Safety Guidelines for Commercial Shark Cage Diving

This guidance contains advice for commercial shark cage diving operators to support the development of safety management plans.
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1. Overview

1.1 Purpose

This guidance provides information for operators of commercial shark cage diving to assist them with the development and implementation of safety management systems for safe delivery of their activities. They have been developed with input from operators and associated professionals.

Good safety practice consists of:

- operating to an acceptable safety standard
- complying with applicable legislation
- continually improving safety systems, including keeping up to date with current practice.

This guidance set out recommended methods of achieving components of what Maritime New Zealand (MNZ) considers to be an acceptable safety standard. Unless otherwise expressly stated in this guidance, MNZ expects to see these methods, or comparable methods that can be shown to produce the same safety outcomes, reflected in an operator’s Maritime Transport Operator Plan (MTOP) developed under Maritime Rule Part 19.

Consistency with this guidance will be assessed for the issue of a Maritime Transport Operator Certificate by considering whether an operator has implemented the specific recommendations or has developed an alternative approach that the Director of Maritime New Zealand (the Director) considers is likely to produce an equivalent outcome.

Operators should note, however, that this guidance is of a general nature and does not cover all possible things that MNZ expects to see in any particular safety system. Safety systems will be assessed as a whole, taking into account all relevant issues, including the implementation of this guidance material.

Disclaimer

This guidance provides information and explanations about the requirements set out in the maritime rules, but it is not a substitute for the rules themselves, which are the law. The maritime rules can be found at:

maritimenz.govt.nz/rules

This guidance is intended to provide activity-specific safety information for operators of commercial vessels involved in swimming operations and operate alongside MNZ’s health and safety guidance for work on board vessels, and where vessels are a place of work. This can be found on our resources page:

https://www.maritimenz.govt.nz/hswa
1. Overview (continued)

1.2 Intended audience

This guidance applies to all operators of commercial shark cage diving vessels.

1.3 Relationship to legislative requirements

As an operator of a commercial shark cage diving operation, you have obligations under legislation such as the Maritime Transport Act 1994 (MTA), Maritime Rules, and the Health and Safety at Work Act 2015 (HSWA). Operators should make themselves especially familiar with the requirements of this legislation.

In general, the MTA and the rules made under that Act focus on vessel-related safety, while HSWA focuses on the safety of people at work. However, there is a degree of overlap, and Maritime Rule Part 19 focuses on whole maritime transport operations.

Maritime Rules and Marine Protection Rules are legal tools made by the Minister of Transport under the MTA. While the MTA specifies broad principles of maritime law, the rules contain detailed technical standards, requirements and procedures.

In addition, HSWA provides for the safety of people in the workplace, including by requiring persons conducting a business or undertaking (PCBUs; including employers and others) to take all practicable steps to ensure that no person is harmed in a place of work or through its activities. Vessels involved in commercial swimming operations are places of work. All practicable steps, in this context, will depend on the specific circumstances of the operation’s activities. Officers (e.g. company directors), workers and others also have duties under HSWA.

1.4 Maritime rules

Nothing in this guidance releases operators from their responsibility to meet their full obligations under the law and to ensure that their operations are managed safely.

Maritime Rule Part 19.42(1)(b) states that:

A maritime transport operator must develop and document a maritime transport operator safety system in the Maritime Transport Operator Plan that is consistent with safety guidelines and other safety information provided by the Director of Maritime New Zealand and best practice information contained in relevant industry codes of practice.

This guidance is provided by the Director. For this reason, operators operating under Rule Part 19 will need to ensure that their safety system is consistent with the information presented here. For operators operating under a deemed Maritime Transport Operator Certificate (see section 2.1), compliance with this guidance is voluntary, but operators are strongly encouraged to give this guidance full consideration.

