioner
3.	Qualifications and certificates
3.1	Date
3.2	Qualification or certificate
3.3	Subject
3.4	Awarding body or organisation
3.5	Course certification reference (if applicable)
4.	Training record
4.1	Date
4.2	Training received
4.3	Training body or organisation
4.4	Location
4.5	Authorisation
5.	Record of supervision
5.1	Date
5.2	Signature of supervisor
5.3	Name of employer
5.4	Address of employer
5.5	Dive location
5.6	Vessel or installation
5.7	Type of supervision (direct or overall)
5.8	Bell bounce or surface dives
5.8.1	Number of dives
5.8.2	Type
5.8.3	Depth
5.8.4	Number of divers
5.8.5	Type of decompression
5.8.6	Total duration of dive
5.8.7	Description of work
5.8.8	Running total; number of dives
5.8.9	Running total; total duration of dives
5.9	Saturation dives
5.9.1	Number of dives
5.9.2	Storage depth
5.9.3	Excursion depth
5.9.4	Number of divers
5.9.5	Decompression range
5.9.6	Duration of dive
5.9.7	Description of work
5.9.8	Running total; number of dives
5.9.9	Running total; total duration of dives
5.10	General
5.10.1	Incidents and remarks
5.10.2	Employer's stamp

Commercial Diving Regulations, 2022
Annexure A: Personal logbooks: Minimum details required

5.10.3 Employer's representative's signature	5.10.4 Employer's representative's title and name

Commercial Diving Regulations, 2022
Annexure A: Personal logbooks: Minimum details required

PART 4 – DIVING SUPERVISORS

1.	Personal details
1.1	Full name
1.2	Signature
1.3	Date of birth
1.4	Address
1.5	Contact telephone number
1.6	Email address
1.7	Photograph of supervisor
1.8	Changes in address and contact details
1.9	Next of kin contact details
2.	Medical certificates and notes
2.1	Full name of supervisor
2.2	Passport or identity number of supervisor
2.3	Date of medical examination
2.4	Result of medical examination
2.5	Medical restriction on diving or compression (if applicable)
2.6	Date of commencement
2.7	Date of expiry
2.8	Space for designated medical practitioner practice stamp, indicating:
2.8.1	Initials and surname of designated medical practitioner
2.8.2	Address and contact numbers of designated medical practitioner
2.8.3	HPCSA registration number of designated medical practitioner
2.8.4	Designation number of medical practitioner
2.9	Date on which the medical practitioner designation will lapse
2.10	Signature of designated medical practitioner
3.	Qualifications and certificates
3.1	Date
3.2	Qualification or certificate
3.3	Subject
3.4	Awarding body or organisation
3.5	Course certification reference (if applicable)
4.	Training record
4.1	Date
4.2	Training received
4.3	Training body or organisation
4.4	Location
4.5	Authorisation
5.	Record of supervision
5.1	Date
5.2	Signature of supervisor
5.3	Name of employer
5.4	Address of employer
5.5	Dive location
5.6	Vessel or installation
5.7	Type of supervision (direct or overall)
5.8	Bell bounce or surface dives
5.8.1	Number of dives
5.8.2	Type
5.8.3	Depth
5.8.4	Number of divers
5.8.5	Type of decompression
5.8.6	Total duration of dive
5.9	Description of work
5.9.1	Running total; number of dives
5.9.2	Running total; total duration of dives
5.10	General
5.10.1	Incidents and remarks
5.10.2	Employer's stamp
5.10.3	Employer's representative's signature
5.10.4	Employer's representative's title and name

Commercial Diving Regulations, 2022
Annexure A: Personal logbooks: Minimum details required

PART 5 – CHAMBER OPERATOR LOGBOOK

(These details may be logged in the diver's logbook, diving supervisor's logbook, life-support technician's logbook or in a separate chamber operator's logbook.)

1.	Personal details
1.1	Full name
1.2	Signature
1.3	Date of birth
1.4	Address
1.5	Contact telephone number
1.6	Email address
1.7	Photograph of diver
1.8	Changes in address and contact details
2.	Medical certificates and notes
2.1	Full name of chamber operator
2.2	Passport or identity number of chamber operator
2.3	Date of medical examination
2.4	Result of medical examination
2.5	Medical restriction on chamber operations (if applicable)
2.6	Date of commencement
2.7	Date of expiry
2.8	Space for designated medical practitioner practice stamp, indicating:
2.8.1	Initials and surname of designated medical practitioner
2.8.2	Address and contact numbers of designated medical practitioner
2.8.3	HPCSA registration number of designated medical practitioner
2.8.4	Designation number of medical practitioner
2.9	Date on which the medical practitioner designation will lapse
2.10	Signature of designated medical practitioner
3.	Qualifications and certificates
3.1	Date
3.2	Qualification or certificate
3.3	Subject
3.4	Awarding body or organisation
3.5	Course certification reference (if applicable)
4.	Training record
4.1	Date
4.2	Training received
4.3	Training body or organisation
4.4	Location
4.5	Authorisation
5.	Competence assessment record
5.1	Date
5.2	Competence code
5.3	Comments
5.4	Assessor's name
5.5	Assessor's company and position
5.6	Assessor's signature or stamp
6.	Record of chamber dive
6.1	Date of chamber dive
6.2	Signature of chamber operator
6.3	Name of diving chamber owner or contractor
6.4	Address of diving chamber owner or contractor
6.5	Chamber location
6.6	Type of chamber
6.7	Purpose of chamber dive
6.8	Maximum depth of chamber dive
6.9	Time left surface or started pressurisation
6.10	Bottom time
6.11	Decompression completed at
6.12	Total time spent in chamber
6.13	Accumulated chamber operation time
6.14	Breathing apparatus used
6.15	Breathing mixture used
6.16	Name of decompression schedules used

Commercial Diving Regulations, 2022
Annexure A: Personal logbooks: Minimum details required

6.17	Notes regarding any incident or other illness or injury	6.23	General
6.18	Any other remarks	7.	Cumulative chamber operation experience (hours)
6.19	Name of diving supervisor	7.1	Page number from Part 6
6.20	Signature of diving supervisor	7.2	Number of chamber dives operated
6.21	Date (signature)		
6.22	Company stamp		

Commercial Diving Regulations, 2022
Annexure A: Personal logbooks: Minimum details required

PART 6 – LIFE-SUPPORT TECHNICIAN'S LOGBOOK

1.	Personal details
1.1	Full name
1.2	Signature
1.3	Date of birth
1.4	Address
1.5	Contact telephone number
1.6	Email address
1.7	Photograph of diver
1.8	Changes in address and contact details
2.	Medical certificates and notes
2.1	Full name of chamber operator
2.2	Passport or identity number of chamber operator
2.3	Date of medical examination
2.4	Result of medical examination
2.5	Medical restriction on chamber operations (if applicable)
2.6	Date of commencement
2.7	Date of expiry
2.8	Space for designated medical practitioner practice stamp, indicating:
2.8.1	Initials and surname of designated medical practitioner
2.8.2	Address and contact numbers of designated medical practitioner
2.8.3	HPCSA registration number of designated medical practitioner
2.8.4	Designation number of medical practitioner
2.9	Date on which the medical practitioner designation will lapse
2.10	Signature of designated medical practitioner
3.	Qualifications and certificates
3.1	Date
3.2	Qualification or certificate
3.3	Subject
3.4	Awarding body or organisation
3.5	Course certification reference (if applicable)
4.	Training record
4.1	Date
4.2	Training received
4.3	Training body or organisation
4.4	Location
4.5	Authorisation
5.	Competence assessment record
5.1	Date
5.2	Competence code
5.3	Comments
5.4	Assessor's name
5.5	Assessor's company and position
5.6	Assessor's signature or stamp
6.	Record of dive
6.1	Name of life-support supervisor
6.2	Signature of life-support supervisor
6.3	Date (signature)
6.4	Company stamp
6.5	General
7.	Cumulative life-support system operation experience (hours)
7.1	Page number from Part 6

ANNEXURE B

MINIMUM DETAILS REQUIRED FOR DIVING OPERATIONS RECORDS

(PARTS 1 TO 5)

[Regulations 13(1), 16(f), 19(3)(b), 22(1)(b) and 22(2)(c)]

PART 1 – OFFSHORE DIVING OPERATIONS

1. Date of dive
2. Name of employer
3. Address of employer
4. Dive location
5. Vessel or installation
6. Project reference
7. Type of dive (bounce or saturation)
8. Name of diving supervisor
9. Name of life-support supervisor
10. Names of systems technicians
11. Dive number
12. Name of diver(s), standby diver(s)
13. Maximum depth of dive or excursion(s)
14. Time left surface or started pressurisation
15. Storage depth (if applicable)
16. Bottom time or lock-out time
17. Time arrived surface
18. Decompression completed at
19. Time spent in chamber
20. Total time under pressure (TTUP)
21. Breathing apparatus used
22. Breathing mixture used
23. Work description
24. Name of decompression schedules used
25. Notes regarding any decompression illness or other illness or injury
26. Name and designation number of designated medical practitioner on standby
27. Remarks

Commercial Diving Regulations, 2022
Annexure B: Diving operations records: Minimum details required

PART 2 – COMMERCIAL DIVING OPERATIONS

(Also applies to scientific and benign condition operations)

1. Date of dive
2. Name of employer
3. Address of employer
4. Dive location
5. Vessel or installation
6. Project reference
7. Type of dive
8. Name of diving supervisor
9. Dive number
10. Name of diver(s), standby diver(s)
11. Maximum depth of dive
12. Time left surface or started pressurisation
13. Bottom time
14. Time arrived at surface
15. Decompression completed at
16. Time spent in chamber
17. Total time under pressure
18. Breathing apparatus used
19. Breathing mixture used
20. Work description
21. Name of decompression schedules used
22. Notes regarding any decompression illness or other illness or injury
23. Name and designation number of designated medical practitioner on standby
24. Remarks
25. Signature of diving supervisor

Commercial Diving Regulations, 2022
Annexure B: Diving operations records: Minimum details required

PART 3 – SATURATION CHAMBER RECORD

1. Date of operation
2. Name of employer
3. Address of employer
4. Name of client
5. Dive location
6. Storage depth
7. Dive (saturation) number
8. Blowdown started
9. Project reference
10. Log number
11. Name of diving supervisor
12. Name(s) of life-support supervisor(s)
13. Name(s) of life-support technician(s)
14. Name(s) of systems technician(s)
15. Names of divers
16. Gas storage pressure (start)
17. Gas storage pressure (end)
18. Details of pre-dive medical on-site checks
19. Name of diver(s) on bell-run
20. Maximum depth of dive or excursion(s)
21. Time left surface or started pressurisation
22. Storage depth for various chambers and names of people in the various chambers
23. Transfer under pressure (TUP) lock-off time and lock-on time(s)
24. Medical lock runs and items locked in and out
25. Temperature at appropriate intervals
26. Humidity at appropriate intervals
27. Partial pressure of oxygen at appropriate intervals
28. Carbon dioxide contents at appropriate intervals
29. Oxygen metabolic make-up recorded times
30. Calibration of analysers
31. Toilet and shower flushes and activity
32. Sodasorb or sodalime recorded change-outs
33. Bilge drain operations
34. Time decompression started
35. Decompression depth log to surface
36. Decompression completed at
37. Number of days in saturation or total time spent in chamber
38. Breathing mixture inert gas
39. Name of decompression schedules used
40. Notes regarding any decompression illness or other illness or injury
41. Name and designation number of designated medical practitioner on standby
42. Remarks
43. Signature of life-support supervisor
44. Signature of diving supervisor

