

# ADC Consensus Standards for Commercial Diving and Underwater Operations Fifth Edition

Errata - 7/20/04

## Section 2, page 2-6, paragraph 2.3.1:

1. **Advancement** beyond the designation of Tender/Diver requires completion of actual participation in commercial diving operations and demonstrated proficiency during working dives. Additional required technical qualifications are detailed separately in **Paragraph 6.28, Specific Operations Procedures** for the appropriate diving mode under the heading **Minimum Qualifications of Personnel**.

**Correction:** “**Paragraph 6.28**” should read “**Paragraph 4.28**”

## Section 2, page 2-7, paragraph 2.3.5-2:

2. Technical proficiency appropriate to the specific diving mode as outlined in **Paragraph 3.5, Specific Operations Procedures**.

**Correction:** “**Paragraph 3.5**” should read “**Paragraph 4.28**”

## Section 2, page 2-18, paragraph 2.9.4:

### **2.9.4 Temperament**

The nature of diving duties requires a careful appraisal of the individual’s emotional and temperamental fitness. Past or current symptoms of neuropsychiatric disorder or organic disease of the nervous system shall be disqualifying. No individual with a history of any form of epilepsy, or head injury with sequelae, or personality disorder shall be accepted. Neurotic trends, emotional adjustment, shall be disqualifying. Stammering or other speech impediment which might become manifest under excitement is disqualifying. Intelligence must be at least normal. Any abnormalities should be noted in Block #52 of the physical examination form.

**Correction:** on line 5, “emotional adjustment” should read “emotional disorder”

Section 3, page 3-14, paragraph 3.12. This form has been revised as follows:

## 3.12 COMMERCIAL DIVER CERTIFICATION CARD INDIVIDUAL APPLICATION

**ADCI**  
5206 FM 1960 West, Suite 202  
Houston, TX 77069

New Application

Renewal

## COMMERCIAL DIVER CERTIFICATION CARD APPLICATION

### Individual Application

Name	Passport, Social Security Number or other Identifying Number (please indicate)	<b>Classification (select one)</b> <input type="checkbox"/> Entry-Level Tender/Diver <input type="checkbox"/> Mixed Gas Diving Supervisor <input type="checkbox"/> Entry-Level ROV Pilot/Tech <input type="checkbox"/> Bell/Sat Diver <input type="checkbox"/> Air Diver <input type="checkbox"/> Bell/Sat Supervisor <input type="checkbox"/> ROV Pilot/Technician <input type="checkbox"/> Life Support Technician <input type="checkbox"/> Air Diving Supervisor <input type="checkbox"/> Non-Diving Supervisor <input type="checkbox"/> ROV Senior Pilot Technician <input type="checkbox"/> ROV Supervisor <input type="checkbox"/> Mixed Gas Diver	Fee Included [\$25.00 USD]

Address: \_\_\_\_\_

City, State/Province, Country, Postal Code \_\_\_\_\_

In making this application I understand and acknowledge that the Association of Diving Contractors International is relying in full upon my statement that the individual for whom card issue is requested is fully qualified to receive same by having met the training and experience criteria of the ADCI Consensus Standards for Commercial Diving Operations, Section 2.0 By such action I specifically release the Association of Diving Contractors International from any and all liability which may extend to the issue and use of the requested card to the individual identified above.

I further understand that validity of the requested Commercial Diver Certification Card is for a four (4) year period and at the expiration of the same a new card may be applied for if so desired.

