

Recreational diving projects

Diving at Work Regulations 1997

Approved Code of Practice



This is a free-to-download, web-friendly version of L105 (First edition, published 1998). This version has been adapted for online use from HSE's current printed version.

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ISBN 978 0 7176 1496 7
Price £9.95

This Approved Code of Practice is one of five Codes that give advice on meeting the Diving at Work Regulations 1997. The Code applies to divers who are engaged in recreational diving projects.

Among the areas covered are: responsibilities of clients, contractors, supervisors and divers; project plans and risk assessment; diving teams and working practices; diving plant and its maintenance; medical checks.

There is also a useful glossary of terms and a list of relevant legislation.

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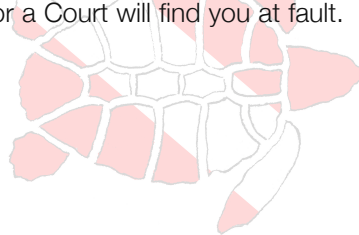
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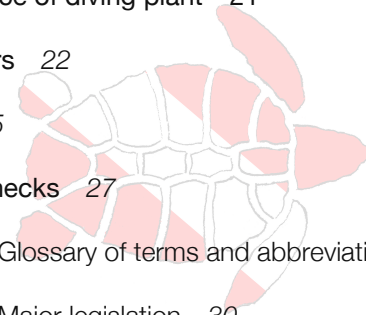
This Code has been approved by the Health and Safety Executive, with the consent of the Secretary of State. It gives practical advice on how to comply with the law. If you follow the advice you will be doing enough to comply with the law in respect of those specific matters on which the Code gives advice. You may use alternative methods to those set out in the Code in order to comply with the law.

However, the Code has a special legal status. If you are prosecuted for breach of health and safety law, and it is proved that you did not follow the relevant provisions of the Code, you will need to show that you have complied with the law in some other way or a Court will find you at fault.



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Notice of Approval

By virtue of section 16(1) of the Health and Safety at Work etc Act 1974, and with the consent of the Secretary of State for Environment, Transport and the Regions, the Health and Safety Commission has on 10 December 1997 approved the Code of Practice entitled *Recreational diving projects*.


The Code of Practice is approved for the purposes of providing practical guidance with respect to the requirements of the Diving at Work Regulations 1997 (SI 1997 No 2776) and with respect to regulation 3 of the Management of Health and Safety at Work Regulations 1992 (SI 1992 No 2051). The Code of Practice comes into force on 1 April 1998.

Reference in this Code of Practice to another document does not imply approval by HSC of that document except to the extent necessary to give effect to this Code of Practice.

Signed

ROSEMARY BANNER
Secretary to the Health and Safety Commission

19 January 1998

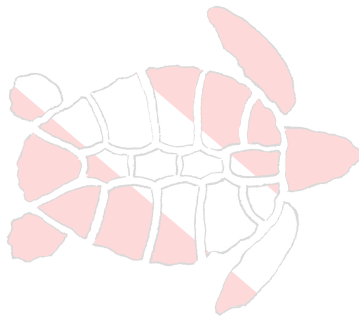


The Health and Safety Commission (HSC) and the Health and Safety Executive (HSE) merged on 1 April 2008 to form a single national regulatory body. From that date, the Health and Safety Executive became responsible for approving Codes of Practice, with the consent of the Secretary of State.

Preface

This publication contains the Approved Code of Practice (ACOP) and additional guidance for recreational diving projects, together with the relevant regulations from the Diving at Work Regulations 1997. The full text of the Regulations (SI 1997 No 2776) is available from the Stationery Office.

For convenience, the full text of the Regulations is included in *italic* type, with the accompanying ACOP in **bold** type.



Introduction and scope

Explanation and intention of the Approved Code of Practice

1 This Approved Code of Practice (ACOP) (referred to as the Code) gives advice on meeting the requirements of the Diving at Work Regulations 1997 (referred to in this Code as the Diving Regulations) for recreational diving projects. In particular, the Code gives advice on how to comply with those Regulations that are set out in general terms.

2 It should not be assumed that compliance with the Diving Regulations means that all aspects of the law are being complied with. The requirements of other legislation may also need to be fulfilled.

Health and safety legislation

3 The basis of health and safety law in Great Britain is the Health and Safety at Work etc Act 1974 (the HSW Act). The HSW Act sets out the general duties that employers and the self-employed have towards employees and members of the public, and the duties that employees have to themselves and to each other. Some of these duties are qualified in the HSW Act by the principle of *so far as is reasonably practicable*. This requires all reasonable precautions to be taken to remove the risk of harm.

4 Regulations are law, approved by Parliament. These are usually made under the HSW Act following proposals from the Health and Safety Commission (HSC). Regulations set out specific action that must be taken.

Scope and areas covered by the Code

5 This Code applies to diving projects:

- (a) where at least one person taking part in the project is employed or self-employed and at work;
- (b) the equipment and techniques are confined to free swimming using SCUBA; and
- (c) the purpose of the project is recreational diving, that is diving carried out by a person for recreational purposes while not at work.

6 The Code covers both the instruction and guiding of people diving for recreational purposes where at least one person taking part is at work, for example as an instructor. It also covers recreational journalists undertaking commissions and producing articles, including stills photography, for the recreational diving press only. It does not cover recreational diving activities, including instruction or guiding of recreational divers, where no one is at work.

7 The Code also applies to all recreational diving projects within the 12-mile limit of territorial waters adjacent to Great Britain.

Who wrote the Code and how it was agreed

8 A working party of representatives from the British Sub-Aqua Club and the Professional Association of Diving Instructors, representing the Health and Safety Executive (HSE) recognised recreational diving organisations, worked with HSE to produce the draft Code. A draft of this Code was published by HSC in July 1996 for public consultation.