Commercial Diving Regulations, 2022
Annexure B: Diving operations records: Minimum details required

PART 4 – SATURATION BELL OPERATIONS

1. Date of dive
2. Name of employer
3. Address of employer
4. Name of client
5. Dive log number
6. Dive location
7. Vessel or installation
8. Project reference
9. Type of dive (bounce or saturation)
10. Name of bell supervisor
11. Names of diving supervisors
12. Name of bellman
13. Name(s) of diver(s)
14. Equipment
15. Standby equipment
16. Winch operator
17. Bell locked off
18. Bell on bottom
19. Bell left bottom
20. Bell locked on
21. Maximum depth of dive or excursion(s)
22. Total dive time
23. Sea state
24. Visibility
25. Lock-out times of each diver
26. Lock-in times of each diver
27. Breathing mixture used
28. On-board gas pressures and percentage oxygen: bell, bellman, divers
29. Bailout bottles: pressures and percentage oxygen: bellman, diver(s)
30. Work description
31. Notes regarding any decompression illness or other illness or injury
32. Name and designation number of designated medical practitioner on standby
33. Signature of bell supervisor
34. Signature of diving supervisor
35. Remarks

PART 5 – AIR CHAMBER RECORD

1. Date of chamber dive
2. Name of employer
3. Address of employer
4. Chamber location
5. Name of diving supervisor
6. Name of chamber operator
7. Name(s) of diver(s)
8. Dive number
9. Depth of chamber dive
10. Primary gas source pressure (start)
11. Secondary gas source pressure (start)
12. Blowdown started
13. Time arrived at bottom
14. Medical lock runs and items locked in and out
15. Entry lock runs and items/persons locked in and out
16. Time decompression started
17. Decompression completed at
18. Total time spent in chamber
19. Built-in breathing system's breathing mixture
20. Name of decompression schedules used
21. Notes regarding any decompression illness or other illness or injury
22. Name and designation number of designated medical practitioner on standby
23. Remarks
24. Primary gas source pressure (end)
25. Secondary gas source pressure (end)
26. Signature of chamber operator
27. Signature of diving supervisor

ANNEXURE C
MINIMUM DETAILS FOR TRAINING RECORDS
(PARTS 1 AND 2)

[Regulation 16(g)]

PART 1 – TRAINING PROGRAMME MASTER RECORD

(Additional to the school's diving operations records. This is the master record for each training programme.)

1. Course details:
1.1 Relevant training standard (class of training)
1.2 Course number
1.3 Course start date
1.4 Course end date
1.5 Course instructor(s) (names and registration details)
1.5.1 Course director (instructor responsible for course)
1.5.2 Assisting instructors
1.6 Learner summary list
1.6.1 Full names
1.5.2 ID or passport number
1.6.3 Age
1.6.4 Copy of medical certificate

2. Dive details (for each learner):
2.1 Name of learner diver
2.2 Table of all diving operations undertaken with following details:
2.2.1 Name of diving instructor
2.2.2 Name of diving supervisor
2.2.3 Name of buddy or standby diver
2.2.4 Date of dive
2.2.5 Dive number
2.2.6 Location, vessel or installation
2.2.7 Diving apparatus used
2.2.8 Breathing mixture used
2.2.9 Time left surface
2.2.10 Maximum depth of dive

Commercial Diving Regulations, 2022
Annexure C: Training records: Minimum detail required

2.2.11 Training task or assessment reference
2.2.12 Time left bottom
2.2.13 Log of decompression stops (times and depths)
2.2.14 Time arrived surface
2.2.15 Name of decompression schedules used
2.2.16 Notes regarding any decompression illness or other illness or injury
2.2.17 Name and designation number of designated medical practitioner on standby
2.2.18 Remarks
2.2.19 Signature of instructor

3. Assessment records (for each learner)
3.1 Practical competency and assessment results (summary)
3.2 Theory competency and assessment results (summary)
3.3 Final examination results
3.4 Moderation results where applicable

4. Department's registration and certification (for each learner)
4.1 Date of application
4.2 Registration number issued
4.3 Date of registration

Commercial Diving Regulations, 2022
Annexure C: Training records: Minimum detail required

PART 2 – TRAINING PROGRAMME PERSONAL FILE

(Additional to the diver's personal logbook and school's master training log and operations records. This is the master file for each learner for all programmes attended at the school.)

1. Personal details
1.1 Full name
1.2 Signature
1.3 Date of birth
1.4 Address
1.5 Contact telephone number
1.6 Email address
1.7 Photograph of learner
1.8 Changes in address and contact details
1.9 Next of kin contact details

2. Records of prerequisites for each training programme (duplicates not required unless earlier version out of date)
2.1 Copy of identity document or passport front pages
2.2 Copy of medical certificate of fitness (in-date at time of training)
2.3 Copy of first aid certificate (in-date at time of training)
2.4 Copy of both sides of prerequisite diver and supervisor registration cards

3. Entry assessment records (where applicable)

4. Attendance records
4.1 Theory classroom sessions
4.1.1 Date
4.1.2 Start and end times
4.1.3 Lesson title and reference
4.1.4 Instructor initials
4.2 Practical workshop sessions
4.2.1 Date
4.2.2 Start and end times
4.2.3 Practical session title and reference
4.2.4 Instructor initials

5. Task completion records
5.1 Task name and reference
5.2 Date
5.3 Learner initials
5.4 Instructor initials

6. Dive records
6.1 Summary of hours at depth ranges
6.2 Summary of completed tasks
6.3 Detail listing of dives (as in master log)
6.3.1 Name of diving instructor
6.3.2 Name of diving supervisor
6.3.3 Name of buddy or standby diver
6.3.4 Date of dive
6.3.5 Dive number (as in personal logbook)
6.3.6 Location, vessel or installation
6.3.7 Diving apparatus used
6.3.8 Breathing mixture used
6.3.9 Time left surface
6.3.10 Maximum depth of dive
6.3.11 Training task or assessment reference
6.3.12 Time left bottom
6.3.13 Log of decompression stops (times and depths)
6.3.14 Time arrived surface
6.3.15 Name of decompression schedules used
6.3.16 Notes regarding any decompression illness or other illness or injury
6.3.17 Name and designation number of designated medical practitioner on standby
6.3.18 Remarks
6.3.19 Signature of learner
6.3.20 Dive details for each learner:
6.3.20.1 Name of learner diver
6.3.20.2 Table of all diving operations undertaken with following details:
6.3.20.3 Name of diving instructor

6.3.20.4	Name of diving supervisor
6.3.20.5	Name of buddy or standby diver
6.3.20.6	Date of dive
6.3.20.7	Dive number
6.3.20.8	Location, vessel or installation
6.3.20.9	Diving apparatus used
6.3.20.10	Breathing mixture used
6.3.20.11	Time left surface
6.3.20.12	Maximum depth of dive
6.3.20.13	Training task or assessment reference
6.3.20.14	Time left bottom
6.3.20.15	Log of decompression stops (times and depths)
6.3.20.16	Time arrived surface
6.3.20.17	Name of decompression schedules used
6.3.20.18	Notes regarding any decompression illness or other illness or injury
6.3.20.19	Name and designation number of designated medical practitioner on standby
6.3.20.21	Remarks
6.3.20.21	Signature of instructor

7.	Assessment records
7.1	List of records in section
7.2	Summative assessment records for all theory subjects comprising questions, answers and feedback, assessed result. Signed off by assessor and learner.
7.3	Summative assessment records for all practical skills assessed, with reference to assessment criteria used (e.g. checklists). Signed off by learner and assessor.

ANNEXURE D

DIVING OPERATIONS: MINIMUM PERSONNEL REQUIRED

(PARTS 1 AND 2)

[Regulation 13(i)]

PART 1 – Commercial diving operations

Maximum depth of dive	COMMERCIAL SCUBA (Excluding Class V and VI)	SURFACE SUPPLIED AIR/NITROX	SURFACE SUPPLIED MIXED GAS	SATURATION DIVING
0-30 m	1 x Dive supervisor 1 x Diver 1 x Standby diver 2 x Line attendants 1x DMP (on call)	1 x Dive supervisor 1 x Diver 1 x Standby diver 2 x Line attendants 1 x DMP (on call)	1 x Dive supervisor 1 x Systems technician 1 x Diver 1 x Standby diver 2 x Line attendants 1 x DMP (on call)	12 HOUR OPS 1 x Supervisor 2 x Saturation supervisors 2 x LSS 2 x LSTs 2 x Systems technicians 4 x Saturation divers 2 x Saturation standby divers 1 x DMP (on call) Full air dive team for emergency intervention
30-50 m	1 x Dive supervisor 1 x Diver 1 x Standby diver 2 x Line attendants 1x DMP (on call)	1 x Dive supervisor 1 x Diver 1 x Standby diver 2 x Line attendants 1 x DMP (on call)	1 x Dive supervisor 1 x Systems technician 1 x Diver 1 x Standby diver 2 x Line attendants 1 x DMP (on call)	24 HOUR OPS 1 x Supervisor 4 x Saturation supervisors 2 x LSS 2 x LSTs 2 x Systems technicians 4 x Saturation divers 2 x Saturation standby divers 1 x DMP (on call) Full air dive team for emergency intervention
50-75 m	NO DIVING ALLOWED	NO DIVING ALLOWED	1 x Dive supervisor 1 x Systems technician 1 x Diver 1 x Standby diver 2 x Line attendants 1 x DMP (on call)	
75-300 m	NO DIVING ALLOWED	NO DIVING ALLOWED	NO DIVING ALLOWED	

DMP = Designated Medical Practitioner

LST = Life-support technician

LSS = Life support supervisor

Commercial Diving Regulations, 2022
Annexure D: Diving operations: Minimum personnel required

PART 2 – class VI and class V diving operations

Maximum depth of dive	Class VI diving		Class V diving
0-8 m	1 x Supervisor 1 x Diver 1 x Standby diver 2 x Line attendants 1 x DMP (on call)	1 x Supervisor 1 x Diver 1 x Standby diver 2 x Line attendants 1 x DMP (on call)	1 x Supervisor 1 x Diver 1 x Standby diver 1 x DMP (on call)
8-20 m	NO DIVING ALLOWED		
>20 m	NO DIVING ALLOWED		NO DIVING ALLOWED

No commercial work

DMP = Designated Medical Practitioner

ANNEXURE E
NOTIFICATION OF DIVING PROJECT

[Regulation 23(3) and (4)]

NOTIFICATION OF A DIVING OPERATION

1. Name of employer
2. Postal address of employer
3. Employer's contact person
4. Tel no. of employer's contact person
5. Employer's compensation registration number
6. Name of client
7. Postal address of client
8. Client's contact person
9. Tel no. of client's contact person
10. Name of employer's supervisor on site (appointed in terms of regulation 13(g))
11. Tel no. of employer's supervisor
12. Exact physical address of diving site
13. Nature of the diving project
14. Expected commencement date
15. Expected completion date

