



OPITO APPROVED STANDARD

Compressed Air Emergency Breathing System (CA-EBS) Initial Deployment Training

OPITO Standard Code: 5902

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OPITO STANDARDS

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The contents of this document were developed by an industry workgroup facilitated and supported by OPITO. The workgroup consisted of representation from a cross section of oil and gas Industry employers, discipline experts working within the industry and members of the OPITO Approved Training network.

This standard has been verified and accepted through the governance and integrity management model for OPITO standards.

Guidance on this standard is available by contacting OPITO at: [Standards enquiries](#)

This standard has been designed to accommodate global variations in national legislation and regulations. In the absence of relevant national legislation and regulations, OPITO approved centres should use legislative and regulatory criteria specified within this Standard

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AMENDMENTS					
AMENDMENT & DATE		PAGES	CHANGES MADE BY	CHECKED BY	APPROVED BY
1	Addition of Location of Training information in Section C4 and minor amendments to Section A8 – July 2014	16, 10	S&D	S&A	GTD
2	Additional note regarding differences in CA-EBS systems used across regions inserted	13	SM	GTC	GTD
	Pre-requisites amended as per Industry request – August 2015	6			
3	Ammended trainer/delegate ratio to a maximum of 16 delegates – 26/08/2016	15	SA	SM	
4	Amendment 4 02/04/2018 Updated section D4 to state that Registration must be made by the training centre to OPITO within one week following the course instead of one day.	19	Standards Coordinator	Director (Standards and QA)	
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Any amendments made to this standard by OPITO will be recorded above.



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Introduction and Course Description

The OPITO-approved Compressed Air Emergency Breathing System (CA-EBS) Initial Deployment training programme is designed for personnel travelling to or from offshore installations/vessels via helicopter where a Compressed Air Emergency Breathing System will be provided for use in the case of an emergency ditching.

The Compressed Air Emergency Breathing System (CA-EBS) Initial Deployment training programme provides the delegate with the knowledge and understanding of the particular hazards and properties of a Compressed Air Emergency Breathing System (CA-EBS) and appropriate emergency response actions to take should the requirement for emergency use arise.

This programme has been developed to address initial equipment introduction training requirements **only** and is designed to be delivered in a 'dry' training environment. This training programme will be valid from 23 June 2014 until further notice.

NOTE: Training Providers wishing to deliver this Standard as a standalone course must hold BOSIET/FOET or T-BOSIET/T-FOET OPITO approval.

SECTION A Compressed Air EBS Initial Deployment Training

The information in this section provides the requirements for **basic training** which includes a programme to enable delegates to acquire the necessary knowledge and skills which underpin the tasks to be performed.

A.1 Target Group

The Target group is personnel that are issued with Compressed Air Emergency Breathing System (CA-EBS) whilst travelling to work by helicopter and may be required to use a CA-EBS in the event of an emergency.

A.2 Delegate Pre-requisites

Delegates must possess a valid BOSIET/FOET/HUET or T-BOSIET/T-FOET/T-HUET certificate prior to attending the OPITO Compressed Air Emergency Breathing System (CA-EBS) Initial Deployment Training programme.

A.3 Physical and Stressful Demands of the Course

Training and/or assessment activities contained within this Standard may include physically demanding and potentially stressful elements. All personnel who participate in such activities must be physically and mentally capable of participating fully.

Therefore OPITO-approved training centres are required, as a minimum, to ensure that prior to participating in practical exercises the delegate either:

- a) Possess a valid, current offshore medical certificate **or**
- b) Possess an operator approved medical certificate, **or**
- c) Undergoes medical screening by completing an appropriate medical screening form provided by the OPITO-approved centre (a list of medical conditions which could be included in a medical screening form is available from OPITO).

The OPITO-approved Centre shall keep a record of the delegate's/candidate's declaration of fitness in accordance with their document control policy(s) or procedures.

This information, along with summary details of the type of physical activities the delegate/candidate will be asked to perform, will be given to delegates/candidates by the OPITO-approved Centre and, if applicable, to their sponsoring company as part of the joining instructions. The responsibility for declaring any current or pre-existing medical conditions that could have adverse effects to the individual's state of health while undertaking the training and/or assessment activities lies with the delegate/candidate and/or company sponsoring the delegate.

Where doubt exists regarding the fitness of any delegate/candidate, the OPITO-approved Centre should direct the individual to consult a medical officer familiar with the nature and extent of the training.

Note: Practical exercises should be designed and delivered solely to meet this standard, and must not place on the delegates any physical or mental demands other than those required to meet the Standard.

