

Bell run and lock-out times, and bell run times in relation to habitats

HSE information sheet

Diving Information Sheet No 7(rev1)

Introduction

This information sheet is part of a series providing guidance on diving at work. It sets out guidance on:

- bell run and bell lock-out times for two and three-man diving bells;
- bell run times in relation to work carried out in habitats.

It is important to recognise that the various bell run and lock-out times set out in this sheet are, unless stated otherwise, to be regarded as maxima and will need to be reduced for very heavy work.

Bell run and bell lock-out times interpreted as follows:

Bell run times

Bell runs should not exceed 8 hours from 'lock-off' to 'lock-on'. This is taken to be from when the clamp is first taken off until the clamp is reconnected ready for equalisation at the end of the bell run, after the initial bell lock-off, the bell is returned to the system for any reason, no adjustment should be made to extend the bell run beyond 8 hours after the initial lock-off.

Bell lock-out times

Lock-out time in the water is the elapsed time from when the diver is totally submerged after exiting the bell until the diver is back in the bell.

General

In order to ensure safe and efficient operations, it is important that diving personnel work with a time routine which allows them to develop a regular work and sleep pattern, and with a minimum rest period of 12 hours (ie, not diving or carrying out pre or post-dive checks). Therefore, when bell diving operations are carried out around the clock, and on a continuous basis, they should be planned so that no diver takes part in a 6-hour lockout operation or an 8-hour bell run more than once within a pre-planned 24-hour period.

The practice of 'ratcheting', ie cycling the whole dive team in less than 24 hours, and then immediately recommencing the cycle to gain work time, should not be used.

Reference is made in this information sheet to 'planned' bell run and lock-out times. This has deliberately been included, as diving operations should be organised in such a way that the time necessary to carry out certain tasks is assessed in advance by the project team. Diving supervisors should make a clear note in the diving operations record, before the operation starts, as to how long they estimate the bell run and lockouts will take. It will therefore serve as a guide to them, the divers, and other members of the diving team, client representatives and others.

When divers are involved in tiring physical work, diving supervisors must appreciate that it may be appropriate for them to return to the bell for a short rest and to take refreshment before finishing their task. For lock-outs longer than 4 hours, a refreshment break of at least 15 minutes should be taken within 4 hours of the lock-out.

Two-man bells

The total bell run time should be planned so it does not exceed 8 hours. The lock-out time in the water of divers from a two-man bell can be flexible within the total bell run time, up to a maximum of 4 hours.

Three-man bells

The total bell run time for a three-man bell (containing three divers) should be planned so it does not exceed 8 hours. In a three-person bell two divers may 'lock-out' together. The third person will undertake the duties of bellman and should remain dry unless called upon to 'lock-out' in an emergency. Each diver may spend up to a total of 6 hours out of the bell in the water so long as an adequate refreshment break is taken within 4 hours of the start of the 'lock-out'. The intention of the refreshment break is to ensure adequate hydration of a diver and to reduce fatigue.

On occasions, in advance of a bell run, a diving supervisor may judge that three divers will need to lockout during the course of the dive. In this situation, as part of the pre-planning, the supervisor may organise lock-outs in the water on a flexible basis, within a maximum bell run time of 8 hours, so that each lock-out does not exceed 4 hours.

Habitats

The work carried out in the dry in a habitat is generally concerned with the welding of pipes or structural members, and is very different from the work carried out by divers in the water.

The total bell run time should be planned not to exceed 8 hours. Once in the habitat, the divers need to assess the work that has to be carried out, set it up, carry it out, and then leave the habitat in a suitable condition for the next team. Recent assessment of several dozen habitat dives has indicated that such work can usually be completed within the planned 8-hour bell run. However, it is appreciated that practical and technical problems can occur, eg, the requirement, for technical reasons, for root and hot pass welds to be completed by a diver before passing on to the next team.

Further reading

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

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

Recreational diving projects. Diving at Work Regulations 1997. Approved Code of Practice and guidance L105 (Second edition) HSE Books 2014 ISBN 978 0 7176 6594 5 www.hse.gov.uk/pubns/books/l105.htm

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

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

The Diving at Work Regulations 1997 SI 1997/2776
The Stationery Office 1997 ISBN 0 11 065170 7

Are you involved in a diving project at work? A brief guide to complying with health and safety law. Leaflet INDG266(rev 2) www.hse.gov.uk/pubns/indg266.htm

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.

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.

This leaflet is available at:
<http://www.hse.gov.uk/pubns/dvis7.pdf>.

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