Commercial Diving Regulations, 2022
Annexure E: Notification of diving project

16. Estimated maximum number of persons involved in the diving project

17. Signatures

Employer

OR

Principle contractor/client/school

Date

Commercial Diving Regulations, 2022
Annexure F: Registration form

ANNEXURE F
REGISTRATION FORM

[Regulation 3(1)]

employment & labour
Department:
Employment and Labour
REPUBLIC OF SOUTH AFRICA

ATTACH PHOTO

APPLICATION FOR REGISTRATION AS DIVER/SUPERVISOR/INSTRUCTOR/DIVING SCHOOL/CHAMBER OPERATOR/CONTRACTOR

REF NUMBER														
PERSONAL INFORMATION														
Identity/Passport Number														
Surname					**First Name**									
Position in organisation														
Physical address														
Contact details	**Telephone no.**				**Cell no.**									
Email address														
Country of origin														
ORGANISATION DETAILS														
Name of commercial diving school/company														
Physical address of diving school/company														
Level of training applying for														
Description of premises to be used (e.g. training rooms in own establishment or hired premises)														
Proposed number of courses per year														
Proposed ratio of students to instructor (theoretical training)														
Proposed ratio of students to instructor (practical training)														
DEMOGRAPHIC INFORMATION														
Race (South African citizens only)	**A**	**C**	**I**	**W**	**Other**	***Sex**	**Male**	**Female**						
Are you a South African citizen?							**Yes**	**No**						

Commercial Diving Regulations, 2022
Annexure F: Registration form

If no, indicate date of entry into SA			YYYY MM DD	
Any disability/restrictions?			**Yes**	**No**
If yes, indicate type of disability/restrictions				
PREVIOUS DIVING HISTORY				
School name				
School registration number				
Levels completed	**Class IV, V, VI, III, II, I, Supervisor class IV, III, II, I**			
Total no. of logged dives to date		**Deepest depth**		
Total no. of hours logged (supervisors)		**Maximum depths supervised**		
CURRENT TRAINING				
School name				
School registration number				
Starting date		**Completion date**		
Total no. of logged dives to date		**Deepest depth**		
Total no. of hours logged to date (supervisor)		**Maximum depth supervised**		
Total no. of chamber logged dives		**Deepest depth**		

PRACTICAL SKILLS ACQUIRED				
Type of skills acquired (where applicable)	**Completed**		**Remarks**	**Comments**
	Yes	**No**		
Other: Specify				

WORK EXPERIENCE (CONTRACTORS ONLY)	
Years of experience in undertaking commercial diving projects?	
Type of equipment to be utilised for commercial diving projects?	

Commercial Diving Regulations, 2022
Annexure F: Registration form

NB: DOCUMENTS TO ACCOMPANY REGISTRATION FORM RELEVANT TO THE APPLICATION

- **CERTIFIED COPY OF ID OR PASSPORT OF THE APPLICANT**
- **STAMPED PASSPORT PAGE INDICATING DATE OF ENTRY INTO SA OF THE APPLICANT**
- **FIRST AID CERTIFICATE**
- **IN-DATE MEDICAL CERTIFICATE**
- **2 PHOTOS**
- **PORTFOLIO OF EVIDENCE (SUPERVISORS)**
- **COPIES OF LOGBOOKS FOR SURDO2 AND DAILY OPERATIONS LOGS**
- **COMPANY REGISTRATION CERTIFICATE (SCHOOLS AND CONTRACTORS)**
- **PROPOSED SCHOOL SYLLABUS**
- **PROPOSED TEACHING PLAN**
- **FINAL ASSESSMENT/EXAMINATION PLAN**
- **DETAILS OF INSTRUCTORS, SUPERVISORS INCLUDING THEIR CVs AND CERTIFICATION**
- **PROPOSED COURSE MANUAL**
- **ANY OTHER ADDITIONAL INFORMATION THAT MAY BE REQUESTED**

DECLARATION
I hereby declare that that the information provided above is correct and that I have completed the necessary theoretical and practical training according to the prescribed training standards and the Commercial Diving Regulations. I was found to be competent and can be registered as a class VI, V, IV, III, II, I diver / class IV, III, II, I supervisor / class IV, III, II, I instructor/chamber operator. I declare that all the information provided (including any attachments) is complete and correct to the best of my knowledge. I understand that any false information provided will result in my application being disqualified.
LEARNER'S NAME AND SIGNATURE **Name** .....**Date** ..... **Signature** ..... **SUPERVISOR'S NAME AND SIGNATURE** **Name** .....**Date** ..... **Signature** ..... **INSTRUCTOR'S NAME AND SIGNATURE** **Name** .....**Date** ..... **Signature** .....

Commercial Diving Regulations, 2022
Annexure F: Registration form

SCHOOL STAMP

DECLARATION
I, the undersigned, agree that the organisation will abide by the conditions and mandate of the Occupational Health and Safety Act, Commercial Diving Regulations and any other relevant document. I accept that the Department of Employment and Labour is entitled to revoke the organisation's recognition for commercial diver training or to undertake commercial diving projects if the organisation fails to abide by the laid down conditions. I declare that all the information provided (including any attachments) is complete and correct to the best of my knowledge. I understand that any false information provided on behalf of the organisation will result in the application being disqualified.
APPLICANT'S NAME AND SIGNATURE Name .....Date ..... Signature ..... Position in organisation ..... Name of the organisation .....

ORGANISATION STAMP

employment & labour

Department:
Employment and Labour
REPUBLIC OF SOUTH AFRICA

INSHORE CODE OF PRACTICE FOR COMMERCIAL DIVING

Contents

Introduction

The inshore commercial diving industry, while providing services to inland / inshore industry, can be the subject of various regulations and standards imposed by the Government, Clients who require the diving work being carried out, Insurers of the Employer and other outside bodies.

Legal Status of this Code

This Inshore Code of Practice is incorporated into the Commercial Diving regulations of 2022 through Regulation 11(2) of the said regulations.

Objectives of this Code

The objective of the Department of Employment and Labour's Code of Practice for Inshore Code of Practice in respect of the Commercial Diving Regulations is to provide information and guidance on acceptable industry practice for inland and inshore commercial diving work;

Definitions

"The Regulations" means, unless the context indicates otherwise, the Commercial Diving Regulations, 2022;

"Acceptable risk" means a level of risk as indicated by a properly performed HIRA, which is acceptable in terms of the requirements and conditions set out in the Occupational Health and Safety Act and its Regulations, and is as low as is reasonably practicable;

"Alpha flag" means an International Code Flag Alpha

"Bailout set" or **"bailout system"** means an independent supply of the appropriate breathing mixture carried and activated by the diver, which is of sufficient capacity to allow the diver to reach a place of safety in emergency situations;

"Bottom time" means the elapsed time from when the diver starts descent from the surface to the time when the diver starts final ascent from the working dive, unless otherwise defined by the decompression schedule in use;

"Buddy line" means a line not exceeding five metres in length, which has a breaking strength of at least five hundred Newton and which is used for securely connecting two divers to each other during a dive;

"Decompression stop" means a pause, calculated with the aid of decompression tables which must be observed at a specific depth below the surface of the water during a diver's ascent from the underwater working place,

in order to release excess nitrogen or other inert gases absorbed by his or her body, and for a compression chamber dive it has a corresponding meaning;

"Diving mode" means a dive requiring scuba air, scuba nitrox, surface supplied air, surface supplied mixed gas or saturation diving apparatus, with related procedures and techniques;

"Diving Operation" means all activities of a diving team in preparation for, during and after a dive;

"Life line" means a line or something, at least eight millimetres in diameter and with a minimum breaking strength of five Kn, one end of which is fastened as the control point on the surface of the water and the other end of which is secured to the diver during a dive;

"Live boating" means diving from a vessel that is moving under power and propellers are engaged while divers are in the water;

"Maximum Operating Depth" means the depth at which the oxygen partial pressure of a breathing gas reaches the maximum accepted value. The maximum acceptable oxygen partial pressure will depend on the mode of diving and should be specified in the Operations Manual;

"Shot line" means a line of at least fifteen millimetres in diameter, one end of which is fastened at the control point on the surface of the water and which extends to the underwater working place where the other end is fastened or anchored and along which the diver must dive to the underwater working place and again return to the surface of the water;

"Surface-supplied diving equipment" means diving equipment which includes a bail-out system, a full body diver safety harness, an underwater voice communication system, a surface control panel, an umbilical cord and a full-face mask or helmet in which the supply of suitable breathing mixture is dependent on a continuous supply from the surface of the water;

"Toolbox talk" means an informal group discussion that focuses on a particular safety issue, also intended to facilitate health and safety discussions at the work site;

"Umbilical cord" means a life support line, comprising of a gas supply, pneumofathom meter and a communication cable which has a strength equivalent to or greater than that of a life-line;

"Wet bell" means a compartment at ambient pressure by means of which the divers can be transported to and from the underwater work site, which allows the divers to access the surrounding environment and which is capable of being used as a refuge during diving operations.

1 Scope of application

The scope of the Code of Practice for Inshore Diving will be aligned with the scope of application of the Commercial Diving Regulations.

2 Deviation from the code

Whenever deviation from this code is contemplated, such deviation must be clearly described and limited in the operations manual or authorised by the contractor for specific operations. An additional HIRA that specifically covers the deviations must be performed and recorded, containing the following aspects:

a) Diving and working practice planned
b) How the practice deviates from this Code
c) Specific reason(s) for the deviation
d) Which specific hazards are introduced because of the deviation
e) How these specific hazards are addressed to control and mitigate the risks.

3 Exclusions

This Code does not cover diving practices using Class V and Class VI divers, nor does it cover diving using mixed gas at depths greater than 50m, closed bell or saturation diving techniques, offshore diving practices or underwater mining operations.

4 Alternatives

4.1. Scientific diving operations using divers other than Class V and Class VI is covered by the Code of Practice for Scientific Diving, but may be conducted according to this code at the option of the Client or Contractor.

4.2. Diving practices using Class V divers for the purposes of scientific diving to a maximum depth of 20 meters is covered by the Code of Practice for Scientific Diving.

4.3. Diving practices using Class VI divers, for the purposes of diving in benign conditions, is covered by the Code of Practice for Diving in Benign Conditions.

4.4. Diving using mixed gas above 50 metres, closed bell, saturation diving techniques and offshore diving practices, including diving work in the oil and gas industry is covered in the Code of Practice for Offshore Diving

4.5. Commercial and scientific diver training is conducted according to the Code of Practice for Commercial Diver Training

4.6. Underwater mining operations are covered in the Underwater Mining Regulations under the Mine Health and Safety Act, 1996 and the guideline for the compilation of a mandatory code of practice for inshore underwater mining.

5 Operations Manual

All contractors carrying out diving operations are required by Regulation 21 to prepare standard diving Operations Manuals and procedures covering their operations and reasonably foreseeable contingencies and emergencies. If the specific task they are undertaking is not standard, then they should prepare specific written procedures for that work in the Diving Project Plan.

The Operations Manual should cover all relevant aspects in the OHS Act, applicable Regulations and this Code, as well as any additional aspects identified in the company's standard Hazard Identification and Risk Assessments (HIRA)

The Operations Manual shall be prepared in consultation with the employees and contain all relevant elements addressed in the Regulations and in this Code. The operations manual shall be made available to each diving team at the diving location before the commencement of each diving operation, and shall be accessible to members of the diving teams so that they may become adequately familiar with those sections which apply to them.