A.4 Aims and Objectives

The aims and objectives of the training are to ensure that the delegate gains the required knowledge and understanding of the particular hazards and properties of a Compressed Air Emergency Breathing System (CA-EBS) and appropriate practical emergency response actions to take should the requirement for emergency deployment arise.

A.5 Learning Outcomes

During the training programme, delegates will be required to demonstrate their skills and understanding of the following key areas.

To successfully complete this training delegates must able to **explain**:

- (1) The fundamental differences between re-breather and compressed air systems (technology and use)
- (2) The rationale and use of compressed air emergency breathing systems in helicopter emergency situations
- (3) The hazards associated with compressed air emergency breathing systems

To successfully complete this training delegates must able to **demonstrate**:

- (4) A pre-flight inspection of the life jacket and CA-EBS
- (5) Donning the life jacket with CA-EBS correctly, including 'buddy check'
- (6) An emergency deployment of the CA-EBS in a dry environment

A.6 Delegate Performance Assessment

Delegates attending this training and assessment programme will be given a series of explanations and demonstrations which will identify what they are expected to know and do. This will be followed by practical exercises which will allow delegates to demonstrate their knowledge and understanding and emergency response skills.

Delegates will be assessed against the learning outcomes using direct observation and written questions as appropriate. Delegates will be required to undertake a multiple-choice written test at the end of the programme (duration 5 minutes) as a method of checking that they have met all the knowledge learning outcomes.

Training providers must have a documented procedure in place for dealing with persons not meeting the stated learning outcomes.

A.7 Duration of the Training Programme

The optimum contact time is seen as **1.5 hours**.

Where this training is part of a programme of longer duration the total contact time per day must not exceed 8 hours and the total training day must not exceed 10 hours. The total training day includes contact time, refreshment and meal breaks and travel between training sites where applicable.

A.8 The Training Programme

The training programme provided below is designed to help delegates achieve the stated learning outcomes specified in [section A.5](#). The order in which elements of the training programme are delivered may vary.

To make efficient use of time and ensure effective learning there should, wherever practicable, be an integration of the three phases of explanation, demonstration and practice. Full use should be made of audio / visual aids and course handout material. Training staff should give practical demonstrations for all training activities which delegates are required to practice and demonstrate.

Prior to the start of the module, the following must be included as part of the introduction by training staff:

- (a) **Aim** – The main purpose of the module
- (b) **Learning Outcomes** – What the delegates are expected to learn
- (c) **Timetable** – Training module duration and timing
- (d) **Assessment** – how delegates will be assessed and what they will be assessed against
- (e) **Staff** - who will be delivering the training and roles of training support staff.

The time taken for this introduction is expected to be approximately 10 minutes.

The training course consists of the following modules and elements:

Module 1 Compressed Air Emergency Breathing System (CA-EBS) Initial Deployment Training

Element 1.1 Compressed Air Emergency Breathing System (CA-EBS) Initial Deployment Training

MODULE 1 Compressed Air Emergency Breathing System (CA-EBS) Initial Deployment Training

ELEMENT 1.1 Compressed Air Emergency Breathing System (CA-EBS) Initial Deployment Training

Training staff to **explain**:

1.1.1 The rationale for using a compressed air emergency breathing system (CA-EBS) including:

1.1.1.1. Fundamental differences between re-breather and compressed air systems (technology and use)

1.1.2 The advantages of a CAT A EBS:

- 1.1.2.1. Rapid deployment
- 1.1.2.2. Deployable underwater
- 1.1.2.3. Very little breathing resistance
- 1.1.2.4. Single handed deployment, either hand
- 1.1.2.5. Minimal dead space and ability to expel water from the mouthpiece

1.1.3 The disadvantages of a compressed air EBS:

- 1.1.3.1. Finite supply of air
- 1.1.3.2. Do not hold breath during ascent

1.1.4 The hazards associated with compressed air EBS:

- 1.1.4.1. Medical hazards associated with lung over-expansion injuries
- 1.1.4.2. Gasp reflex associated with cold water entry shock
- 1.1.4.3. Coughing
- 1.1.4.4. Dislodged mouthpiece (accidental or intentional)
- 1.1.4.5. Accidental or deliberate loss of air
- 1.1.4.6. Running out of air

1.1.5 The components and elements of the CA-EBS, including:

- 1.1.5.1. Hose (if fitted)
- 1.1.5.2. Mouthpiece
- 1.1.5.3. Cylinder
- 1.1.5.4. Demand Valve
- 1.1.5.5. Pressure indicator
- 1.1.5.6. On/Off ratchet/knob (if fitted)
- 1.1.5.7. On/Off Status Indicator (if fitted)
- 1.1.5.8. Purge button
- 1.1.5.9. Nose clip (if fitted)

