Commercial Diving Institute of Canada

# COVID-19
# Diving Procedures &
# Equipment Cleaning Procedure

## Document Owner

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## REVISION RECORD

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| 1 | 04.04.2020 | New | New | Implementation as per COVI-19 Response<br>Author: Doug Olson, DCBC Supervisor<br>Authority: Vern Johnston, IDSS / DMT |
| 2 | 04.08.20 | 2.0 | 2.3 | Personal Hygiene & Isolation<br>Authority: Vern Johnston, IDSS / DMT |
| 3 | 04.13.20 | Appendix 3 | 1 | Chamber Cleaning & Checklist<br>Authority: Vern Johnston, IDSS / DMT |
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# 1.0 INTRODUCTION

## 1.1 Purpose and Objective

The purpose of this document is to outline the safe operating procedures for diving during the COVID-19 outbreak. The staff and students must be trained and competent in the prescribed methods outlined in this document. At no time shall the safety of the students or staff be knowingly compromised.
IMCA, DCBC, ADCI, BC Health authority and Work Safe BC have been used in compiling this procedure.

## 1.2 Background

The novel Coronavirus disease, now named COVID-19, is a respiratory illness that can spread from person to person. It was first identified during an outbreak in Wuhan, China in December 2019 and has since spread worldwide with increasing signs that it is spreading easily in the community. When someone who has COVID-19 coughs or exhales, they release droplets of infected fluid. Most of these droplets fall on nearby surfaces and objects such as desks, tables or telephones. People can catch COVID-19 by touching these contaminated surfaces or objects and then touching their eyes, nose or mouth. If standing within one metre of a person with COVID-19 they can catch it by breathing in droplets coughed out or exhaled by them. There is currently no vaccine to protect against COVID-19, and no specific treatment for the infection.

## 1.3 Codes, Standards and Reference Documents

| Document No. | Title |
|---|---|
| **British Columbia Government References** | |
| BC Gov News | Guidance to construction sites operating during COVID-19 as of March 30,2020 |
| | https://news.gov.bc.ca/releases/2020EMBC0002-000542 |
| WorkSafe BC | Guidance Notes:<br>https://www.worksafebc.com/en/about-us/covid-19-updates/health-and-safety/covid-19-faqs |
| BC Ministry of health/ BC Centre for Disease Control | Coronavirus COVID – 19 Environmental Cleaning and Disinfectants for Physicians' Offices |
| **Industry Standards and Specifications** | |
| IMCA D 06-20 | Novel Coronavirus (COVID-19) Guidance for Diving Contractors |
| CSA Z275.2-20 | Occupational Code for Diving Operations – Health & Safety Guidance |
| | |
| **3rd Party References** | |
| KMDSI Bulletin – COVID-19 Cleaning Protocols - #3 of 2020. March 23,2020 | Kirby Morgan Maintenance and Repair Bulletin of Helmets, Band Masks & Full-Face Masks |
| Canadian Forces – DRDC TR 2002-209 Document | Disinfectant for Diving Operations, Technical Report, Table 5 - VIRKON |
| UHMS Guidelines Infection Control COVID 19,<br>March 2020 | Guidelines for infection control, patient treatment, and staff safety considerations related to Hyperbaric Oxygen Therapy (HBO2) in multi-place hyperbaric chambers during the novel coronavirus disease (COVID-19) outbreak |

## 2.0 PREVENTIVE MEASURES

The key measure in mitigating the risk of divers (students) and staff from acquiring COVID-19 is to prevent the virus from getting onto the diving operation. Strict adherence to cleaning protocols and procedures during diving operations will further decrease any potential threat of COVID-19 and other forms of viruses, germs, bacteria, and fungi.

*No diver, student or staff shall come to site or the main office if they have been exposed to someone with COVID-19 or is showing any signs or symptoms. They must self-isolate and seek the help of medical professionals. Reference COVID-19 questionnaire

### 2.1 Personal Protective equipment

- CSA Approved Steel toe Safety boots
- Personal Flotation device
- Dust mask
- Goggles or face shield
- Nitrile gloves

### 2.2 Dedicated Zoning Areas during Diving Operations

1. **Safe Cleaning Zone** – safe area for cleaning components
2. **Dive Station Zone** – area for divers and tenders only
3. **Active Dive Zone** – area for the launch and recovery of divers
4. **Dive Control Zone** – area for Diving supervisor and instructor
5. **DDC Zone** – area where Deck Decompression Chamber is located, may also be inside **Dive Control Zone**

### 2.3 Personal Isolation & Hygiene

1. **Diver -** during Diving Operations all divers will adhere to current PHO isolation guidelines.
2. **Diver -** all clothing will be washed daily
3. **Diver -** maintain a personal inventory of nitrile gloves
4. **All staff and personal –** maintain regular hand washing throughout the day.