6 Employer - employee relationships

6.1. Any person who works for, or renders services to the employer, is presumed to be an employee including "freelance services".

6.2. Requirements on employer – employee relationship is provided in the following legislation:

a) Basic Conditions of Employment Act, Act 75 of 1997, as amended (find specific sections)
b) Labour Relations Act, Act 66 of 1995, as amended
c) Occupational Health and Safety Act, Act 85 of 1993, as amended.

7 Relationship between employer and Diving Medical Practitioner

7.1. The contracted designated medical practitioner shall be closely involved in the diving operation and provide appropriate medical support as needed.

7.2. The procedural instruction provided by the DMP must be as far as reasonably practicable be included in the operations manual for that specific project.

7.3. There is no need for a diver to undergo another examination when moving from one project to another, if a diver is a holder of a medical certificate of fitness to dive issued by the DMP and the certificate is still within the validity period of 12 months. However, there may be a need to perform specific examinations (in collaboration with occupational health personnel) as a result of specific hazards being present in the workplace (e.g. diving in a contaminated environment), which is specific to a diving operation.

8 The Diving Supervisor (see also regulation 16)

8.1. Diving supervisors are responsible for the operations that they have been appointed to supervise and they shall only hand over control to another supervisor appointed in writing by the employer. Such a handover must be entered and signed in the relevant operations logbook.

8.2. A supervisor cannot supervise two different dive sites at once.

8.3. To ensure that the diving operation is carried out safely, the supervisors must:

8.3.1. Satisfy themselves that they are competent to carry out the work, and that they understand their own areas and levels of responsibility;

8.3.2. Be in possession of a letter from the employer appointing them as a diving supervisor for the company;

8.3.3. Satisfy themselves that the personnel that they are to supervise are competent to carry out the work required of them. They should also check that the personnel are in possession of a valid medical certificate of fitness to dive.

8.3.4. Check that the equipment they propose to use for any particular operation is fit for purpose, adequate, safe, properly certified and maintained. All the findings must be documented.

8.3.5. Ensure that if the operation uses, or plans to use, complex or potentially hazardous equipment, all the possible hazards have been evaluated and are fully understood by all relevant parties and that, if required, training is given.

8.3.6. Ensure that the operation they are being tasked to supervise complies with the requirements of the OHS Act, applicable Regulations and this Code or that variations are authorized, either in the operations manual, or for the specific operation.

8.3.7. Have clear, uninterrupted audible communication, and, where required, clear, uninterrupted visual communication with any personnel under their supervision.

8.3.8. Have direct communications with any diver, standby diver, or bellman in the water at all times

8.3.10. Comply with all the requirements imposed on him or her in accordance with Regulation 9 of the Commercial Diving Regulations.

9 Operations

9.1. Work planning

Before any diving is carried out there must be a relevant dive plan and diving project plan available.

9.1.1. The Diving Project Plan

The diving project plan defines the scope of diving work to be performed for a diving project and contains records of the conclusions, findings and decisions of the planning activities relevant to the project. It is both guidance for the dive team and evidence of due diligence by the employer.

9.1.2. The Dive Plan

Dive plan contain the proposed profile and tasks of each dive and these are updated when required. The dive plan may refer to more detailed information in the diving project plan when appropriate.

The dive plan will consist of, at minimum, the employer's Standard Operations Manual and any appropriate site-and task specific risk assessments and procedures.

The dive plan must specify the diving equipment and techniques to be used as well as the requirements of the particular operation. It must specify contingency procedures for any reasonably foreseeable emergency.

9.1.3. Diving mode

Diving mode is selected for the operation based on the requirements of the specific task, the logistics of the operation, and the HIRA.

Three modes of diving are possible under this Code:

9.1.3.1. Surface supplied diving

It is a diving mode in which a diver is supplied with breathing gas using a diver's umblilical from the surface, either from the shore or from a diving support vessel, sometimes indirectly via a diving bell.

9.1.3.2. Scuba diving

Scuba is a non-preferred option for diving under this code, however there may be occasions when the use of scuba may be justified by logistical constraints and a HIRA indicates acceptable risk under the specified circumstances. Open circuit scuba may be used with either a full-face mask or a half face mask and demand valve. A full-face mask allows voice communications equipment to be used and is the preferred option under this code.

a) Whenever scuba diving is performed, life lines, buddy lines, surface markers and emergency gas supplies (bailout sets) must be used as reasonably practicable, and provided they do not increase overall risk. The divers should be tethered to the surface marker with an 8mm diameter synthetic line (or equivalent) and this must be constantly visually monitored from a location that allows immediate assistance to be rendered in case of an emergency.
b) If the employer, the diver and the diving supervisor consider the use of Scuba diving, the following measures must be put in place to ensure that:
   i. Voice communications between the divers and the diving supervisor is used;
   ii. A buddy system is employed whereby two divers remain at all times in constant visual or physical contact and both divers end the dive immediately if contact is lost;
   iii. The diver can be easily located by his fellow divers;
   iv. The diver can be located without any difficulty by the standby diver;
   v. The diver can be rescued without any delay or difficulty in case of an emergency; and
   vi. A life-line is used for the standby diver.

9.1.3.2.1. Proscribed activities for Scuba diving

i. Scuba may not be used at construction or industrial diving operations that involve welding, burning/cutting, high-pressure jetting, hoisting, dredging, using power tools, or working in an environment contaminated by hazardous materials or microorganisms.
ii. Scuba may not be used for penetration of overhead environments where the exit cannot be clearly seen by the diver under all reasonably foreseeable circumstances.

9.1.3.3. Airline diving

Airline diving is customarily used for shallow water aquaculture and harvesting operations. There may be occasions when the use of airline may be justified by logistical constraints and a HIRA that indicates acceptable risk under the specified circumstances. The procedure must be authorised in the company's Operations Manual.

a) Use of airline equipment may be considered when:
   i. The risk of diver entrapment is low;
   ii. The risk of snagging the airline is low;
   iii. Full surface supply equipment is not appropriate for logistical reasons;
   iv. no prescribed work is required;
   v. Airline mode is required or recommended by a government department for the specific industry.

b) A bailout system must be carried by the diver when there is any significant risk of the diver being unable to make an immediate, direct and acceptably safe ascent to the surface and to immediately achieve positive buoyancy in the case of a failure of primary air supply. Any ditching of equipment required for such a free ascent may not involve more than one quick release buckle, operable by either hand in a single movement, and all equipment required to fall clear must do so in any reasonably foreseeable circumstance. A bailout system must be used if obligatory decompression is a plausible contingency.

c) The standby diver may be equipped with any mode of diving equipment permitted by this Code and acceptable in terms of the HIRA. The standby diver should use a lifeline if on Scuba unless the HIRA shows this to be impracticable or it increases the risk.

d) A line attendant must be used in all operations where airline diving is used. The line tender must be competent and have the relevant knowledge of line signals to be used during the operation.

9.1.3.3.1. Proscribed activities for Airline diving

Airline diving may not be used under the following:

a) At construction or industrial diving operations that involve welding, burning/cutting, high-pressure jetting, hoisting, dredging, using power tools, or working in an environment contaminated by chemicals, hazardous materials or microorganisms.

b) In circumstances where a differential pressure environment exists (e.g. dams, dry-dock locks, in the presence of valves, etc.).

c) Diving depths exceeding 15m, or where the no-decompression-stop limits are likely to be exceeded.

9.2. Emergency and contingency plans

Before a dive commences, all members of the diving team must be thoroughly informed and trained with regard to the procedures to be followed in case of an emergency.

This is usually done in the form of induction training and the "toolbox talk".

9.2.2. Diving emergencies

The employer's operations manual should contain a section laying out the actions required of each member of the diving team in the event of an unforeseeable emergency occurring during operations.

The following list, which is not exhaustive, identifies the type of possible emergencies to be considered:

9.2.2.1. Dealing with an injured or unconscious diver: both in the water and on the surface
9.2.2.2. Provision of recompression therapy in the case of decompression illness
9.2.2.3. Communication with emergency services, local medical facilities and hospitals
9.2.2.4. Providing first aid
9.2.2.5. Faulty or broken equipment
9.2.2.6. Managing exposed divers to biological, chemical and physical hazards
9.2.2.7. Emergency evacuation of the worksite

Specific checklists should be provided whenever appropriate to facilitate management in an emergency.

9.2.3. Recovery of unconscious diver

All dive sites shall have a means of recovering an unconscious or injured diver from the water safely, effectively and timeously.

9.2.4. Medical assistance

9.2.4.1. Emergency medical services

a) The contact number for the local emergency services (or the national emergency number) should be readily available to the diving team.
b) The specific procedures for contacting emergency services should be clearly outlined in the operations manual and checklists should be provided to facilitate appropriate management in an emergency.

9.2.5. Termination of dive

At the onset of any sign of malfunction of equipment or sign or symptom of distress, the diver shall, immediately notify the dive supervisor, the dive tender, and any diving buddy by an appropriate signal and terminate the dive.

9.3. Working periods

9.3.2. Working periods should not be extended or prolonged to an extent that health and safety is compromised. It should be remembered that accidents are more likely when personnel work long hours because their concentration and efficiency deteriorate and their safety awareness is reduced.

9.3.3. When breaks are taken in the course of a diving operation, the employer will need to ensure that the health and safety is not compromised in any way and that qualified and experienced personnel are available to relieve during these breaks.

9.3.4. Any handovers of responsibility should be recorded in writing in the daily operations log.

9.4. Documentation and Equipment

If an inspector makes an inspection of a worksite and the required documentation is not available on site, the operation may be stopped until evidence is provided, that the required documentation is in order and the equipment is suitable and in date. It is strongly recommended that the required documentation is kept on site where reasonably practicable.

10 Diving Equipment

10.1. Diving equipment

10.1.1. Employers working under the scope of this code must use surface supplied diving equipment whenever reasonably practicable, and only use scuba equipment when conventional surface supplied equipment is not practicable, or there is a significant logistical advantage and the HIRA indicates that there is no significant additional risk.

10.1.2. No diver may undertake a dive to a depth greater than that for which the equipment he or she is using is suitable. Suitability of equipment for purpose should be confirmed by the manufacturer.

10.1.3. All equipment used for a dive must be suitable for the planned depth.

10.2. Surface-supplied diving equipment (SSDE)

10.2.1. Surface-supplied diving equipment under this code includes as a minimum the following:

a) a full-face mask or helmet
b) a diver's umbilical
c) a bail-out system, connected to the primary breathing apparatus by a valve operable by the diver,
d) a full body diver safety harness,
e) a voice communication system between the diver and the control point,
f) a surface breathing gas control panel,
g) a suitable pressurised breathing mixture supply.

10.2.3. Diving masks and Helmets

a) A full-face mask or diving helmet is an essential component of surface supplied diving equipment.
b) Helmets and full face masks may be supplied with breathing gas by a demand or free-flow system.

