

National Association of  
Commercial Divers

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REGULATORY DIVISION

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November 1, 1998

Docket Management Facility  
[USCG-1998-3786] - 71  
United States Department of Transportation  
Room PL-401  
400 seventh Street, SW  
Washington, DC 20590-0001

RE: 46 CFR 197 [USCG-1998-3786]

Sir/Madam:

We, members and officers of the NAOCD, would like to express our appreciation to the US Coast Guard for granting our request that the period of public review of 46 CFR be extended. Your actions have allowed the primary component of this industry, the divers, the opportunity to make a valid contribution. It is their lives that will test the effectiveness of the new regulations.

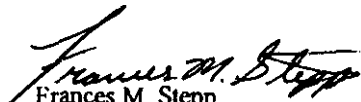
In keeping with the public comment guidelines set forth in the Federal Register we have examined (1) the proposed changes to the current 46 CFR submitted by the Association of Diving Contractors and (2) the 14 questions presented by the USCG.


(1) It is our opinion that the proposed revisions submitted by the ADC are mostly cosmetic in nature and do not go far enough to make effective changes that will close current loop-holes that have caused serious disabilities and deaths among divers in the past. From information made available to us, divers, as a group, were not generally aware of the proposed revisions until the matter was made public by the USCG in June of 1998. Certainly industry media failed to notify divers of the proposed changes and as far as we can discover no commercial divers were canvassed for their input. Members of the NAOCD actively participated and worked closely with the CDSO throughout the development of their proposed revisions. Consequently, we fully endorse the recommendations submitted by the CDSO and hope that the USCG will give them every consideration.

(2) Because of the varied and diverse comments that the NAOCD wanted to contribute to the USCG, we found that the data would not structure well within the scope of the questions that have been asked to the public. In its place we are submitting the attached report in the hopes that it will give you some insight and assist you in the process of revising the commercial diving regulations.

In closing, we would invite the USCG to take note that the influx of young organizations is evidence that a significant portion of the commercial diving industry feel that there is serious need for reform.

Respectfully,

  
Frances M. Stepp  
President, NAOCD

  
Bruce F. Atkins  
Vice-President, NAOCD

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**COMMENTS TO ADVANCE NOTICE OF PROPOSED RULEMAKING**  
**46 CFR 197 (USCG-1998-3786)**  
**COMMERCIAL DIVING OPERATIONS**

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## I. INTRODUCTION.

In the last year, five commercial divers lost their lives in the Gulf of Mexico.’ All five worked for major commercial diving companies and three of those five worked for the same company. These deaths are only those that we could verify with documentation through research. It does not include fatalities in other off-shore areas of the United States, the inland diving community, smaller segments of commercial diving or of untrained recreational divers doing work as commercial divers.

A recent study conducted by the Center for Disease Control, concluded the following:

*“Of the 116 occupational diving fatalities reported by OSHA for 1989-1997 (13 deaths per year), 49 (five per year) occurred among an estimated 3000 full-time commercial divers (OSHA, unpublished data, 1998). The average of five deaths per year corresponds to average off 180 death per 100,000 employed divers per year, which is 40 times the national average death rate for all workers. This group, which accounts for most of the commercial dive time underwater, includes divers involved in constructions, maintenance, and inspection of vessels and structures such as oil rigs, bridges, and dams. The remaining 67 deaths occurred among workers who were not full-time divers:...”<sup>2</sup>*

Comparatively, during the same time period, there were only two fatalities in the North Sea, one in 1995 and one in 1996.’ It should also be pointed out that the North Sea has a much more hostile diving environment than that of the Gulf of Mexico, with consistently strong currents, poorer visibility, and frigid waters that can kill an individual in 2 minutes of hypothermia unless they are properly attired. That excellent safety record did not always exist. In the 1970s, before the establishment of significant commercial diving regulations within the North Sea, 54 deaths occurred. In 1981, the government of the UK, concerned with the serious number of

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‘One fatality investigation is closed but is still in litigation, one just settled in court at the end of October but investigation is still open, and three are still in litigation. Documents and sources available through NAOCD. Although, documents are official, it took much time and research to obtain this information through several different sources. There was no central information available.

<sup>2</sup>Center for Disease Control, *“Morbidity and Mortality Weekly Report”*, June 12, 1998. p. 453.454.

‘Health and Safety Executive, *“Injury, Disease, and Damage Occurrences Report”*; Chief Inspector for Commercial Diving Operations, Health and Safety Executive, London.

accidents and the lack of any off-shore diving control, implemented major regulation changes.<sup>4</sup> The current safety record is a result of this and speaks for itself. The Norwegian's record on safety in this area is even better.'

This graphically illustrates a serious need in the United States, for not only tough, structured regulations, but for **meaningful** methods of enforcement. This does not mean that we should adopt regulations from other countries as our own, or forget that the off-shore environment of the United States is different and has its own unique characteristics. What it does show is that there are serious accidents occurring in the Gulf of Mexico, gives evidence that changes can significantly decrease crippling accidents and death, and to allow us to view how others have achieved this.

## **II. ADOPTION OF THE ADC CONSENSUS STANDARD FOR COMMERCIAL DIVING OPERATIONS AS "INDUSTRY STANDARD".**

The Association of Diving Contractors is a trade organization whose members and concerns are those of the commercial diving companies [contractors], which represent only one section of the industry. Although, the ADC has historically been an advocate for issues that have also had parallel and positive benefits to other areas of the diving community, their primary concerns has to be that of their members, as would any trade organization. To believe that they would desert their members best interests to advocate policies and procedures in the Consensus Standard at any time in favor of another select group, is inconceivable. If they made this a common practice they would lose their member base and, therefore, would become non-existent. Further, the ADC has never canvassed the industry for any input to the Consensus Standard as it was being written or amended. It was written by one section of the industry and would certainly reflect their wants and needs when they disagree with others. Consequently, it can be concluded that the ADC's Consensus Standard is based on a selected group's vested interests.