1.5 The Health and Safety at Work Act 2015 (HSWA)

HSWA places a duty of care on a person conducting a business or undertaking (PCBU) to ensure, as far as is reasonably practicable, the health and safety of its own workers (including employees and others, e.g. contractors), and any workers that it influences or directs. The PCBU must also ensure that other people who could be put at risk, such as customers and visitors are not put at risk by its work.
HSWA requires you to ensure that your workers are adequately informed, trained and supervised to perform their duties without exposing people to health and safety risks arising from the work carried out. HSWA further requires PCBUs to take a coordinated approach to the management of hazards, including identifying and assessing the significance of hazards, as well as implementing management strategies and processes that either eliminate, isolate or minimise hazards. Hazards in this case are all factors that have the potential to cause harm to people.

1.6 Health and Safety at Work (Adventure Activities) Regulations 2016

Commercial vessels involved in shark cage diving operations are not covered by the requirements of the Health and Safety at Work (Adventure Activities) Regulations 2016 (which require adventure activity operators to obtain a safety audit and be registered) to the extent that the vessel is covered by a maritime document (see Regulation 4(2)(a)).

However, there may be aspects of your operation that are covered by the Adventure Activities Regulations or other legislation, and you should ensure that you are aware of and comply with any legal requirements that apply. More information about adventure activities can be found on the WorkSafe NZ website:

https://www.worksafe.govt.nz/

1.7 Other legislation relevant to your operation

These guidelines are developed solely for the safety of people and do not replace or discharge operators’ broader responsibilities under legislation managed by other agencies such as the Department of Conservation and regional councils.

For example, matters relating to great white sharks are managed by the Department of Conservation under the Commercial Great White Shark Cage Diving New Zealand Code of Practice.

Disclaimer

Relevant legislation, including the Maritime Transport Act 1994, Maritime Rules and the Health and Safety at Work Act 2015, are amended from time to time and we intend to update these safety guidelines to reflect such amendments if necessary. However, the onus is on operators to check that they are operating to the latest Maritime Rules and other legislation and they should not rely on these guidelines for currency. The reader should check Maritime New Zealand’s website (maritimenz.govt.nz – search for ‘guidelines’) to ensure they have the most current version of these guidelines.
2. Minimum operating requirements

It is your responsibility to ensure that your Maritime Transport Operator Plan (MTOP) is up to date and appropriate for your operation. You must also ensure that all the vessels in your operation are safe.

2.1 Safety management system

No person may operate a commercial vessel without a valid Maritime Transport Operator Certificate. The Maritime Transport Operator Certificate is a maritime document for the purposes of the MTA. The Director is responsible for assessing an operator’s MTOP in accordance with the process outlined in Maritime Rule Part 19.

2.2 Certificate of survey

All commercial vessels involved in your operation must have a valid certificate of survey in force at all times, applying to the vessel and its equipment in accordance with Maritime Rule 44.41.

2.3 Audits

Maritime Operator Safety System (MOSS) audits look at how the operation is performing against the MTOP under the Maritime Transport Operator Certificate. These audits will determine whether the plan is:

- being implemented effectively
- suitable to achieve the safety management system objectives
- compliant with the applicable requirements of Maritime Rule Parts 19 and 44.

More information about MOSS and MOSS audits is available here:

maritimenz.govt.nz/MOSS
3. General harm prevention

As well as being aware of specific hazards and having effective safety systems to manage them, there are a range of general steps that can be taken to reduce the risk of harm to anybody involved in a shark cage diving operation.

Maritime transport operators have duties under both maritime law and health and safety law. They must meet their responsibilities under both sets of laws. MOSS is based on Maritime Rules made under the MTA and requires operators to document and operate to a safety plan. Other aspects of harm prevention are covered under HSWA. MNZ’s guidance on HSWA and the associated regulations for work on board vessels, and where vessels are a place of work, can be found in ‘A Guide for Mariners’ on our resources page.

maritimenz.govt.nz/hswa

3.1 Operating areas

Commercial vessels must operate within the operating limits assigned to them in accordance with Maritime Rule Part 20 (Operating Limits). In general this is likely to be within inshore limits.