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1.1.5.10. Charging Port

1.1.6 The operation of the compressed air EBS equipment in conjunction with other survival equipment:

- 1.1.6.1. Life jacket
- 1.1.6.2. Survival suit (including importance of correctly sized suit)
- 1.1.6.3. Personal Locator Beacon (PLB)

1.1.7 The operation of the life jacket, including:

- 1.1.7.1. Importance of removing mouthpiece and nose clip (if fitted) before inflation
- 1.1.7.2. Means of inflation
- 1.1.7.3. Importance of not inflating the life jacket inside the aircraft
- 1.1.7.4. Activation of the PLB (if supplied)
- 1.1.7.5. Activation of strobe light and sea light (if fitted)
- 1.1.7.6. Location and use of whistle and buddy line
- 1.1.7.7. Oral inflation tube for top-up and release of excess pressure
- 1.1.7.8. Spray-hood deployment

Training staff to **explain** and **demonstrate**:

1.1.8 The pre-donning checks on the life jacket and compressed air EBS, including:

- 1.1.8.1. Pressure indicator reading
- 1.1.8.2. Appropriate on/off status indicator (if fitted)
- 1.1.8.3. Ratchet knob on/off (if fitted)

1.1.9 How to don the life jacket complete with compressed air EBS:

- 1.1.9.1. Ensuring life jacket waist belt is not twisted (if fitted)
- 1.1.9.2. Fastening of life jacket
- 1.1.9.3. Adjustment of waist belt to ensure correct fit
- 1.1.9.4. Engagement of crotch strap ensuring a correct fit and roll away and securing of excess webbing
- 1.1.9.5. Ensure compressed air EBS mouthpiece is correctly fitted
- 1.1.9.6. Ensure compressed air EBS hose is correctly fitted (where appropriate)

1.1.10 Deployment of CA-EBS out of water and when submerged in water (demonstrated in a dry environment):

- 1.1.10.1. One handed deployment of the mouthpiece and nose clip in accordance with manufacturers' guidelines
- 1.1.10.2. How to achieve a good seal around mouthpiece
- 1.1.10.3. How to purge water from the mouthpiece
- 1.1.10.4. How to recover a dislodged mouthpiece
- 1.1.10.5. Use of demand valve



Following explanations and demonstrations by training staff: delegates to **practice** and **demonstrate**:

1.1.11 A pre-flight inspection of the life jacket and compressed air EBS

1.1.12 Donning the life jacket complete with compressed air EBS correctly, including 'buddy check'

1.1.13 Carrying out an emergency deployment of the CA-EBS in a dry environment:

- 1.1.13.1 Locate device
- 1.1.13.2 Rapid deployment
- 1.1.13.3 Fit to face, seating the nose clip and mouthpiece and attaining a seal
- 1.1.13.4 Breathing normally
- 1.1.13.5 Purging system
- 1.1.13.6 Breathing normally again
- 1.1.13.7 Locating a dislodged mouthpiece
- 1.1.13.8 Breathe down unit and identify* the point at which the cylinder is about to run out of air (* this can be simulated by the training staff closing the valve on the cylinder)

Training staff to provide time for review and any clarification required.

Note: There are various types of CA-EBS being used in the industry. And, although one type of CA-EBS will be used in the training centre where the delegate is trained, it is important that the delegate is made aware that other types may be used in other regions/areas.

SECTION B Refresher Training – Not applicable

SECTION C Resources

In order that a training programme may be delivered successfully it is essential that appropriately qualified and experienced trainers deliver and support the programme and that the appropriate facilities and equipment are in place.

C.1 Staff

Training staff must be:

- (a) Suitably qualified and/or experienced in the subject area to be delivered
- (b) Trained in instructional techniques and/or have proven training or instructing experience
- (c) Included in an ongoing staff training and development programme to enable them to maintain and update skills and knowledge.

Assessors will be discipline experts trained and qualified in assessment techniques.

All staff will have the appropriate competencies to conduct/assist with the element of training being undertaken.

C.2 Trainer/Delegate Ratio

The ratio shown for theory sessions indicates the maximum number of delegates that should attend the course in any one session. Ratios indicate the maximum number of delegates to be supervised by an instructor at any one time during each activity.