This premise is evident in the deliberations that are currently going on between the ADC and the ACDE on minimum training standards.<sup>6</sup> Both organizations disagree on the number of training hours divers should have before being put out in the field. In this case, the ADC states "...As such, ADC would do many of its members a disservice to fully support the contention that a **minimum** diver training course must consist of at least 600 hours." If the ADC were to have control over regulatory responsibility in this instance, then they would, of course, by their own

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<sup>4</sup>Ibid

<sup>5</sup>Norwegian Petroleum Directorate, Executive Officer of Safety, Norway,

<sup>6</sup>Docket Management System, USCG-1998-3786-4, 9, 28, 34, 67  
*Underwater Magazine, Summer 1998, Doyle Publishing, p. 89.*  
*Underwater Magazine, Fall 1998, Doyle Publishing, p.55-56.*

<sup>7</sup>*Underwater Magazine, Summer 1998, Doyle Publishing, p. 89.*

admission, do what is in the best interest of their members and disregard any other concerns that were not their own. This would eliminate any study or investigations into any other issues that may have major benefits to others besides those of the ADC and would remove the right for the ACDE to appeal through an unbiased **third** party as they are currently able to do.

The ADC argues that by making the Consensus Standard the industry standard and recognized by the USCG, amendments to the regulations could be done quickly. This is an appealing thought. Certainly we all want changes done quickly. However, by endorsing the Consensus Standard in any way would eliminate the right to appeal as a tradeoff for expediency. It is for these reasons, that the US Coast Guard should NOT adopt the ADC's Consensus Standard, or any other single interest within the industry, either in part or in whole, as 'industry standard'.

### **III. MAINTAINING ACCURATE ACCIDENT AND FATALITY DATA.**

One of the biggest problems that we have in the United States is the lack of any authoritative or accurate statistical information available on commercial diving fatalities and accidents. There is no one place where data is kept for study purposes. Instead one must go to several different agencies such as the USCG, OSHA, and the NRC to gather each bit of information separately. This still does not mean the information you receive will be complete or accurate. Different agencies and organizations recognize accident information differently and there are not standards of identification. Some agencies never do an investigation of fatalities because 'local' authorities may have already classified them as 'accidents' or 'heart attack', precluding the need for a investigation. In other western countries that have extensive commercial diving activity, such information is formally documented and available to the public, sometimes as easily as through a phone call. It is essential to have accurate information available on accidents. Without that detailed information on the causes and effects of diving accident, we can never hope to learn from past mistakes in order to improve the industry's safety record. For instance, in the last 18 months there have been two fatalities and three crippling accidents where tagging-out procedures were not followed. The message that this action causes serious injury is not getting out to those that need it, and all to common.

One of the problems in the way accidents are reported is the accident scene itself. Generally, when the USCG arrives at an accident scene, the incident can be hours, and even days old. By that time, the scene has changed and vital evidence is either no longer available or corrupted, crews have changed shifts or left all together making questioning more difficult, and management has put safety nets in place. USCG investigators often have little knowledge of procedures that are involved with a commercial diving operation and often rely on individuals that are on site for information. Before the investigation have commenced, companies have had the opportunity to put key personnel in place who often downplay any and all events as it is in their interest to do so. The Coast Guard usually works as an accident investigator on a single 2-3 year tour before being transferred to another location and another job. By the time they have been

experienced on how operations work, they are no longer assigned and another new individual in place, that, again, have no background and must relearn again.

Accidents involving recreational divers that have been hired, almost always in violation of USCG or OSHA regulations, are often missed altogether. Many of these accidents are never reported because they are categorized as 'recreational' even though the individual(s) were involved in working for pay as a diver. Because the companies they were working for are general not considered a traditional diving company in the accepted sense of the commercial diving industry's description, or involved in an activity that is usually not associated with commercial divers, per se, such as treasure hunting, are often overlooked all together.

#### **IV. USCG AND OSHA REGULATION CONSISTENCY**

It is important that all regulations that govern the commercial diving industry be uniform and consistent. Therefore, it is recommended that the USCG work to keep those areas of the 46 CFR in line with those that are similar in nature in OSHA's Commercial Diving Standards, as well as with other federal regulatory agencies that have rules governing this industry, like the NRC.

#### **V. COMMERCIAL DIVER DEFINED.**

The USCG currently defines a commercial diver as "...a diver engaged in underwater work for hire excluding sport and recreational diving and the instruction thereof"<sup>8</sup>. There should be no differentiation or special consideration made to those that either use divers rarely, for work that is in shallow waters, or any other special considerations that might be brought up. Working underwater requires special skills that are not ever taught to the recreational SCUBA diver. SCUBA divers rarely know what they are getting themselves into until an accident occurs. It is not just constructions skills that commercial divers are trained for. They also receive training in working in confine spaces, working in water with no visibility, extreme, temperatures, and the care that needs to be taken in exerting the body too much under hyperbaric conditions. All areas of commercial diving require special skills. Although, not all underwater jobs require the same level of training, they all require some type of special skills that recreational divers are not taught. This does not mean that every diver that dives to recover someone's wallet for \$20 should be required commercial certification, it simple means that all 'work' that is done underwater should be, without any special waiver.

