Diving Safety Procedure

Section 1 - Purpose and Scope

(1) This Procedure outlines The University of Queensland's (UQ's) requirements for diving work and supports UQ's Health, Safety and Wellness Policy which outlines UQ's commitment to continuous improvement in the prevention of harm by identifying hazards and assessing and mitigating risks from these hazards. The purpose is to provide as reasonably practicable the health, safety and well-being of divers and compliance with relevant legislative requirements.

(2) This Procedure applies to all personnel participating in diving work under the auspices of UQ.

(3) The objectives of this Procedure are to:

a. outline responsibilities of diving work participants and their respective supervisors;
b. provide information for adequate planning and work health and safety risk management of diving work;
c. provide information to all stakeholders for approval including emergency preparedness and response;
d. provide information on the risk management process for diving work that adequately identifies hazards and controls, and is documented and recorded; and
e. provide information that the University holds relevant records of any diving work being undertaken by its workers.

Section 2 - Process and Key Controls

(4) Supervisors (not Dive Supervisors) of personnel undertaking diving work must verify the following processes are completed prior to the undertaking of diving work:

a. a completed Work Off-Campus (WOC) plan as per the Work Off-Campus and Fieldwork Procedure including the dive plan, risk assessment and emergency procedure is submitted; and
b. receive affirmation from a Boating and Diving Officer (BDO) that the Dive Plan provided with the WOC submission is adequate; and
c. the University holds current competency and medical fitness records for all divers; and
d. assign duties to workers competent to undertake the role; and
e. ensure dive records are submitted to the relevant Diving Officer after undertaking diving work.

(5) Dive Team personnel must assure the following processes are completed during diving work:

a. conduct the diving work in accordance with the dive plan and risk assessments; and
b. complete the dive record as soon as practicable.

(6) The Dive Team personnel must consider the following controls in the planning and conduct of diving work:

a. annual medical screening of all divers against fitness criteria given in AS 2299.1 Occupational Diving Operations Part 1: Standard Operational Practice;

b. minimum competency standards for all divers;
c. supervision of diving work;
d. adequate resourcing of diving work;
e. dive plan and risk assessments;
f. first aid personnel and equipment onsite including oxygen resuscitation equipment;
g. effective emergency procedures including evacuation to a recompression chamber;
h. breathing apparatus and equipment preventative maintenance schedules including checks of gauge accuracy; and
i. breathing gas testing.

Section 3 - Key Requirements

Diving Officer

(7) The UQ will appoint a Diving Officer in writing.

(8) The Diving Officer will:

a. be an experienced diver with the qualifications and experience relevant to the type of diving operations undertaken;
b. be familiar with any legislation and guidelines which may apply to the diving operations, and promote compliance with the University's diving operations manual;
c. have the power to restrict, prohibit or suspend any diving operations, program, or practice which they consider unsafe;
d. have the power to require such additional safety practices, procedures, or equipment as they think necessary in any diving operation;
e. assess diver's competencies and record the evidence used in the assessment; and
f. confirm any diver they appoint as a Dive Coordinator has sufficient knowledge and skills in the proposed diving work and associated risk management.

Registration of Workers Undertaking Diving Work

(9) All individuals seeking to engage in diving work under the auspices of the UQ must apply to a Diving Officer, forwarding the following:

a. a completed Diver Registration Form;
b. copies of their relevant diving qualifications;
c. copies of their diving logbooks sufficient to demonstrate current competency;
d. a copy of their current certificate of medical fitness to dive; and
e. a copy of their current First Aid and Oxygen Administration qualifications (if held).

(10) All persons undertaking diving activities under the auspices of the UQ must complete an initial diver induction. Where a diver has not undertaken diving activities, relevant to any proposed diving work, for a period of 12 months, they will be required to undertake a refresher induction.

(11) At the discretion of the Diving Officer, a Dive Coordinator may be authorised to provide an induction for Scientific Divers.

(12) All persons undertaking diving work must be at least 18 years of age.

Certificates of Medical Fitness

(13) All individuals engaged in diving work must provide to a Diving Officer a current certificate of medical fitness to dive.

(14) The certificate of medical fitness to dive must:

a. be issued by a registered medical practitioner with training in underwater medicine; and
b. state the following:
    i. The name of the person to who it is issued;
    ii. the date of issue and expiry date;
    iii. whether or not the person to who it is issued is, in accordance with the fitness criteria of AS/NZS 2299.1 (2007) Appendix M, medically fit to carry out diving work; and
    iv. any conditions in relation to the type of diving work the person to who it is issued is fit to carry out, or the circumstances in which the person is fit to carry out diving work.

(15) In addition, the certificate must:

a. be issued within the past 12 months; and
b. have not expired or been revoked.

(16) Where a certificate of medical fitness is not issued within Australia or New Zealand, or it is not reasonable practicable for a diver to obtain a certificate of medical fitness, a diver may utilise a certificate of medical fitness for occupational diving if the certificate:

a. is no more than 1 year old;
b. was issued by a person with training in hyperbaric medicine and is registered to practice medicine in the country of issue;
c. the fitness criteria are provided and are equivalent to AS 2299.1 (2007) Appendix M4.