10.2.4. Diver's umbilicals

a) The required length of the diver's umbilical in relation to the worksite will need to be included in the dive plan, particularly where an emergency situation might require rapid location and recovery of the diver.
b) The standby diver's umbilical must be at least 2m longer than the working diver's umbilical
c) The length of the umbilical should take into account the distance to hazards.
d) A diver's umbilical must comply with the following minimum requirements:
    i. Contain a breathing gas hose of non-toxic composition (suitable for breathing gas) and a minimum internal diameter of 9mm and a working pressure of 350 kPa (35 bar);
    ii. Contain a pneumofathometer hose of non-toxic composition and a minimum internal diameter of 6mm;
    iii. Contain a hardwire communications cable for voice communications; and
    iv. Have a strength of at least 5 kN
e) The diver's umbilical must be connected to the diver's safety harness by means of a screw-gate caribiner to prevent the umbilical pulling on the diver's helmet or full-face mask.

10.2.5. Bailout systems

a) An adequate bailout system must be worn by all divers and the breathing mixture in the bailout system must be appropriate for the dive.

b) The bailout system capacity must be sufficient to allow the diver to reach a place of safety in emergency situations (e.g. for the time needed by the standby diver to reach the submerged diver and for both to return to the surface; or to return to the stage or wet bell, if this is being used in the diving operation).

10.2.6. Safety harness

A diver's safety harness must be:

a) capable of supporting the weight of the fully dressed diver in air
b) attached to the diver in such a way that it cannot be accidentally unfastened.
c) adjustable to comfortably fit the diver.

d) provided with an attachment point for lifting the diver in a posture which will minimise potential injury to an unconscious diver during lifting.
e) provided with an attachment point for connecting the umbilical in such a way that loads will not be transmitted to the mask or helmet.

10.2.7. Surface control panel

The surface gas control panel must have the following functions:

a) provide an adequate flow of primary breathing gas to each diver through the primary umbilical hose at the appropriate pressure,
b) provide an alternative supply of primary breathing gas to each diver through the pneumofathometer hose when required,
c) Indicate the breathing gas supply pressure,
d) indicate the depth of each diver by measuring the pressure in the pneumofathometer hose, to a resolution of 0.5msw,
e) provide an adequate flow of backup breathing gas to each diver through the primary and pneumofathometer hoses,
f) Switch between primary and backup breathing gas supplies without noticeably interrupting supply to the divers
g) Prevent breathing gas loss from each diver on the panel if any hose to another diver is cut
h) All valves and gauges must be labelled to indicate function and, where appropriate, which diver they serve.
i) If gases other than air are to be supplied to the diver, an oxygen analyser must be fixed to the supply manifold.

10.3. Self-contained diving equipment (SCUBA)

Scuba equipment under this code includes as a minimum the following:

a) Primary breathing air supply from high pressure cylinder/s carried by the diver on a harness, including regulator with demand valve and accurate and legible pressure monitoring gauge.
b) Buoyancy compensator device (BCD) capable of providing the diver with neutral and positive buoyancy without the need to jettison weights or other diving equipment.
c) Full-face mask, or if not appropriate, half face mask.
d) Bailout system as comprising independent gas supply carried by the diver and demand regulator, with means of changeover and pressure monitoring gauge.
e) A diver's safety harness
f) Lifeline
g) Cutting tool suitable for clearing entanglement by rope or line.
h) A means of monitoring depth.

10.4. Airline diving equipment

Airline equipment under this code includes as a minimum the following:

a) Airline supply hose with minimum inside diameter of 9mm suitable for breathing gas, complete with demand regulator system, attached to the safety harness by a screw-gate caribiner, in such a way that loads are not transmitted to the mask or DV from the airline or lifeline.

b) Airline supply hose which is neutrally buoyant or negatively buoyant may be considered in special circumstances.

c) Lifeline strapped to the airline if the airline is not suitable for this purpose alone.

d) Primary air supply from low pressure breathing air compressor or regulated flow from high pressure cylinders.

e) Full-face mask, or if not appropriate, half mask.

f) Bailout system comprising independent gas supply carried by the diver and demand regulator, with means of changeover and pressure monitoring.

g) A diver's safety harness.

10.5. Quantity of gas

a) The quantities of gases likely to be needed for diving operations, including for treatments and emergencies, must be calculated when planning a diving project. Allowances should be made for leakage, wastage, contingencies, etc. Diving must be stopped if the quantity of gas needed for safety purposes falls below the minimum specified in the operations manual and the dive plan.

b) A reserve supply of medical oxygen with a free volume of 40m3 is required at the chamber for the purposes of treatment in the chamber. A minimum supply of reserve air for the chamber is also required on site.

10.6. Divers' breathing gas supply

10.6.1. The diving apparatus must be arranged in such a manner that every diver, including the standby diver receives a breathing gas of the correct composition, volume, temperature and flow for all situations, including emergencies.

10.6.2. All divers must receive an uninterrupted supply of breathing gas. In particular, the supply must be arranged so that no other diver (including the standby diver) is deprived of breathing gas if another diver's umbilical is cut or ruptured.

10.6.3. If breathing gases are not analysed immediately prior to use, an in-line oxygen analyser with an audible Hi-Lo alarm must be fitted to the diver's gas supply line in the dive control area.

10.7. Compressors

10.7.1. Compressors used to supply air to divers in the course of a diving operation must be capable of maintaining a supply of air to meet the air requirements of the diver/s.

10.7.2. All receiver tanks and pressure vessels used in connection with compressors must meet the required regulations and standards.

10.7.3. Compressors must be operated by a competent person who, if circumstances permit, may also act as a diver's tender.

10.7.4. The compressor operator must ensure that all equipment necessary to supply an adequate quantity of air to the diver is in good working order. Particular attention shall be given to valves, stop valves, drain cocks, gauges, and all parts liable to be damaged.

10.7. Prevention of contamination of breathing air supply

The employer shall ensure that adequate procedures are in place to ensure that compressed air supplied to divers comply with the minimum requirements set out in this Code. This will include procedures, checklists, maintenance and tests with regards to compressor air intakes, the compressor itself, the filtration systems and any other part of the equipment.

10.8. Storage cylinders

10.8.1. The dive plan must specify adequate protection for the gas storage areas.

10.8.2. Gas storage cylinders must be suitable in design, fit for purpose and safe for use. Each cylinder must be in date in terms of SANS 10019.

10.8.3. Cylinders used under water in direct contact with the water should be tested according to the requirements for Scuba cylinders, as they are subject to the same environmental conditions.

a) **Contents of gas cylinders**

Gas cylinders containing breathing gases coming from suppliers will be colour coded in accordance with industry guidance and will be accompanied by an analysis certificate. Neither of these should be accepted as correct until a competent member of the dive team has analysed at least the oxygen content. This analysis should be repeated immediately before use of the gas.

b) Marking and colour coding of gas storage

i. The employer must ensure that all gas storage units comply with a recognized and agreed standard of colour coding and marking of gas storage cylinders and banks. Where appropriate, pipework should also be colour coded.

ii. Unless special circumstances apply, gas cylinders for inshore and inland operations must be marked and colour coded in accordance with SANS 10019

10.9. Breathing gas composition

Constituent gases for breathing mixtures should be within 0.5% by volume of the nominal composition.

10.9.1. Breathing gas toxicity

a) Divers breathing a mixture of oxygen and nitrogen under pressure, whether compressed natural air or an artificial mixture, are at risk of both oxygen toxicity and nitrogen narcosis as the depth increases. The dive plan must specify the maximum depth for the mixture of oxygen and nitrogen under pressure, whether compressed natural air or an artificial mixture.

b) The recommended maximum partial pressure range for oxygen used under water is 1.4 bar to 1.6 bar for the working part of the dive. The partial pressure for oxygen used must never be lower than 0.2 bar

c) Partial pressure of oxygen during decompression should comply with the requirements of the decompression schedule in use, taking into account the breathing apparatus and security of the diver's gas supply and airway in case of loss of consciousness.

d) Breathing mixtures other than oxygen and nitrogen (or air) should be used when diving takes place deeper than 50 m of water.

10.9.2. Breathing air purity standards

Breathing air for diving under this Code will comply with the SANS 10019

10.9.3. Air purity testing

To ensure that breathing air complies with these minimum standards, the employer must ensure that the air is tested in the following manner:

a) The compressor should have a monthly functionality test for delivery and pressure.

b) An air purity test must be performed at a maximum interval of 6-months.

c) An air purity test may be performed more frequently if deemed necessary.

d) Testing for contaminants other than those listed in the SANS10019 shall be conducted if their presence is suspected.

e) Quantitative testing for particulate matter (including oil) shall be conducted if its presence is evident in a qualitative test.
f) A record of these tests should be kept with the compressor log for inspection

10.9.3.1. Purity of gases for breathing mixtures

These criteria apply equally to the gases in storage and after mixing, before delivery to the diver.

Gases should be tested for specific contaminants when there is reason to suspect that they may be present above the limits. A HIRA survey should be used to determine the likelihood of these or any other potentially toxic contaminants being present in the breathing gas.

Potential contaminants should be limited to:

Contaminant	Limit
Carbon dioxide	1000 ppm_v
Carbon monoxide	5 ppm_v
Water	Storage: 40 to 200bar 50 mg/m^3 (62ppm_v) >200bar 35 mg/m^3 (44ppm_v) Low pressure: RH ideally 50% to 60%
Oil	0.1 mg/m^3
Solid particles	0.5 mg/m^3 for particles >5 µm
Odour	None
Volatile hydrocarbons excluding methane	5 ppm_v
Methane	25 ppm_v
Hydrogen sulphide	1 ppm_v
Sulphur dioxide	1 ppm_v
Oxides of nitrogen	2 ppm_v

(Ref: ECHM Book of Experts Reports, Section 5.1, Table 6: Proposed contaminant units for compressed air).

10.10. Oxygen banks and Oxygen installations

a) Any gas mixture containing more than 25% oxygen by volume should be handled like pure oxygen.
b) Any components used in plant which is intended to be exposed to high partial pressures of oxygen will need to be cleaned of hydrocarbons to avoid explosions. Formal cleaning procedures for such equipment must be specified by the employer, together with documentary evidence that such procedures have been followed.

10.10.1 Oxygen hoses
The use of hoses for oxygen in lieu of piping shall be kept to a minimum. Hoses and associated fittings shall be constructed of material that is compatible with oxygen at the operating pressure and temperature.

10.10.2 Flow velocity
High flow velocities of oxygen through hoses shall be such that the differential pressure along a hose does not exceed 700 kPa (7 bar)

10.10.3 Valves
Quick-opening valves such as ball valves should not be used in oxygen systems where the pressure exceeds 700 kPa (7 bar)

10.10.4 Oxygen storage area
An area where oxygen is stored shall be

a) adequately ventilated;
b) properly identified with warning signs;
c) kept clean and located as far as practicable from combustible materials.

10.11. Chambers
All chambers used under this code shall be of a twin-lock configuration and have sufficient space available to treat all the ill or injured divers in an emergency, with at least one ill diver lying in the horizontal position.

10.11.1. Availability of recompression chambers
Whenever deviation from treatment tables is contemplated, it should be accompanied by appropriate instructions provided by the Designated Medical Practitioner and approved by the employer. If such instructions are given telephonically it should be co-signed by at least two individuals.

10.12. Electrical power

10.12.1. Primary electrical power source
The employer shall ensure that the primary source of electrical power for the diving system complies with the relevant regulations.

