

Project Plans – Guidance Notes

These notes are provided to assist in the understanding of the legal requirements that must be met with regards to the construction and formulation of a Project Plan for diving operations.

Any persons involved in diving operations, in a working capacity, must comply with The Diving at Work Regulations Act 1997. Following the DWR 1997 during any 'diving project' (Reg 2); no diving can be undertaken unless a 'diving contractor' has been nominated (Reg 5.-(1)). This 'contractor' is the employer of the overall 'project team' (Reg 5.-(2a)) and is assigned by the 'client' who commissions the work.

Under the DWR 1997 the 'contractor' has a number of responsibilities with regards to the planning stages of any 'diving project' (Reg 6). Included in these is the formulation of the 'Project Plan' for the diving project. The 'project plan' is the term used for the overall diving job (lasting two hours or two months) and once the 'project plan' has been verified it can be used again if the dive job is repeated (Reg 2 & Reg 8 (3)). The 'project plan' should specifically identify how the 'diving project' is broken down into individual operations which can be safely 'supervised' by one person. When making this decision the 'contractor should take into account the size and nature of the 'diving project'.

For example a 'project plan' can be written for a biological survey of a certain area, and then if the survey is repeated on an annual basis the same project plan can be used for each subsequent project, as long as the overall 'project plan' is amended if necessary. Within this 'project plan' individual 'diving operations' can be identified if one aspect of the survey is simply identifying species and another aspect is collecting and measuring scallops. Here two 'diving operations' can be performed under one 'project plan', both of these operations can consist of numerous individual dives. As long as records are kept for each dive and operation, the regulations are complied with.

Aspects of the 'diving project' that need to be taken into account for the Project Plan should include: (Reg 6 & 8)

1. Project Team – Personnel involved (including qualifications, medical, expertise)
2. Suitable Equipment available – Safe and maintained appropriate for the task
3. Record keeping responsibilities – what information is required
4. Risk Assessment – Generic risk assessment, by whom
5. Approved Code of Practice followed
6. Emergency procedures

For each of the above sections the relevant legislation must be referred to for the planning stage of the 'diving project'. Using these sections and the regulations as a guide it is possible to construct a working 'Project Plan' for any 'diving project'.

1. Project Team

During the planning phase of the 'diving project' the contractor must ensure that there are sufficient numbers of people with suitable qualifications, experience and competence to complete the work safely (Reg 6(3(a)).

This consideration should be cross referenced with the Approved Code of Practice that is used (see later) as details of the optimal number of people for each 'dive project' vary with the ACoP used and the equipment used.

For example under the Scientific and Archaeological ACoP a 'project' using surface supply could have 4 people whereas SCUBA could use 3. This will depend on the conditions (see section on Risk Assessment).

Once the number of people required for the 'project' has been ascertained, their qualifications and competence should be considered and checked. Those qualifications held by the team members must compliment those that are approved by the Health and Safety Executive (Reg 6(3)(a) & Reg 14 (1)). Individual team members involved in differing projects will require varying qualifications. The Health and Safety Executive publish a list of approved qualifications for different types of 'dive project', the team members qualifications should be checked against this with reference to the 'dive project' being undertaken. It is the responsibility of the 'contractor' to check and record the qualifications of the members of the 'Project team' and ensure that these are part of the 'project plan'. One consideration the 'contractor' should make is what First Aid qualifications people within the team have and during the project the 'contractor' needs to ensure that there is always adequate First Aid knowledge to cover the site.

As the 'project plan' involves diving those people involved in the actual diving work must show a valid certificate of medical fitness to dive (Reg 12 (1)b) and Reg 15). Although it is the individuals' responsibility to hold this certificate for the 'dive project', it is prudent for the 'contractor' to verify these certificates and that they are in date (see Reg 15), and record in the 'project plan' that this has been done.

As part of the 'project plan' it is necessary to allocate roles to the various team members, although 'diver' roles are less vital there is one area that must be adhered to within the regulations. The DWR 1997 state that the 'contractor', prior to the commencement of any diving operation, must appoint, in writing (Reg 6 (2)(c)), an individual (one person only at any one given time) as 'supervisor' for the operation (Reg 6 (2)(b)(i)). The appointment of this person must then be recorded as part of the overall 'project plan' (Reg 6 (2)(b)(ii)) and they should then be supplied with all the information relating to the 'diving project' that they will be supervising (Reg 6 (2)(b)(iii)).