To support the validity of this request for a Commercial Diver Certification Card I offer the following evidence that I am fully qualified to bear and display such a card:

1. Copies of my Divers Log Book for a period \_\_\_\_\_ 19\_\_ through \_\_\_\_\_ 20\_\_.

2. A copy of my diploma of certificate of course completion from \_\_\_\_\_.

3. A listing of all commercial diving companies for whom I have worked: [Use separate sheet if necessary.]

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Printed name: \_\_\_\_\_ Date: \_\_\_\_\_

\_\_\_\_\_  
Signature

**NOTE:** This application may be photocopied

Section 4, page 4-45, paragraph 4.33.8

**Dive emergencies such as bailout, bends, omitted decompression, embolism, etc. are addressed in the following section: “Guidelines for Treatment of Decompression Incidents.”**

**Correction: Entire paragraph is replaced with:**

**Guidance and procedures for the treatment of diving related emergencies such as bailout, bends, omitted decompression, embolism, etc. must be contained in Decompression Tables selected for use by commercial diving companies.**

Section 9, “Accident Reporting” is entirely revised. The revised section is included on the following pages.



## SECTION 9.0

# INJURY ILLNESS REPORTING RECORDKEEPING GUIDELINES

(FORMERLY ACCIDENT REPORTING)

Revised May, 2004





## 9.0 RECORDKEEPING

### 9.0.1 Reporting

A detailed description of all occupational injuries and illnesses shall be recorded.

### 9.0.2 Retention of Records

Reports and medical records shall be retained for 5 years except where otherwise mandated by law.

## 9.1 ADC SAFETY STATISTICS REPORTING STANDARDS

### 9.1.1 Introduction

The Safety Statistics Reporting Standards provide a uniform reporting scheme for all members who chose to and/or are required by their customers to record safety statistics under OSHA's Recordkeeping Requirement (29 CFR §1904). They define and clarify items in the *ADC Incident Data Reporting Form* for reporting accident data that may be requested by customers.

This standard is based on OSHA recordkeeping guidelines, and is intended to conform to the OSHA standard, but is modified to reflect the OSHA statement that recognizes that during the conduct of commercial diving operations prudent measures are taken to prevent injury and illness that counteract the negative effects of environmental conditions. In the absence of neurological symptoms or, where there is no injury or illness created as an effect of the operation, certain measures taken to protect the diver are permitted which do not require recording and/or reporting. That statement therefore recognizes that the commercial diving industry is unique and that some situations experienced are unique to the industry. 29 CFR 1904 does not specifically address the uniqueness of our industry and in consideration of that fact this standard may not entirely conform to OSHA recordkeeping requirements but does conform to the intent thereof by recognizing the OSHA statement set forth above.

Diving contractors who are subject to OSHA recordkeeping requirements should use strict OSHA reporting guidelines when recording incidents on the ADC Incident Data Reporting Form.

The *ADC Incident Classification Flow Chart* is used to quickly determine whether an incident is reportable, and if so, what its classification is. The detailed information below explains the reporting scheme in further detail.

### 9.1.2 Scope and Application

#### 1. Area of Coverage

Incident statistics and hours worked are reported for North American operations only. No foreign data is to be considered under these guidelines. Although statistics may be developed from a regional office, recording and reporting shall reflect the operations of the company as a whole. Incidents must be reported for all personnel whose hours are included in the "ACTUAL HOURS WORKED" column of the ADC Incident Data Reporting Form.

#### 2. Applicability

The *ADC Incident Reporting Form* currently requests reporting information for Diving Operations, however is also intended to accommodate additional requirements as, and when occurring. In all cases, ADC General Member companies shall simultaneously report serious accidents and fatalities to ADC when required to report to regulatory authority.



a. Diving Operations

The basic criteria for determining who to include in this division is control. Report any incidents and all man-hours for persons under the direct control of the diving operations manager. If non-diving personnel are accountable and report to that manager; they must also be included in the statistical data. If they report to someone else, then do not report them under Diving Operations. It is assumed that all companies maintain an operations board or other form of report to show a daily record of personnel working for customers on different jobs. This is an easy and uniform way to determine personnel and hours. Records of daily totals can be kept and used to compute hours worked.

b. Atmospheric Diving Systems Operations

The basic criteria for reporting incidents associated with the operations of ADS Systems shall parallel that established for Diving Operations.

c. Remotely Operated Vehicles (ROVs)

Where required, incidents associated with the operations of ROVs shall parallel that established for Diving Operations.

d. Submersibles and Related Underwater Manned Systems

Where required, incidents associated with the operations of Submersibles and Related Underwater Manned Systems shall be treated in the same manner as for Diving Operations.