> Examples of certificates of medical fitness with equivalent medical criteria include a UK HSE occupational diving medical and a US NOAA diving medical.

Part A - Competency Requirements for Diving Work

Scientific Diver (Unrestricted)

(17) A person may apply to be registered as a Scientific Diver (Unrestricted) if they:

a. have documented evidence of at least 15 hours of diving work that is relevant to the proposed underwater tasks to be performed; and
b. hold one (or more) of the following qualifications:
    i. A Statement of Attainment issued by a Registered Training Organisation (RTO), that is relevant to the diving work to be carried out by the person. Examples include:
        - Australian Diver Accreditation Scheme (ADAS) Occupational Diver,
        - Perform Diver Rescues (course code: SISOSCB006),
        - Perform Restricted Diving for Scientific Purposes. Aka Scientific Diver (course code: AHCLPW307)
    ii. A certificate for diving, issued by a recognised diver-training organisation (e.g., PADI, SSI etc.), that mentions the subject areas covered in either:

- ISO 24801-3 Dive leader (e.g., Dive Master), or
- ISO 24802 series (e.g., Dive Instructor).

Scientific Diver (Restricted)

(18) A person may apply to be registered as a Scientific Diver (Restricted) if they hold one (or more) of the qualifications listed as per the requirements for a Scientific Diver (Unrestricted), but do not yet have documented evidence of at least 15 hours of diving work that is relevant to the proposed underwater tasks to be performed.

(19) A restricted scientific diver shall:

a. not dive deeper than 18 metres depth;
b. only dive when conditions are suitable for untethered SCUBA mode;
c. not act as a dive coordinator or a dive leader;
d. not use powered tools or lift bags;
e. be at least 18 years of age;
f. have at least 15 hours of underwater diving experience after certification; and
g. not dive as a restricted diver other than for a single initial period of up to 12 months.

Incidental Diver

(20) A person wishing to undertake diving work that is incidental to the conduct of their usual business or undertakings, may apply to be registered as an Incidental Diver.

(21) An Incidental Diver must hold the following qualifications:

a. a diver certification compliant with the requirements detailed within ISO 24801.2 (Open Water Diver), issued by a recognised diver training organization; and
b. Have verified relevant experience of at least 15 hours of non-training logged diving activity.

(22) An Incidental Diver must be accompanied and supervised by a person who is competent for diving work.

(23) An Incidental scientific diver will:

a. not dive deeper than 18 metres depth;
b. only dive when conditions are suitable for untethered SCUBA mode;
c. not act as a dive coordinator or a dive leader;
d. not use powered tools or lift bags; and
e. be at least 18 years of age.

Visiting Scientific Diver

(24) A person who is not a permanent resident in Australia and wishes to undertake Scientific diving works under the auspices of their ‘home’ organisation, may apply to be registered as a Visiting Scientific Diver.

(25) A Visiting Scientific Diver applicant will;

a. not be a resident in Australia; and
b. provide a letter from the diver's employer verifying competency as a Scientific Diver to at least the level required in the diver's current country of residence; and
c. hold, as a minimum, a diver certification compliant with the requirements detailed within ISO 24801.2 (Open

Water Diver), issued by a recognised diver training organization and;

d. have verified relevant experience of at least 60 hours of scientific diving, using the breathing apparatus to be used, of which 500 minutes were spent within 10 metres of the working depth, or deeper.

Limited Scientific SCUBA Diver

(26) A person who is not a permanent resident in Australia, and is not a Visiting Scientific Diver, may apply to be registered as a Limited Scientific Diver. A Limited Scientific Diver applicant must hold the following qualifications:

a. Rescue Diver certification (or equivalent) from a recognised diver training organisation; and
b. verified relevant experience of at least 60 hours of diving using the breathing apparatus to be used of which 500 minutes were spent within 10 metres of the working depth or deeper.

Dive Coordinator

(27) At all times, when a diver is in the water, there will be present a Dive Coordinator appointed by a Diving Officer.

(28) The Dive Coordinator will be responsible for the safe conduct of the diving and will coordinate and direct the activity of the diving team(s).

(29) The Dive Coordinator will be familiar with any legislative requirements which may be applicable to the diving operations.

(30) A Dive Coordinator will be a Scientific SCUBA Diver who has experience in the diving techniques which may be required to be used, and in the use of equipment and procedures used in the diving operation to be performed.

(31) A Dive Coordinator will be trained in recognition and management of diving emergencies.

(32) A Dive Coordinator will be appointed in writing by the Diving Officer.

Diver's Attendant and Surface Watch

(33) Whenever a diver goes underwater or is subjected to pressure, the diver will be attended by a Diver's Attendant.