2. Suitable Equipment

Under the DWR 1997 it is there are aspects of the equipment used to undertake the 'dive project' that must be considered by the 'contractor' during the planning stages this equipment is referred to as plant. Within the regulations it states that the 'contractor' is responsible for 'ensuring that suitable and sufficient plant is available whenever needed' (Reg 6(3)(b)).

The ACoP's should again be referenced at this point to ascertain the particular equipment that is recommended for the 'dive project' that is to be undertaken. For example, if you were diving under the 'Inland / Inshore' ACoP particular recommendations are made with regards to the Lifting plant used to carry personnel. These recommendations will meet The Lifting Operations and Lifting Equipment Regulations of 1998. In this way all areas covered under the legislation.

Another area within the considerations for the plant used for a 'diving project' is that of the maintenance of the plant itself. According to Reg 6. (3)(c) it is the responsibility of the 'contractor' to keep the plant used well maintained in a safe working condition. A check that this has been achieved needs to be incorporated into the 'project plan'.

For the plant maintenance, the ACoP being used for the 'dive project', can again be used to provide information to assist the 'contractor' in understanding his role. For example, if diving under the 'Offshore' ACoP various sections are noted including – Planned maintenance system, periodic examination testing and certification and maintenance of cylinders used underwater. All of which will comply with regulations set down for each particular type of equipment.

3. Record Keeping

Within the DWR 1997 reference is made to the records that need to be kept both by the 'contractor' and the divers. When considering the 'project plan' there is more importance placed on the 'contractor's' records and their role within the 'project plan' but it is worth the 'contractor' noting those records that need to be maintained by the other team members so that he can check their validity.

The regulations stat that the 'contractor; must ensure that a record containing the 'required particulars' is kept for each of the diving operations within any given project plan (Reg 6 (3)(e). These can include, but are not limited to, the 'project plan' itself, team members, contact information, risk assessments (see later), dive logs and details of emergency procedure plans' (Reg 6 (4)). In this regard the 'contractor' must also ensure that the appointed 'supervisor' is able to follow their duties of completing the diving operation record (Reg 10 (1)(c)) by providing the appropriate paperwork for them to do so.

Also referred to within the regulations is the length of time that the 'contractor' should maintain these records within their possession. Regulation 6 (3)(f)

states that they should be kept for at least 2 years after the last dated entry in the records. This may vary from the last entry in the dive log or later records of communication between members of the project team and 'contractor'.

Although not as vital for the project plan the personal daily diving log of each of the project team members (Reg 12 (3)(a) and Reg 17 (2)) can be used as a reference by the 'contractor' to check on the competence and experience of any potentially suitable team members.

4. Risk Assessment

The 'contractor' bears the responsibility for formulating the 'project plan' for the 'dive project', and according to the DWR 1997 this should be 'based on an assessment of the risks to the health and safety of any person taking part in the diving project' (Reg 8(1)). This form of assessment is often considered in two different parts: a generic risk assessment and a site specific risk assessment.

The 'generic risk assessment' can be undertaken by the 'contractor' during the planning stages of the 'dive project'. Although the DWR 1997 does not go into detail with regards to the constructing of a risk assessment, other literature available from the Health and Safety Executive is available to help ensure that all areas necessary are considered (Five Steps to Risk Assessment). When looking at the 'generic risk assessment' all areas of the 'dive project' should be considered with regards to the hazards that they represent for all the members of the 'project team' as well as any members of the public that may be able to access close to the 'dive project', and therefore be at some risk as well. Once all of the possible hazards to personnel have been considered, advice should be given on how to either avoid the hazard completely or minimise it to such a level that the project can continue without elevated levels of risk (Reg 8 (1)). This form of risk assessment is often tabulated as shown below:

Significant Hazards	People Affected	Actions Taken / Required
Falling Equipment	All present	Stow equipment properly
Tidal Flow	Divers	Dive at appropriate tide times
Pollution	All present	Ensure outfalls turned off, or dive during times of least flow
Exposure to elements	All present	Ensure appropriate clothing is worn on the surface Divers use appropriate personal protective equipment (dry suits)
Sea Conditions	All present	Check local forecasts prior to project – adjust times accordingly
Boat Traffic	All present / Divers	Inform local authorities, display all appropriate signals (A Flag)
Slipping & Tripping	All present / public	Ensure site kept tidy, any public made aware of project

This is clearly not an exhaustive list but can be used as a typical example of a few of the things that can be considered for the 'generic risk assessment'.

