

Recreational diving projects

Diving at Work Regulations 1997

Approved Code of Practice and guidance



L105 (Second edition)
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This Approved Code of Practice (ACOP) and associated guidance provides practical advice and sets out what you have to do to comply with the requirements of the Diving at Work Regulations 1997.

It applies to all recreational diving projects within the 12-mile limit of territorial waters adjacent to Great Britain.

The document 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.

This edition of the ACOP has been revised to simplify some of the information, update the references and provide greater consistency across all the ACOPs covering diving at work. This document has also been updated to reflect changes in technology and industry practice.

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Approved Code of Practice

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.

Guidance

This guidance is issued by the Health and Safety Executive. Following the guidance is not compulsory, unless specifically stated, and you are free to take other action. But if you do follow the guidance you will normally be doing enough to comply with the law. Health and safety inspectors seek to secure compliance with the law and may refer to this guidance.

Contents

Introduction	5
Definitions in the Regulations	7
Clients and others	9
Diving contractors	11
Diving project plan and risk assessment	14
Dive teams and associated working practice	17
Diving plant	20
Maintenance of diving plant	22
Supervisors	23
Divers and persons who dive in a diving project	26
Medical checks	28
Appendix 1 Notice of Approval	30
Appendix 2 Relevant legislation	31
References and further reading	33
Glossary of terms and abbreviations	35
Further information	36

Introduction

About this book

1 This Approved Code of Practice (ACOP) sets out what you have to do to comply with the requirements of the Diving at Work Regulations 1997 (the Diving Regulations).¹ The ACOP text and associated guidance provide practical advice on how you can comply with the requirements of the Regulations.

2 This ACOP 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;
- (c) the purpose of the project is recreational diving, that is diving carried out by a person for recreational purposes while not at work.

3 The ACOP 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.

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

5 The ACOP has been revised in order to simplify some of the information, update the references and provide greater consistency across all of the ACOPs covering diving at work (see paragraph 10). Revisions in this ACOP have also reflected changes in technology and industry practice. The most significant changes relate to:

- (a) availability of compression chambers. This has been updated to address the provision of sufficient oxygen for the transport of an injured diver to a compression chamber or hospital. The requirement for the recording of the location and contact number of the nearest operational chamber in the Diving Project Plan has also been removed;
- (b) fitness to dive. Further information has been provided for divers regarding medical treatment, medical conditions or medication being taken, that may make them unfit to dive.

About ACOPs

6 ACOPs are approved by the HSE Board with the consent of the Secretary of State (see 'Appendix 1: Notice of Approval' for details).

7 The ACOP describes preferred or recommended methods that can be used (or standards to be met) to comply with the Diving Regulations and the duties imposed by the Health and Safety at Work etc Act (HSW Act).² The accompanying guidance also provides advice on achieving compliance, or it may give information of a general nature, including explanation of the requirements of the law, more specific technical information or references to further sources of information.

8 The legal status of ACOP and guidance text is given on the copyright page (page 2).

Presentation

9 The ACOP text is set out in **bold** and the accompanying guidance in normal type, the text of the Regulations is in *italics*. Coloured borders also indicate each section clearly.

The other diving ACOPs

10 There are four other ACOPs covering diving at work (see 'References and further reading'):

- (a) *Commercial diving projects offshore;*³
- (b) *Commercial diving projects inland/inshore;*⁴
- (c) *Media diving projects;*⁵
- (d) *Scientific and archaeological diving projects.*⁶

Definitions in the Regulations

Regulation 2 Interpretation

Regulation	2	(1) <i>“diver” means a person at work who dives;</i>
Guidance	2	<p>11 ‘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.</p> <p>12 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.</p>
Regulation	2	<p>(2) <i>For the purposes of these Regulations a person “dives” if –</i></p> <p>(a) <i>he enters –</i></p> <p style="padding-left: 20px;">(i) <i>water or any other liquid; or</i></p> <p style="padding-left: 20px;">(ii) <i>a chamber in which he is subject to pressure greater than 100 millibars above atmospheric pressure; and</i></p> <p>(b) <i>in order to survive in such an environment he breathes in air or other gas at a pressure greater than atmospheric pressure;</i></p>
Guidance	2	13 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.
Regulation	2	(1) <i>“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;</i>
Guidance	2	<p>14 ‘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.</p> <p>15 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.</p>

Regulation 2

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

Guidance 2

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

17 Diving operations in the context of this ACOP 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 they allocate themselves a manageable team.

18 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 to be unsafe because insufficient supervisors have been appointed or which they are not competent to supervise.

Regulation 3 Application and extent

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;*

Guidance 3

19 The use of compression 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.

Regulation 5 The diving contractor

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.*

Guidance 5

20 The term ‘person’ used to identify the diving contractor under this regulation means any person with legal identity. An individual would be a person within the meaning of this term and so would a company.