(34) Diver's Attendants must:

a. be competent in first aid, Cardio-Pulmonary Resuscitation (CPR), and the provision of oxygen as per the UQ First Aid Guideline,
b. have a working knowledge of the requirements of the underwater work,
c. have a working knowledge of the signals in use,
d. have a working knowledge of the diving plant and equipment in use.

(35) At all times when a diver is in-water, a person shall be appointed to maintain a Surface Watch.

(36) A person maintaining a Surface Watch must have no other task.

(37) The Surface Watch must:

a. possess the ability to either perform an appropriate response to a diving accident/incident/emergency, or to immediately notify relevant personnel who can provide such a response with minimal delay;
b. at all times, remain positioned in a location where direct visual monitoring of the dive site is optimal;
c. remain highly visible to divers in the water; and
d. have the capacity to affect a diver recall

First Aid and Emergency Readiness

(38) Supervisors and Dive Coordinators must ensure that sufficient first aid resources and trained personnel are available at the dive site. As a minimum, at least 2 persons on site must hold current certificates for first aid, CPR, and the provision of oxygen equivalent to HLTAID0011, HLTAID009, and HLTAID015.

(39) The dive plan should identify the minimum level of first aid equipment, quantity of oxygen and levels of trained personnel in accordance with the UQ First Aid Guideline.

(40) Where practicable, all members of the dive team should hold current certificates to at least this level.

(41) Prior to the commencement of diving activities, all members of the dive team shall be familiar with the Dive Plan's associated Emergency Response Plan.

Part B - Personnel Required

(42) At every diving operation there must be sufficient personnel to ensure that diving is performed safely. The minimum number and designations of personnel required for various types of compressed gas diving operations are set out in the following sections.

(43) The provision of additional personnel should always be considered to reduce risk, particularly in dives involving hazards such as poor surface conditions, challenging underwater conditions, e.g., low visibility, strong/unpredictable currents, unusual underwater tasks, tasks requiring elevated levels of exertion, dives at depths greater than 18 meters, or for planned dive durations greater than one hour.

(44) Sufficient personnel competent with first aid and oxygen administration as set out in the 'First Aid and Emergency Readiness' section must be present.

(45) Where dives are not being conducted in low visibility, and neither diver has a decompression requirement, two divers may act as an in-water standby diver to each other, i.e., a buddy team.

Free-swimming SCUBA Operations in Open Water

(46) When undertaking free-swimming SCUBA Operations in Open Water, adequate personnel must be present to fulfill the following roles:

a. Dive Coordinator;
b. Two buddy divers;
c. Diver's Attendant; and
d. Surface watch.

(47) The Diver's Attendant may act as surface watch once divers have entered the water. The Dive Coordinator may act as either a diver, Diver's Attendant, and/or surface watch. The minimum team is therefore three persons.

(48) If the Dive Coordinator is acting as a diver, the Dive Coordinator's surface duties must be delegated to the Diver's Attendant.

(49) One Diver's Attendant may attend to more than one pair of divers if:

a. supported by a documented risk assessment;
b. the divers are working in the same immediate vicinity; and
c. the dive team's ability to respond to an emergency is not compromised.

SCUBA Operations in Water Depths up to 1.5m

(50) When undertaking free-swimming SCUBA Operations in water depths up to 1.5m, adequate personnel must be present to fulfill the following roles:

a. Dive Coordinator;
b. Diver; and
c. Diver's Attendant.

(51) The Dive Coordinator may act as either a diver or Diver's Attendant if:

a. supported by a documented risk assessment;
b. the dive team's ability to respond to an emergency is not compromised; and
c. the diving work does not involve any of the following:
    i. poor visibility;
    ii. danger to the diver from currents either natural or associated with human-made structures such as dams, weirs, inlets, outlets, or sluices;
    iii. risk of entrapment of the diver or entanglement and provides unimpeded access to the surface; or
    iv. a situation in which third party assistance is not readily available in an emergency.

(52) If a dive team of two is used, the Diver's Attendant must maintain visual contact with the diver and must be capable of removing the diver from the water in an emergency or if the diver requests assistance. The minimum team is therefore two persons.

SCUBA Operations in Aquarium Tanks, Swimming Pools or in Sheltered Open Water

(53) When undertaking SCUBA Operations in Aquarium Tanks, Swimming Pools or in Sheltered Open Waters, adequate personnel must be present to fulfill the following roles:

a. Dive Coordinator;
b. Two divers, each acting as in-water standby diver for the other diver; and
c. Diver's Attendant.

(54) The Dive Coordinator may act as either a diver or Diver's Attendant. The minimum team is therefore three persons. If the Dive Coordinator is acting as a diver, the Dive Coordinator's surface duties must be delegated to the Diver's Attendant.

(55) In exceptional circumstances, where minimal risk is present, the Diving Officer and Head of School or Organisational Unit may authorise a minimum team of two divers if:

a. supported by a documented risk assessment;
b. the dive team's ability to respond to an emergency is not compromised; and
c. the diving work does not involve any of the following:
    i. poor visibility;
    ii. danger to the diver from currents either natural or associated with human-made structures such as dams, weirs, inlets, outlets, or sluices;
    iii. risk of entrapment of the diver or entanglement and provides unimpeded access to the surface; or
    iv. a situation in which third party assistance is not readily available in an emergency.