The ADC take an excellent position on this subject which is generally accepted in all portions of this industry and should be supported:

"...It is the opinion of the ADC that regulations governing commercial<sup>9</sup> diving operations can and should not differentiate between one sphere of activity or another. The safety of any diver requires appropriate training; the use of

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<sup>8</sup>USCG 46 CFR 197 Commercial Diving Operations.

<sup>9</sup>Document Management System, USCG-1998-3786-67, paragraph 7.

equipment developed to ensure that safety and operational procedures that proven through many millions of bottom-time hours. If other sectors engaged in commercial diving tasks desire to support development of regulations that differ from those in place, then, those sectors should be separate, and maintained separate, from the commercial diving regulations. However, any procedure established should not permit an individual lacking the tools to engage in commercial diving to “cross the line” and engage in activity that requires a higher level of expertise, without additional formal training...”

## **VI. TECHNICAL DIVING.**

Technical diving is the new ‘extreme sport’ in the recreational industry and is already posing serious problems within their realm and is quickly running over into the commercial diving industry. Technical diving, basically, is SCUBA that is done with mixed gasses at extreme depths both in open and closed circuit. What needs to be brought to the attention of the USCG is its insurgence into the commercial diving and the serious problems, although minimally currently, that it can cause, both now and increasingly in the future.

Technical divers are being used in an occupational capacity in small, but growing businesses, such as treasure hunters and exploration (those not affiliated with scientific research, but for profit). These divers work at extreme depths with no communications, surface air decompression chamber. It is not only treasure hunters (that are growing in numbers due to technology) but also various other business that are outside usual commercial diving company or the oil and gas industries. Although, these divers are arguably, trained for this type of diving, they rarely have any idea of the underwater hazards that they go to work in, such as working in no visibility, extremely cold waters, or the effects of the PP02 levels during exerting work. AU of which commercial divers have been specially trained for.

Like commercial diving deaths, technical diving fatalities statistics are not maintained by any agency. Because they are often categorized as recreational divers, they are usually listed as a SCUBA death. Diver’s Alert Network (DAN) that keeps records of SCUBA deaths, do not maintain consistent information for those technical diving deaths that are not recorded to them or technical deaths separate from other statistics. Many of the deaths that happen with technical divers that are working at the time of an accident are not acknowledged as working divers or working a company **because** that would make the company liable, and of course, against federal regulations.

## **VII. MINIMUM TRAINING REQUIREMENTS FOR COMMERCIAL DIVERS.**

Minimum standards for training individuals to become commercial divers is an effort in the industry that has been address recently due to the increased demand for qualified and experienced divers. The current demand for regulatory enforcement of a minimal standard is based, at least partially, on economic considerations from both sides of the argument. Giving too much hours for certain segments of diving while not concentrating enough on other areas. There **first** needs to be established a structured, multi-leveled standard for all commercial diving that can facilitate all areas and aspects of the needs of the industry before concentration on specifications for minimum requirements for entry level divers.



The ADC has no basis in educational, training or teaching standards and are not equipped to develop diving training requirements or programs that individual training facilities would be forced to use if those standards were to become a requirement by the USCG.

The ADC is concerned with the need of its members for an increase of divers. The upsurge of contracts has made the demand to get divers trained as quickly as possible and out into the job site. The training standards that the ADC proposes does not only represent a standard that is much too **small**, but also too vague and general. Simply listing a single group of areas of diving and the hours necessary leaves entirely too much room for interpretation by training facilities. The other problem with setting minimum standards for economic need is that when the industry is downsizing in more economic restrictive times and they must lay-off many of their divers, those divers, who will be the most marginal, will be forced into other diving areas that they are not experienced in, force them to take on jobs independently, to take the more hazard jobs working with lower safety standards in order to support their own economic needs of earning a living to support families.

The ACDE member schools all have over 25 years of training commercial divers, each. They have sterling and well proven training reputations. Throughout their years of operations, the ACDE schools have always maintained a close relationship with those commercial diving companies **in** order to be sure that they were furnishing those companies with divers that had the skills that were required for them to be employed. It would simply not be in their best economic interest if they did not maintain this close relationship, or to train divers in skills that were contrary to what the diving companies specified. Therefore, it seems questionable that the ADC would suddenly after all these years, insinuate that the ACDE does not meeting the training requirements of their member companies. It would seem that the only conclusion that could be drawn is that the ADC is trying to get the training hours lowered in order to farm out as many divers as possible, which in the long term can only hurt everyone involved. The school's reputation, the companies abilities to maintain well trained and intelligent divers, and divers who are not able to compete in the world market favorably are only a few of the problems. The ACDE training standard is, at the very least, far better set out in specific areas that it teaches, even if it does not go far enough in detail as to the hours spend in each area.

The argument by the ADC is that the ACDE training standard contains too many unnecessary hours of training and that companies just need the divers to be taught the basics and then sent out to the field. Rationale is that entry level divers will be working as tenders for their **first** 2 to 3 years on the job and will not be using a lot of the 'speciality' skills that are taught by the ACDE schools and forget most of what they learn in those areas by the time they break out as divers. There is some truth to that. But reduction in the number of training hours is no measure of the real training time needed as a entry level diver.

No matter which way you look at this issue, there are several problems and the answers **will** not be easy to come by. One option would be to have a standard set down that gives details

of each individual area of diving training needed and a detailed minimal amount of hours in each area. This would give a clear guideline as to the actual basics that are needed for the entry level diver. Right now there is no stipulation in either standard. There is too much room to allow unscrupulous schools to develop and interpret these standards as they are want to do to make a fast buck. It was not too long ago when A commercial diving school had opened and teaching commercial divers in 40 hours. The school in question was able to meet ANSI requirements in those 40 hours **because** there was no stipulation as to how many hours should be spent in any given area, leaving them to make up their own curriculum that did indeed meet the ANSI requirement. That is why the revision to the ANSI standard was rewritten just this past year. To keep those type of unscrupulous individuals from developing schools that trying to train divers in 40 hours. It has set down a major amount of hours now, but still does not focus on the details as to how many of those hours will be spent in which areas. Often these hours are met with other “speciality” courses that are deemed unnecessary by the commercial diving companies.

