Australian Speleological Federation Inc (ASF)
Cave Diving Code of Practice

(Adopted 1988 with 2004 amendments and revised 2020)

This Code of Practice applies to diving in an overhead environment (a cave) using breathing gas supplies.

(ASF Sump Free Diving Code of Practice applies to free diving (held-breath diving) in an overhead environment.)

Trip Organisation

Any dive trip shall have a designated trip leader who shall have trip leader status with an ASF member club and all members of the trip shall be members of ASF.

Where required, trip leaders shall apply to the relevant land manager for permission to undertake the planned activity according to the rules and procedures specified by that land manager.

Members shall obey any additional rules imposed by the CDG or the trip leader.

Divers shall possess cave-diving skills, experience, and qualifications deemed acceptable by the trip leader and land manager.

Divers shall be competent to access the cave passages before and after the cave dive.

Divers shall dive within the limits of their training and experience.

Divers shall practice new techniques and equipment in a safe underwater environment before their use in a cave.

Divers should leave notification with reliable persons of the intended dive location, expected time to enter the cave, and expected return to base. There should be a specific time at which the reliable person will contact emergency services.

Protecting the Cave

Divers shall also adhere to the ASF Code of Ethics and Conservation, ASF Minimal Impact Caving Code, and the ASF Caving Safety Guidelines.

Divers shall minimise any damage to a cave as a result of cave diving. Suggested methods include:

- Packing diving gear in protective bagging to reduce scratching and banging when transporting gear to the dive site.
- Placing protective covering on cave surfaces to minimise the spread of mud.
- Establishing track marking in new explorations to direct travel routes along specific paths.
- Placing plaques with instructions to later visitors on how to minimise impact.

Cave Diving Equipment and Procedures

The following specifies the required equipment and procedures for cave diving. However, cave divers shall always consider the need for additional equipment and procedures which may be required in special cases and in extreme cave environments. Long distances, extreme depths, cold water, poor visibility, tight or unstable passages, and negotiation of air spaces are some of the conditions that must be considered.

1. Breathing Supplies

a. All divers in an overhead environment shall carry at least two independent breathing gas supplies, attached to the diver. If there is a buddy present, at least one breathing gas supply shall have a sufficiently long hose with a redundant breathing apparatus for the buddy to use.

b. Each breathing apparatus shall have its own contents gauge.

c. Breathing apparatus shall have suitable performance to supply demand at the intended depth of the dive in normal and emergency situations (e.g. when sharing air).

d. The breathed gas shall not be toxic or excessively narcotic at the intended depth of the dive.

e. Divers shall be able to operate the valves of their breathing supplies.

f. Equipment shall be used within manufacturer's recommendations or local regulations.

g. Each diver shall have a contingency plan that covers the loss of one of their independent air supplies.

h. When diving without access to the surface divers shall carry enough breathable gas to exit the cave safely after the failure of a breathing or propulsion system. Generally this means that at most 1/3 of the breathing gas should be consumed on the way into the dive before turning around ("rule of thirds"), but this will vary depending upon the cave, visibility, air chambers or other entrances, current, propulsion method, isolation, buddies, distance, equipment configuration, breathing gas mixtures, and experience.

i. Divers may use additional breathing supplies which are not worn or attached to the diver (such as supplies attached to a sled or diver propulsion vehicle or left behind on a staged dive). Such assembly should have a suitable buoyancy arrangement to be easily manoeuvrable by the diver.

j. Nitrox and trimix should be used where appropriate.

2. Rebreathers

a. Rebreather divers shall conform as closely as possible to the rules in "Breathing Supplies", especially the rebreather equivalent of "rule of thirds".

b. In case of a rebreather malfunction, the diver shall carry an alternate breathing system to allow them to safely exit the cave from the furthest point of penetration including any decompression obligations. This may be open circuit "bail-out gas" or a second rebreather system.

c. In the event the rebreather needs to be removed to negotiate a tight restriction, it is recommended that the diver should carry an alternate gas supply through the restriction sufficient to exit the restriction and reach their bailout breathing supply.

d. Commercially available rebreathers that have undergone testing must be used.