## 3.0 CLEANING OF DIVING EQUIPMENT

**Cleaning**: the physical removal of visible soiling (e.g., dust, soil, blood, mucus). Cleaning removes, rather then kills, viruses and bacteria. This is done with water, detergents, and steady friction from a cleaning cloth.

**Disinfection:** the killing of viruses and bacteria. A disinfectant is only applied to objects, never on a human body.

Environmental cleaning for COVID-19 virus is the same as for other common viruses.
Cleaning products and disinfectants that are regularly used in hospitals and health care settings are strong enough to deactivate coronaviruses and prevent their spread. Cleaning of visibly soiled surfaces followed by disinfection is recommended for prevention of COVID-19 and other viral respiratory illnesses.

It is common practice to share diving helmets among the dive team as well as having extra pre-cleaned and sanitized oral nasals and nose clearing pads for each dive helmet in service that day. Other components such as the microphone, demand regulator and neck dam etc.., should be sanitised in situ after each use and allowed an adequate set time before rinsing to eliminate viruses and germs.

The use of antibacterial and chlorhexidine mouthwashes or sprays are ineffective solutions for proper disinfecting.

***See manufactures recommendations for appropriate germicidal cleaning solutions and procedures***

### 3.1 Safe Cleaning Area

It is important to note that the safe cleaning area is a dedicated zone. This area must maintain strict adherence to cleaning and sanitizing procedures and protocols in order to minimize the risks of any contamination of the diving equipment before diving activities commence, during diver turnarounds and post diving operations where the equipment is being prepared for stowage.

The safe cleaning area should meet or exceed the following criteria:

- Available hand wash station adjacent to the equipment area complete with warm soapy water to enable students and staff to thoroughly wash their hands (minimum of 20 seconds) several times throughout the shift.
- An equipment cleaning station complete with warm soapy water and soft nylon brush for the washing of the oral nasal mask and valve as well as nose block and pad.
- A soaking bin containing a recommended germicidal cleansing solution.
- A rinsing bin containing clean water to thoroughly remove any sanitizing cleansing solution post soak.

### 3.2 Cleaning of Components and Parts

The helmet and components should only be cleaned using germicidal cleaning solutions as per the Kirby Morgan General Preventative Maintenance modular manual.

The components to be cleaned in the Cleaning safe area are:

- Neck dam
- Oral nasal mask and valve
- The outer edge of the microphone element
- Nose block shaft and pad
- Regulator diaphragm and inside the regulator body
- Exhaust system (including demand regulator exhaust valve)
- Water dump valve & Regulator cover and ring

## APPENDIX I – DIVING CHECKLISTS 1

### I Diving Helmet Cleaning Checklist

| No | Cleaning Diving Helmet | √ |
|---|---|---|
| 1 | Rinse diving helmet thoroughly with **fresh water** at **low pressure / higher volume**. | |
| 2 | Diver / Tender(s) to remove **oral nasal**, **nose block shaft** and **nose block pad** from the diving helmets for sanitizing. | |
| 3 | Dab / Pat dry the diving helmet with a clean towel. | |
| 4 | Spray internal helmet components sufficiently with recommended germicidal cleansing solution including:<br><br>**Components** / √<br>Microphone<br>Earpieces | |
| 5 | Let sanitizing solution set / saturate for a **minimum of 10 minutes**. *Virkon 3% - 15g/500ml | |
| 6 | Once saturated for a minimum of 10 minutes, rinse the diving helmet thoroughly with **fresh water** at **low pressure / higher volume**.<br>Ensure that no sanitizing solution is present after rinsing if **you can smell the sanitizing solution** when you are done **you have not rinsed it off properly**.<br>Note: YOU SHOULD NOT SMELL the Virkon when you are ready to use the helmet. | |
| 7 | Dab / Pat dry the diving helmet with a clean towel. | |
| 8 | Diver / Tender(s) to install **newly sanitized** set of **oral nasals**, **nose block shaft** and **nose block pad** into the diving helmet. | |
| 9 | Diver to ensure that the diving helmet is in working condition for diving operations. | |
| 10 | Once completed, you are ready to use the helmet. | |
| **END** | | |