Another option is not to mandate either proposals in a USCG regulation, and let market forces dictate the needs of the industry rather than let only one of the vested interests make a permanent standard that everyone will be forced to use without benefit of structured development

Neither of these options would develop a well respected and structurally developed training standard. If minimal training standards are to be successful, it must first be a structured within a multiple level, multi-degree, diving certification program that would address the needs and specialities of all segments of the commercial diving industry. Once that is determined, the minimal training standards for entry level divers can be address and established, designed by representative from all segments of the commercial diving industry, including current working divers.

## **VIII. NATIONAL COMMERCIAL DIVING CERTIFICATION PROGRAM .**

This is one area in the industry that is advocated by all sectors. The need for commercial divers to be certified that they are properly and specifically trained.. This would eliminate a major problem with individuals hiring recreational divers to do very difficult and highly technical and unknowing dangerous underwater work because of ignorance between a basic SCUBA diver and that of a specifically training commercial diver. Although, this is a policy that everyone supports, there are concerns on how it will be administered.

### **a. ADC Technical Standard 10-1997, Commercial Diving Certification (Appendix A).**

In October 1997, the ADC program released a commercial diving certification program to the industry. From its onset, the ADC has maintained that this program was voluntary and has never mentioned, at any time that the association was planning on proposing it to the USCG to be incorporated with new regulations. At the date of this report, TD-10-1997 still reads “voluntary” (Appendix A-1, A-2). This ‘voluntary’ **status** is also still being advertised by the association in the

latest issue of *Underwater Magazine*.<sup>10</sup> This conduct by the ADC is not just simply misleading but borders on deceptive. In addition to this, the ADC developed and issued this certification without benefit of input or representation from the individuals that will be effected the most and who must conform to those standards--the diver. This certification program, as it is currently written, could not only effect divers safety but also their livelihood.

The certification program itself is poorly defined, vague in structure and lacks responsibility and credibility. It does not follow any recognized certification program either within the diving community or any professional certification authority such as a guild or board certification agency. By research done, it shows that even within the industry, few companies have adopted this program after being available for a year. Sanction of the ADC's commercial diving certification program would cause more problems then it solves, compromise safety, and would serve as a strangle-hold on divers.

**1. Responsibility.** The ADC does not take any responsibility for assuring that divers that apply for the ADC certification card are properly qualified, and prims this disclaimer on the certification card applications. This eliminates any incentive for checks and balances within the program and does not put any weight behind the issuing of the card, or the purpose for developing the program. Companies already must verify divers qualifications according to government regulations. Issuing the certification card to their employees as a verification system 'inside' the industry then becomes redundant. The issuing of a certification card is not for the companies benefit or for them to prove to investigators that their employees are properly trained, but so that end-users, who generally have no knowledge of what training requirements are necessary to do any type of commercial diving, has an quick, and easy method of identifying those individuals that are qualified and a system of verification.

**2. Data Base Maintenance.** The ADC state in TS 10- 1997 that they will maintain a data base as "...a verification tool for replacement of lost cards." (Appendix A-3). The ADC further states that this data base "...will be maintained confidential and not released to any party" (Appendix A-3). This policy eliminates the availability of a central point in which end-users can double-check and verify any individual they are considering hiring for their qualifications. All professional organizations that certify a specific occupation, make that qualification information available to the public so that employers or end-users have a central location to verify the credentials and background that may necessary for their needs, Not making a method of independent verification available to the end-user who may need a commercial diver, negates the entire intent of the certification program, which is to give them an easy, central locations to verify an individual training and experience, and makes this certification program meaningless.

**3. Certification Authority.** The ADC is a trade organization that represents the interest of diving companies through its prescribed mission. The ADC is not a training or

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<sup>10</sup>*Underwater Magazine*, Fall 1998, Doyle Publishing, page 49

education agency and therefore, has no background or authority for issuing any type of certification. The ADC sets forth no procedure in which it will handle disputes and arbitration between diver and the divers company if a company should refuse to administer a certification to any of their employees. Nor does it set forth any method in which to control the distribution of the certification to that do not have required training.

**4. Renewals.** Renewals in the ADC program is done every two years, simply by reapplying in a similar fashion as the initial applications. This still continues to be unverifiable applications, and renewals do not require any recertification testing of skills or knowledge. Therefore, if essentially, meaningless to renew and renew over and over, as in the case, the initial certification card would suit the needs. If it is the contention that renewals are based on continually daily working in their skill, therefore there is no need to retest what is already being demonstrated within the work place, then in this case, diving logs would be a good source of verification. Simply having the employer essential state that the individual is still employed is also no indication if the diver has maintain the skills necessary for all aspects of his job. For instance, a diver may have been put in charge of equipment for many months and therefore, not be working as a diver. This would does not establish any way of knowing if his has been maintaining his skills as a diver.

**5. Verification.** There is no policy or directed individual that screens these applications. It is assumed that since there is only one full-time employee of the ADC, which is the executive director, (other than the secretary), that he is the established individual that screens that log books and application from individuals, This makes it too subjective. Without any policy to govern that screening process is can be tempted to use it as a vehicle to establish legitimacy to those lacking skills.