Updating arrangements

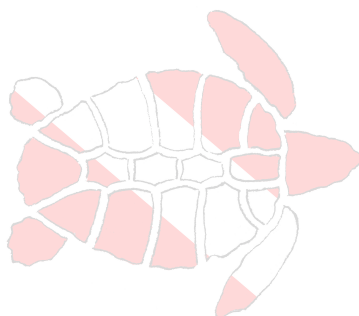
9 There will be regular meetings between HSE and the industry to discuss the current suitability of the Code. When technology, industry standards or practices change, consideration will be given to amending the Code. All amendments will be the subject of formal public consultation.

The other diving Codes

10 There are four other Codes covering diving at work:

- (a) Scientific and archaeological diving projects (ISBN 0 7176 1498 0);
- (b) Media diving projects (ISBN 0 7176 1497 2);
- (c) Commercial diving projects offshore (ISBN 0 7176 1494 8); and
- (d) Commercial diving projects inland/inshore (ISBN 0 7176 1495 6).

11 Each of these Codes has been drafted by HSE with the help of industry associations for that sector and covers standards and practices that are relevant to its particular area of diving.



**Regulation
2(1)**

Regulation 2 Definitions in the Regulations

(1) *“diver” means a person at work who dives;*

Guide

12 ‘At work’ means as an employee or as a self-employed person. The phrase covers divers who dive as part of their duties as an employee and divers who are in business on their own account during the time that they devote themselves to work as a self-employed diver. Diving does not have to be the main work activity of the employee or the self-employed person.

2(1)

13 The Diving Regulations apply when at least one diver taking part is at work. They do not apply when there are no divers at work. Therefore recreational diving will generally only fall within these Regulations when an instructor is being employed to dive in order to teach students, or where an appropriately qualified diver is employed to guide a dive party.

Regulation

(2) *For the purposes of these Regulations a person “dives” if –*

(a) *he enters –*

(i) *water or any other liquid; or*

(ii) *a chamber in which he is subject to pressure greater than 100 millibars above atmospheric pressure; and*

(b) *in order to survive in such an environment he breathes in air or other gas at a pressure greater than atmospheric pressure.*

2(2)

Guide

14 Environments such as scientific clean rooms or submersible craft subject to an internal pressure of less than 100 millibars above local ambient atmospheric pressure are not covered by the Diving Regulations.

2(2)

Regulation

(1) *“diving project” means any activity, made up of one or more diving operations, in which at least one person takes part or will take part as a diver and extends from the time when that person, or the first such person, commences to prepare to dive until that person, or the last such person, has left the water, chamber or other environment in which the dive, or any part of the dive, took place and has completed any requisite decompression procedures, including, where it may be reasonably anticipated that this will be needed, any therapeutic recompression;*

2(1)

Guide

15 ‘Diving project’ is the term used for the overall diving job – whether it lasts two hours or two months. It can be made up of one or more diving operations.

16 A number of diving projects could take place on one site at the same time. Each of these projects could be separate from the others, and each could have a separate diving contractor in charge.

2(1)

17 The diving project will finish when the diving contractor has ensured that every diver has been safely recompressed.

Regulation 2(1)

(1) *“diving operation” means a diving operation identified in the diving project plan pursuant to regulation 8(3).*

Guide 2(1)

18 ‘Diving operations’ can be made up of either a number of dives or, sometimes, a single dive. A diving operation should be that portion of a diving project identified

Guide

in the diving project plan which one supervisor can safely supervise. One supervisor must be appointed for each diving operation.

19 Diving operations in the context of this Code are likely to be individual lessons led by an instructor or single dives led by a dive guide (this will usually be the supervisor). The diving contractor and the supervisor could be the same person. When deciding the size and structure of the proposed diving operation, the diving contractor should take into account factors such as the type of instruction or dive, the nature of the lesson or the aim of the dive, the experience of the students or divers and the dive site location. The diving contractor will also need to be satisfied that he or she allocates themselves a manageable team. All these points and others should be taken into account when preparing the diving project plan. Supervisors should not participate in a diving operation which they consider in their opinion to be unsafe because insufficient supervisors have been appointed or which they are not competent to supervise.

2(1)

Regulation

Regulation 3

(1) *These Regulations shall apply to and in relation to any diving project apart from the following –*

- (a) *the care or treatment of patients in a hospital or other place, not under the control of the diving contractor, where emergency medical treatment is provided or in transit to such hospital or place where the means of transit is provided by or in respect of the hospital or other place;*

3(1)(a)

Guide

20 The use of hyperbaric chambers within diving projects is covered by these Regulations. However, those receiving hyperbaric treatment at a hospital or other place are outside the scope of the Diving Regulations. This is to avoid duplication of responsibilities when another authority is involved in the medical treatment of a diver.

3(1)(a)

Regulation

Regulation 5

(1) *No person at work shall dive in a diving project and no employer shall employ any person in such a project unless there is one person and one person only who is the diving contractor for that project.*

5(1)

Guide
5(1)

21 The term 'person' used to identify the diving contractor under this regulation means a person with legal identity such as an individual or a company and includes a body of people corporate or incorporate.

Regulation

4

Regulation 4 Clients and others

Every person who to any extent is responsible for, has control over or is engaged in a diving project or whose acts or omissions could adversely affect the health and safety of persons engaged in such a project, shall take such measures as it is reasonable for a person in his position to take to ensure that these Regulations are complied with.

ACOP

22 There are a number of people whose activities can have an involvement with or impact on the conduct of a diving project and who therefore have responsibilities for ensuring that the Regulations are complied with in relation to matters under their control. These people include the owners of dive sites, the operators of vessels being used as part of the diving project, and a client for whom the work is being carried out.

Dive site owners

23 Owners of a dive site should:

- (a) highlight any known hazards or difficulties which could affect the safety of the diving project, such as underwater obstructions, water intakes or discharges, and possible contamination; and
- (b) ensure that any equipment or activities under their control do not affect the safety of the diving project.

Vessel operators

24 Operators of vessels used in a diving project should:

- (a) ensure that any equipment under their control does not adversely affect the safety of the diving project;
- (b) keep the diving contractor and supervisor informed of any changes in circumstances which may affect the safety of the diving project; and
- (c) co-operate with the diving contractor and supervisor to enable their obligations under the Regulations to be fulfilled.