Clients and others

Regulation 4 Duty to ensure compliance with these Regulations

Regulation 4

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 4

21 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

22 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;
- (b) ensure that any equipment or activities under their control do not affect the safety of the diving project.

Vessel operators

23 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;
- (c) co-operate with the diving contractor and supervisor to enable their obligations under the Regulations to be fulfilled.

24 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;

ACOP

4

- (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 their 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.

25 The duty under this regulation also extends to diving contractors, supervisors, divers and to people indirectly involved in the diving project such as dive site operators.

Diving contractors

Regulation 5 The diving contractor

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.*

(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.*

ACOP 5

26 The Diving Regulations require that one person is identified as the diving contractor for every diving project. The main duties under the Diving Regulations are placed on the diving contractor.

27 Often in the situations covered by this ACOP, 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, they could carry this out by instructing a suitable person with expertise in diving matters to discharge some of* the specialist duties on their behalf. The person instructed to carry out the duties must be competent to perform them.

28 '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 their behalf without risk to that person or the dive team.

29 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.

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

Regulation 6 Duties of diving contractor

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 –*

(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 is 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

30 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 the 'Diving project plan and risk assessment' section);**
- (b) the size and abilities of the dive team are sufficient to enable the diving project to be carried out safely (see the 'Dive teams and associated working practice' section);**
- (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 the 'Supervisors' and 'Divers and persons who dive in a diving project' sections);**
- (f) the team is medically fit to dive (see the 'Medical checks' section);**
- (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 the 'Diving plant' and 'Maintenance of diving plant' sections);**
- (i) adequate arrangements exist for emergencies, including first aid and medical treatment (see the 'Dive teams and associated working practice' section);**
- (j) an up-to-date record is kept for each diving operation;**
- (k) all other relevant regulations are complied with.**

Regulation 7 Information to be supplied to Executive by diving contractor

Regulation	7
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(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.*

(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
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31 For diving projects falling within this ACOP, diving contractors do not have to provide HSE with information about who they are and where they can be contacted.

Diving project plan and risk assessment

Regulation 6 Duties of diving contractor

Regulation 6

(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 Diving project plan

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 6, 8

32 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 their responsibility.

33 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 their operation should be provided to the supervisor.

34 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 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.

ACOP

6, 8

35 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.

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

Risk assessment

37 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.

38 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.

39 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.

40 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.

41 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 (the Management Regulations).⁷ 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 Management Regulations (or in any assessment required to be carried out under other specific regulations).

ACOP

6, 8

Technical diving

42 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.

43 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 reasonably practicable. People at work conducting technical diving operations for recreational divers should meet the requirements of their HSE-recognised 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

44 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. 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 (DCI).

Dive teams and associated working practice

Regulation 6 Duties of diving contractor

Regulation 6

(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 6

Dive teams

45 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.

46 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.

47 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.

48 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 they have been trained in rescue techniques, have been assessed as competent to carry out rescue techniques and have reached the minimum competency level required for this task set out by the appropriate recreational diving organisation.

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

ACOP

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50 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 ACOP 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.

51 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 they are responsible, and recorded in the diving project plan.

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 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. They should be familiar with the diving project plan and the arrangements for emergencies. They 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 enough people in the diving project are trained and competent in first aid. The risk assessment should identify the first-aid equipment required on site and the number of qualified personnel needed 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);

ACOP

6

- (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 compression chamber and medical assistance cannot be provided by normal emergency medical services. *First aid at work* (L74)⁸ sets out additional advice for those areas where special additional training may be necessary to cover less common risks.

Diving plant

Regulation 6 Duties of diving contractor

Regulation	6
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(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	6
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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. Breathing gases should comply with the appropriate national, European or international standards.

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:
 - (i) pressure gauge;
 - (ii) reserve valve; or
 - (iii) active warning device;
- (g) appropriate alternative breathing gas source/secondary life support system with adequate capacity to allow the diver to reach a place of safety;
- (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;

ACOP

6

(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.

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 their transportation to a compression 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. Oxygen should be immediately available at all locations covered by this ACOP, including those where there is a compression chamber. Sufficient gas should be provided for the duration of a transfer of a diver to a compression chamber, hospital or other place. It should be provided by a tight-fitting mask or by a mouthpiece with a nose clip.

Maintenance of diving plant

Regulation 6 Duties of diving contractor

Regulation 6

(3) *The diving contractor shall –*

(c) *ensure that the plant made available under sub-paragraph (b) is maintained in a safe working condition;*

ACOP 6

65 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.

66 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.

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

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

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

70 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 their operation.

71 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.

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

Supervisors

Regulation 9 Appointment of supervisor

Regulation 9

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

ACOP 9

Supervisor's appointment

73 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.