Theory, Demonstrations and Delegate Practical exercises

1 : 16

C.3 Facilities and Location of Training

To ensure proper presentation the training provider should adhere to the following criteria and provide a designated room that will not be used simultaneously for any other activity and which includes:

Administration arrangements appropriate for enrolment and certification of delegates.

Theory training area(s) with sufficient room to allow delegates to participate fully in group theory or syndicate paper exercises. Each delegate should be afforded ample space to be comfortable when carrying out theoretical exercises.

Practical training area(s) with adequate floor space for each delegate to participate fully in practical demonstrations and exercises.

All facilities must be maintained and where appropriate, inspected and tested in accordance with current standards/legislation and manufacturers recommendations. Risk assessments must be conducted and documented for all training facilities and equipment.

Location of Training

It is recognised that the restricted range of resources and facilities required makes this course suitable for on-location training. However, prior to any courses being delivered remotely, training providers must comply with the following requirements:

- (a) Prior to initial approval, the training provider will specify a single 'approved site' and advise OPITO of its intention to deliver training remotely
- (b) The training provider will advise OPITO of the location of any remote training in advance of each delivery
- (c) The training provider shall ensure the suitability of facilities and arrangements prior to delivery
- (d) Documented evidence will be retained by the training provider to show that delivery of training at the remote site meets the criteria detailed in this OPITO standard including, but not limited to, facilities, equipment and qualification of instructional staff
- (e) Documented management procedures shall be retained which record any measures required to assure the quality and safety of on location training
- (f) All records and associated documentation must be retained at a single, specified location, mutually agreed with OPITO, and made available at time of audit OPITO reserves the right to physically audit any or all of the remote sites operated by the training provider

C.4 Equipment

It is important to make sure that equipment required to conduct the training is both available and fit for purpose.

The following equipment of a type accepted for use regionally for helicopters involved in offshore operations is required to meet the stated content of the training course:

- (a) Sufficient life jackets compatible with the Compressed Air EBS in use
- (b) Sufficient Compressed Air EBS
- (c) Method of charging compressed air cylinders
- (d) Method of cleaning personal contact surfaces
- (e) Instructional support material (video, posters, hand-out material)

All equipment must be maintained, and where appropriate, inspected and tested in accordance with current standards/legislation, guidance and manufacturers recommendations.

SECTION D Administration and Certification

An OPITO Certificate will be issued to all delegates assessed as meeting the stated outcomes. The issue of a certificate indicates that the delegate successfully completed the learning outcomes of the *Compressed Air Emergency Breathing System (CA-EBS) Initial Deployment Training*.

D.1 Joining Instructions

All joining instructions must contain information which indicates that certain aspects of the course are of a physical nature and contain potentially stressful elements.

Prior to each course commencing, delegates must sign a declaration indicating they have read and understood a written statement regarding the physical and potentially stressful nature of the programme and the need for delegates to be in good health.

D.2 Periodicity

There is no expiry date for the OPITO approved Compressed Air Emergency Breathing System (CA-EBS) Initial deployment Training certificate.

Note: It is the delegate's employing company's responsibility to determine the validity of this certificate and how to re-validate the delegate's training.

D.3 Certification

Training Centres are responsible for issuing a certificate direct to the delegate completing the programme and to the sponsoring company (when required). Each certificate must indicate that the delegate has been assessed against and met the learning outcomes and must contain the following:

- (a) Training Centre name
- (b) Full OPITO course title stating that it is OPITO-approved
- (c) OPITO registration code
- (d) Delegate's name
- (e) Course date
- (f) Unique Certificate Number (UCN) – Refer to [OPITO UCN Guidance doc.](#) for details
- (g) Training Centre Signatory.

D.4 Course Administration

Each delegate attending any OPITO-approved programme must be registered with the Central Register (CR) operated by OPITO. Registration must be made by the training centre to OPITO within one week following the course.

OPITO confirms that information on the registration form will be contained in a computerised register which will be available to employers, prospective employers and training providers in the oil and gas industry to verify training records. At all times, use of this data will be strictly in accordance with principles laid down in data protection legislation.

Glossary

BOSIET	Basic Offshore Safety Induction and Emergency Training
CA-EBS	Compressed Air Emergency Breathing System
EBS	Emergency Breathing System
FOET	Further Offshore Emergency Training
HUET	Helicopter Underwater Emergency Training
PLB	Personal Locator Beacon
T-BOSIET	Tropical Basic Offshore Safety Induction and Emergency Training
T-FOET	Tropical Further Offshore Emergency Training
T-HUET	Tropical Helicopter Underwater Emergency Training
UCN	Unique Certificate Number