#### **6. Company Application (Appendix A-4).**

**A.** If one examines this application form, you will see a table requesting the name of the diver, the SSN, a photograph and \$25.00, for each divers applying for a certification. Employers are suppose to verify their employees have the proper training credentials, list them and send the list into the ADC for submission of their certification cards. This policy completely invalidates the need and development of a certification card altogether. The majority of companies establish the qualifications of divers upon their employment and those employers have legal and valid documents to prove these qualifications if their companies should ever have to go to court or proved to governing agencies the qualifications of their employees. What this does, is open the door to the unscrupulous diving contractor, a perfect opportunity to validate anyone they wish to hire that has limited or no training, simply by submitting the name of the individual to the ADC. Now, when this same employer goes to a perspective user, all he has to do is flash this official looking ADC certification card as validation that said diver is trained and qualified even though he may only have basic scuba diving training. This problem has already been reported within the industry with no action taken by the ADC to either stop this practice within infringing

companies, sanction the company(s), or revise their certification policies to try and eliminate this loop-hole. This demonstrates a lack of responsibility and ability by the ADC to administer this type of program..

**B.** The company application for certification is only given to those divers that are employed by a commercial diving company and the company must submit the application for them. This causes serious administration difficulties for the company, and hardships to the diver that must move from job to job, a very common practice within the industry. Companies are required to revoke divers certifications once they are no longer in their employment, and makes a mockery of any certification program. What this causes is a constant revolving system of certifying new employees and de-certifying employees when they leave the company. It certainly makes no sense for companies that hire divers, especially for those that hire in large numbers, that they would want to be seated with this kind of certification system that is administratively complex while incurring the cost of certification after certification. But that's for them to take up with their own member organization. The concern here, is that the diver is at the mercy of the same administration difficulties over and over as they go from job to job and has no control over his own certification.

**C.** Most individuals that would be applying for diving certification to the ADC for their employers are either owners or diving supervisors that have diving experience of their own or have been within the industry for many years and know the basis of required qualifications. However, in some instances individuals that would be applying for these certifications through the ADC have no diving background at all, and have little or no idea of what qualifications need to be. A good example of this is in the fisheries industry. Supervisors that often hire divers have no idea what qualifications are necessary or have any idea what is necessary for training to know if the divers are qualified. This is even more evident if he has to make a decision by examining diving logs.

**7. Individual Certifications (Appendix A-5).** Examining this application form will show that this, like the company application, creates many of the same problems. Here, a diver must submit their divers log as proof. These can easily be fabricated or make it difficult to make any determination from them. Companies listed run into the same problem. It would be easy to make up names or use companies that are no longer in business. Working companies are not allowed to give out employee information without a sign release unless the diver is currently working for them at that time, and only then to verify employment and nothing more. Therefore, the listing of companies is meaningless as a verification tool,

Certification from diving schools or Navy certifications are a good source of establishing qualifications, but not all divers have them. There are many divers that simply were taught on the job and have many logged hours and are highly skilled and experienced divers.

**b. Association of Commercial Diver Educators (ACDE).**

The Association of Commercial Diving Educators would seem to be the logical choice to administer to any certification program. It is believed that ACDE feels that this undertaken would be a major burden to their small organization due to the problems of liability that would be involved.

However, there may be consideration to pursue an opportunity to have the ACDE certify divers, This would have a similar effect as the problem that would occur if the ADC's certification program were to be considered. Although, the ACDE should have the right to apply their graduates into a certification program because they have monitored the training and demonstration of student skills to be able to do that. But they still only represent one segment of the industry and are a vested interest. Consequently, to have them maintain and develop a certification directly and alone would lead to the temptation of gearing the program to suit their own needs that could be adverse to those in other segments of the industry.

**c. Recommendations.** The USCG needs to consider and recognize a commercial diving certification program. Commercial divers need to have a widely known and accepted form of identification that easily show their specialized training and special skills. This will go far in eliminating the confusion of many end-users of the regarding the definitions of "diver" and decrease the number of accidents. In considering that program the USCG should take the following into consideration:

1. That any organization that is recognized as the certifying agency be independent of all commercial diving concerns making it a non-partisan decision maker that does not have any vested interest. The same organization should have control over training standards and levels, along with certification.

2. That the agency have equal representation of \*ALL\* segments of the commercial diving industry in its advisory to assist in the development, revisions, and implementations of education, training, and practical programs that are developed.

3. That the certification program consist of different levels and degrees of certifications based on training, experience, and special skills. A "one certification fits everything" is simply no longer feasible in this fast changing technical work environment.

4. Procedures to certify those individual that are currently commercial divers and have already proven records of their ability. Criteria should be establish on what the basics qualifications are needed and published in media that is available to the public. In those cases where divers may not have complete records or verified through a diving school, for instances, should be considered through a body of individuals that include his or her peers and not just the company management or organizational leadership.

5. On-the-Job training can be considered as experience in developing the skills that is needed to certified as a commercial diver. However, there should be procedures laid down that clearly define exactly what requirements are needed to meet certification and a method of verification.

6. Certifications should be initially administered at the end of formal training (entry level, of course). This certification should have no expiration unless there is a program of testing or re-qualifying program set up and clearly defined for a recertification.

A national certification program is desperately needed in commercial diving. This will go far in giving end-users a quick, authoritative, and easily identified method in which to deal with. It needs to administered by a non-partisan and/or government directed entity that have no single, vested interests with in the commercial diving community.