74 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 they are appointed.

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

Regulation 9

(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 9

Supervisor's competency

76 In order to be appointed as a supervisor the individual concerned should hold an appropriate qualification from their recreational diving organisation which indicates that they are qualified in dive leadership and organisation, rescue management and the recognition and treatment of diving-related injuries.

77 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.

Regulation 10 Duties of supervisor

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 10

Supervisor's responsibility

78 The supervisor has legal responsibility for the safety of the diving operation they are 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.

Regulation 10

- (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*

Regulation 10

(c) *the diving project plan which relates to that operation specifically provides for the supervisor to so dive.*

ACOP 10

Supervisor diving with the team

79 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.

Regulation 11 Power of supervisor to give directions

Regulation 11

A supervisor may, whilst supervising the diving operation in respect of which he 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 11

Directions

80 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.

Divers and persons who dive in a diving project

Regulation 13 Duties of and restrictions on persons engaged in a diving project

Regulation 13

(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

Competence

81 Divers covered by this ACOP 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 Duties of and restrictions on divers

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

Qualifications

82 All divers at work must hold an approved diving qualification suitable for the work that they intend to do. A list of current approved qualifications is available on the HSE diving website (see 'Further reading').

83 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

ACOP 12

an additional qualification in the specific type of rebreather endorsed by the manufacturer.

Regulation 13 Duties of and restrictions on persons engaged in a diving project

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

84 Students under instruction or those being guided have a responsibility to co-operate with the supervisor and to follow any reasonable directions and instructions that the supervisor gives.

85 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 12 Duties of and restrictions on divers

Regulation 12

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

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

ACOP 12

86 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.

Medical checks

Regulation 13 Duties of and restrictions on persons engaged in a diving project

Regulation 13

(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

Fitness

87 Any person who dives whose medical fitness may be in doubt for any reason, for example fatigue, minor injury, recent medical treatment or who are taking any medication, must inform their supervisor. Even a minor illness, such as the common cold or a dental problem, can have serious effects on a diver under pressure, and should be reported to the supervisor before the start of a dive. Medications routinely taken may have significant side effects in hyperbaric environments. Supervisors should seek guidance from the diving contractor or the company's medical adviser if there is doubt about that person's fitness to dive.

Regulation 12 Duties of and restrictions on divers

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

Medicals

88 All divers at work must have a valid certificate of medical fitness to dive issued by a HSE medical examiner of divers, generally known as an Approved Medical Examiner of Divers (AMED). The certificate of medical fitness to dive is a statement of the diver's fitness to perform work underwater, and is valid for as long as the doctor certifies, up to a maximum of 12 months. A list of HSE medical examiners is available on the HSE diving website (see 'Further reading').

89 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 Certificate of medical fitness to dive

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

90 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) *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

91 HSE approves doctors to carry out diving medical examinations. A list of these medical examiners is available on the HSE diving website (see 'Further reading').

Appendix 1 Notice of Approval

By virtue of section 16(4) of the Health and Safety at Work etc Act 1974, and with the consent of the Secretary of State for Work and Pensions, the Health and Safety Executive has on 13 August 2014 approved the revised Code of Practice entitled *Recreational diving projects* (Second edition, 2014, L105).

The revised Code of Practice gives practical guidance on the requirements of the Diving at Work Regulations 1997 (SI 1997/2776) with respect to regulation 3 of the Management of Health and Safety at Work Regulations 1999 (SI 1999/3242). The Code of Practice comes into effect on 8 December 2014.

This revised edition replaces the previous edition entitled *Recreational diving projects* (First edition), which came into effect on 1 April 1998.

Signed

TERESA QUINN
Secretary to the Board of the Health and Safety Executive

2 December 2014

Appendix 2 Relevant legislation

This legislation covers all industries and may be relevant to diving projects. The list is not exhaustive. You can find details of relevant guidance on all these pieces of legislation on HSE's website at www.hse.gov.uk. Statutory Instruments can be viewed free of charge at www.legislation.gov.uk where you can also search for changes to legislation.

- 1 *Diving at Work Regulations 1997* – cover all divers when one or more divers are at work, whether employed or self-employed.
- 2 *The Health and Safety at Work etc Act 1974* – 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.
- 3 *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.
- 4 *Workplace (Health, Safety and Welfare) Regulations 1992* – cover a wide range of issues such as ventilation, heating, lighting, seating and welfare facilities.
- 5 *Personal Protective Equipment at Work 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 (or provide a leaflet) 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 2013* – require employers to report and keep records of work-related accidents which cause death, serious injuries, diagnosed cases of certain industrial diseases and certain dangerous occurrences.

12 *Control of Noise at Work Regulations 2005* – require employers to take action to protect employees from hearing damage.