3.2 Fitness to take part in operation

A screening process should be in place to ensure that skippers, crew members, other staff and passengers are mentally and physically fit to undertake their duties. The process should be sufficient to ensure that skippers, crew members, other staff and passengers do not participate in the operation when, in the opinion of the operator, they are impaired by fatigue, medical conditions, frailty or by the consumption of alcohol or drugs to a degree that may be a risk to the safety of themselves or passengers. Before the passengers begin the trip:

- check that they have provided the information you require for your records
- ask if they are confident in water
- check that they are not impaired by drugs or alcohol
- check that their age and physical ability is suitable for the trip.

3.3 Age limits

Operators should determine appropriate and safe age limits for their operation, based on the risk of the activity. Age limits should be introduced using the established criteria of the World Recreational SCUBA Training Council (www.wrstc.com). If people under 15 are allowed to dive, specific training should be provided for this age group.

3.4 Safety briefings and information

Clear and comprehensive briefings and safety information should be provided to passengers and divers both in relation to the trip and the diving, including regarding the vessel’s safety equipment. Ensure that every passenger is told verbally of the risk(s) and if the passenger is a minor, then a responsible adult guardian should be told.
3. **General harm prevention** (continued)

A verbal briefing should be conducted at the start of the trip with relevant parts repeated immediately before each dive. Briefings and information should include:

- a description of what the activity broadly involves

- Photos, videos or simulations of real experiences so passengers are well prepared on what to expect

- written material, stylised visual displays and clear and comprehensive safety signage in languages or pictorial forms designed to be understood by as many passengers as reasonably possible

- ensuring your operation’s website, crew and passenger safety briefings and passenger information sheets discuss the importance of disclosing medical conditions

- recording any medical conditions that passengers have identified and sensibly managing them during the trip

- the protocols that need to be followed in the case of an emergency.

Passengers should be told this as early as possible so they can decide whether or not they wish to proceed with the trip.

If you feel that a passenger is having difficulty understanding the briefing or demonstrations, give them a safety briefing card. The safety briefing card should be visual and easily understood, particularly for those of whom English is not their first language.

At regular intervals during the trip the skipper/crew should check that no passengers are in distress or are uncomfortable.

At all times, written material, stylised visual displays and clear and comprehensive safety signage in languages or pictorial forms should be positioned around the vessel. This should include clearly visible signage attached to the cage that is readable from both inside and outside the cage reminding the diver not to place any body parts outside the cage.

### 3.5 Equipment

All equipment should be fit for purpose and suitable for the conditions.

All diving equipment, including wetsuits, buoyancy aids and the hookah breathing system, should be fitted, inspected, maintained, replaced and used in accordance with the manufacturers’ specifications, or to a higher safety standard if it is needed to maintain safety.

No equipment should be used by any person if the operator knows or suspects the equipment is unsafe.
3. **General harm prevention** (continued)

Examples of unsafe equipment are when equipment may have been weakened by ultraviolet light or damaged, or the equipment is ill fitting or incorrectly sized for the user.

All equipment should be listed in the operation’s maintenance plan to ensure the equipment’s condition is routinely inspected. Any repairs or replacement of equipment should be recorded.

### 3.6 Emergency response plans and procedures

Appropriate emergency response plans and procedures should be in place for emergency situations that may arise, even if these emergencies are unlikely to occur. All crew should be familiar with and trained in emergency response and procedures, including undergoing regular drills. Operators should ensure that on each trip, all crew and passengers are aware of what to do in an emergency.

Emergency situations that should be prepared for include: capsize; damage or engine failure of the ship; the cage breaking away from the vessel; shark attack; diver incapacitation; man overboard and fires. Emergency response plans should also include a record of emergency equipment carried on board, and provide for the equipment to be regularly checked and maintained.

Operators should have a written record of the number of passengers, their names and address of each passenger participating in a commercial shark cage diving operation. In all cases, accidents and serious mishaps should be treated as serious and the operator should return to base in the safest and fastest route as far as is practicable.

### 3.7 Recall of divers

Divers should be recalled and the dive terminated if:

- the water surface becomes too choppy or the current becomes too strong
- any diver exhibit symptoms of hypothermia.

Operators should have a process for recalling divers if the dive supervisor considers that the dive should be terminated early for any reason.