## **IX. LICENSING OF DIVING SUPERVISORS.**

Diving supervisors need to be licenced to develop a clear means of responsibility on the job-site. Diving supervisors must make major decisions with respect to live and equipment and should be trained and experienced to do that. Licensing of individuals in this capacity would eliminate the “I was told” aspect of most accidents. Licensing would maintain a standard and eliminate a common practice in the industry currently of grabbing the first individual that has the most experience to a site, often any warm bodied individual This would benefit companies as well, in the aspect that if diving supervisors would be afraid to loose their licensing, then they will be less likely to create problems on a site through misconduct or substance abuse. Likewise, it gives the supervisors power to stop a dive operation with less fear of loosing their job. Licensing gives them someone, other than the company, with the authority to make safety decisions. It also helps define a clear line of responsibility.

The ADC’s arguments against licensing supervisors hold absolutely no validity and used to simply to cloud the issue. “An individual qualified to perform at one level is not necessarily qualified to perform at another due to differences in equipment and procedures...” Diving equipment used on all job sites are standard and are used throughout the industry, which makes the equipment from job-site to job-site essentially the same, with the exception of the mode of dive that is being conducted. By the ADC own mandate, diving procedures should be universal and structured throughout the industry which would indicated that those procedures are more or less the same from one company to the next.

The ADC also maintains that “Actions such as this have been implemented in some other areas of the commercial diving industry with marginal success and many noted problems.”\* This

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“Docket Management System, USCG-1998-3786-28, p. 8.

<sup>12</sup>Ibid.

is an empty comment since the ADC does not give any examples of this problem. Contrary to this statement, however, the UK have licensed their diving superintendents for many years, and as shown at the beginning of this report, their record speaks for itself. It is noted, that the ADC's definition of the five levels of diving supervisors is an excellent one.

## **X. RECORDING DIVER/TOPSIDE COMMUNICATIONS.**

It is recommend that the USCG look into the feasibility of having all communications between the diver and topside recorded. This is already practiced in some companies, though it is not widely accepted currently. This would act in the same fashion as the cockpit voice recorder that is used in all passenger airlines. It would serve as an invaluable record of circumstances and actions that were done in the cases of accidents and fatalities. In the case of a diver's death, investigators loose there best witness. With a recording of the last minutes of an accident, investigators could have a window into the circumstances of an accident that would explain what happen or at the **very** least give major clues. The recording would also give the industry records in which to study problems and to educate others to insure that the same mistakes are not made again. Cost would be minimal and the benefits would **be** tremendous. Most communications radios would only need a patch-cord to a recording device that does not have to be fancy or expensive.

Recorded communications should be for all dives regardless of diving mode or depth. Tapes of dives should **be** kept for seven to fourteen days and then can **be** reused if there was not significant activity on the previous dive. Keeping recorded tapes for a short period of time is important in those situations where the dive may have run into problems but no significant violations or injuries were incurred. Companies would then have the opportunity to **evaluate** the dive via listening to the recording. This will especially facilitate companies concerned with safety policies they have established in their safety manual are being followed. Tapes should be labeled with the date, time, location, job number, and names of the dive team members

## **XI. HYPERBARIC MEDICINE.**

Because of the extremes placed on the human body in an underwater environment, divers must be examined for their physical fitness to dive. A full medical physical that includes examinations that test areas that would be most vulnerable in an hyperbaric environment. The ADC Medical Physical Sheet (Appendix B) is an excellent physical exam and good example of what should be considered by the USCG as a guideline in establishing medical requirements for divers. **Medicals** should be performed by hyperbarically training medical personnel, also because of the unique knowledge needed to understand the effects of pressure on the body.

**a. Medical Treatment of Injured Divers.** The need for divers that are involved in accidents involving hyperbaric related injuries need to **be** examined and continually assessed by a hyperbarically trained medical doctor (diving doctor). These proposed procedures have already



been expressed in detail within the docket system and are fully supported and should be considered when the USCG are making revisions to the regulations.”

**b. Examination of Diving Fatalities by Hyperbaric Medical Personnel.** Misdiagnosis of the cause of death in diving fatalities is common. Often the ER doctors that are on-call at hospitals where divers are brought in, are not familiar with diving related afflictions and miss vital clues as to the cause of death. This is true for medical examiners as well. Often diving deaths that were caused by DCS or AGE are often mistaken listed as drowning or various cardiac illnesses. This has been a problem within the recreational diving industry as well and has been well studied and documented by the Diver’s Alert Network. Therefore, it should be considered that all diving fatalities, be examined by a hyperbaric medically trained doctor for cause of death. This can give valuable clues into the causes of the accident, and allow examinations of problems that went wrong in order to avoid making similar mistakes in the future.

**c. Remote Site Medical Treatment.** Because most of the off-shore diving is done on remote sites, it should be considered to have medical trained individuals on site. In the last few years, the popularity of divers that are trained in emergency medical procedures are being used by many companies on off-shore diving sites. Diver Medical Technicians (DMT) are divers that are also Emergency Medical Technicians (EMT) that have also been specially trained in divers injuries and illnesses. The USCG should consider making DMTs, or equivalent, part of diving personnel that are dispatched to remote locations where there is no direct access to emergency care.