10.12.2. Alternative power sources
The employer shall ensure that there is a secondary source of power for the diving system in the event of failure of the primary source. The second power source shall be capable of meeting the requirements of the diving system. This may include the following when applicable:

a) being rapidly brought online;
b) operating the handling system;
c) heating the diving plant and equipment, including providing heat for a diver(s) in water;

d) sustaining life-support systems for compression chambers and any diver in the water;
e) illuminating the work site of divers and the interior of compression chambers, dive stations, etc.; and
f) operating communication and monitoring systems.

10.12.3. Electricity used underwater

a) Divers, and others in the dive team, may be required to work with equipment carrying electric currents, which present the risk of electric shock and burning. The employer shall ensure that the equipment and procedures do not endanger the health and safety of any person.
b) Recharging lead-acid batteries generates hydrogen that can cause an explosion hazard in confined spaces. Care will need to be taken to provide adequate ventilation.

10.13. Safety equipment

10.13.1. Lifelines

A lifeline system shall

a) have a breaking strength of no less than 5 kN
b) incorporate a strength member that is no less than 8 mm in diameter;
c) be of sufficient length for the intended diving activities;
d) be free of knots and splices;
e) be secured to the diver's safety harness by means of a screw-gate carabiner;
f) be secured at the surface to a safe point of anchorage; and
g) be tended at all times while attached to the diver by a competent diver's tender.

10.13.2. Shot-lines

The shot-line must:

a) Be of such the weight that is sufficient to prevent the divers on the line from lifting it off the bottom.
b) The float must have sufficient buoyancy to prevent the weight of the divers dragging it below the surface if their buoyancy control is compromised.
c) Be thick enough to offer a comfortable grip to allow a diver to remain in place for decompression stops, and for the surface team to comfortably deploy and recover the shot-line. A diameter of 15 to 25mm is recommended unless there is a good reason to deviate.
d) Be used when the diver is not lowered to the underwater working place by means of a diving bell or similar device, unless the use of a shot line is impractical.

Whenever a shot line is not used, a boat must be kept ready for rescue purposes if the possibility exists that the diver may surface away from the control point in the course of a dive. Special consideration must be given when more than one diver may surface away from the control point.

10.13.3. Buddy lines

Buddy lines must conform to the following standards:

a) Not exceed a length of five meters;
b) Have a breaking strength of at least 5 Kn;
c) Must not encumber the diver's hands;
d) Must be possible to disconnect under tension, either by a reliable release mechanism or by cutting with the diver's knife. The diver should be able to reach the line to cut or release it with either hand.

10.13.4. Depth measuring devices

All divers must use depth measuring devices, provided that surface-supplied divers' diving depth must be measured by pneumofathometer from the surface.

10.13.5. Communications

Effective communications are essential to ensure that all personnel directly involved in operations are made fully aware of the work being undertaken and that during operations all parties are kept aware of the status of any unusual situation.

10.13.5.1. Language during operations

The dive plan should state the language to be used during the project, and all team members must be able to speak to each other fluently and clearly at all times, particularly during emergencies.

10.13.5.2. Communications between supervisor and divers

i. The employer must provide an effective means of direct, two-way communication between the divers and the diving supervisor of a diving operation. Where voice communications are required, the following shall be provided:
   - a diver voice communication system adequate to enable the diver's breathing to be clearly heard at all times;
   - a suitable means of voice-unscrambling when breathing mixtures containing helium or other gases that significantly distort sound transmission are being used; and
   - a system for recording voice communications.

ii. In addition to the primary communication system between the diver and the diving supervisor, an emergency signal system shall also be in effect.

iii. All voice communications should be recorded, and the recording kept for a period of at least 48 hours.

iv. If an incident occurs during the dive, the communication record must be retained for any subsequent investigation. All such voice recordings must be made available to an inspector for inspection purposes.

10.13.5.3. Communications between supervisor and persons other than the divers

i. The employer must ensure that an effective means of communication is in place between the diving supervisor and any other person that may assist in the diving operation.

ii. The diving team should have access to the communications system and services of any installation or vessel on which operations are based including all available media.

10.13.5.4. Communications with Designated Medical Practitioners

The employer must lay down clear protocols and procedures in the operations manual for consultation with the Designated Medical Practitioner especially in case of an accident or other medical emergency in the course of a diving operation.

10.13.6. Diving stages and wet diving bells

A wet bell, used in support of surface-supplied diving, must:

a) be able to carry at least two divers in an un-cramped position.
b) be fitted with a chain or gate at the entry and exit point to prevent the divers falling out, and with suitable hand holds for the divers.
c) be fitted with additional lifting points to permit emergency recovery of the wet bell.
d) have direct viewing through the view ports and when the wet bell is under water, be by means of a CCTV camera.

10.13.7. Man-riding Launch and Recovery Systems (LARS)

a) A safe launch/ recovery procedure must exist and it should be understood by all members of both the diving team and any other support crews. The procedure should progress in smooth, logical steps and be designed so that all personnel involved in the operation are fully aware of the situation at all times.
b) The device used to lower the diver(s) into the water shall remain available throughout the dive for the immediate recovery of the diver in the event of an emergency if required.
c) The person responsible for giving directions to the operator in charge of the hoisting device shall be identified in the dive plan.
d) All lifting equipment should be examined by a competent person before the equipment is used for the first time, after installation at another site and after any major alteration or repair.

e) Regular examination every six months is recommended. Any additional testing specified should be at the discretion of the competent person.
f) Any lifting cable or wire should be provided with a test certificate confirming its Safe Working Load (SWL).
g) The SWL should never be exceeded during operations and should include the deployment device, the number of divers to be deployed (with all their equipment) and any components that hang from the lifting cable (including cable weight in air).
h) The condition and integrity of the cable should be checked at six monthly intervals, or more frequently as circumstances dictate.
i) The lifting and lowering winch should be rated by the manufacturer for a safe working load at least equal to the weight of the deployment device plus divers in air plus any additional components. An overload test of the winch's lifting and braking capacity should be undertaken after:
    i. All permanent base fixings are in place;
    ii. NDT on relevant welds have been completed;
    iii. After initial installation and thereafter, after each subsequent installation.

10.13.7.1. Winches

Both hydraulic and pneumatic winches must have suitable braking systems, providing primary and secondary protection. They are not to be fitted with a pawl and ratchet gear in which the pawl has to be disengaged before lowering.

10.13.7.2. Lift wires

Man-carrying lift wires, including wires intended for secondary or back-up lifting must have a suitable safety factor, be non-rotating, and be as compact as possible to minimise the space requirements of their operating winches.

11 Task related equipment

11.1. High-pressure water jetting and LP abrasive cleaning

A dive plan that includes the use high-pressure water jetting and LP abrasive cleaning must include safe operating procedures that must be followed.

11.2. Lift bags

The dive plan must include ways to prevent the uncontrolled ascent of a load.

11.3. Abrasive cutting discs

The dive plan must address the risk of abrasive cutting discs breaking during use under water and to ensure that only dry discs not previously exposed to water are used.

11.4. Oxy-arc cutting and burning operations

There are inherent hazards in the use of oxy-arc cutting and burning techniques under water, including explosions from trapped gases, trapping of divers by items after cutting, etc. Guidance on this subject exists. The dive plan must include precise instructions regarding the operating procedures. Procedures which eliminate blowback, etc. will need to be employed.

11.5. Equipment – General

11.5.1. Equipment register

An equipment register must be maintained at the worksite, with copies of all relevant certificates of examination and test. It should contain any relevant additional information, such as details of the materials used to construct diving bells and surface compression chambers. It should also contain details of any applicable design limitations.

11.5.2. Suitability of equipment

a) The employer must be satisfied that the equipment provided for the diving project is suitable for the use to which it will be put, in all reasonably foreseeable circumstances on that project.
b) Suitability should be assessed by means of evaluation by a competent person, clear instructions or statements from the manufacturer or supplier, physical testing, or previous use in similar circumstances.
c) New, or innovative, equipment must be considered for safety and fitness for purpose.
d) Single-point failure consequences, both for the equipment components and for operating procedures, must be considered in the HIRA

11.5.3. Certification of equipment

The standards and codes used to examine, test and certify plant and equipment, and the requirements of those who are competent to carry out such examinations, tests and certification, must be followed. Suitable certificates (or copies) must be provided at the worksite for inspection.

11.5.4. Maintenance and testing of diving equipment

Regular inspection, maintenance and testing of diving equipment must be conducted to ensure it is fit for use.

a) Periodic examination, testing and certification
Detailed guidance exists (Specific regulations, SANS codes, IMCA codes, manufacturer's guidelines, etc.) on the frequency and extent of inspection and testing required of all items of equipment used in a diving project, together with the levels of competence required of those carrying out the work.

b) Planned maintenance system

i. The employer must establish a system of planned maintenance for plant and equipment.

ii. For each major unit, the system should identify the frequency with which each task is to be undertaken and who should do the maintenance work. The responsible technician must provide and file a record of the maintenance work.

c) Maintenance of cylinders used underwater

i. Divers' emergency gas supply cylinders (bail-out bottles) and cylinders used underwater for back-up supplies on diving bells and baskets must be regularly examined and maintained.

ii. Cylinders used underwater should be tested in accordance with the requirements for scuba cylinders as detailed in SANS 10019, and should be internally inspected for the presence of water if there is sufficient reason to suspect such contamination.

d) Lifting equipment design, periodic test and examination requirements

i. All lifting gear, such as sheaves, rings, shackles and pins should have test certificates when supplied and be examined at six monthly intervals thereafter.

ii. The certificates should show the SWL and the results of load tests undertaken on the components to 2 x SWL.

e) Maintenance of bell and basket lift wires

Regular maintenance of bell and basket lift wires must be undertaken to prevent the wear and deterioration of such equipment.

f) Maintenance of lift bags

Manufacturers' maintenance instructions and testing requirements must be followed.

g) Testing immediately before use

All diving equipment used must be checked and tested by the dive team before use so as to determine whether it is in good working order.

h) Additional diver's equipment requirements

In addition to the required working equipment of the divers, the following accessories and equipment must also be provided:

i. diver's location indicator devices, e.g., rescue beacons or strobes, where SCUBA diving operations are to be carried out during the hours of darkness; and

ii. a dive knife.

iii. a diving harness, complete with lifting ring, worn by each diver.

Immediately before each dive, the diver shall check that all his required equipment is present; such equipment is properly fastened in place; and all his apparatus is functioning properly. Before descent, the same check shall be conducted in the water.

i) Surface control point equipment
When diving is in progress, a surface control point shall be equipped, as a minimum, with the following equipment:

i. if Scuba is being used, then one complete spare set of underwater breathing apparatus with fully charged cylinders for emergency purposes;
ii. one weighted shot line, of sufficient length to reach the bottom at the maximum depth of the work area;
iii. a first-aid kit appropriate for the size of the work crew and work location;
iv. one set of decompression tables, appropriate for the depth range and breathing gas in use;
v. therapeutic oxygen and administration equipment;
vi. an adequate two-way communication system connecting the dive site with medical assistance;
vii. adequate means to facilitate the entry and exit of divers to and from the water;
viii. adequate means to facilitate the immediate removal from the water of an unconscious diver;
ix. such other equipment as may be needed to ensure safe operations

12 Control of diving operations

The employer shall maintain strict control over all diving operations and ensure that all the aspects listed in this Code are in place and complied with.