This 'generic risk assessment' needs to take into account other legislation with regards to ways of minimising the risks to personnel. This legislation can include, but is not limited to, Personal Protective Equipment Regulations 1992 and The Lifting Operations and Lifting equipment Regulations 1998 which will cover, as an example, the use of dry suits and winches respectively.

Once the above risk assessment has been completed for any 'dive project', the responsibility for considering the risks passes primarily to the appointed 'supervisor'. However, the 'contractor' can assist the 'supervisor' with the 'site specific risk assessment' by formulating a sheet that can be filled in on the day of the 'diving operation' that considers those potential hazards particular to the actual site.

The 'site specific risk assessment' can take the form of a tick box sheet where the appointed 'supervisor' makes a choice from a number of options for that particular days 'diving operation'. This is done, as far as is reasonably practicable, to ensure that the 'dive operation' will continue without risk to all those involved or in the area (Reg 10 (1)(a)).

Identified Hazards	Possible Hazards	Measures Taken	Done ?
Weather	Fair Sunny Rain Fog <u>Overcast</u> Wind speed ...knts Wind Direction	Review Forecast <u>Monitor Conditions</u> Cancel Operation	√
Tides	<u>Springs / Neaps</u> <u>High</u> Low	Review tidal conditions Monitor tidal conditions Use tide tables	√

Again the example shown above is simply for reference, and is only one possible format that can be used.

5. Approved Code of Practice

During the formulation of the 'project plan' reference must be made as to which ACoP will be used for the 'dive project', and that this must be chosen whilst taking into account all of the risks and hazards already considered (Reg 8 (2)).

The Health and Safety Executive (HSE) has produced a number of guidance and advice documents which are referred to as Approved Codes of Practice. Different guidance notes have been produced to cover all of the possible 'dive projects' that can be undertaken in accordance with the DWR 1997.

The diving ACoPs produced by the HSE and the typical diving projects that they cover are:

- Commercial inland / inshore – this includes civil engineering or marine related projects (in docks and harbours etc as well as tanks or swimming pools) and fish farming within UK territorial waters adjacent to GB (≤ 12 nautical miles).
- Commercial offshore – all saturation diving, oil and gas works projects, outside UK territorial waters adjacent to GB (generally > 12 nm)
- Scientific and Archaeological – including projects involving sites of historic interest and scientific research.
- Media – covering stunt people, journalists, presenters etc.

The above are the main ACoPs considered for most 'diving projects' as these relate to divers who would be considered to be 'at work' during the project. Those 'at work' would be defined as those personnel involved in 'diving project' who receive any form of pay or reward for the project. If divers fall outside of this definition then the following ACoP applies:

- Recreation – providing guidance for instruction and guiding of recreational divers.

Within each of these ACoPs a number of areas are covered in more detail and relate back to the DWR 1997 documentation to provide the 'contractor' a better judgement of which ACoP to use. These areas include:

- Introduction and scope – looking at which particular diving projects are covered by that ACoP.
- Definitions in the Regulations – clarifying some of the legal terminology used.
- Clients and others – looking at the roles of other people involved in the project not covered in later sections.
- Diving contractors – clarifying the 'contractors' responsibilities for projects that fall within that particular ACoP.
- Diving project plan and risk assessment – guidance notes for projects that fall within that particular ACoP.
- Dive teams and associated working practice – the number of personnel that might be considered for projects under this ACoP and what working practices will meet the required standards in the legislation.
- Diving plant – what particular equipment is recommended for that specific ACoP.
- Maintenance of diving plant – what maintenance schedules should be followed for plant used under that ACoP.
- Supervisors – who can act as a 'supervisor' and their responsibilities during projects within that ACoP.
- Divers – looking at competencies and qualifications required for projects under that ACoP.
- Medical Checks – what specific medical checks must be made on personnel that are involved in projects within that ACoP.