25 Everyone who is involved in the planning and organisation of a diving project has a responsibility to:

- (a) take reasonable steps to ensure that any diving contractor selected is capable of complying with the Regulations;
- (b) provide sufficient detail of the content of the diving project to allow it to be carried out safely;
- (c) highlight any known hazards or difficulties which could affect the safety of those engaged in the diving project, such as underwater obstructions, water intakes or discharges, and possible contamination;
- (d) ensure that any equipment or activities under the control of the client do not affect the safety of the diving project;
- (e) provide adequate resources to enable the diving contractor to perform his or her duties under the Diving Regulations;
- (f) co-operate with the diving contractor and supervisor to enable the diving contractor's obligations under the Diving Regulations to be fulfilled.

26 The duty under this regulation also extends to diving contractors, supervisors, divers and to people indirectly involved in the diving project such as crane operators, lorry drivers and maintenance personnel. These people should ensure that their tasks and the way they undertake them do not affect the safety of the dive team.

4

Regulation

Regulation 5 Diving contractors

(1) No person at work shall dive in a diving project and no employer shall employ any person in such a project unless there is one person and one person only who is the diving contractor for that project.

(2) The diving contractor shall, subject to paragraph (3), be the person who –

- (a) is the employer of the diver or divers engaged in the diving project; or
- (b) dives in the diving project as a self-employed diver.

(3) Where there is more than one person falling within paragraph (2) those persons shall jointly appoint in writing before the commencement of the diving project one of themselves to act as diving contractor.

5

ACOP

27 Under the Regulations, there must be a diving contractor for every diving project. The diving contractor will be the employer of the divers or a self-employed diver.

28 Often in the situations covered by this Code, the diving contractor will be a self-employed instructor or dive guide. But in some situations, the diving contractor could be the employer of instructors, for example, where the diving contractor is the proprietor of a diving school or the employer of the dive guide. Where such an employer has a legal duty to act as the diving contractor, he or she could carry this out by instructing a suitable person with expertise in diving matters to discharge some of * the specialist duties on his or her behalf. The person instructed to carry out the duties must be competent to perform them.

29 'Competence' means having a combination of training, knowledge and experience which enables a person to do the job required in a safe manner. Evidence of past experience in organising a diving project in a safe and effective manner and appropriate qualifications would be ways of demonstrating competence. The person selected will also need the authority and resources effectively to discharge those duties. The duties will remain with the employer, who should be satisfied that the person selected will be able to perform the duties on his or her behalf without risk to that person or the dive team.

30 There must only ever be one diving contractor for any diving project. This means that where a group of self-employed people are working together, they should jointly agree and nominate, in writing, one of them to accept the role and responsibilities of the diving contractor. This person must be competent to perform the duties of the diving contractor. This appointment must be recorded in writing.

5

* The duty to appoint a supervisor at regulation 6(2)(b) is personal to the diving contractor.

Regulation

Regulation 6

(1) The diving contractor shall ensure, so far as is reasonably practicable, 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 project.

(2) The diving contractor shall –

6(1),(2)(b),(c)(3)(d),(e)

Regulation

6(1),(2)(b),(c)(3)(d),(e)

- (b) *before the commencement of any diving operation –*
 - (i) *appoint a person to supervise that operation in accordance with regulation 9;*
 - (ii) *make a written record of that appointment; and*
 - (iii) *ensure that the person appointed is supplied with a copy of any part of the diving project plan which relates to that operation;*
- (c) *as soon as possible after the appointment of a supervisor, provide that supervisor with a written record of his appointment.*
- (3) *The diving contractor shall –*
 - (d) *ensure, so far as reasonably practicable, that any person taking part in the diving project complies with the requirements and prohibitions imposed on him by or under the relevant statutory provisions and observes the provisions of the diving project plan;*
 - (e) *ensure that a record containing the required particulars is kept for each diving operation;*

ACOP

6(1),(2)(b),(c)(3)(d),(e)

31 The diving contractor has overall responsibility for the safety of the diving project. This includes ensuring that:

- (a) **a suitable risk assessment and diving project plan have been prepared which identify the number of supervisors, divers and equipment needed (see section ‘Diving project plan and risk assessment’);**
- (b) **the size and abilities of the dive team are sufficient to enable the diving project to be carried out safely (see section ‘Dive teams and associated working practice’);**
- (c) **the place from which the diving is to be carried out is suitable and safe;**
- (d) **supervisors are appointed in writing (this must be done by the diving contractor) for the diving operation which they are to supervise and are supplied with copies of their formal appointment and the part of the diving project plan relevant to their operation;**
- (e) **a sufficient number of suitably qualified personnel are used and that they are competent to undertake the tasks assigned to them. Members of the team who are not at work and who are allocated duties under the Diving Regulations must be competent to perform them (see sections ‘Supervisors’ and ‘Divers’);**
- (f) **the team is medically fit to dive (see section ‘Medical checks’);**
- (g) **the supervisor and dive team are fully briefed on the project and aware of the contents of the diving project plan;**
- (h) **suitable plant and equipment are provided and are properly maintained (see sections ‘Diving plant’ and ‘Maintenance of diving plant’);**
- (i) **adequate arrangements exist for emergencies, including first aid and medical treatment (see section ‘Dive teams and associated working practice’);**
- (j) **an up-to-date record is kept for each diving operation;**
- (k) **all other relevant regulations are complied with.**

Regulation

7

Regulation 7

(1) *No person shall act as a diving contractor unless the particulars listed in Schedule 1 have been supplied in writing to the Executive by or in respect of that person.*

Regulation

7

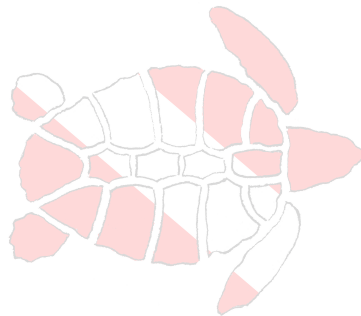
(2) *Where there is a change in any of the particulars supplied under paragraph (1) the diving contractor shall ensure that details of the change are forthwith supplied in writing to the Executive.*

(3) *Paragraphs (1) and (2) shall not apply where each person (apart from any person at work) diving in the diving project does so for recreational purposes.*

ACOP

7

32 For diving projects falling within this Code, diving contractors do not have to provide HSE with information about who they are and where they can be contacted. This is because recreational diving projects are, in the main, enforced by local authorities.