(56) If a dive team of two is used, each diver must maintain visual contact with the diver and must be capable of removing the diver from the water in an emergency or if the diver requests assistance. The minimum team in exceptional circumstances is therefore two persons.

Part C - Diving Procedures

Dive Plan

(57) A written dive plan on the approved form must be:

a. completed by the nominated Dive Coordinator;
b. submitted to the relevant Diving Officer with sufficient time to adopt any changes advised; and
c. approved by the Dive Coordinator's supervisor, subject to advice from the relevant Diving Officer, prior to diving work commencing.

(58) The Dive Plan must state the following;

a. the method of carrying out the dive work;
b. the tasks and duties of each person in the dive team;
c. the diving equipment, breathing gases and procedures to be used in the dive;
d. as applicable, dive times, bottom times, and decompression profiles; and
e. hazards relating to the dive and measures to be implemented in the control of risks associated with those hazards.

(59) The decompression profiles included in the Dive Plan will be in accordance with widely recognised and industry-approved decompression tables and the associated procedures developed for those tables.

(60) Only one version of dive table may be used within any dive plan.

(61) All diving work will be carried out in accordance with the approved dive plan.

(62) Dive plans should be attached to the UQSafe – Work off Campus (WOC) plan.

(63) Approval of an attached dive plan by the Dive Coordinator's supervisor is completed by approving the WOC.

Record of Dive (Dive Log)

(64) A record of dives (Dive Log) will be maintained for every dive. Items a-h in clause 64 will be recorded prior to the commencement of any dive.

(65) The record must show for each diver:

a. the name of the Dive Coordinator supervising the dive,
b. location and nature of dive site, for example boat or shore diving;
c. the decompression tables followed by the diver (Note: Where a buddy pair is used, both divers must utilise the same decompression tables);
d. the date;
e. operation number of the dive, that is sequential numbering of each of the dives for any one day;
f. the name of the diver;
g. the name of any co-diver (buddy or standby diver);
h. where relevant, the surface interval from the previous dive;

i. the time the diver left surface;
j. the time the diver returned to surface;
k. the Bottom Time;
l. the maximum depth the diver reached; and
m. any incident, difficulty, discomfort, or injury that occurred during the dive.

(66) Where nitrox is being used, the dive record must also show for each diver:

a. the fraction of oxygen in each gas being used; and
b. the maximum operating depth of each gas being used.

(67) The dive record must be completed and signed by each diver and Dive Coordinator as soon as practicable.

(68) Where diving is undertaken from a vessel, the dive record must be signed before the vessel departs the dive site. The dive record will confirm all diving personnel are accounted for prior to departure from site.

Part D - Plant and Equipment Requirements

Compulsory Equipment for all Divers

(69) The following equipment must be used or carried by each diver on every dive unless special dispensation has been granted by their Boating and Diving Officer or delegate:

a. exposure protection (wetsuit, drysuit, coverall) appropriate to the prevailing environmental conditions;
b. mask, fins, and a diver's knife or cutting implement. The knife must be worn in such a way that it will not foul any discarded equipment (e.g., released weights);
c. a buoyancy control device (BCD) with oral and SCUBA-feed inflators. A BCD must be used with both wetsuits and drysuits;
d. a weight belt, or a buoyancy control device incorporating an integrated weight system with quick-release and weights (if required for buoyancy control); and
e. an audible signalling device, for example, a whistle.

(70) The following equipment must be onsite and available to the Diver's Attendant:

a. where divers are operating in free-swimming SCUBA or Rebreather mode, a means to recall the divers to the surface;
b. an adequate means of immediate communication in the event of an accident or emergency; and
c. oxygen resuscitation equipment capable of delivering 100% oxygen to a minimum of two divers simultaneously.

(71) Consideration should be given as to the need for an automatic external defibrillator to be available to the Diver's Attendant.

(72) Where it is determined that an automatic external defibrillator should be available to the Diver's Attendant, it should be positioned so that it is immediately accessible to the Diver's Attendant.

Compulsory Equipment for SCUBA Divers using Mouth-Held Demand Valves

(73) The following equipment must be used by each diver:

a. A SCUBA cylinder and valve designed in accordance with AS 2030.
b. A SCUBA regulator and alternative air source or air supply, such as a pony bottle or octopus regulator.

c. An air cylinder pressure gauge, depth gauge and timing device, e.g., watch or dive computer.
d. Emergency signalling equipment including:
    i. a high visibility signalling device, for example, a safety sausage;
    ii. an audible signalling device, for example, a whistle;
    iii. a lighted signalling device, for example, a glow stick, if diving is to take place close to dusk or after dark.