Once all of this information is taken into account with reference to the specific 'dive project' being undertaken an individual ACoP can be selected, and the

guidance set out within that ACoP should be adhered to. It must be remembered that following the advice set out in an ACoP will normally mean you are complying with the law but does not automatically mean that this is the case. A level of common sense should be adopted when trying to apply 'best practice', and it should always be remembered that whatever plans are formulated, valid reasoning behind them should always be demonstrated.

6. Emergency Procedures

Although within the DWR 1997 no specific mention is made of a regimental emergency procedure plan, several sections within the regulations infer that some form of consideration should be given for the possibility that events will not always run smoothly. The 'contractor', however, is obliged to ensure that the team members are able to 'safely and without risk' take the necessary action in the event of a reasonably foreseeable emergency (Reg6 (3)(a)).

Reference to the individual ACoP being used provides information and guidance on the types of emergency and procedures that can be included. These emergency plans or procedures can include, but are not limited to:

- Arrangements for emergency recovery of a casualty from the water.
- Casualty transportation to a hyperbaric chamber or specialist treatment centre. This can include the notification of a local chamber that a 'dive project' is underway in their area, sometimes larger facilities will keep a spare chamber available to that particular project.
- Means of summoning further emergency assistance that does not involve the 'supervisor' or other essential personnel, should they be involved in the emergency and avoiding them leaving the dive site. This can influence the decision of the team size.
- Appropriate first aid kit available including emergency oxygen administration equipment. In polluted waters suitable decontamination / disinfection procedures should be in place.

Within the ACoPs specific considerations are made for the type of diving being undertaken.

Records of all of the emergency procedures should be part of the 'project plan' and all members of the team should be made aware of them.

The 'contractor' must also incorporate into the 'project plan' details of what first aid training members of the 'project team' have so that if divers are in the water adequate experience and competence remain on the surface to handle and reasonably foreseeable emergency.

Provisions should be made within the 'project plan' for recording the sequence of events and actions taken should any of the emergency procedures need to be followed. This can take the form of pre-prepared sheets to include the details of the casualty, their injuries, the first aid given and actions taken. Ordinarily the 'supervisor' will be sufficiently experienced and qualified to

appropriately manage any reasonable emergency procedure, however, the use of this form of preparation means that all members of the 'project team' are able to act as emergency coordinators should the 'supervisor' be incapacitated. Also under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995, should the emergency procedures be implemented as a result of an injury or death the relevant government body should be informed and may then conduct an investigation.

Completion of the Project Plan

Once all of the above has been understood and considered with regards the specific 'dive project' being undertaken, the project plan can be formulated by the 'contractor', often with input from the 'supervisor'. Once the 'project plan' has been finalised it is important for each of the team members to receive and understand the information it contains. Frequently, team members are required to sign documentation stating that they have received, read and understood all of the details contained in a project plan.

Although it is the responsibility of the 'supervisor' to ensure that all of the team members have received and understood the 'project plan'(Reg 10 (1)(b)), it is worth remembering that under the DWR 1997 and each ACoP a level of responsibility rests with the individual team members. The team members should be fully trained and familiar with any specialised items of plant used and all team members should co-operate with the supervisor (Reg 13(2)).

Once the 'project plan' has been completed it must be made available to the 'supervisor' during the 'dive project' in the event that the plan needs to be amended due to unforeseen changes in events. As a result of this the 'project plan' should not be an entirely prescriptive but allow some flexibility to the supervisor. This will allow all the parties to meet the DWR 1997 as well as comply with guidance given in the ACoPs (Reg 10 (1)).

Additional Considerations

The formulation of an overall 'project plan' can be a complex and bewildering task but the guidelines given above cover the majority of information required by the DWR 1997.

Other information that could be of importance during the planning stages, and may need incorporating into the 'project plan' might include:

- Other Agencies – who else might need to know about the project (local authorities, harbour master, marina office, conservation agencies).
- Logistics – food, accommodation, storage of plant

References:

1. The Diving at Work Regulations 1997
2. The Lifting Operations and Lifting Equipment Regulations 1998
3. Personal Protective Equipment Regulations 1992
4. Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995
5. The Association of Diving Contractors – The Inshore Diving Supervisor's Manual 2000
6. Health and Safety Executive – Approved Codes of Practice 1998