12.1. Decompression schedules

12.1.1. Diving operations shall be carried out in strict accordance with the latest version of appropriate published or proprietary decompression tables and procedures acceptable to normal commercial diving industry practice.
12.1.2. All the decompression schedules used during a dive must be available at the dive site. These must be appropriate for the gas mixture being used.
12.1.3. Before diving commences, the maximum bottom time of the dive, the specific decompression schedule and the diving technique to be used during the diving operation must be made known to and be understood by the dive team.

12.2. Discipline

Good discipline must continuously be maintained during the diving operation to ensure that the diving project is carried out safely. The diving project must be carried out strictly in accordance with the manner planned by the diving supervisor, the bottom time and decompression schedules chosen before the dive.

12.3. Warning signals and worksite identification

12.3.1. Appropriate warning signals must be given and the appropriate warning signs must be prominently displayed while the diving operation is in progress.

12.3.2. The warning devices shall be displayed as follows:

a) buoys, shapes, flags, lights, lamps, or flares need to define the limits to be kept clear of any equipment not connected to the diving operation; and

b) in navigable waters: flags, shapes and lights shall be used in accordance with the requirements of the International Maritime Organisation and the South African Maritime Safety Authority.

12.3.3. The warning signals employed for work site identification shall be removed after completion of the diving operation.

13 Personnel

13.1. Training and competence - General

Any person taking part in a diving operation must have the necessary competence and training prior to engaging in diving work and be fully conversant with the machinery, tools and equipment used during the diving project.

13.1.1. Standby diver

Before the dive commences, the standby diver must:

a) be adequately dressed, checked and ready to go with mask or helmet off, but immediately at hand;

b) have adequate diving equipment with an independent breathing gas appropriate for the depths and circumstances in which the standby diver would have to operate should a rescue become necessary;

c) not act as a diving tender without another tender, who is not the supervisor, being available to take over these duties.

13.1.2. Tender

Tenders must have the following competencies in order to assist the divers:

a) understand the diving techniques being used, Including a detailed knowledge of the emergency and contingency plans.

b) be familiar with the diver's personal equipment.

c) understand the method of deployment being used and all of the actions expected of them in an emergency.
d) understand the ways in which their actions can affect the diver.

13.1.3. Chamber operators

a) Chambers must only be operated by persons who are qualified and competent to do so.
b) Persons who are qualified as class II or class I divers are qualified to operate chambers. Other persons must hold a chamber operator's certificate as specified in the Regulations.

13.1.4. Chamber attendants

a) Chamber attendant must know how to operate valves on the inside, as well as be intimately familiar with the emergency procedures.
b) If only one person is inside the chamber, a standby diver must be available to enter the chamber in case of an emergency.

13.1.5. Surface crew/riggers

The surface crew must possess the following competencies:

a) must understand and be familiar with good rigging practice. This will include relevant knots, slinging, correct use of shackles etc.
b) be familiar with safe working loads and safety factors.
c) understand the task that the diver is being asked to carry out under water
d) understand the limitations of a diver in relation to the work they can carry out.
e) understand the various ways in which equipment can be prepared on the surface to ease the task of the diver underwater.

13.2. Training and competence – Rescue and first aid

13.2.1. The employer must ensure that adequate medical support, with competencies appropriate to the diving environment, is available at all times to deal with an emergency situation.
13.2.2. Medical support should be available to the diver from the time of injury until the diver receives appropriate medical care.
13.2.3. All divers should be in possession of an in-date first aid qualification and be competent in standard diving rescue techniques.
13.2.4. The standby diver must be in immediate readiness to dive and shall remain on duty at the control point on the surface of the water during the diving operation.
13.2.5. When diving with a wet bell or similar equipment, the standby diver (bellman) must descend in the bell and must remain in the bell so as to be able to immediately render assistance to the diver working from the bell.

13.3. Training and competence – Safety and technical

13.3.1. Employers must ensure that their personnel receive safety and technical training in order to allow them to work safely and in line with any relevant legislation, to meet specific contractual conditions or requirements.

13.3.2. Safety Training should include the following:

a) training that is required in terms of any other regulation or legislative document;
b) courses on first aid, survival or fire-fighting specific to the premises of the client;
c) task-specific safety training outlining any special hazards associated with the tasks being worked performed as identified in the HIRA; and
d) refresher training at regular intervals.

13.4. Number of personnel and team size

13.4.1. The employer must specify the size of team based on the details of the project and as specified in the commercial diving regulations. For safe operation, this may need to include additional surface support personnel and other management or technical support personnel.

13.4.2. The employer must provide a sufficient number of competent and qualified personnel to operate all the equipment and to provide support functions to the diving team.

13.4.3. If personnel who are not employed by the employer are to be used in the diving team for any reason, they must be carefully considered for competence and suitability before being included.

13.4.4. The team size and composition must always be sufficient to enable the diving operation to be conducted safely and effectively. When deciding on the team size, the following must be considered:

a) Minimum manning levels
b) Type of task
c) Type of equipment (SCUBA, surface supplied, etc.)
d) Deployment method.
e) Location.
f) Water depth
g) Handling of any unforeseeable emergency situations.

13.4.5. For umbilicals that are tended from the surface, at least one tender is required for every two divers if the maximum depth of diving does not exceed 30 meters. Whenever diving exceeds 30 meters, at least one tender is required for each diver in the water.

13.4.6. There must be a minimum of one standby diver for every two divers in the water. The standby diver must not participate in the diving operation until required to assist in an emergency.

13.4.7. With regard to safe working practices, a person should not work alone when dealing with:

a) High voltage
b) Heavy lifts
c) High pressure machinery
d) Potential fire hazards - welding, burning
e) Dangerous fumes, etc.

13.5. Readiness and availability of personnel

All personnel required for the diving operation must be ready and available before the dive commences. This includes personnel who may be on call and available telephonically.

13.6. In-date personnel

Only personnel that are in-date may take part in diving operations.

Personnel are considered to be in-date when they have a valid medical certificate of fitness and medical certificate of fitness to dive as required in the Regulations.

13.7. Medical certification

The Designated Medical Practitioner must scrutinize all medical examinations conducted outside South Africa and perform any additional examinations that are required in terms of local conditions, regulations and specific workplace risks.

13.8. Medical records

13.8.1. Diving fitness registry

All designated medical practitioners performing medical examinations should forward the following information regarding examination to the Southern African Underwater and Hyperbaric Medical Association (SAUHMA):

a) the date of the examination
b) The period of validity of the examination
c) Name of the person to whom it relates
d) Passport or identity number of the person
e) Whether the person is considered fit or not
f) Any restrictions that may apply
g) The name, address, telephone number and designation number of the designated medical practitioner who performed the medical examination

This applies to examinations for all persons covered by the commercial diving regulations.

13.8.2. Records of occupational diseases

Any occupational diseases should be reported in accordance with the Compensation for Occupational Injuries and Diseases Act. The diagnosis of an

occupational disease also requires a workplace investigation, update of the HIRA and implementation of specific risk mitigation strategies.

13.9. Fitness on the day of diving

Although a diver may be certified as fit to dive for a period of up to twelve months, there are a number of conditions that may render a person temporarily unfit for work on a given day or for a specific period.

13.9.1. Fitness after decompression illness

a) Divers who have suffered decompression illness, including cases where the diving supervisor or the diver himself suspects that the diver has suffered decompression illness, shall not be allowed to dive again without consultation with the Designated Medical Practitioner.
b) If the Designated Medical Practitioner confirms a diagnosis of decompression illness, it must be reported as an occupational disease and noted in the diver's logbook.
c) The diver may only be allowed to dive again after being passed as fit to dive by the Designated Medical Practitioner.
d) The following minimum times before re-assessment by the Designated Medical Practitioner must be adhered to as far as is reasonably practicable:

i. Simple decompression illness

Divers suffering decompression illness that manifest as: limb pain only (with no motor system involvement); cutaneous (skin rash with itching, but excluding marbling of the skin); lymphatic or non-specific (persistent headache, excessive fatigue, loss of appetite, nausea, etc.):

- If the diver fully responds to a single recompression treatment, the diver may be permitted to return to diving in 24 hours. (Telephonic consultation with the designated medical practitioner may be adequate in some cases).
- If the diver does not fully respond, or if a relapse in symptoms occur, or if further recompression therapy is required, the diver may be assessed in 7 days' time.

ii. Sensory neurological decompression illness

Neurological decompression illness involving sensation in the limbs only (excluding any spinal involvement) and with definite exclusion of motor involvement, the diver may be assessed after 7 days following maximum recovery.

iii. Cardiorespiratory decompression illness

Decompression illness manifesting with cardio-respiratory symptoms (commonly known as the "chokes") or with pulmonary barotrauma, the diver may be assessed after 28 days following maximum recovery.

iv. Serious neurological decompression illness

Decompression illness manifesting with serious neurological signs (motor involvement, inner ear involvement, etc), the diver may be assessed after 28 days following maximum recovery. Specialist consultation is advised.

13.9.2. Victimization

a) No person reporting himself as unfit for work shall be forced to work and such a person shall not be victimized in any way. A consultation with the Designated Medical Practitioner may be required and this may in certain instances occur telephonically.
b) No employer may victimise a diving supervisor who considers a diver unfit for diving due to indisposition, physical illness or mental infirmity and such a diver shall not be allowed to participate in the diving project without being cleared by the Designated Medical Practitioner.

13.10. Fitness screening

13.10.1. Screening before diving

a) Each diver shall be medically screened, at the discretion of the diving supervisor, to ensure that the diver is physically fit on a day-to-day basis. This examination may be performed by the supervisor himself, who may refer the person for further medical evaluation if needed.
b) The screening examination may include the person's ability to equalize, his balance and coordination and other screening tests as prescribed by the Designated Medical Practitioner in the operations manual.
c) In certain high-risk areas screening for drugs abuse should be included. This may be done at random intervals without the divers, diving supervisors or any other person involved in the diving project knowing. Such screening should however always be conducted within the guidelines and limits set in a company policy on drugs abuse (including alcohol). Such a policy should include clear guidelines and standard procedures, including measures related to disciplinary action (when appropriate) or rehabilitation programmes and disability management (when appropriate). Labour legislation should be consulted in this regard.

13.10.2. Screening after diving

The supervisor should screen all divers after a dive and specifically enquire about any abnormal sensations or any other symptoms that may suggest decompression sickness or other injury or disease sustained during the dive. The presence or absence thereof should be clearly noted in the daily diving log. Any abnormalities should be reported to the Designated Medical Practitioner without delay.

13.11. Medical alert tag

A medical alert tag or bracelet, to indicate the possibility of decompression sickness or other diving illness, is recommended to be worn by each diver for at least 24 h after completing each dive. The tag should include the following statement: "This individual is a commercial diver and may need recompression therapy in a decompression chamber." The number for the employer should be displayed.

13.12. Medical equipment on site

13.12.1. A minimum amount of medical equipment must be at a diving site to provide first aid and medical treatment for the dive team.

13.12.2. The first aid equipment should be adequately marked to enable any person to identify the first aid kit.

13.12.3. A specific person should be made responsible for the first aid kit (usually the supervisor). The issue of supplies from the kit should be accompanied by an injury report and proper control of the contents needs to be maintained, including due cognizance of expiry dates thereof.