Regulation

6(2)(a)

Regulation 6 Diving project plan and risk assessment

- (2) *The diving contractor shall –*
- (a) *ensure that, before the commencement of the diving project, a diving project plan is prepared in respect of that project in accordance with regulation 8 and that the plan is thereafter updated as necessary during the continuance of the project;*

Regulation

8(1),(3)

Regulation 8

(1) *The diving project plan shall be based on an assessment of the risks to the health and safety of any person taking part in the diving project and shall consist of a record of the outcome of the planning carried out in accordance with regulation 6(1) including all such information and instructions as are necessary to give advice to and to regulate the behaviour of those so taking part to ensure, so far as is reasonably practicable, their health and safety.*

(3) *The diving project plan shall identify each diving operation which makes up the diving project and the nature and size of any diving operation so identified shall be such that it can be safely supervised by one person.*

ACOP

33 The diving contractor is responsible for ensuring that before the start of the diving project a suitable risk assessment and diving project plan have been prepared. The diving contractor may take on the task of preparing the diving project plan or ask the supervisor to prepare one. In any event the diving contractor must check that a diving project plan has been prepared and completed in advance for each diving project and is suitable and sufficient for each diving project under his or her responsibility.

34 The diving project plan may refer to information from standard manuals and recommendations for safe diving made by the appropriate recreational diving organisation as well as the diving contractor's own generic diving rules. A copy of any part of the diving project plan relevant to his or her operation should be provided to the supervisor.

35 This standard information, applicable to each of the diving contractor's projects, should be supplemented with a site-specific risk assessment, detailing any special precautions or procedures necessary to reduce the risk and listing specific emergency actions and contacts. A reconnaissance of the site is the best way to make the site-specific plan and to assess the risks. The diving project plan should include the location and contact number of the nearest operational compression chamber and the quickest means of communicating with the emergency services, and contact arrangements for HM Coastguard, ambulance, doctor and decompression illness specialist medical advice. Both the risk assessment and the diving project plan should be documented.

36 The diving project plan should specifically identify how the diving project is broken down into individual operations which can safely be supervised by one person. When making this decision the diving contractor should take into account the size and nature of the diving project.

37 The diving contractor should check that the divers are competent to dive to the depth required by the diving project plan.

6(2)(a), 8(1),(3)

ACOP

Risk assessment

38 For divers who instruct others the objective may be to achieve a specified task at a fixed location, for example a swimming pool. However, more commonly the objective is actually to perform the dive, or training drill and, within given parameters, the precise location is unimportant.

39 In these circumstances the supervisor is normally responsible for confirming that the chosen dive site is suitable, although the diving contractor has the overall responsibility to ensure that the diving project is planned, managed and conducted in a manner which protects everyone taking part. The diving contractor should therefore ensure that a risk assessment has been done. The following factors should be taken into account in assessing the dive site:

- (a) water conditions, including wave motion, movement, temperature, depth, visibility, weather, daylight and bottom type;
- (b) pollution of the water or atmosphere;
- (c) access to and from the water/boat/platform;
- (d) the type of equipment and breathing mixture being used;
- (e) the depth and planned duration;
- (f) the task or training drill to be performed and the experience level of those participating, including those who are not at work;
- (g) emergency procedures, including the location and proximity to emergency facilities and medical expertise.

40 This is not a complete list of all hazards and measures needed to control risks. An appraisal of the hazards at a specific dive site will identify the full extent of the safeguards needed to protect the safety of the dive team.

41 As a matter of safe working practice, the supervisor should keep the site-specific risk assessment under review to ensure that it is adequate and does not need to be revised.

42 A risk assessment made under these Regulations will cover in part the obligation to make an assessment under the Management of Health and Safety at Work Regulations 1999 (MHSWR). There will be no need to repeat those aspects of the assessment, so long as they remain valid, in any other assessment that the diving contractor carries out. However, the diving contractor will need to ensure that all significant risks not covered by the diving project assessment (including risks to members of the public arising from the diving project/diving activities) are covered by the risk assessment carried out under the MHSWR (or in any assessment required to be carried out under other specific regulations).

Technical diving

43 Technical diving is a discipline where special methods and equipment are used to improve diver safety and performance, enabling the user to conduct dives in environments and perform tasks beyond the scope of traditional recreational diving techniques.

44 Technical diving uses particular SCUBA-diving techniques which HSE considers to be high hazard activities and which require additional precautions to be taken to minimise the risk so far as is reasonably practicable. People at work conducting technical diving operations for recreational divers should meet the requirements of their HSE recognised

6(2)(a), 8(1),(3)

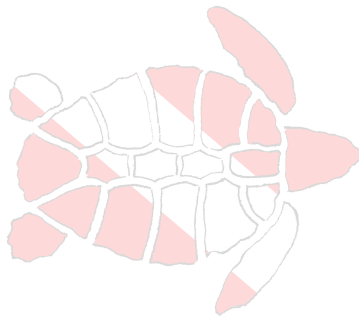
ACOP

recreational diving organisations under whose direction they conduct their activity. Provided such requirements are met, it is recognised that on balance the additional risk involved will be reasonably controlled and enough safety measures will be provided for those members of the public who decide to participate in these activities.

Decompression procedures

45 Decompression procedures (including the use of a decompression computer) should be appropriate for the type of diving technique undertaken and their use included in the diving project plan. For surface-orientated diving, decompression procedures should be consulted to determine whether the dive requires 'in-water' decompression. All decompression procedures should be designed to take into account the risks of a particular type of dive and should include the various rules and procedures needed in order to reduce the risk of decompression illness.