## 9.2 INCIDENT CLASSIFICATION AND DEFINITIONS

### 9.2.1 Work Related Injury or Illness [29 CFR §1904.5]

- A case is considered work-related if an event or exposure in the work environment either caused or contributed to the resulting condition
- A case is considered work-related if an event or exposure in the work environment significantly aggravated a pre-existing injury or illness (Refer to 9.2.12)
- A case is presumed work-related for injuries and illnesses resulting from events or exposures occurring in the work environment (Refer to 9.2.2)

### 9.2.2 Work Environment [§ 1904.5]

- The work environment is defined as the establishment and other locations where one or more employees are working or present as condition of employment
- The work environment includes not only physical locations, but also the equipment or material used by employees during the course of their work

### 9.2.3 Recordable Incident

Record those work-related injuries and illnesses that result in: (Refer to 9.2.1)

- death,
- loss of consciousness,
- days away from work, (Refer to 9.2.8)
- restricted work activity or job transfer, (Refer to 9.2.7 & 9.2.9)
- medical treatment beyond first aid, or (Refer to 9.2.6)
- injuries and illnesses that are significant (as defined below) or meet any of the additional criteria listed below.

You must record any significant work-related injury or illness that is diagnosed by a physician or other licensed health care professional. You must record any work-related case involving cancer, chronic irreversible disease, a fractured or cracked bone, or a punctured eardrum.

#### 9.2.4 Exceptions [§1904.5]

Cases meeting the conditions of any of these listed exceptions are not considered work related and are, therefore, not recordable.

- Present as a member of the general public
- Symptoms arising in the work environment that are solely due to a non-work-related event or exposure
- Voluntary participation in wellness program, medical, fitness or recreational activity
- Eating, drinking or preparing food or drink for personal consumption
- Personal tasks outside assigned working hours
- Personal grooming, self medication for non-work-related condition, or intentionally self inflicted
- Motor vehicle accident in parking lot/access road during commute
- Common cold and flu
- Mental illness, unless employee voluntarily provides a medical opinion form a physician or licensed health care professional (PLHCP) having appropriate qualifications and experience that affirms work relatedness

Note: In cases where two or more physicians or other licensed health care providers make conflicting or differing recommendations, the employer must make a decision as to which recommendation is most authoritative (best documented, best reasoned, and most persuasive) and record based on that recommendation. **If an employee is injured in a motor vehicle accident going to or leaving work at the beginning or end of shift, or for a personal errand – the case is not work related. However, if the employee slips on the ice in the parking lot, or is in a car wreck doing business – the case is work related.**

#### 9.2.5 First Aid [§1904.7 (b) (5)]

- Using nonprescription medication at nonprescription strength
- Tetanus immunizations
- Cleaning, flushing, or soaking surface wounds
- Wound coverings, butterfly, bandages, Steri-Strips
- Hot or cold therapy
- Non-rigid means of support
- Temporary immobilization device used to transport accident victim
- Drilling of fingernail or toenail, draining fluid from blister
- Eye patches
- Removing foreign bodies from the eye using irrigation or cotton swab
- Removing splinters of foreign material from areas other than the eye by irrigation, tweezers, cotton swabs or other simple means
- Finger guards
- Massages
- Drinking fluids for relief of heat stress

**This list of first aid procedures is all-inclusive – if a procedure is not on this list it is considered medical treatment beyond first aid and is therefore recordable.**

#### 9.2.6 Medical Treatment [§1904.7 (b) (5)]

- Medical treatment is the management and care of a non-disabling injury or illness to combat disease or disorder.