13.12.4. Before any dive commences, the employer must ensure that the emergency equipment is ready for immediate use.

13.12.5. Sufficient stored quantities of medical oxygen must be available at every dive site to ensure that an emergency may be dealt with effectively.

13.13. Other medical and physiological considerations

13.13.1. Diver Monitoring

The dive plan must specify that supervisors must be able to monitor divers' breathing patterns and receive verbal reports from the divers of their condition.

Seismic Operations and Sonar Transmissions

There are inherent problems for divers who are close to seismic operations or sonar transmissions. If there is any possibility of sonar activity or seismic activity in the vicinity of a diving project, the dive plan must include parameters for the safety of the diver.

13.13.2. Decompression illness after diving

Divers are at risk of decompression illness (DCI) after diving. It is difficult to treat decompression illness if recompression facilities are not immediately available. The dive plan must specify that divers remain close to suitable recompression facilities for a set time following a dive.

13.13.3. Flying after diving

The dive plan should state that flying is avoided for a specified time following a dive because of the decrease in pressure on the diver's body caused by increased altitude and the resultant increased risk for decompression sickness.

If transportation is required (e.g. for medical evacuation), the altitude and in-flight conditions shall be recommended by the Designated Medical Practitioner. The cabin pressure of the aircraft shall not be less than the equivalent of an altitude of 300m (approximately 1000ft) above the dive site.

13.13.4. Thermal stress

The dive plan should specify ways in which divers can be maintained in thermal balance because excessive heat or cold can affect their health, safety and efficiency. For example, divers may be provided with suitable passive or active heating, such as thermal undergarments and a well-fitting "dry" diving suit, or a hot-water suit. Conversely in very warm waters nothing more than cotton overalls may be required.

14 Special operational conditions

14.1. Night diving

14.1.1. Where a diving operation is carried out at night, a lamp or other device must be attached to the diver to indicate his or her position when he or she is on the surface.

14.1.2. The surface area and the bell from which the diving is taking place and the underwater working area must be illuminated well. If such illumination is undesirable, it may be switched off during the diving operation, but be immediately available in the case of an emergency.

14.2. Water intakes, discharges and differential pressure environments

14.2.1. The employer must establish with the client whether there are any underwater obstructions or hazards in the vicinity of the proposed diving project.

14.2.2. If there are any intakes or discharges, suitable measures must be taken to ensure that these cannot operate while divers are in the water unless the divers are adequately protected by a suitable physical barrier. Such measures should be part of a work control system, such as a permit-to-work system, and could include mechanical isolation.

14.2.3. Underwater approaches to operating intakes, exhausts, and water-control structures shall be declared hazardous locations for diving operations. Operating intakes and exhausts include those units which do not currently function, but which are capable of being operated at any time.

14.2.4. Divers diving in these environments shall only use surface-supplied equipment with voice communications and be tendered from a position outside the hazardous area at all times.

14.2.5. As far as is reasonable practicable, the free length of the umbilical should be restricted to prevent the diver from entering the hazard zone

14.2.6. When a diver is required to approach any underwater intake pipe, tunnel, or duct, he must be provided with means to identify the intake in such a manner as to distinguish it from any other similar intake in the location.

14.2.7. The diver must not approach any intake until the flow through it is stopped or controlled. Provisions shall be made so that the flow cannot be re-established until the diver leaves the water or until the diving supervisor has declared the diver clear of the location.

14.2.8. When the flow cannot be stopped, the safety of a diver approaching the intake must be assessed by the determination of flow patterns using direct measurement; calculation, or other means acceptable to the diving supervisor.

14.3. Restricted surface visibility

Restricted surface visibility caused by, for example, by fog or driving rain may affect the safety of the operation. The dive plan should identify when operations will need to be suspended because of restricted visibility.

14.4. Underwater currents

The dive plan should consider the presence of currents and the limitations they impose on the diver's operational ability. While other parameters must also be taken into account, tide meters may provide accurate information on the tidal current at different depths and can be used to assess the diving conditions.

14.5. Diving near ROV operations

14.5.1. There are a number of safety considerations that need to be taken into account when divers are working with, or in the vicinity of, ROVs, and guidance is available. These considerations include entanglement of umbilicals, physical contact, electrical hazards, etc. The dive plan will need to include solutions for these hazards. For example, umbilicals could be restricted in length, and electrical trip mechanisms or guards could be employed.

14.5.2. If there is an ROV operation taking place in the vicinity, established communications should always exist between:

a) The diving supervisor and the ROV supervisor. (When an ROV is used in a diving operation the diving supervisor has ultimate responsibility for the safety of the whole operation).

b) The diver and the ROV pilot (this is normally routed through the diving supervisor).

14.6. Underwater obstructions

Diving operations can be complicated by the number of lines deployed during operations: equipment guide lines, clump weights and wires and diver's and bell umbilicals, swim lines etc. This situation is however often simplified by the level of

detailed planning involved in the operation, resulting in all involved parties having a clear understanding of responsibilities and expectations.

14.7. Risks from the environment

The safe and efficient deployment and operation of divers is dependent upon suitable environmental conditions. For any given situation the combination of these conditions can be dramatically different and it is the responsibility of the diving supervisor to assess all available information before deciding to conduct, to continue or to finish diving operations. The operations manual must contain clear limits for hazards from the environment.

At no time should a diving supervisor allow contractual pressure to compromise the safety of personnel during ongoing or planned diving operations.

14.7.1. Water depth and characteristics

Water characteristics may have a significant effect and the following factors should be taken into account when assessing the use of a diver on a given task:

a) Visibility - Poor visibility can alter the effectiveness of the operation. Diving operations near or on the bottom can stir up fine grained sediment which may reduce visibility, particularly in low or zero current situations.
b) Temperature - Extreme temperatures (both high and low) may affect the reliability of equipment and impose particular hazards on personnel.
c) Pollutants - The presence of man-made and natural petroleum products around oil fields can cloud optical lenses and may damage plastic materials. Equally gas can affect visibility, block sound transmission and cause sudden loss of buoyancy. Special precautions should be taken to protect the divers if pollutants are present as well as protecting personnel who may handle the divers or their equipment during launch / recovery and during maintenance.
d) Shallow water - Divers are very sensitive to water movement and great care has to be taken in shallow water where surge of the water can have a major effect on the ability of a diver to remain in a particular position.

14.7.2. Sea state

The sea state can affect every stage of a diving operation.

Rough seas increase the risk to the divers, and may make rescue operations impossible or unacceptably dangerous

14.7.3. Weather

The cost and efficiency of operations can be adversely altered by the effects of weather. While divers under water may not be directly affected by the various

effects of weather, these can have an effect on diving operations in a number of different ways:

a) Wind speed and direction can make the diving operation difficult.
b) Rain and fog will cause a reduction in surface visibility, possibly creating a hazard at the surface.
c) Bad weather can affect surface workings, particularly with adverse combinations of wind, rain, etc.;
d) Hot weather can cause overheating. In particular, umbilicals stored on deck are more susceptible to overheating by warm air or direct sunlight.
e) Extreme heat, including direct sunlight (or cold) can cause the temperature inside deck chambers to rise (or fall) to dangerous levels. In such conditions the internal temperature should be monitored and kept at a comfortable level.
f) Extreme heat (including direct sunlight) or cold can adversely affect the diver acting as standby who will be static but dressed in most of his diving equipment. Arrangements should be made to keep the standby diver sheltered, at a comfortable temperature and well hydrated.
g) Electric storms or lightning may be a hazard to exposed personnel or equipment.

Operations should, therefore, be carefully monitored with regard to the safety of both personnel and equipment.

14.7.4. Hazardous marine life

In some parts of the country divers may come in contact with marine life which will pose a hazard. Prior to commencing diving operations, it should therefore be established if there is any known local hazard of marine life. If so, suitable emergency and contingency plans should be put in place.

14.7.5. Other considerations

A diving supervisor should only allow a diving operation to begin after he has carefully considered all relevant environmental criteria, their interaction with each other, and other factors including the deployment equipment, the system's readiness, crew readiness and the nature and urgency of the tasks.

14.8. Support locations and control points

Divers are required to operate from different locations with varying levels of support. Due consideration must be given to the effect each location will have on the safety and efficiency of an operation.

Prior to mobilisation it is recommended that a suitable person (this may be the diving supervisor) should inspect the site and decide on the optimum location for the system. The level of services should also be assessed.

While it is not necessary for the various components of the diving system to be placed in a single location, care should be taken when considering hose or cable runs which exceed standard system lengths. Hose and cable runs should be protected from physical damage and should not cause a hazard to personnel. Due account should be taken of voltage and/or pressure drops due to length, and communications between different locations considered.

14.9. Transportation through the air-water interface

Diving activities shall not be carried out from a diving station located more than 3m above the water unless the divers are transported through the air–water interface by a suitable stage, ladder, or wet bell.

Whichever method is chosen, provision must be made for the recovery and transport of an unconscious diver.

14.10. Hazardous mechanisms

Before a diver approaches a worksite that may be made hazardous due to operation of mechanisms, specific care must be taken to ensure that such mechanisms are secured against inadvertent movement before the diver enters the water and kept secured by means of proper lockout procedures.

14.11. Use of explosives

Where explosives are handled in diving operations, the employer shall refer to the recommendations and regulations of the appropriate authority for their transportation, storage, and use.

14.12. Liveboating

14.12.1. Liveboating presents severe hazards to the diver and must be avoided as far as is reasonably practicable.

14.12.2. Liveboating from a surface vessel shall not be conducted at night or in rough seas or from vessels with insufficient manoeuverability.

14.12.3. Controls that will prevent the diving umbilical or tether from becoming entangled in the propellers shall be employed.

14.12.4. The tender for a liveboating operation shall be competent to perform this type of tending. The tender shall be in direct voice contact with the diving supervisor.

14.12.5. When liveboating is necessary and the divers use Scuba, the use of a lifeline may be more hazardous than alternative arrangements.

14.13. Deep diving

Deep diving applies to diving operations for depths greater than 50 metres and includes bell, saturation, bounce (non-saturation), and submersible lockout diving as well as sea bottom habitat dives. This information is covered in the offshore code.

Where surface mixed gas and saturation diving techniques are used, the employer and the diving supervisor shall refer to the Offshore Code of Practice.

14.14. Diving in contaminated waters

When diving in contaminated waters (biological, chemical, physical.), the employer will ensure that all the relevant Regulations are complied with, as well as any specific local authority regulations that may be applicable.

14.15. Diving in confined spaces

It is the duty of the employer to identify all confined spaces present at a diving project and ensure that the requirements of confined space entry stipulated in the General Safety Regulations are complied with.

The employer must also take cognizance of risks associated with differential pressure situations as well as the risks associated with possible entrapment and manage these risks appropriately.

15 Training facilities

15.1. Approved training establishments must ensure that adequate lecture facilities, audio- visual equipment, reference material, ablution and catering requirements are available and comply with the relevant legislation.

15.2. Commercial diver training must be conducted at the approved premises registered by the school and the premises must be within the borders of South Africa.

16 Student to Instructor Ratio

16.1. Approved Commercial Diving Schools must maintain a maximum student to instructor ratio, for practical training of no more than 4:1.

16.2. The maximum allowable trainees on a single course shall be limited to sixteen students.

16.3. Maximum number of trainees permissible for lectures shall be governed by the lecture facilities.