6(2)(a), 8(1),(3)



Regulation

Regulation 6 Dive teams and associated working practice

6(3)(a)

- (3) *The diving contractor shall –*
- (a) *ensure that there are sufficient people with suitable competence to carry out safely and without risk to health both the diving project and any action (including the giving of first-aid) which may be necessary in the event of a reasonably foreseeable emergency connected with the diving project;*

ACOP

46 The diving contractor should identify the minimum size of team for a safe diving operation based on the requirements of the risk assessment and diving project plan. The team should be of a sufficient size to comply with the risk assessment and the diving project plan and to enable the diving operation to be completed safely. For recreational diving instruction this needs to take into account the number of 'trainees' and appropriate instructor-to-student ratios in the water.

47 The decision on instructor-to-student ratios should be linked back to the findings of the risk assessment and should not exceed the recommended levels of the appropriate recreational diving organisation. Where qualified people are being guided or are under instruction, the appropriate instructor-to-student ratio depends upon the site conditions and the nature of any exercise being undertaken.

48 The absolute minimum team size for a dive using recreational techniques is three – one person on the surface and two in the water. The acceptability of this number must be based on the risk assessment and diving project plan. One of these three people should be the supervisor. The supervisor is normally the most experienced and well-qualified diver in the team and in a team of three will normally be leading the dive underwater.

49 The two divers in the water should be capable of rendering assistance to each other in the event of an emergency under water. Under specific circumstances, one of these divers can be a student undergoing training, provided that he or she has been trained in rescue techniques, has been assessed as competent to carry out rescue techniques and has reached the minimum competency level required for this task set out by the appropriate recreational diving organisation.

50 The person on the surface does not have to be someone able to dive but he or she should be familiar with the diving project plan and the arrangements for obtaining assistance in the event of an emergency.

51 All the people who form part of the dive team must be competent to discharge the duties they hold. HSE approves certain qualifications for diving under this Code which indicate that a minimum level of competence has been assessed. Qualifications alone do not always demonstrate fitness to undertake a task. The diving contractor has a duty to engage competent people, which may require that the dive team's competence is verified or demonstrated.

Pools and tanks

52 In certain circumstances, when diving in pools and tanks, the minimum team size can be two and there is no requirement for a person on the surface. One of the two must be the supervisor. However, the diving project

6(3)(a)

ACOP

and risk assessment must identify the circumstances where it will be safe to have a team of two and set out the measures needed to ensure that the operation takes place without risk to themselves or those taking part.

53 The second person in the team should be immediately available, on the surface or in the water, in a position to render assistance. This second person, under specific circumstances, can be a student undergoing training. He or she should be familiar with the diving project plan and the arrangements for emergencies. He or she should also be trained in rescue techniques and have been assessed as competent to carry them out and should be able to assist in an emergency. The second person should meet the minimum competency level required by the appropriate recreational diving organisation.

First-aid training and competencies

54 The diving contractor is responsible for ensuring that sufficient and competent personnel trained in first aid are used in the diving project. A number of members of the dive team should be trained in first-aid provision. The risk assessment should identify the first-aid equipment needed and which divers are trained to use it.

55 The risk assessment should take into account the type of diving taking place, the size of the team and the distance of the dive site from the emergency services. It is sensible to have more than one person in the team qualified in first aid in case that person becomes injured. Those who are qualified should not hold other important duties which could conflict with the need to administer first aid in an emergency.

56 Those identified in the dive team as being qualified to give first aid should be able to:

- (a) recognise symptoms of decompression illness and provide appropriate first-aid treatment prior to and during transfer to a decompression facility;
- (b) administer oxygen to an unconscious patient;
- (c) perform resuscitation using the techniques of artificial ventilation (AV) and external cardiac compression (ECC);
- (d) recognise the symptoms of shock and provide appropriate first-aid treatment;
- (e) administer appropriate first-aid treatment for burns, bleeding and broken bones.

57 There are situations where some members of the dive team should have additional training in first aid. The need for additional training may arise where remoteness from local emergency medical services means there is a need to maintain life until the emergency medical services are able to assume responsibility; or where the diver requiring first aid is inside a hyperbaric compression chamber and medical assistance cannot be provided by normal emergency medical services. The Health and Safety (First-Aid) Regulations 1981 Approved Code of Practice sets out additional advice for those areas where special additional training may be necessary to cover less common risks.

6(3)(a)

Regulation

6(3)(b)

Regulation 6 Diving plant

- (3) *The diving contractor shall –*
- (b) *ensure that suitable and sufficient plant is available whenever needed to carry out safely and without risk to health both the diving project and any action (including the giving of first-aid) which may be necessary in the event of a reasonably foreseeable emergency connected with the diving project;*

ACOP

58 The equipment necessary to perform the dive safely and without risk to health depends on the type and location of the dive and should be set out in the diving project plan.

59 For normal open water diving activities the diver should be provided with a sufficient supply of pure breathing gas, adequate exposure protection and a means of controlling/adjusting buoyancy. The breathing gas will normally be air but could also be a gas mixture or pure oxygen for decompression.

60 Minimum equipment to be provided for each diver should be in accordance with the requirements of the appropriate recreational diving organisation and includes:

- (a) breathing gas cylinder(s), cylinder valve(s) and manifold (if required);
- (b) carrying frame (backpack or harness);
- (c) demand regulator (pressure reducer (first stage) and demand valve (second stage));
- (d) mouthpiece assembly and a half mask, or full face mask, or diving helmet;
- (e) fins;
- (f) at least one of the following safety devices:
 - pressure gauge;
 - reserve valve; or
 - active warning device;
- (g) appropriate alternative breathing gas source/secondary life support system;
- (h) submersible depth gauge;
- (i) submersible timing device;
- (j) underwater compass;
- (k) suitable cutting tool;
- (l) buoyancy control device (BCD);
- (m) quick-release weight belt or other means of providing positive buoyancy in an emergency;
- (n) adequate exposure protection (wet suit or dry suit) appropriate for local diving conditions.

61 Some of these items may not be needed when diving in a swimming pool or tank. The diving project plan will need to specify what is appropriate.

62 Where voice communications are used, the equipment should enable each diver to communicate with the supervisor, and when working as a buddy pair, for each diver to communicate with each other. Any voice communications equipment should have adequate power supplies to ensure that such links are not jeopardised by power failure.