Compulsory Equipment for SCUBA Divers using a Full-Face Mask

(74) The following equipment must be used by each diver:

a. A SCUBA cylinder and valve designed in accordance with AS 2030;
b. A SCUBA regulator including a full-face mask and alternative second stage regulator;
c. A spare half-mask, available as an emergency backup mask, in the event the Full-Face Mask is aborted;
d. An air cylinder pressure gauge, depth gauge and timing device, e.g., watch or dive computer; and
e. Emergency signalling equipment including:
    i. a high visibility signalling device, for example, a safety sausage;
    ii. an audible signalling device, for example, a whistle; and
    iii. a lighted signalling device, for example, a glow stick, if diving is to take place close to dusk or after dark.

Maintenance Requirements

(75) SCUBA equipment including BCDs must be maintained as per the manufacturer's recommendations.

(76) Where the manufacturer's recommended service interval is greater than 12 months, the equipment must be inspected for correct function by a competent person every 12 months. A competent person in this case would be a person who has completed the manufacturer's service training or equivalent.

Gauge Accuracy

(77) Diver's depth gauges and submersible contents gauges must be checked for accuracy at least every twelve months. Accuracy should be at least to the manufactured standard. Gauges experiencing rough or heavy use should be tested at more frequent intervals not exceeding 6 months.

Breathing Gas Quality and Testing

(78) The Dive Coordinator must ensure that the source of the breathing gas used has been tested in accordance with the requirements detailed within AS2299.2 for Breathing Gas Supply within the last 3 months.

Part E - Hazard Management

Risk Assessment

(79) A risk assessment must be prepared by a person competent as a Dive Coordinator under this Procedure for all diving work in accordance with the Health and Safety Risk Assessment Procedure.

(80) The Dive Coordinator must assure that:

a. all workers are consulted regarding the risk assessment prior to diving work commencing; and
b. the controls nominated in the risk assessment have been implemented.

On Site Pre-Dive Plan and Risk Assessment

(81) At the dive site before every dive, the Dive Coordinator, Divers, Diver's Attendants, and any non-diving support personnel will discuss in detail, and agree upon, the pre-dive plan and update the risk assessment as appropriate, including all emergency procedures.

(82) All relevant workers, including non-divers associated with the diving work, such as vessel masters, should understand the control measures decided upon before diving commences.

Emergency Preparedness

Emergency Plans

(83) Emergency plans must be developed in writing and provide details of the procedures for:

a. a diver to be recovered to the dive tender, shore, or place where first aid can be effectively provided;
b. the minimum number of persons with first aid training, and the minimum level of first aid training of those persons;
c. the minimum volume of medical grade oxygen to be onsite;
d. transfer of an injured diver to the emergency services;
e. transfer of an injured diver to a recompression facility;
f. transfer of an injured diver to medical aid; and
g. lost or overdue diver/s.

Emergency Response Support

(84) A reliable system of communication will be provided from, or adjacent to, the dive site, to a designated onshore emergency support service. Provisions for onshore emergency support service must be made prior to the commencement of diving operations, and a written protocol, containing the appropriate contact details in the event of an emergency, will be maintained on-site and readily available.

(85) Where practicable, emergency plans should be attached to the work off-campus plan in UQSafe.

Risk Management of Hazards Specific to Diving Work

Decompression Sickness

(86) Risk of decompression sickness should be primarily managed by use of recognised decompression procedures.

(87) A diving computer may be used to track a diver's decompression requirement.

(88) Diving in accordance with widely recognised and industry-approved decompression tables does not eliminate all risk of decompression illness, and conservative diving practices are recommended wherever possible.

(89) On all occasions when hard physical work is carried out by a diver or when a diver is cold stressed, the decompression routine for the dive should follow the schedule for the next longer time increment for the dive, or the next greater depth listed in the tables being used, or both of these precautions.

(90) Where planned diving profiles exceed the maximum depth permitted for Restricted Diving work (18m), decompression procedures should be at least as conservative as the Department of Civil and Environmental Medicine Air Decompression Procedures and Tables (DCIEM).

(91) The Dive Coordinator must assure divers do not exceed the dive times detailed in the section ‘Modifications of

Dive Times Depending on Level of Recompression Chamber Support'.

Modifications of Dive Times Depending on Level of Recompression Chamber Support

(92) Depending on the availability of emergency recompression, diving must be limited as follows:

a. dive duration limits where recompression is available within two hours:

   Where recompression is available within two hours of the dive site, the maximum bottom time for any single dive must be the no-decompression limit (NDL) times for the decompression tables and procedures in use, providing that the maximum time in the water for any one dive does not exceed the maximum dive time listed in Table 1 (below) for the appropriate depth.

b. dive duration limits where recompression availability exceeds two hours:

   Where recompression availability exceeds two hours travel from the dive site, the maximum bottom time for any single dive must be 80% of the no-decompression limit (NDL) times for the decompression tables and procedures in use, provided that the maximum time in the water for any one dive does not exceed the maximum dive time listed in Table 2 (below) for the appropriate depth.