## **XII. DIVER’S REPRESENTATION.**

Historically, key players within the commercial diving industry have developed policies and programs without input or representation of divers, as a group or individually in significant numbers, as part of the development process. Commonly, associations have had the opinion that “they know what is best for the diver”. Divers, themselves, are certainly, in part, responsible for this situation due in major part by their own apathy, and interested groups have the right to be focus on the needs of their members. This does not mean to insinuate that no one ever cares about what happens to the divers in the end. There are many individuals within the organizations of this industry that are truly concerned with their welfare, and many of the players are or have been divers themselves. However, when the lines are drawn, these folks will consider what is in their best interests, and rightfully so. This problem has developed over the years to the point where the only time divers are ever thought about is when it suits the need to sale a particular idea, ie, “the diver’s safety”. The associations have become so use to this position, as to place divers totally out of the picture. The Docket Management System with all its input from varying organization clearly shows this. All the groups mention continually, how they work with various government or interest groups to design and develop programs they want to see implemented. In all those comments, never once are “divers” included or recognized as a group that is working

with them in any development process. A perfect example of this is in the ACDE's letter encouraging the USCG to adopt their minimum training standards.

The ACDE can and would collaborate with representatives from members schools, the U. S. Dept of Education, the U. S. Coast Guard, the ADC and any state or local educational agencies in order to insure a coherent program and a consistent level of commercial diving education throughout the country.<sup>14</sup>

As with all other comments made, the above illustrates no mention of the divers at all. Because many of the revisions to the USCG 46 CFR will have a major effect not only on the diver's safety, but also on their ability to have control over their means to earn a living, it is essential that the USCG does not forget this group in any of its decision making.

### **XIII. ACCOUNTABILITY, RESPONSIBILITY AND ENFORCEMENT.**

No one wants to invite more government regulation. However, historical record and reputation has demonstrated that the commercial diving industry either cannot or will not police itself. Consequently, the USCG must take an active role in insuring that the industry concentrates on improving the health and safety of its workforce on the job site.

a. There needs to be a clear line of responsibility and accountability within all diving operations.

b. There needs to be a structured guideline for the USCG to investigate and record all accidents, to eliminate those companies and individuals that **manage** to "fly under radar".

c. Aggressive legal and binding measures must be taken against those companies and individuals that totally disregard any regulations that govern them and "do what they want anyway". In doing this consistently and continually, those companies will begin to go through great measures to insure the health and safety of their employees as well as giving conscience companies a better means in which to officially demonstrate their excellent record.

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<sup>14</sup>Docket Management System, USCG-1998-3786.9



## Standard 104997

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### COMMERCIAL DIVER CERTIFICATION CARD

#### Background

Member companies of the Association of Diving Contractors (**ADC**) employ persons to perform as entry level tenders. These persons have been properly trained at an Association of Commercial Diving Educators (ACDE) accredited school, Military school or equivalent. These persons then continue their path of career progression to become recognized commercial divers through a series of on-the-job training and completed field experience.

Although educational providers issue a diploma, or in some cases an identification card, unlike the recreational diving industry there has historically been no specific form of identity card issued to a commercial diver.

Due to the absence of a Commercial Diver Certification Card, many users of commercial diving services have come to believe that certification cards issued by such organizations as **PADI**, **NAUI**, **YMCA**, **SSI**, etc. show that the holder is capable of performing in an underwater working environment. Consequently; requests for bid or proposal often cite a requirement that the diver(s) shall be holders of such cards.

ADC has come to believe that for the commercial diving industry to prosper; to better recognize the value of the individual commercial diver, and to eliminate confusion relating to the recreational certification card, it is critical that commercial diver personnel can obtain a card to **identify** their status as a properly trained individual.

#### Scope and Applicability

ADC Standard 10-1997 is intended to establish a vehicle whereby properly trained commercial divers can obtain a certification card intended to show the fact that they have completed the minimum training, field experience, and necessary dives to be considered certified as a commercial diver.

#### Program Definition

The commercial certification card program of the ADC will be one of a voluntary nature. Although urged to do so, no company shall be required to apply for the issue of cards to its employees. Likewise, individual members shall not be required to apply for such a card.

### **Certification cards issued under this program will:**

Be valid for a maximum period of two (2) years from date of issue. No longer be valid if an individual leaves employment with the company who has sponsored issue of such a card. In such an event, the individual may apply for issue of a new card if he or she desires.

## **Application Procedures**

### **ADC General or Associate Member Companies**

Application for the certification card may be made, in the case of a Member company, by filing with ADC a statement that the persons for whom cards are requested have completed training at an ACDE accredited school, Military school, or equivalent as set forth in the ADC Consensus Standards for Commercial Diving Operations, Chapter 2, paragraph **I.A** through **IB**, and that the individual has completed the Minimum Required Experience and Proficiency as set forth in paragraph 1.C.

In the case of persons who are considered by their company to have gained the necessary field experience through on-the-job training prior to May 1993, training completion at an ACDE accredited school or Military school shall not be a required item of documentation. It shall however be necessary that the applicant furnish a statement that the individual for whom the card is requested is fully qualified to perform as a commercial diver by having satisfied the critical training area requirements which would have been included in a course of instruction equivalent to that which a graduate of an ACDE, Military school, or equivalent would have received and that he or she has also met the requirements of the ADC Consensus Standards for Commercial Diving Operations, Chapter 2.C.

Please print the **Company Certification Card Application** and remit to the ADC office

### **ADC Individual Members**

Applications for certification cards may be made by an individual not an employee of an ADC Member Company by **filing** with ADC supporting documentation, to show the same type of information as is required for company employees.

If an individual had received no formal commercial diver training prior to May 1993, he or she **will** be required to verify experience gained through on-the-job training. Presentation of valid Divers Log Book entries as required by the ADC Consensus Standards for Commercial Diving Operations set forth in Chapter 2, paragraph LC.6. may be used. Without such evidence, ADC shall not issue a certification card.

Please print the **Individual Certification Card Application** and remit to the ADC office.