6(3)(b)

ACOP

Dealing with emergencies

63 For each diving project the risk assessment should include a suitable casualty evacuation plan. This should include the emergency recovery of a casualty from the water and his or her transportation to a hyperbaric chamber or specialist treatment centre. The details of the emergency arrangements should be recorded in the diving project plan. The initial stages of these arrangements should be tested periodically in order to ensure that they are effective.

64 A suitable first-aid kit and oxygen administration set should be provided at the site of the dive.

Availability of compression chambers

65 The diving contractor has a responsibility to ensure the provision of facilities so that a diver can be recompressed in an emergency, should this be necessary. In all circumstances treatment should be as soon as possible. The provision of a compression chamber should be in accordance with the decompression procedures selected as part of the diving project plan.

66 The diving project plan should demonstrate that in an emergency, where the compression chamber is not located on the site, a diver will be able to be transported and recompressed to ensure, so far as is reasonably practicable, his or her safety.

67 If a situation arises where a diver may need hyperbaric treatment at a chamber provided by another chamber owner, then provision for this should be made in the diving project plan.

68 If the diving contractor is responsible for transporting the injured diver to a hospital or other place, his or her duty will continue until the diver is admitted to the hospital or other place.

69 If the use of any type of hyperbaric transportation chamber is planned for emergencies, the supervisor should be asked before the start of the diving operation to ensure that transfer is possible between the transportation chamber and the main chamber. In assessing both hyperbaric and normobaric transfers to compression facilities, the supervisor should ensure that there is a sufficient supply of oxygen available during the planned duration of the transfer.

6(3)(b)

Regulation

6(3)(c)

Regulation 6 Maintenance of diving plant

- (3) *The diving contractor shall –*
- (c) *ensure that the plant made available under sub-paragraph (b) is maintained in a safe working condition;*

ACOP

70 Diving plant and equipment is used under extreme conditions, including frequent immersion in salt water. It therefore requires regular inspection, maintenance and testing to ensure that it is fit for use, and not damaged or suffering from deterioration.

71 In order to ensure that the equipment is maintained, the diving contractor should have a written scheme of equipment maintenance and inspection. All plant and equipment should be checked by a competent person immediately before use and this check entered in the diving operation record.

72 The equipment maintenance scheme should be based upon the manufacturers' recommendations and be in accordance with current international, European or national standards.

73 Gas cylinders should be subjected to periodic internal visual inspection and hydrostatic testing in accordance with the highest current international, European or national standards.

74 All maintenance should be carried out by a competent person. Written inspection and maintenance records should be kept.

75 The diving contractor should ask divers using their own diving equipment to confirm that it has been serviced in accordance with the appropriate equipment supplier's service schedule and that all the cylinders have been tested for fitness-for-use in line with statutory requirements under other regulations. Prior to the dive, this should be confirmed to the supervisor and recorded in the diving operation record for his or her operation.

76 The diving contractor should also ensure that before the start of the diving operation, divers will be asked to carry out a pre-dive visual inspection and check of their equipment to ensure that it is in a serviceable condition and working correctly.

77 Where breathing and similar equipment is likely to be shared, appropriate disinfection procedures should be used.

6(3)(c)

Regulation

9(1)

Regulation 9 Supervisors

(1) *Only one supervisor shall be appointed to supervise a diving operation at any one time.*

ACOP

Supervisor's appointment

78 A supervisor must be appointed in writing by the diving contractor. Normally, given the smaller size and shorter duration of typical diving projects using recreational diving techniques, one supervisor should be sufficient. However, if a diving project is complex or taking place over such an area or time-scale that its operation cannot be safely supervised by one supervisor, then the project should be divided up and further supervisors should be appointed for specific operations. Enough supervisors must be appointed to cover the entire diving project.

79 Written appointments should clearly define the times and areas of control. The supervisor must have immediate overriding control of all safety aspects for the diving operation for which he or she is appointed.

80 During the period of appointment the supervisor should not leave the dive site or dive without formally handing over to another supervisor. The hand-over should be entered in the diving operation record.

9(1)

Regulation

9(2)

(2) *No person shall be appointed, or shall act, as a supervisor unless he is competent and, where appropriate, suitably qualified to perform the functions of supervisor in respect of the diving operation which he is appointed to supervise.*

ACOP

Supervisor's competency

81 In order to be appointed as a supervisor the individual concerned should hold an appropriate qualification from his or her recreational diving organisation which indicates that he or she is qualified in dive leadership and organisation, rescue management and the recognition and treatment of diving-related injuries.

82 Before appointing a supervisor the diving contractor should ensure that in addition to possession of the appropriate qualification, the individual concerned has relevant previous experience and can be considered competent to supervise the specific diving operation to be undertaken.

9(2)

Regulation

10(1)(a)(i),(b),(c)

Regulation 10

(1) *The supervisor shall, in respect of the diving operation for which he has been appointed as supervisor –*

(a) *ensure that it is carried out, so far as is reasonably practicable –*

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

(b) *before the commencement of the operation, ensure that each person taking part is aware of the contents of the diving project plan which relate to that operation; and*

(c) *enter in the diving operation record the particulars required by regulation 6(4) during the course of the operation.*

ACOP

Supervisor's responsibility

83 The supervisor has legal responsibility for the safety of the diving operation he or she is supervising and should be on site, in direct control of the diving operation taking place. This includes confirming that:

- (a) the proposed dive site and the water and weather conditions are suitable;
- (b) the risk assessment is still valid for the circumstances on the day of the dive;
- (c) all relevant authorities are aware that a diving operation is in progress, and all the necessary permits and permissions have been obtained;
- (d) the equipment provided is appropriate, adequate and has been checked by a competent person prior to use and recorded in the diving operation record;
- (e) the personnel they are supervising are qualified and competent to perform the tasks required of them and that as far as the supervisor is able to ascertain, they are fit to undertake the task that they are assigned;
- (f) the diving project plan and arrangements for dealing with foreseeable emergencies are clearly understood by all those engaged in the diving operation. This would normally be ensured by a pre-dive briefing session with all those involved;
- (g) proper records of the diving operation are maintained. As a minimum this would include a description of the dive, the names of those taking part and their dive qualifications, the date, time and location, maximum depth attained by each diver and their bottom time or dive time, the decompression schedule being used and a record that the equipment has been checked prior to the dive.

