Programme 3.B.7 / BOD no 179 (11-22-2012)
Enriched Air Nitrox Diver CMAS

Minimum Training Programme Content

1. Required theoretical knowledge

1.1 **Introduction**

1.1.1 The participant shall be provided with all such information, as provided for in Clause 4.2 of Chapter 1 in order to enable him to take an informed decision about his participation in the CMAS Enriched Air Nitrox Diver Training Programme.

1.1.2 The participant shall be provided with the information about the CMAS as provided for in Clause 4.3 of Chapter 1.

1.2 **Equipment**

1.2.1 The participant shall have an appropriate knowledge concerning the physical characteristics, operating principles, maintenance and use of EANx diving equipment. This shall include at least the following:

1.2.1.1 How EANx use impacts dive equipment (e.g. increased oxidation and wear),
1.2.1.2 Using standard scuba equipment with EANx, including National Inspection, labelling and Test Standards for dive cylinders and other equipment
1.2.1.3 Suitability of SCUBA cylinders for EANx (e.g. when oxygen service may be required)
1.2.1.4 EANx cylinder markings, and
1.2.1.5 Overview of blending methods.

1.3 **Physics of diving with EANx**

1.3.1 The participant shall have an appropriate knowledge concerning the physical principles of EANx and application to diving activities. This shall include at least the following:

1.3.1.1 What is Nitrox? And what the “x” in EANx means.
1.3.1.2 Partial pressures
1.3.1.1 Equivalent Air Depth (EAD)
1.3.1.2 EANx use and bottom time.

1.4 **EANx Hazards**

1.4.1 The participant shall have an appropriate knowledge concerning hazards related to the handling of EANx mixtures with elevated oxygen levels. This shall include at least the following:

1.4.1.1 Risk of fire or explosion
1.4.1.2 Factors likely to increase the risk of fire or explosion, including location and ventilation

1.5 **Medical Aspects**

1.5.1 The participant shall have an appropriate knowledge of the causes, symptoms, prevention, first-aid and treatment of enriched EANx diving medical problems. This shall include at least the following:

1.5.1.1 EANx and nitrogen narcosis reduction
1.5.1.2 Oxygen toxicity

1.5.1.3 Preventing CNS oxygen toxicity.
1.5.1.4 Pulmonary oxygen toxicity

1.5.2 The subject matter shall include why buddy teams must plan their dive according to the limits of the diver with the most conservative maximum operating depth, no-decompression stop limit, and/or oxygen toxicity limit.

1.6 **Nitrox Dive Planning**

1.6.1 The participant shall have an appropriate knowledge of using dive tables, dive computers and/or dive planning software, including how to:

1.6.1.1 determine oxygen partial pressure (pO_2),
1.6.1.2 establish the equivalent air depth for the planned dive,
1.6.1.3 to determine the maximum operating depth (MOD) for a particular EANx mixture
1.6.1.4 to use EANx dive tables and/or a EANx-programmable dive computer to plan and execute single and repetitive dives.
1.6.1.5 To determine the required volume of breathing gas for the planned dive, include reserve gas.

1.7 **Career development**

1.7.1 The participant shall be provided with the career development information as provided for in Clause 4.4 of Chapter 1.

2. Required practical skills

2.1 **Practical Knowledge Application Section**

2.1.1 The participant shall master the following skills:

2.1.1.1 EANx gas analysis procedures.
2.1.1.2 Calibrating oxygen analysers.
2.1.1.3 How to use an oxygen analyzer to determine the oxygen content +/- 1% in an EANx mix.
2.1.1.4 Verifying cylinder content tags/stickers – which should show the EANx mix and the Maximum Operating Depth (MOD).