## APPENDIX II – DIVING CHECKLISTS 2

### I Dressing in of a Diver

| No | Dressing in of a Diver | √ |
|---|---|---|
| 1 | Student dive supervisor and instructor to verify cleaning checklist has been conducted | |
| 2 | Confirm divers are prepared and ready to dive with all required items. (Knife, compass etc..) | |
| 3 | Confirm tenders have full PPE including clean nitrile gloves, mask and shield and are ready to dress in the divers. | |
| 4 | Supervisor to instruct tenders to install sanitized helmet components including oral nasal and nose block pads. | |
| 5 | Supervisor to ensure that only Divers and clean and protected tenders are inside the Dive Station Zone. | |
| 6 | Diver / Tender to dress in diver(s) and report standard diver checks to the supervisor. | |
| 7 | Supervisor to ensure tenders maintain safe barrier PPE until diver is sealed in the hat and have commenced wet checks | |
| 8 | Supervisor to instruct tenders to maintain 2-meter social distancing inside the Active Dive Area. | |
| END | | |

### II Undressing of a Diver

| No | Undressing of a Diver | √ |
|---|---|---|
| 1 | Supervisor to ensure tender(s) are ready to receive diver(s) and have safe barrier PPE donned. | |
| 2 | Supervisor to instruct diver(s) to return to surface and locate to the Dive Station Zone. | |
| 3 | Diver / Tender(s) to assist diver(s) with release of helmet pins and separation of neck dam from helmet | |
| 4 | Diver(s) to ensure hat is not removed until bail out is off, helmet bled down, dry suit whip detached, umbilical carabineer disconnected from harness and pneumo released from chest. | |
| 5 | Diver(s) to remove hat and give to tender(s) for placement onto deck as well as harness. | |
| 6 | Diver / Tender(s) to receive neck dam from diver(s) for placement near helmet. | |
| 7 | Diver(s) to exit Dive Station Zone with personal gear to change. | |
| 8 | Diver / Tender(s) to commence the cleaning of the diving helmet components and parts as per the Diving Helmet Cleaning Checklist | |
| 9 | Diver / Tender(s) to ensure all cleaning of relative components (oral nasal, nose block pad, neck dam etc) are relocated to the Safe Cleaning Zone for sanitizing. | |
| END | | |

## Appendix III – Chamber Cleaning and Checklist

### I Chamber Cleaning and Checklist

***During the COVID-19 Pandemic, it is recommended that Sur-d-02 Dives only be conducted once options such as air decompression, increased number of divers & NITROX have been considered in the Dive Project Plan.**

- All cleaning checklists to be verified by staff instructor prior to any dive
- Dish soap to be used for soapy wash bin and hand cleaning station
- Chamber cleaning procedure as outlined in CDI HIRA 01CAT20 COVID19
- Virkon will be used for germicide soaking tub. Mixed to manufactures specifications
- Bleach wash solution to be used for exterior cleaning of chamber and dive station

| No | Chamber Cleaning | √ |
|---|---|---|
| 1 | Tender to wash hands thoroughly for 20 seconds in warm soapy water | |
| 2 | Wearing new nitrile gloves remove bib and regulator parts | |
| 3 | Virkon spray applied inside of Chamber paying special attention to high traffic areas such as hand holds, valving and bib hoses. Must leave on for 10 minutes. | |
| 4 | Bib and regulator parts to be rinsed thoroughly then washed in soapy wash bin for 2 minutes | |
| 5 | Bib and regulator parts to be rinsed with water. Set in Virkon soaking bin remain soaking for 10 minutes. | |
| 6 | Thorough rinse of all parts. Must not be able to smell Virkon on any parts. | |
| 7 | Thorough rinse of chamber where sprayed with Virkon. Must not be able to smell any Virkon in Chamber. | |
| 8 | Dry inside of chamber with clean towel or paper towel | |
| 9 | Tender to install newly sanitized bib and regulator | |
| 10 | Tender to ensure chamber is in good working condition for diving operations. (Pre dive checklist) | |
| 11 | Exterior of chamber to be washed with bleach solution before and after every dive Including all valving. Handles and doors | |
| **End** | | |