- It does not include:
  - Visits to a Publicly Licensed Health Care Professional (PLHCP) solely for observation or counseling
  - Diagnostic procedures
  - First Aid

### **9.2.7 Restricted Work Cases [§1904.7 (b) (4)]**

- Record if the case involves one or more days of restricted work or job transfer
- Do not include the day of injury/illness
- Restricted work activity occurs when:
  - An employee is kept from performing one or more routine functions (work activities the employee regularly performs at least once per week) of his or her job; or
  - An employee is kept from working a full workday; or
- A PLHCP recommends either of the above

### **9.2.8 Days Away Cases [§1904.7 (b) (3)]**

- Record if the case involves one or more days away from work or if the PLHCP recommends days away from work
- Do not include the day of injury/illness

### **9.2.9 Days Away Cases (Day Count Requirements) [§1904.7 (b) (3)]**

- Day counts (days away or days restricted)
  - Count the number of calendar days the employee was unable to work (include weekend days, holidays, vacation days, etc.)
  - Cap day count at 180 days away and/or days restricted
  - May stop day count if employee leaves company for a reason unrelated to the injury or illness
- If a medical opinion exists, employer must follow that opinion

### **9.2.10 Job Transfers [§1904.7 (b) (4)]**

- Job Transfer
  - An injured or ill employee is assigned to a job other than his or her regular job for part of the day
  - A case is recordable if the injured or ill employee performs his or her routine job duties for part of a day and is assigned to another job for the rest of the day

Most job transfers involve some type of restriction. Even if they don't, job transfers due to an injury or illness are recordable events. If an injured or ill employee is transferred to another job for half days, this is also a job transfer.

If a permanent job transfer is made immediately, that is, on the day of injury or illness, at least one day or restricted work activity must be recorded.

### **9.2.11 New Case [§1904.6 ]**

- A case is new if:
  - The employee has not previously experienced a recordable injury or illness of the same type that affects the same part of the body, or
  - The employee previously experienced a recordable injury of illness of the same type that affects the same part of the body, but had recovered completely and an event or exposure in the work environment caused the signs and symptoms to reappear

If the employee has had a like case in the past, the new case decision involves two questions:

- Has the employee recovered from the old case?
- Did events or exposures at work cause the signs and symptoms to reappear?

### 9.2.12 Significant Aggravation [§ 1904.4]

- A pre-existing injury or illness is significantly aggravated when an event or exposure in the work environment results in any of the following (which otherwise would not have occurred):
  - Death
  - Loss of consciousness
  - Days away, days restricted or job transfer
  - Medical treatment

### 9.2.13 Hours Worked

The intent of OSHA and of this standard is that man-hours reported are that of actual man-hours worked. In recognition of the unique operations performed in our industry and in an effort to insure uniformity, the following guidelines shall be applied when calculating man-hours.

- All man-hours including offshore, inland, onsite or offsite man hours are to be actual hours worked except as follows:
- Salary = 40 hrs. / employee / week
- Marine Vessel Crews = Man days x 14 hrs. Marine man hours are not to be included on the ADC Incident Reporting Form. They have been included in this presentation only to insure consistency when reporting under the OSHA Recordkeeping Standard.
- Sat = Man days x 24 hrs.

Note: Organizations without the capability of tracking actual man hours worked shall utilize man-days not to exceed 12 hours/day.

### 9.2.14 Number of Dives

Leave surface to reach surface is to be considered one dive. Repeat-Ups are only one dive. Saturation exposures are to be considered as number of dives equals man-days seal to seal.

### 9.2.15 Total Recordable Incidents

This is the sum of all work related Days Away from Work, Restricted Activity, and Medical Treatment incidents.

### 9.2.16 Incident Rates

This incident rate is calculated for Days Away from Work and for Total Reportable Incidents. This is OSHA's method of obtaining a ratio of incidents per hours worked. It represents the total number of incidents equated to one hundred employees working forty hours per week for a fifty-week year. The ADC Standard Incident Reporting Form has four incident rates to be calculated. Days Away from Work and Total Recordable incident rates are calculated for both the Diving Operation only.