Maximum dive depth m	Maximum daily dive time (minutes)	
	One dive only	Multiple dives
6	480	360
9	240	190
>9	150	120

Table 1 – Maximum time limits for divers undertaken where recompression chamber support is available within 2 hours

Maximum dive depth m	Maximum daily dive time (minutes)	
	One dive only	Multiple dives
6	300	240
9	180	150
>9	120	90

Table 2 - Maximum time limits for divers undertaken where recompression chamber support is available in more than 2 hours

> Note: All repetitive dives undertaken without a recompression chamber onsite should be undertaken with an increased level of caution.

Exposure to Altitude Following Diving

(93) Exposure to altitude after diving has been shown to increase risk of decompression sickness. The minimum delays are set out in Table 75. These delays are for divers who find themselves in good health following diving. The times are based on minimal evidence and should be applied conservatively. If any signs or symptoms are present, individualised medical advice from a doctor trained in hyperbaric medicine must be obtained before any exposure to altitude.

Altitude (m)	Minimum delay before travel to altitude (h)		
	Category of dive (see below legend)		
	1	2	3
0-150	Nil	Nil	2
150-600	Nil	2	12
600-2400	12	24	48
Greater than 2400	24	48	72

Table 75 – Minimum delay before exposure to altitude

Category 1: A single dive to <50% of the DCIEM no-decompression limit, or two short dives within 18h with a total, combined bottom time of <50% of the no-decompression limit for the depth of the deeper dive. No decompression dives or repetitive dives to have been performed in the preceding few days.

Category 2: Dives exceeding category 1 but not included in Category 3, e.g., one or more dives to >50% of the no-decompression limits, or a single decompression dive in a day.

Category 3: Repetitive deep diving over multiple days, multiple decompression dives on one day, extreme exposures, omitted decompression, or other adverse events.

*Note that the altitude referred to is the effective altitude. In pressurised aircraft is usually 2400m but may exceed this is some circumstances.

Management of Risk from Non-associated Vessel Traffic

(94) On navigable waters a dive flag in compliance with local regulation should be flown in a way to maximise visibility. In most waters, this is the international code of signals Code A flag.

(95) Where diving operations are conducted from vessels at night the vessel must display ‘Restricted’ in ability to manoeuvre lights in accordance with Rule 27 of the International Regulations for Preventing Collisions at Sea 1972.

Management of Risk from Buoyant Lifting Devices

(96) Where objects are being moved via buoyant lifting devices, the proposed tasks should be described in the dive plan and approved by a Diving Officer. Any divers utilising buoyant lifting devices must hold relevant training and certification for the use of those devices.

Management of Risk of Using Oxygen Enriched Air (EANx/Nitrox)

(97) Divers using nitrox or oxygen enriched air must:

a. Hold at least a certification from a recognised diver training agency as a nitrox or oxygen enriched air diver.

(98) Persons undertaking filling of gas cylinders with nitrox or oxygen must be trained to a minimum of ISO 13293:2012 Recreational Diving Services - Requirements for gas blender training programs.

Section 4 - Roles, Responsibilities and

Accountabilities

Responsibilities and Accountabilities of Persons Conducting Diving Work

(99) Persons conducting diving work have duties relating to workers under Queensland Work Health and Safety legislation (Work Health and Safety Act 2011 and Work Health and Safety Regulation 2011) to take reasonable care for their own health and safety, and for the health and safety of other persons.

Dive Team Personnel

(100) Dive Team Personnel must:

a. ensure that they take reasonable care for their own and others' health and safety;
b. comply with this Procedure when participating in diving operations; and
c. co-operate with any reasonable request regarding this Procedure.

Dive Coordinators

(101) Dive Coordinators are responsible for all aspects of diving safety whilst onsite. The Dive Coordinator nominated in a dive plan must be onsite during diving operations or delegate their duties to another Dive Coordinator identified in the dive plan.

(102) In addition to the responsibilities under clauses 99-101, the Dive Coordinator is responsible for:

a. ensuring a dive plan has been completed and submitted to the relevant Diving Officer for review, prior to the commencement of diving activities,
b. verifying the relevant Diving Officer holds proof of diver competency for all divers involved in the proposed diving work, and a copy of a current certificate of medical fitness for all divers,
c. direct that diving work is performed in accordance with the dive plan as far as is practicable, or notifying their supervisor and Diving Officer of any changes that may be required;
d. verify a risk assessment as per the Health and Safety Risk Assessment Procedure has been completed for the diving work;
e. confirm the controls identified in the risk assessment are implemented;
f. briefing all persons involved in the diving operation, including the Diver's Attendants, lookout(s) and Dive Tender Master (as applicable), on their role;
g. verify all divers are fit to dive at the time diving commences;
h. confirm the dive record is completed as soon as practicable for every dive;
i. submitting all dive records to the relevant Diving Officer within an acceptable timeframe (nominally within 48hrs from completion of the diving work);
j. monitoring decompression safety for each diver;
k. verify each diver has the equipment required and the diving equipment in use is maintained as per the manufacturer's standards;
l. direct that any equipment failures are noted in the dive record;
m. confirm any illness, injury or near miss is reported to the University as soon as practicable as per the Health and Safety Incident and Hazard Reporting Procedure; and
n. verify breathing gas quality has been tested as per the ‘Breathing Gas Quality and Testing’ provisions.