### 3.8 Crewing ratios

Maritime Rules establish required crewing ratios, and these must be complied with. However, there may be aspects of your operation that mean a higher ratio of crew and other staff would be appropriate for safety purposes. The ratio of crew and other staff to divers and passengers should be appropriate for the circumstances, taking into account the weather conditions, age and experience of the divers, type of sharks being viewed, and any other relevant factors.

### 3.9 Recommended training, skills and experience

The operator/skipper, crew and other staff providing the activity should be adequately trained to address the potential risks of providing shark cage diving operations. This training should at least include:

- safety and diving briefings
- minimum crewing levels
3. General harm prevention (continued)

- use of equipment
- dealing with sharks
- diving at sea
- recognising hand signals (such as international dive signals) or other suitable communication methods to be used, should any diver need help in the water
- what to do in an emergency.
- passenger care
- use of dive flags
- safe transfer of divers into and out of the cage
- passenger counts
- knowing the signs of hypothermia and how to manage it
- life saving and first aid
- recognising distressed divers

All crew should have a current first aid certificate, and if a vessel carries oxygen for emergencies (or any other specialised equipment, such as a defibrillator), at least one crew member on each trip should be trained in its use.

Other personnel involved in the diving activity should be adequately trained, skilled and experienced for the roles they perform.

A written or electronic record should be kept of the relevant qualifications, training and experience of each person involved in conducting the shark cage diving operation.

3.10 Pre and post trip procedures

Pre and post trip/dive procedures should include:

- visually inspecting all breathing equipment, hoses and connections
- performing a breathing test on all regulators
- inspecting the cage to ensure that all components are in good condition, including checking lines, tethers and crane strops for any chafing or damage.

3.11 Periodic reviews

A review of procedures should be undertaken at least every 12 months and as soon as practicable after every incident, accident or mishap to check that:

- the operation’s MTOP is being followed
- the correct and full safety training is being provided to crew
- a clear and comprehensive safety briefing is being given to passengers
- any poor practices are identified and improved procedures implemented as soon as possible
3. **General harm prevention** (continued)

- whether any new hazards have been identified and if risk mitigation measures have been put in place.

Reviews should also determine what could be learnt when accidents happen among other operators or new knowledge about risks or equipment becomes available.

### 3.12 Notifying accidents, incidents and mishaps

Under the MTA and HSWA there are obligations to report accidents, incidents or mishaps involving serious harm, death or risk of serious harm. Under the MTA, the master of a New Zealand ship (or a foreign ship in New Zealand waters) must report these matters to MNZ as soon as practicable. Other people may also be required to report under Maritime Rules. Under Section 56 of HSWA, a PCBU must report notifiable events (including serious harm or accidents involving a ship as a place of work) to the Director of MNZ as soon as possible after they become aware of the occurrence. Further information on the requirement to report can be found under ‘safety’ at:

[maritimenz.govt.nz/commercial](http://maritimenz.govt.nz/commercial) (go to safety then accidents and reporting)

The practices of the skipper should be periodically peer reviewed. The reviews should be of a sufficient scope and frequency to ensure that the skipper is adequately trained, current and proficient for their duties. Where a review identifies any adjustments needed to safety measures, those adjustments should be carried out as soon as practicable.
4. Specific identified hazards

4.1 Load shifting

The principal safety issue for crew, passengers and divers for this type of operation is the potential for load shifting because of the weight and dimensions of the shark cage. Load shifting could cause instability of the vessel. All vessels should have:

- sufficient deck space to store the cage while in transit without impeding vessel safety or performance
- robust straps, chains or ropes, and adequate attachment points for securing the cage to the deck while travelling.

Maritime Rule Part 40A specifies stability and freeboard tests to be used when a surveyor surveys your vessel for a fit-for-purpose certificate or a certificate of survey. However, as part of meeting your health and safety obligations, you may ask a surveyor to undertake more rigorous tests that take into account the special vessel stability concerns associated with commercial shark cage diving.

Under Maritime Rule 40C, all vessels fitted with a deck crane or lifting device must be a decked ship and meet the stability requirements stipulated under Appendix 1 of Part 40C of the Maritime Protection Rules.