10(1)(a)(i),(b),(c)

Regulation

(2) *The supervisor shall not dive during the diving operation which he is supervising unless –*

- (a) (i) *he is guiding persons engaged in, or training persons to carry out or teach, recreational diving (and for this purpose recreational diving means diving which is carried out by a person for recreational purposes whilst he is not at work) and the persons taking part in the dive use only self-contained underwater breathing apparatus;*
- (b) *the supervisor can so dive without risk to the health and safety of those taking part in that operation and of other persons who may be affected thereby; and*
- (c) *the diving project plan which relates to that operation specifically provides for the supervisor to so dive.*

10(2)(a)(i),(b),(c)

ACOP

Supervisor diving with the team

84 The Regulations allow recreational instructors and dive guides to dive as supervisors with their team in any location. The risk assessment and diving project plan should take this into account and identify the measures needed to ensure the safety of the operation, especially the assignment of a dedicated person on the surface.

10(2)(a)(i),(b),(c)

Regulation

11

Regulation 11

A supervisor may, whilst supervising the diving operation in respect of which he

**Regulation
11**

is appointed, give such reasonable directions to any person taking part in that operation or who may affect the safety of that operation as are necessary to enable him to comply with regulation 10.

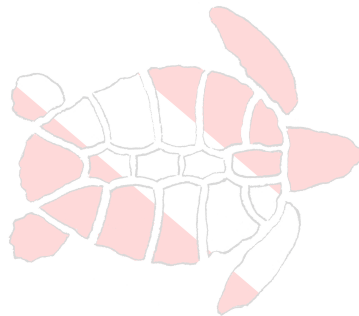
ACOP

Directions

85 As the person in charge, the supervisor may give reasonable instructions to any person taking part in the diving operation. This includes students under instruction or those being guided.

86 The supervisor should decide upon a common system of signals to be used between all personnel involved in the operation, and ensure that everyone is familiar with this system. This should be done before the start of the diving operation for which he or she is responsible, and recorded in the diving project plan.

11



Regulation

13(1)(a)

Regulation 13 Divers

- (1) *No person shall dive in a diving project –*
- (a) *unless he is competent to carry out safely and without risk to health any activity he may reasonably expect to carry out while taking part in the diving project;*

ACOP

13(1)(a)

Competency

87 Divers covered by this Code should be competent to dive with a buddy who should also be competent for the conditions likely to be encountered in open water using recreational diving equipment. They should:

- (a) **have a good understanding of diving physics and physiology and decompression;**
- (b) **be able to recognise the signs and symptoms of diving-related injuries in themselves and others, initiate appropriate treatment and carry out a diver rescue, including the performance of resuscitation techniques;**
- (c) **be able to initiate appropriate actions in the event of an emergency;**
- (d) **be competent to operate any special equipment being used.**

Regulation

12(1)(a)

Regulation 12

- (1) *No diver shall dive in a diving project unless he –*
- (a) *has, subject to paragraph (2), an approved qualification which is valid for any activity he may reasonably expect to carry out while taking part in the diving project;*

ACOP

12(1)(a)

Qualifications

88 HSE issues a list of approved diving qualifications suitable for diving under this Code. The list can be obtained from HSE. Divers must hold one of these qualifications before they can be engaged to dive in a diving project.

89 Additional competences and qualifications are required for some tasks. All instructors should have an appropriate instructor qualification. In order to teach diving using mixed gases or rebreathers, an appropriate instructor qualification in that technique is needed. Diving using rebreathers requires not only a qualification in the general understanding of the dive technique but an additional qualification in the specific type of rebreather endorsed by the manufacturer.

Regulation

13(2)

Regulation 13

- (2) *Every person engaged in a diving project shall comply with –*
- (a) *any directions given to him by a supervisor under regulation 11; and*
- (b) *where they would not conflict with those directions, any instructions applicable to him in the diving project plan.*

ACOP 13(2)

90 Students under instruction or those being guided have a responsibility to co-operate with the supervisor and to follow any reasonable directions

ACOP

and instructions that the supervisor gives.

13(2)

91 All the dive team should thoroughly familiarise themselves with the equipment used in the diving operation. This should be done before the operation commences. This routine safety check should also be carried out by any students diving with the team.

Regulation

Regulation 12

12(3)(a)

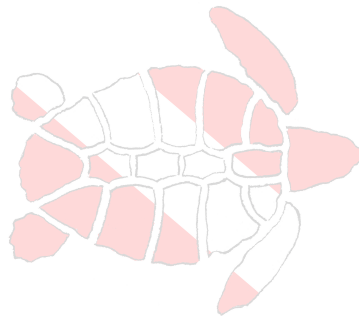
(3) *Every diver engaged in a diving project shall –*

(a) *maintain a daily record of his diving;*

ACOP

92 Diving logs should include as a minimum the particulars recommended by the appropriate recreational diving organisation's standards manual. They should be accurate and reflect the information contained in the diving operation record.

12(3)(a)



Regulation

13(1)(b)

Regulation 13 Medical checks

- (1) No person shall dive in a diving project –
- (b) if he knows of anything (including any illness or medical condition) which makes him unfit to dive.

ACOP

13(1)(b)

Fitness

93 Every person diving has a responsibility not to dive if by doing so they might present a risk to themselves or others. They must inform the supervisor immediately if there is any medical condition which prevents them from either diving safely or rendering assistance to another member of the diving team. Before every dive they must ensure that they know of nothing which makes them unfit to dive including:

- (a) any known medical condition;
- (b) any effects of drugs or alcohol;
- (c) any effect of medication whether prescribed or proprietary;
- (d) any feelings of tiredness or a feeling of being unwell.

Regulation

12(1)(b)

Regulation 12

- (1) No diver shall dive in a diving project unless he –
- (b) has a valid certificate of medical fitness to dive.