The method of calculation is given by the formula:

$$\text{Incident Rates} = \frac{\text{Number of Recordable Cases} \times 200,000}{\text{Actual Hours Worked}}$$

### 9.2.17 Industry Specific Incident Classification

The diving industry is not only unique when it comes to classification of incidents but it is also exempt from OSHA's Recordkeeping requirements (Refer to 29 CFR 1904.2). It is with this in mind that the utmost integrity be applied when classifying incidents. In any industry



segment there will always be gray areas where it is difficult to determine whether a case should or should not be recorded. The unique circumstances of the commercial diving industry, the customers drive to measure companies based on incident rates, and OSHA's Recordkeeping exemption may tend to promote the company to use the gray area in its favor.

The unique circumstances involved with diving and with saturation diving environments and circumstances involving prophylactic care require each company to make sound decisions based on integrity and the application of this and OSHA's Recordkeeping Standard. The following scenarios and the flow chart provided will assist in determining the recordability of each case and will assist in uniform recordkeeping within our industry:

1. In every case the employer must:

- Determine if the case is work related and/or if it is a result of the work environment
- Determine if the treatment exceeds that of first aid
- Determine if the case results in restricted and/or lost work days
- Determine if the treatment recommended/prescribed by the PLHCP is a result of prophylactic care (treatment for preventative measures only, not the treatment of signs and /or symptoms that would normally be treated in the same manner outside the diving environment). If the reason for the treatment is solely precautionary then the case is not recordable. Note the following example:
  - Eel bites or minor laceration occurs, first aid is given, but the doctor feels that it would be prudent to maintain a regimen of antibiotic use due to the diving environment and as a preventative measure - the case would not be recordable. If however the incident involved infection or other signs that treatment beyond first aid is needed then the case would be recordable. So, if the case is treated immediately with no signs or symptoms - the case would not be recordable. If however treatment is provided later, after signs and symptoms arise the case would be recordable.

Note: With this in mind it is of utmost importance that employees report incidents as early as possible rather than wait until it is clear that treatment is necessary. The earlier we report and respond to an incident involving diving related injury or illness, the less likely we will have to deal with further complications or with the need to record the case.

Prophylactic care will is most likely to occur in the saturation environment. Saturation is a unique work environment and commonly results in cases being treated in an aggressive manner. Due to the environment and the PLHCP's inability to physically examine the patient, cases are managed in an aggressive and precautionary manner to eliminate and/or reduce the potential of these cases to become significant to this environment. The reason for additional medical treatment and the recordability rests solely on the PLHCP's report and reasons for such treatment.

2. Skin Rash

Skin Rashes may result form laundry soap, reaction to food, shaving rash or occupational exposures including Decompression Sickness DCS (skin bends). The employer treats for worse case scenario, which may or may not require decompression treatment or prescription medicine.

- Apply section (9.2.17.1).
- If the rash is not a result of a work environment and/or no treatment beyond that of first aid is given the case is not recordable.
- If the rash is work related and a prescription is given or prescribed the case is then recordable.



- If the rash is work related and due to the saturation environment the employee is given a prescription as prophylactic care solely as a precautionary measure the case is not recordable. If the rash however has developed to a stage that would require the same treatment outside of the saturation the case would then be recordable.

### 3. Ear Ache / Pain

Earaches occasionally occur in hyperbaric environments and may or may not always be the result of an actual ear infection. In general our industry will treat such cases as if the diver has an infection. Standard protocol is to consult with the company physician and an order for antibiotics is given. The physician manages the case over the phone, never visibly examines the individual and may never formally categorize the case as an actual infection but treats it as such due to the diving environment. If an ear swab is not performed or can't be taken, the employer may never know if the case is an actual infection.