4.2 Passenger crowding

During commercial shark cage diving operations, passengers crowding at a single place on the vessel to view sharks may be more likely than during other operations. Crowding on one side of the vessel may have an adverse effect on the stability of the vessel. Crowding at any point on the edge of the vessel may result in a passenger falling overboard, which could be particularly dangerous if the fall is from the bow while the vessel is making way, or if a passenger is out of sight of the crew and other passengers (for example, in the case of a small child falling overboard). The adverse effects of passenger crowding, including but not limited to effects on stability, should be specifically considered and measures put in place to manage these.

Strategies you may wish to consider to reduce the risk and possible consequences of passenger crowding include:

- having a procedure in place to minimise the risks from people moving as a group to one side of the vessel if it would affect the vessel’s stability
- taking other steps to reduce the risks of passengers falling overboard
- denying passengers access to the bow section while the vessel is making way at more than 5 knots.

4.3 Sharks

**Trauma management equipment**

Vessels involved in commercial shark cage diving operations should carry an appropriately stocked trauma kit capable of dealing with severe life-threatening bleeding, and appropriate first aid equipment for jellyfish and other sea creature stings (note that vinegar is no longer recommended for treating jellyfish stings because it may make things worse by activating unfired stinging cells).
4. Specific identified hazards (continued)

It is recommended that a supply of oxygen to provide victims with supplementary oxygen support is also available on board for use until professional medical aid can be accessed.

Cage design and construction

The design of the cage should be approved by an engineer who is a chartered professional engineer registered with the Engineers New Zealand. That approval should be based on the design specifications outlined below and should also cover the cage’s lifting and recovery mechanism. The following principles apply regarding cage design and construction:

- Cage dimensions should be appropriate for the maximum number of divers to be enclosed.
- Cages should have a well-engineered frame design with sufficient bracing to form a rigid and very strong structure. They should ideally be constructed from thick-walled, large-diameter marine grade aluminium with certified welds. Round tubing should be fillet cut and welded for maximum strength. The strength (ability to withstand impact) of the cage material should be appropriate for the type and size of sharks to be viewed.
- For tourist operations, the cage should have integral (welded) flotation chambers of sufficient buoyancy to ensure the cage is unsinkable. The floats should also be of sufficient buoyancy to ensure the cage floats with the top of the cage above the water level.
- The cage should have access/egress at the top only. The access/egress space should be at least half of the surface area of the top of the cage and provide sufficient space for as many divers as the cage contains to be able to hold their heads above water. There should also be no obstruction that hinders divers from exiting the cage quickly in an emergency. This means that if the cage has a lid, it should be open at all times when the cage is in the water.
- If the cage floats with the top of it above the water level it should be designed so that divers do not hit their heads against the top of the cage if they rise with the swell.
- Cages should have raised bars above the top edges of the three exposed sides to prevent any possibility of a shark getting over the top of the cage.
- Vertical bar spacing should be sufficiently close to provide good structural integrity.
- All viewing apertures should be kept small enough to prevent a shark entering (nominally 320mm), and there should be welded handrails inside the cage to allow divers to stabilise themselves without hands protruding through the cage.
- Heavy-gauge aluminium security mesh should be welded across the floor and up the cage sides to approximately chest height, to prevent hands and feet slipping through the cage frame.
- Care should be taken in design and construction to ensure there are no hazards such as sharp protrusions, edges or corners inside or outside the cage that could injure divers or sharks.
- If a cage is constructed solely for documentary filming and requires larger openings, additional safety measures should protect the camera operator. This may, for example, be through having experienced shark safety divers present and controlling cage doors during filming.
4. **Specific identified hazards (continued)**

**Attachment to vessel**

The cage should be attached to the vessel at all times while in the water. Ideally, this should be through rigid means, such as pins or hinges.

If tethers are used, there should be four separate tethers that have been approved as having sufficient breaking strain for the cage in the event of any two tethers failing, and they should be kept as short as practically possible to minimise the chance of a shark going between the vessel and the back of the cage. The four anchor points used on the vessel should be of sufficient strength to ensure there is no possibility of the cage being separated from the vessel.