ACOP

12(1)(b)

Medicals

94 All divers at work must have a valid certificate of medical fitness to dive issued by a medical examiner of divers. The certificate of medical fitness to dive is valid for up to 12 months and must be renewed annually if a diver wishes to continue diving at work.

95 Where an annual medical examination is carried out less than a month before the expiry of the current medical certificate to dive, the start of the new certificate may begin from the expiry date of the current certificate.

Regulation

15(1)

Regulation 15

(1) A certificate of medical fitness to dive is a certificate from a medical examiner of divers (or from the Executive following an appeal under paragraph (4)) that the person issuing the certificate considers the person named in the certificate to be fit to dive.

ACOP

15(1)

96 The medical examination and assessment looks at the diver's overall fitness to dive. This includes the main systems of the body – cardiovascular system, respiratory system and central nervous system – as well as the ears, nose and throat, vision, dentition, and the person's capacity for exercise.

Regulation

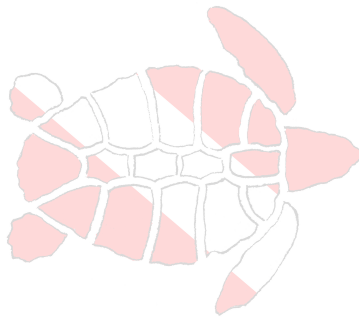
15(6)

(6) In this regulation, "medical examiner of divers" means a medical practitioner who is, or who falls within a class of medical practitioners which is, for the time being, approved in writing by the Executive for the purposes of this regulation; and any such approval may be given generally or restricted to any class of diver or dive.

ACOP

15(6)

97 HSE approves doctors to carry out diving medical examinations. A list is available from HSE. Doctors are selected for approval based on their training in underwater medicine and their knowledge of diving. This approval is limited in duration, usually for one or two years.



Annex 1 Glossary of terms and abbreviations

Buddy

A buddy is the term given to a dive partner who in an emergency situation would be available to provide assistance to the other diver.

Competence

Competence means having a combination of training, knowledge and experience which enables a person to do the job required in a safe manner.

Hazard

A hazard is something with the potential to cause harm. This may include water, environmental factors, plant, methods of diving and other aspects of work organisation.

Risk

A risk is the possibility that someone will be harmed by an identified hazard. The extent of the risk includes numbers of people who might be affected by the risk.

Surface-orientated diving

A diving technique in which the diver enters the water from the surface and then returns to the surface after completion of the dive, other than by means of a closed diving bell.

HSC

Health and Safety Commission

HSE

Health and Safety Executive

SCUBA

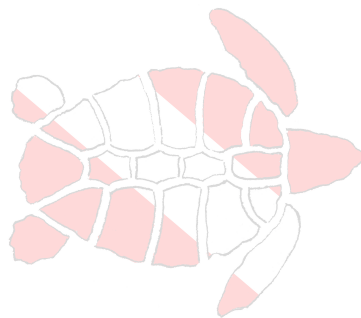
Self-contained underwater breathing apparatus

Annex 2 Major legislation

This legislation covers all industries and may be relevant to diving projects. This list is not exhaustive.

- 1 *The Health and Safety at Work etc Act 1974*
- 2 *Management of Health and Safety at Work Regulations 1999* require employers to carry out risk assessments, make arrangements to implement necessary measures, appoint competent people and arrange for appropriate information and training.
- 3 *Workplace (Health, Safety and Welfare) Regulations 1992* cover a wide range of issues such as ventilation, heating, lighting, seating and welfare facilities.
- 4 *Health and Safety (Display Screen Equipment) Regulations 1992* set out requirements for work with visual display units.
- 5 *Personal Protective Equipment Regulations 1992* require employers to provide appropriate protective clothing and equipment for their employees.
- 6 *Provision and Use of Work Equipment Regulations 1998* require that equipment provided for use at work including machinery is safe.
- 7 *Manual Handling Operations Regulations 1992* cover the moving of objects by hand or bodily force.
- 8 *Health and Safety (First-Aid) Regulations 1981* cover requirements for first aid.
- 9 *Health and Safety Information for Employees (Modifications and Repeals) Regulations 1995* require employers to display a poster telling employees what they need to know about health and safety.
- 10 *Employers' Liability (Compulsory Insurance) Act 1969* requires employers to take out insurance to cover their liability for accidents and ill health sustained by their employees.
- 11 *Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995* require employers to notify certain occupational injuries, diseases and dangerous events.
- 12 *Noise at Work Regulations 1989* require employers to take action to protect employees from hearing damage. The Regulations now apply offshore.
- 13 *Electricity at Work Regulations 1989* require people in control of electrical systems to ensure they are safe to use and maintained in a safe condition. The Regulations now apply offshore.
- 14 *Control of Substances Hazardous to Health Regulations 2002* require employers to assess the risks from hazardous substances and take appropriate precautions.
- 15 *Chemicals (Hazard Information and Packaging for Supply) Regulations 1994* require suppliers to classify, label and package dangerous chemicals and provide safety data sheets for them.

- 16 *Construction (Design and Management) Regulations 1994* cover safe systems of work on construction sites.
- 17 *The Health and Safety (Training for Employment) Regulations 1990* set out how certain people being trained for employment should be treated for the purposes of health and safety law.
- 18 *Carriage of Dangerous Goods (Classification, Packaging and Labelling) of Transportable Pressure Receptacles Regulations 1996* regulate the transport and labelling of pressurised gas cylinders.



Further information

HSE priced and free publications can be viewed online or ordered from www.hse.gov.uk or contact HSE Books, PO Box 1999, Sudbury, Suffolk CO10 2WA Tel: 01787 881165 Fax: 01787 313995. HSE priced publications are also available from bookshops.

For information about health and safety ring HSE's Infoline Tel: 0845 345 0055 Fax: 0845 408 9566 Textphone: 0845 408 9577 e-mail: hse.infoline@natbrit.com or write to HSE Information Services, Caerphilly Business Park, Caerphilly CF83 3GG.