Divers

(103) Divers are responsible for:

a. providing to the University all and any records required for the University to comply with the Work Health and Safety Regulation 2011 (Qld) and any other relevant legislation (see Section 3 Part A above);
b. confirm they are fit to dive for each dive;
c. confirm they are competent to undertake the dive and the diving work;
d. complying with control measures indicated in the risk assessment and in this Procedure;
e. giving their full attention to the Dive Coordinator's brief;
f. monitoring gas supply and return to surface with an adequate reserve;
g. reporting equipment failures to the Dive Coordinator;
h. signing the dive record;
i. maintaining a verified logbook of their diving activity; and
j. assure any illness, injury or near miss is reported to the University as soon as practicable.

(104) In addition, Limited Divers are responsible for:

a. verifying the work undertaken is limited diving work; and
b. ensuring they dive on no more than 28 days in any six-month period.

Diver's Attendants

(105) Diver's Attendants are present onsite to assist the divers, monitor the safety of any diver, and provide support in emergencies. Diver's Attendants must not be engaged in any other activity while divers they are attending are underwater.

(106) Diver's Attendants are responsible for:

a. having a complete working knowledge of the dive plan, and associated tasks;
b. complying with control measures indicated in risk assessment and this Procedure;
c. giving their full attention to the Dive Coordinator's brief;
d. promptly and accurately completing the dive record as required;
e. assisting with the deployment and recovery of divers, samples and equipment as required;
f. establishing and maintaining a constant look-out over any divers in the water; and
g. participating in any emergency as per the emergency plan.

Dive Tender Master

(107) The Dive Tender Master is a key member of the dive team. Operations of the dive tender can have significant effects on divers working from or near the vessel.

(108) The Dive Tender Master is responsible for:

a. ensuring the vessel is operated in a manner to minimise risk to any divers; and
b. displaying the appropriate signals by the vessel whilst engaged in diving operations.

(109) The Dive Tender Master may suspend or recall diving operations at their discretion. See Boating Safety Procedure for further information.

Diving Officer

(110) A Diving Officer must be a suitably qualified and experienced diver.

(111) The Diving Officer is responsible for:

a. providing advice for compliance and safety for diving operations;
b. assisting Dive Coordinators to complete dive plans, emergency plans and risk assessments;
c. Provide advice to the Supervisors of personnel undertaking diving work, regarding approval of submitted dive plans;
d. maintaining the University's required records for diving operations;
e. auditing of compliance of the University's diving operations;
f. act as the UQ point of contact with relevant regulators, including the report of notifiable incidents;
g. undertake timely audit activities and where appropriate undertake incident investigations; and
h. liaise with the UQ Director, Health, Safety and Wellness, as necessary.

Section 5 - Monitoring, Review and Assurance

(112) Where a work off-campus plan that includes a dive plan is in development prior to supervisor approval, the relevant Diving Officer should be invited to conduct a peer review of the dive plan and associated risk assessments.

(113) Diving Officers will conduct regular desk top audits of dive records to verify that records are complete, and the diving work undertaken is within the scope of the approved dive plan.

(114) At suitable intervals, UQ HSW Division will review compliance practices, health and safety management performance, and the ongoing effectiveness of the described controls associated with general diving work.

Section 6 - Recording and Reporting

(115) In accordance with Work Health and Safety Regulation 2011 (Qld), copies of certificates of fitness for diving work and diver competencies must be held by the University for a minimum period of 12 months after the diving work is completed. These certificates must be held by the relevant Diving Officer.

(116) Supervisors must confirm that dive plans and emergency procedures are attached to UQSafe work off-campus submissions, prior to providing final approval.

(117) Dive records must be completed as soon as practicable by the Dive Coordinator and/or Diver's Attendant and submitted to the relevant Diving Officer within 48hrs from completion of the diving work.

(118) Divers should maintain as separate diver’s logbook for their own records.

(119) Incidents must be noted on the dive record and full details reported as soon as practicable as per Health and Safety Incident and Hazard Reporting Procedure.