- Apply section (9.2.17.1).
- If the incident is not a result of a work environment and/or no treatment beyond that of first aid is given the case is not recordable.
- If the incident is work related and a prescription is given or prescribed the case is then recordable unless the prescription is given as prophylactic care, solely as a precautionary measure. If the incident has developed to a stage that would require the same treatment outside of saturation, the case would then be recordable. When available, written dictation/diagnosis from the PLHCP will ultimately determine the recordability of the case. The earlier the case is reported and treated the less likely it will need to be recorded. The following may assist in determining recordability:
  - itching in the ear (not recordable)
  - strange mild sensation in the ear (not recordable)
  - tingling sensation in the ear (not recordable)
  - muffled hearing (not recordable)
  - pain and/or discharge from ear (recordable)

Note: The daily use of Domeboro or equivalent in the saturation environment is considered prophylactic care and is not recordable.

### 4. Sinus Squeeze (Barotrauma)

A diver has a sinus squeeze or symptoms of a sinus squeeze and it is found that he has an anomaly such as a polyp that has grown over the years and has affected his ability to clear during hyperbaric exposure. The individual requires surgery and time off from diving and/or may never be able to dive again.

- The diver was exposed to hyperbaric pressures directly related to his or her work environment. Although the polyp could have been entirely asymptomatic at normal pressures, the combination of pressure and polyp resulted in a sinus squeeze. From the information provided it is a new case, it would be recordable and would result in "Days away from work" or restricted duty. In this instance the injured diver was given time off (due to squeeze) and received medical treatment (due to polyp).
- The injury was work related and resulted in restricted activity. The number of days can be limited to the time it takes to recover from the sinus squeeze (as per the PLHCP) minus the day of injury/illness (to 180 days maximum). The time off due to the polyp surgery is not counted because the existence of the polyp is not due to the work environment.



#### 5. Asymptomatic Decompression

Asymptomatic Omitted Decompression is a deviation from the normally prescribed decompression schedule (i.e. a step in decompression is omitted). The standard protocol is to run the diver on a hyperbaric treatment table, which includes the use of oxygen. This protocol is not a treatment; it is merely a procedure to prevent the manifestations of DCS.

- Asymptomatic Omitted Decompression and the procedure to safely decompress a diver is not a medical treatment and no significant event has taken place and would therefore not be recordable.

#### 6. DCS Pain Only Bends (Type I)

Decompression Illnesses are all recordable by the OSHA guidelines. Under the “OSHA Reporting Forms for Recording Work-Related Injuries and Illnesses “Classifying Illnesses, under the “All other Illnesses” paragraph clearly states: “Decompression Sickness as recordable.”

**Note: If a diver exhibits uncharacteristic physiology following a dive where normal decompression procedures have been followed, many companies will furnish a decompression treatment as a precautionary measure. If there is no indication of a neurological symptom or confirmation of DCS, the application of the recompression treatment is not recordable.**

Totals of all Type I bends should be displayed in the TYPE I column of the reporting form, but not included in the total non-disabling incidents for the Diving Operations and Total Company.

#### 7. Serious Symptom Bends (Type II)

Decompression Illnesses are all recordable by the OSHA guidelines under the OSHA Reporting Forms for Recording Work-Related Injuries and Illnesses under the “All other Illnesses” paragraph.

### 9.2.18 Accident Classification Flowchart

This accompanying Association of Diving Contractors *Accident Flowchart* assists in the application of the foregoing definitions and should be used in classifying all incidents.

### 9.2.19 ADC Incident Data Reporting Form

The accompanying ADC *Incident Data Reporting Form* shall be used for reporting incident data in the response to requests for safety information. The ADC may request all ADC contractors to periodically provide statistical data on the ADC Incident Data Reporting Form. All data will be maintained in confidence and not associated with the submitters company. An analysis of all responses will be compiled and survey results may be reported in various trade journals including the ADC *UnderWater Magazine*. This will give members an opportunity to compare their safety record with industry averages.

The form set forth hereafter may be photocopied and reproduced.

### ADC Incident Classification Flowchart