3. Line Markers and Reels

a. Every diver or diving group shall have a continuous line leading back to the start of the dive.

b. Line, whether permanently fixed or retrievable, may be floating or non-floating, but shall have a breaking strain of greater than 100 kg. Some cave environments will require a more substantial line.

c. Markers (“arrows”) shall be used as necessary to indicate the direction of the nearest cave exit.

d. Divers shall place individual markers (“cookies” or pegs) on the exit side of each line junction. Group markers shall not be used.

e. A temporary 'jump line' shall be used to bridge a gap in the line and to provide a continuous line for the diver if using alternative routes or side passages. The 'jump line' is to be a retrievable line and shall be removed when the diver leaves the cave. An individual marker shall be placed on the exit end of the jump, on the main line, by each diver in a group.

f. Visual jumps shall not be used.

g. A reel containing approx. 30 metres of line shall be carried as a safety reel capable of performing the following functions:

   i. as a line to search for a buddy who has strayed from a permanent line; and

   ii. as a line to search for the permanent line if for any reason the diver has become separated from it; and

   iii. as a source of line so that a repair to a permanent line can be made.

h. Permanent dive lines should be fixed below the surface to minimise visual impact and possible vandalism. A jump line shall be used to connect from the dive entrance to the start of the permanent line.

i. All permanent lines should be single continuous lines. The main line should follow the most accessible route through the cave system.

j. Alternate routes, or side passages, should also be single continuous lines, and shall not be connected to the main permanent line.

k. All lines whether permanently fixed or retrievable should be secured within the cave at regular intervals. Recommendations include:

   i. just inside the entrance of the dive;

   ii. where there is risk of the line being swept or pulled into narrow fissures;

   iii. distinct changes in the passage direction;

   iv. where there is risk of the line fraying due to abrasion from sharp or rough rock, especially where there is strong flow.

l. A marker should be placed where a jump to a side passage exists.

m. In cases where there are junctions in permanent lines, at least one arrow should be placed to show the nearest exit direction.

n. If there are other diving parties in the cave a log in/log out board should be installed in the divers gearing up area.

4. Cutting Devices

Divers shall carry at least two, easily accessible, devices for cutting a line, such as a knife, a line cutter or shears.

5. Dive Computers

a. Divers shall carry, at least, a timer or a dive computer.

b. When decompression diving, divers shall carry a dive computer. Also, they shall carry a second dive computer, or a timer and a pre-planned emergency decompression schedule.

6 Lighting

a. Divers shall carry at least one primary and two back-up light systems.

b. A primary light system is one or more light sources, all having adequate light intensity and together having a burn time greater than the maximum possible dive time.

c. Each back-up light system shall provide adequate light and duration to exit the cave safely.

d. A back-up light system is one or more light sources, all having adequate light intensity and together having a burn time of half the maximum possible dive time.

e. When dry caving is associated with a cave dive, two sources of lighting suitable for out of water caving shall be carried.

7. Diver Propulsion Vehicles (DPV)

a. In case their DPV fails, each diver shall carry or stage enough breathable gas to free swim to the cave exit from the furthest dive point, using the rule of thirds including their decompression obligations.

b. The dive planned shall be within range of the DPV's battery run time. On long dives this may be extended by extra DPVs.

8. Buoyancy

a. Every diver shall have a means by which neutral buoyancy can be achieved at any depth or time during the dive.

b. If divers are heavily laden, a second, independent buoyancy device should be worn.

9. Signals

a. There are many hand signals in use when cave diving. Dive buddies shall ensure that they understand which signals may be used on a dive.

Minimum signals recommended:

i. Rapid back and forth light for attention

ii. Minimum knowledge of squeeze signals for zero-visibility environment recommended are

- One squeeze, stop
- Two squeezes, go
- Three squeezes, go back to last airspace or start of dive

iii. Call the dive

iv. Direction to exit

v. OK

b. Different countries or organisations may have different signals, so divers should check this when diving with new buddies.

10. Helmets

a. Caving helmets shall be worn in dry cave environments, such as leaving a sump.

b. Helmets should be worn when diving to protect a diver's head from falling rocks, and from hitting rock projections in low visibility, high flow and restricted passages.

11. Solo Diving

a. Solo divers shall carefully consider the risks involved and shall take extra measures to minimise these risks. (Solo diving occurs when a diver is away from the immediate assistance of another diver.)

b. During a solo dive involving one diver there should be at least one person near the water entry point monitoring the departure and return of the diver.

12. Calling the Dive

a. A diver may "call the dive" (signal that the dive is to be terminated), before or during the dive, for any reason. When necessary, to ensure a safe exit, the diver should indicate to the buddy(ies) the reasons the dive was called.

b. No diver shall publicly or privately criticise a diver for calling a dive.

c. After the dive, with no allocation of blame, the reasons for calling the dive should be discussed by the party.