Section 7 - Appendix

Definitions, Terms, Acronyms

Term	Definition
BCD	Buoyancy Control Device; typically a vest worn by the diver, capable of inflation & deflation during the dive, enabling control of the diver's vertical position in the water column.
BDO	Boating and Diving Officer: a person authorised by the University Boating and Diving Manager, to monitor boating and diving activities undertaken under the auspices of the University of Queensland, or activities undertaken by external organisations utilising University of Queensland infrastructure. A BDO may approve a Dive Plan submitted in UQSafe as part of a work off-campus submission. A BDO may suspend any boating and diving activities they consider to be unsafe or not conducted in accordance with this document. The UQ Diving manager may also be called a BDO.
Closed Circuit Rebreather (CCR)	An underwater breathing apparatus that absorbs the carbon dioxide of a diver's exhaled breath to permit the rebreathing (recycling) of the substantially unused oxygen content, and unused inert content when present, of each breath. Oxygen is added to replenish the amount metabolised by the dive.
Diving Officer	A person appointed by the PCBU in writing to perform the duties of a Diving Officer.
Dive Coordinator	The person(s) named on a Dive Plan as Dive Coordinator shall be responsible for the safe conduct of the proposed diving works and shall ensure all diving activities comply with this document. A Dive Coordinator shall be appointed as a Dive Coordinator by the University Boating and Diving Manager (BDM), or a Boating and Diving Officer of a UQ research station, as authorised by the BDM.
Dive tender	A vessel used to support diving operations.
Diving work	Work conducted in or under water or other liquid whilst breathing compressed gas.
General diving work	Work conducted in or under water or other liquid whilst breathing compressed gas that is not high-risk diving work.
High risk diving work	Diving work that involves one or more of the following: • any work carried out in connection with the construction, alteration, conversion, fitting-out, commissioning, renovation, repair, maintenance, refurbishment, demolition, decommissioning or dismantling of a structure; • testing, maintenance or repair work of a minor nature carried out in connection with a structure; • inspection of a structure, or • the recovery or salvage of a large structure or large item of plant, • but excludes minor work that involves cleaning, inspecting, maintaining or searching for a vessel or mooring. Note: General diving work can be high risk without necessarily meeting the definition of high-risk diving work.
Incidental diving work	Diving work that is not high-risk diving work that: • is incidental to the conduct of the business or undertaking in which the diving work is carried out; and • involves limited diving; and • is carried out while being accompanied and supervised by a person who is competent for diving work.
Limited diving	Diving that does not involve any of the following: • diving to a depth below 30m; • the need for a decompression stop; • the use of mechanical lifting equipment or a buoyancy lifting device; • diving beneath anything that would require the diver to move sideways before being able to ascend; • the use of plant that is powered from the surface; • diving for more than 28 days during a period of 6 months.
Navigable waters	All waters that are from time to time capable of navigation and are open to or used by the public for navigation, whether on payment of a fee or otherwise.
Person Conducting a Business or Undertaking (PCBU)	The definition of PCBU is as per Work Health and Safety Regulation 2011 (Qld), section 5. For the purposes of this document, UQ is the PCBU.

Term	Definition
Restricted diving	Diving work that is restricted to: (a) not dive using SSBA equipment unless trained in SSBA diving; (b) only dive when conditions are suitable for untethered SCUBA mode; (c) not dive deeper than 18 m depth; (d) not act as a dive leader; (e) not use powered tools or lift bags; (f) not dive as a restricted diver other than for a single initial period of up to 12 months.
Scientific diving	Diving performed for the purpose of professional scientific research, natural resource management or scientific research as an educational activity.
Self-Contained Underwater Breathing Apparatus (SCUBA)	Open-circuit diving equipment which supplies the wearer with breathing gas from cylinders carried by the wearer.
Surface Supplied Breathing Apparatus (SSBA)	Diving equipment that supplies breathing gas at the required pressure for the depth, through a diver's hose to a diver from plant at the surface.
Structure	Anything that is constructed, whether fixed or moveable, temporary or permanent and includes: • buildings, masts, towers, framework, pipelines, transport infrastructure and underground works (shafts or tunnels); and • any component of a structure; and • part of a structure. Note: Items of plant, such as minor experimental installations, are typically not structures.
Supervisor	A UQ staff member to whom a Dive Team member directly reports to.
Vessel master	A person controlling the operation of a vessel. The Vessel Master should be approved by an UQ BDO, to operate a UQ vessel. The Vessel Master shall be responsible for the safe and legal operation of the vessel, and for the safety of all persons aboard the vessel. The Vessel Master shall be familiar with and operate the vessel in accordance with: • the vessel's Safety Management System (SMS), and • the UQ PPL document: Boating Safety Procedure, and its associated documents. All personnel aboard the vessel shall adhere to any reasonable direction given by the Vessel Master. The Vessel Master has the authority to terminate any work activity that they consider to be unsafe, or in any way not complaint with an UQ PPL document or UQSafe Risk Assessment.
Workers	As per Work Health and Safety Act 2011 (Qld): Meaning of worker (1) A person is a worker if the person carries out work in any capacity for a person conducting a business or undertaking, including work as— (a)an employee; or (b)a contractor or subcontractor; or (c)an employee of a contractor or subcontractor; or (d)an employee of a labour hire company who has been assigned to work in the person's business or undertaking; or (e)an outworker; or (f)an apprentice or trainee; or (g)a student gaining work experience; or (h)a volunteer; or (i)a person of a prescribed class. (2) For this Act, a police officer is— (a)a worker; and (b)at work throughout the time when the officer is on duty or lawfully performing the functions of a police officer, but not otherwise. (3)The person conducting the business or undertaking is also a worker if the person is an individual who carries out work in that business or undertaking

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