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.

14 *Control of Substances Hazardous to Health Regulations 2002* – require employers to assess the risks from hazardous substances and take appropriate precautions.

15 *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.

16 *The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009* – regulate the transport and labelling of cylinders used for the transportation of pressurised gas.

17 *Pressure Systems Safety Regulations 2000* – impose safety requirements in relation to pressure systems used or intended to be used at work. These Regulations may apply to pressure systems that are not used in, but which are ancillary to, the diving project such as compressor systems used to fill breathing gas cylinders.

References and further reading

References

- 1 *The Diving at Work Regulations 1997* SI 1997/2776 The Stationery Office
www.legislation.gov.uk
- 2 *Health and Safety at Work etc Act 1974 (c.37)* The Stationery Office 1974
ISBN 978 0 10 543774 1 www.legislation.gov.uk
- 3 *Commercial diving projects offshore. Diving at Work Regulations 1997. Approved Code of Practice and guidance L103* (Second edition) HSE Books 2014
ISBN 978 0 7176 6592 1 www.hse.gov.uk/pubns/books/l103.htm
- 4 *Commercial diving projects inland/inshore. Diving at Work Regulations 1997. Approved Code of Practice and guidance L104* (Second edition) HSE Books 2014
ISBN 978 0 7176 6593 8 www.hse.gov.uk/pubns/books/l104.htm
- 5 *Media diving projects. Diving at Work Regulations 1997. Approved Code of Practice and guidance L106* (Second edition) HSE Books 2014
ISBN 978 0 7176 6595 2 www.hse.gov.uk/pubns/books/l106.htm
- 6 *Scientific and archaeological diving projects. Diving at Work Regulations 1997. Approved Code of Practice and guidance L107* (Second edition) HSE Books 2014
ISBN 978 0 7176 6596 9 www.hse.gov.uk/pubns/books/l107.htm
- 7 *The Management of Health and Safety at Work Regulations 1999*
SI 1999/3242 The Stationery Office www.legislation.gov.uk
- 8 *First aid at work: The Health and Safety (First-Aid) Regulations 1981. Guidance on Regulations L74* (Third edition) HSE Books 2013
ISBN 978 0 7176 6560 0 www.hse.gov.uk/pubns/books/l74.htm

Further reading

HSE's diving website: www.hse.gov.uk/diving

Are you involved in a diving project at work? A brief guide to complying with health and safety law Leaflet INDG266(rev2) HSE Books 2015
www.hse.gov.uk/pubns/indg266.htm

First aid at work: Your questions answered Leaflet INDG214(rev2) HSE Books 2014
www.hse.gov.uk/pubns/indg214.htm

The use of volunteers in diving at work projects –
www.hse.gov.uk/diving/volunteer-divers.htm

Respiratory protective equipment at work: A practical guide HSG53 (Fourth edition)
HSE Books 2013 ISBN 978 0 7176 6454 2
www.hse.gov.uk/pubns/books/hsg53.htm

Exposure limits for air diving operations Diving Information Sheet DVIS5 HSE 1998
www.hse.gov.uk/pubns/dvis5.pdf

Divers breathing air standard and the frequency of examination and tests Diving
Information Sheet DVIS9(rev1) HSE 2008 www.hse.gov.uk/pubns/dvis9.pdf

Diving cylinders: Guidance on internal corrosion, fitting valves and filling Diving
Information Sheet DVIS10 HSE 2007 www.hse.gov.uk/pubns/dvis10.pdf

Diving cylinders: Guidance on their manufacture, inspection and carriage Diving
Information Sheet DVIS11 HSE 2009 www.hse.gov.uk/pubns/dvis11.pdf

Cleaning of diving equipment Diving Information Sheet DVIS12 HSE 2010
www.hse.gov.uk/pubns/dvis12.pdf

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 the numbers of people who might be affected by the risk.

AV Artificial Ventilation.

BCD Buoyancy control device .

DCI Decompression illness.

ECC External Cardiac Compression.

HSE Health and Safety Executive.

SCUBA Self-contained underwater breathing apparatus.

Further information

For information about health and safety, or to report inconsistencies or inaccuracies in this guidance, visit www.hse.gov.uk. You can view HSE guidance online and order priced publications from the website. HSE priced publications are also available from bookshops.

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The Stationery Office publications are available from The Stationery Office, PO Box 29, Norwich NR3 1GN Tel: 0870 600 5522 Fax: 0870 600 5533 email: customer.services@tso.co.uk Website: www.tsoshop.co.uk. (They are also available from bookshops.) Statutory Instruments can be viewed free of charge at www.legislation.gov.uk where you can also search for changes to legislation.

This publication is available at www.hse.gov.uk/pubns/books/l105.htm.