TOTNES SUB-AQUA CLUB
Let's go diving...

Generic Nitrox Blending Risk Assessment

This document should be read by all persons blending nitrox in the name of Totnes Sub-aqua Club, and will be made available to all club members via an annual distribution and on the club website.

It is the Nitrox Blender's responsibility to carry out a risk review prior to every blending session, based on this generic risk assessment, plus consideration of prevailing conditions. If conditions change such as to be significantly different from those applying at the time the original assessment was undertaken, then the Nitrox Blender shall reassess the situation accordingly. Hazards should be continuously monitored and the Nitrox Blender should be prepared to put any contingency plans into place at any point during the blending session.

Standard Controls

This risk assessment shall be read in conjunction with Totnes Sub-aqua Club's compressor risk assessment. However, hazards common to both compressor usage and nitrox blending are repeated herein.

Nitrox blending shall only be undertaken by approved nitrox blenders holding an appropriate gas blending qualification and only competent trained persons shall operate the compressor. A list of Approved Nitrox Blenders will be displayed near the equipment along with contact telephone numbers in case of an emergency.

Oxygen cylinders to be kept in external store and not in boatshed. No oxygen decanting to be carried-out within the boatshed.

Blending equipment that requires periodic Oxygen Cleaning / Servicing must have a log of servicing / cleaning and must be taken out of service should the period of Oxygen Service have expired. Such equipment must be labelled with a last serviced date.

The Diving Officer shall maintain a record of all club members detailing their qualification to use nitrox and the mixes they are certified to use, and a copy of this shall be kept with the blending equipment.

Cylinders to be filled must be personally presented and collected by the Owner/User who must be qualified to use the nitrox mix requested.

Cylinders to be filled must be in test, in current oxygen service, and correctly labelled. Nitrox Blenders must refuse to fill a cylinder if they believe that safety may be compromised in the filling, or in the use, of the cylinder, for whatever reason.

All nitrox fills must be analysed in the presence of the Owner/User of the cylinder. The cylinder must be labelled with the oxygen percentage from the analysis.

A written record which contains date filled, owner name, nitrox qualification, cylinder serial number, and analysed oxygen percentage must be completed and signed by the Owner/User to confirm the mix analysis before the cylinder is returned to the Owner/User.

Ear defenders are stored adjacent to the compressor and should be worn by the Compressor Operator and any persons rendering assistance, as appropriate.

Fire extinguishers are provided in the boatshed, adjacent to the pedestrian door and the main door near the compressor.

Hazard:	Risk of:	Risk Evaluation:	Controls:	Immediate measures to deal with consequences if risk does occur:
Cylinder failure/explosion	Serious injury or death to compressor operator or persons in vicinity; damage to property	Medium	Only cylinders that are in test should be filled. The Compressor Operator shall maintain a log of all cylinders filled, noting test date and working pressure. Cylinders that are in poor visual condition or whose test date/markings are obscured should not be filled.	First Aid to be administered. Hospitalise as required.
Fire	Serious injury or death; damage to property	Medium	Fire extinguishers are provided in the boatshed, adjacent to the pedestrian door and the main door near the compressor. Compressor Operator to arrange evacuation of boatshed and Community Centre. Bidwell Brook School and Robbins' Respite Centre reception to be advised of fire, as appropriate. Oxygen cylinders to be kept in external store and not in boatshed. No oxygen decanting to be carried-out within the boatshed. Blending equipment that requires periodic Oxygen Cleaning / Servicing must have a log of servicing / cleaning and must be taken out of service should the period of Oxygen Service have expired. Such equipment must be labelled with a last serviced date. Cylinders to be filled must be in test, in current oxygen service, and correctly labelled. Nitrox blending shall only be undertaken by approved gas blenders holding an appropriate gas blending qualification.	If unable to extinguish fire with fire extinguishers, evacuate building. Contact emergency services – they should be advised of presence of compressed gas cylinders and boat fuel. If possible close any cylinder valves. If possible without endangering personal safety, keep surrounding cylinders cool with hose, deployed from a safe distance, until arrival of fire

Hazard:	Risk of:	Risk Evaluation:	Controls:	Immediate measures to deal with consequences if risk does occur:
				brigade.
Impure air	Injury to diver / death; contamination of cylinder; explosion	Medium	Air intake to be monitored for external contamination. Compressor not to be operated if engine has been run in boatshed/driveway within preceding 30 minutes. Compressor to be serviced bi-annually and filters changed more regularly if required. Air purity checks to be undertaken every 12 months. Divers to check gas for taste before entering water and to be prepared to abort dive if suspicious of cylinder contents. Divers to report possible "bad air" to the Equipment Officer.	First Aid to be administered. Hospitalise as required.
Inappropriate gas mix	Serious injury to diver/death	Medium	The Diving Officer shall maintain a record of all club members detailing their qualification to use nitrox and the mixes they are certified to use, and a copy of this shall be kept with the blending equipment. Cylinders to be filled must be personally presented and collected by the Owner/User who must be qualified to use the nitrox mix requested. Nitrox Blenders must refuse to fill a cylinder if they believe that safety may be compromised in the filling, or in the use, of the cylinder, for whatever reason. All nitrox fills must be analysed in the presence of the Owner/User of the cylinder. The cylinder must be labelled with the oxygen percentage from the analysis. A written record which contains date filled, owner name, cylinder serial number, and oxygen percentage must be completed and	First Aid to be administered. Hospitalise as required.

Hazard:	Risk of:	Risk Evaluation:	Controls:	Immediate measures to deal with consequences if risk does occur:
			signed by both the Nitrox Blender and the Owner/User before the cylinder is returned to the Owner/User.	
Operator error	Serious injury / death; damage to property	Medium	Only trained competent persons to operate compressor.	First Aid to be administered. Hospitalise as required.
Air under pressure	Injury from flying debris/flailing hoses and fittings	Low	Only trained competent persons to operate compressor.	First Aid to be administered. Hospitalise as required.
Injury from falling cylinders	Injury to compressor operator or persons in vicinity	Low	Divers to avoid leaving cylinders standing upright other than local to compressor, particularly if unattended.	First Aid to be administered.
Lifting cylinders	Injury to compressor operator or diver	Low	Where possible, twin-sets should be stripped down to single cylinders for handling. Compressor operator or diver to lift cylinders appropriately to avoid placing unnecessary strain on back.	First Aid to be administered. Hospitalise as required.
Noise	Hearing damage	Low	Ear defenders to be worn by compressor operator and any persons rendering assistance/working in vicinity, as appropriate.	
Oxygen cylinders	Serious injury	Low	When moving, loading or generally handling large storage cylinders, use stout, insulated, gloves to protect hands and fingers against abrasions, crushing, or the accidental discharge of a pressurised gas stream. Safety boots to be worn to avoid accidental foot injury. Wherever possible use a trolley for moving heavy cylinders. Never lift a container by the cap or guard unless	First Aid to be administered. Hospitalise as required.

Hazard:	Risk of:	Risk Evaluation:	Controls:	Immediate measures to deal with consequences if risk does occur:
			the supplier clearly states that it has been designed for that purpose. Leave all valve protection caps or guards in place until container has been secured against wall using restraining chain and is ready for use.	