If using tethers, chains, wires or other such methods, special care should be taken that they cannot: be bitten through by sharks, harm sharks by being accessible to biting, or entangle sharks.

Special care should also be taken to ensure that any gaps between the cage and the dive platform or vessel do not put divers or personnel at risk (for example, by having fingers severed).

**Baiting**

Any baiting procedure should include the following instructions:

- Never loop bait lines around wrists or hands
- Coil bait lines neatly, with no loose loops on deck
- Keep a knife easily accessible and close by
- Do not feed sharks unnecessarily and use minimal bait once a shark is present, as baits are to attract them only
- Use biodegradable products during the baiting process (such as hemp ropes)
- Take every care with positioning baits to avoid sharks making physical contact with the cage or vessel
- Bait should never be dragged over the cage
- Do not dispense bait from the cage under any circumstances
- Only crew members are to bait for large shark species. No non-crew should be within one metre of the crew member undertaking the baiting activity.

If baiting by passengers is permitted for small shark species, participating passengers should be given a specific safety briefing and safety instructions before the baiting occurs.

**Cage launch**

Cage launch procedures should include:

- any additional openings (for example, for filming purposes) being closed and secured prior to launch, to prevent them from being opened during the dive
- cage launch carried out by crew only, with divers and non-participants staying clear of the back deck area until the cage is in the water, the crane is turned off, and a supervising crew member or the skipper gives the all-clear for entry
4. **Specific identified hazards (continued)**

- the crane being operated by an experienced operator and according to regulations and safety standards
- cage tethers used by crew members to control the cage while in the air, with no one standing underneath the cage at any time, and lines kept taut to minimise cage swing
- all due care when operating the crane and launching or retrieving the cage, with passengers moving to clear the area
- appropriate personal protection equipment (such as hard hats) being used by crew during the cage launch process
- all gear checked and breathing tests performed on all regulators prior to divers entering the cage.

**Diver entry and exit**

Guard rails or supports of some kind should be available to support the entry and exit of divers from the cage. Diver entry procedures should include:

- divers not being permitted to stand on top of the cage at any time
- a crew member/safety diver accompanying any first-time divers in the cage for a short period to ensure compliance with shark cage protocol, and to assess their ability to dive and their comfort level
- full training and briefings given to each diver before the cage is launched when a crew member is not accompanying divers in the cage. This briefing should include information about any recall signals that might be used to terminate the dive
- only entering the cage through the top when it is above or on the water surface, directly from the dive platform while the cage is drawn hard up against the platform
- pulling the cage tight against the duckboard, and crew members assisting divers into the cage slowly, one at a time
- although divers breathe off a hookah system, ensuring that the top of the cage is always open so that divers in the cage can breathe directly at the surface at any time.

Diver exit procedures should include:

- the diver raising their head from inside the cage to signal readiness
- divers passing straight from the dive platform onto the back deck of the vessel, and not remaining on the platform
- where necessary, the diver being assisted by crew members.

**Diver protocols**

Diver protocols should include:

- no diving outside the cage
- no placing of limbs or any part of a diver’s body outside the cage
- the dive supervisor controlling the dive and all cage divers abiding by the dive supervisor’s decisions.
4. Specific identified hazards (continued)

4.4 Drowning

A possible risk for shark cage diving operations is to lose a diver through drowning. Reasons a diver may drown include medical conditions, such as heart disease. Strategies to consider managing this risk include:

- ensuring that participants are fit, both physically and mentally, for the diving activity, and having clear procedures for assessing participants’ ability. Part of this assessment should include assessing whether participants are likely to be under the influence of alcohol or recreational drugs
- having training and assessment systems to ensure that participants have the competence to dive safely. This should include being able to use equipment safely and being able to take appropriate action in an emergency
- ensuring that adequate crew supervision and management of the diving operation takes place, along with clear responsibilities for maintaining a watch over divers and other appropriate monitoring
- identifying and communicating to divers any hazards the divers need to be aware of
- not allowing diving to take place if the water conditions are dangerous, for example if tidal flows are excessive, the sea or swell conditions increase the risk to divers to unsafe levels when entering, inside or departing the cage, or if divers express discomfort from sea conditions when in the cage
- having clear parameters and procedures in the operation’s safety system to identify when operations will cease due to increased risk to divers from any external influences
- teaching divers a simple set of hand signals, such as international dive signals, or other suitable communication methods to use if any diver needs help in the water
- advising divers that diving may put people suffering from medical conditions at heightened risk of harm (for example, stress from sudden exposure to cold water or panic aggravating heart disease, which could result in cardiac arrest and possibly death)
- ensuring your operation’s website, crew and passenger safety briefings, and passenger information sheets discuss the importance of disclosing medical conditions (and perhaps asking divers to complete a medical questionnaire)
- recording divers’ medical conditions and sensibly managing them during the trip
- discouraging divers from entering the cage if they are seasick, and never pressuring a diver to enter the cage
- having throw bags available from the vessel at all times. Buoyancy aids are also recommended to aid divers if required
- having policies in place describing how you intend to ensure that any particularly young or elderly swimmers, or people with physical limitations or conditions that potentially put them at higher risk, are kept safe
- having on board a list of the names of passengers/divers.
4. **Specific identified hazards (continued)**

A hookah system is the most practical air supply solution given the shallow diving (less than two metres depth). This should be backed up by SCUBA tanks secured in the cage with a contents gauge and a regulator for each diver in the cage – although if the diver can stand up in the cage with their head above the water, no back-up SCUBA system is required.

The compressor running the hookah should be set up with a continuous power source or fuel supply, and a means of quickly changing to a back-up power source or fuel supply. The air inlet for the compressor should be positioned to draw in clean, dry air and be isolated from any exhaust fumes. Compressed air quality must be maintained and tested in accordance with AS/NZS 2299.1:2007 Occupational diving operations – Standard operational practice. In all other respects, the operation should be consistent with best practice for compressor use.

The hookah system and any back-up SCUBA tanks should be properly maintained and tested, and SCUBA regulators and equipment serviced regularly. All breathing equipment, hoses and so on should be visually inspected and tested before each dive.

### 4.5 Cold sea and air temperatures

Divers are at risk of hypothermia in cold seas. To reduce the risk, you should have available for use wetsuits or dry suits in suitable sizes, and of a length and gauge appropriate for the local conditions and proposed time in the water, plus gloves, boots and hoods if operating in particularly cold seas. Other strategies you should consider include having spaces that provide shelter from the weather and mitigate wind chill for all of the divers.

Appropriate equipment for treating mild hypothermia should be carried on board, such as hot packs, thermal blankets, showers or warm water containers or other methods of applying heat.

Crew and other staff delivering or enabling the diving operations should know how to treat hypothermia and administer treatment in an emergency, but professional medical help should be sought as soon as practicable.

### 4.6 Vessel drift

There are strong tidal currents and frequently strong wind conditions in areas suitable for shark cage operations, so it is important to anchor vessels securely.

The skipper should maintain an appropriate anchor watch during the entire operation.

### 4.7 Other vessels in the area

Dive flags should be displayed. These warn other boat users to keep well clear and to move at a slow speed when divers are in the water.

A watch keeper or boatman left on the dive boat should be instructed to wave the flag so that it can be seen by any approaching vessel.

There should be radio contact with other people in the area of the dive to ensure that other vessels do not come within 200m of the dive.
5. Where to get further information

- Commercial Great White Shark Cage Diving New Zealand Code of Practice (go to www.doc.govt.nz)
- Health and Safety at Work Act 2015 (go to www.legislation.govt.nz)
- Maritime Transport Rules (go to www.maritimenz.govt.nz and click on ‘Rules’)
- ‘Support Adventure’, the website for the adventure tourism and outdoor commercial sector (for assistance to develop your safety system for your commercial operation, go to www.supportadventure.co.nz)
6. Contact us for help

**Maritime NZ**

If you need more information about safety management systems, visit the following section of our website:

maritimenz.govt.nz/commercial/safety

If you can’t find the information you need, send us an email:

enquiries@maritimenz.govt.nz

Tell us what you need help with and remember to include your contact details (email address and phone numbers).