### **Non ADC Member Companies or Individuals**

Companies or individuals not members of ADC may make application for issue of a Commercial Diver Certification Card in accordance with the requirements set forth above. However; in order to make such an application the applicant must verify that the provisions of the ADC Consensus Standards for Commercial Diving Operations as referenced. herein have been reviewed and are clearly understood by the applicant and the individual for whom the card is sought.

### **ACDE Accredited Commercial Diver Training Schools**

Although commercial diver training schools issue their own certification cards, these shall not qualify the graduate individual for issue of an ADC Commercial Diver Certification Card until that person has completed the requisite Minimum Required Experience and Proficiency established in the ADC Consensus Standards, Chapter 2.C.

### **Card Issue**

The Commercial Diver Certification Card will be a 2 1/8 x 3 3/8 .030 thick plastic laminated card suitably identified as issued by the Association of Diving Contractors. Cards will be sequentially numbered from 00001 and prepared to incorporate a 1 x 1 1/4 color photo of the holder (must be furnished with application). In the event that a color photo cannot be furnished a black and white will be considered acceptable. Note: the bearers photograph is **affixed** to the card in a manner to prevent removal and replacement. In essence; the card is reasonably tamper proof.

An appropriate fee will be charged to cover the cost of the card; handling, and postage. This sum must be paid at the time of application.

### **Data Base Maintenance**

The Association of Diving Contractors **will** maintain a database of Certified Commercial Divers based upon card issue. That data base will contain the sequential number for each card; the name, last known contact point, and telephone number of those to whom cards are issued. ADC will not take action to update the database unless, or until the card holders join the Association as individual members. only if, or when notified by a card bearer of an address change.

The database will be maintained confidential and not released to any party. It's existence will be used as a verification tool for replacement of lost cards; renewal of cards to an individual who has left the employ of a sponsor company, to prevent duplicate issue, and as a means of generally tracking the numbers of certified commercial divers within industry.

## **Company Certification Card Application**



New Application | Renewal  
                                         

Print and send to: The Association of Diving Contractors  
3910 FM 1960 West, Suite 230  
Houston, TX 77068

## COMMERCIAL DIVER CERTIFICATION CARD APPLICATION

### Individual Application:

I do hereby apply for the issue of an ADC Commercial Diver Certification Card:

Name	Social Security Number	Photograph	Fee [\$25.00] included
_____	_____	_____	_____
Address: _____			
City: _____		State: _____	Zip: _____
Country: _____		Tel #: _____	

In making this application I understand and **acknowledge** that the Association of Diving Contractors is relying **in full** upon my statement that the individual(s) for whom card issue is requested has met the training and experience criteria of the ADC Consensus Standards for Commercial Diving Operations, Chapter 2, LB. [Entry Level Qualifications] and C. [Minimum Required Experience and Proficiency]. **By such action I specifically release the Association of Diving Contractors 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 **two (2)** year period and at the expiration of 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**:

**Copies** of my Divers **Log** book for the period \_\_\_\_\_ 19\_\_\_\_ through \_\_\_\_\_ 19\_\_\_\_

A copy of my diploma or certificate of **course** completion from  
\_\_\_\_\_

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

\_\_\_\_\_ field days \_\_\_\_\_ d i v e s \_ \_

\_\_\_\_\_ field days \_\_\_\_\_ d i v e s \_ \_ \_

\_\_\_\_\_ field days \_\_\_\_\_ d i v e s \_ \_

Printed Name: \_\_\_\_\_

Signature: \_\_\_\_\_

PHOTO INSTRUCTIONS



**ASSOCIATION OF DIVING CONTRACTORS**  
 Medical History Form  
 Company's Name \_\_\_\_\_

1. Last Name			First Name		Middle Name	2. Date of Birth		Date	Sex	3. SSN
4. Address (Number, Street, City, State, Zip Code)						5. Area Code/Telephone Number				
6. Position		7. Spouse Name			8. CHECK ONE:    ( ) Single    ( ) Divorced ( ) Married    ( ) Widowed					
9. No. Children		10. Next of Kin/Relationship/Address/Telephone Number								

1. My Present State of Health is:            ( ) Excellent            ( ) Good            ( ) Fair            ( ) Poor

2. MEDICAL HISTORY: Have you ever had or been treated for:

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<input type="checkbox"/> <b>Muscle Weakness</b>	<input type="checkbox"/> <b>Knee Injury or "Trick Knee"</b>																																																																				
<input type="checkbox"/> <b>Shoulder Injury</b>	<input type="checkbox"/> <b>Arthritis</b>																																																																				
<input type="checkbox"/> <b>Broken Bones</b>	<input type="checkbox"/> <b>Disc Problems</b>																																																																				
<input type="checkbox"/> <b>Swollen Ankles</b>	<input type="checkbox"/> <b>Foot Trouble</b>																																																																				
<input type="checkbox"/> <b>Elbow Injury</b>	<input type="checkbox"/> <b>Diabetes</b>																																																																				
<input type="checkbox"/> <b>Tumor or Cancer</b>	<input type="checkbox"/> <b>Goiter or Thyroid Trouble</b>																																																																				
<input type="checkbox"/> <b>Blood Disease</b>	<input type="checkbox"/> <b>Anemia: Sickle Cell or other</b>																																																																				
<input type="checkbox"/> <b>Irregular Menses</b>	<input type="checkbox"/> <b>Painful Menstral Cycle</b>																																																																				

SAMPLE

PLEASE EXPLAIN THE DETAILS OF ALL CHECKED YES'S

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3. LIST ALL SURGERIES, SERIOUS ILLNESSES OR INJURIES: \_\_\_\_\_ YEAR \_\_\_\_\_

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4. ANSWER THE FOLLOWING QUESTIONS: Every Item Checked Yes Must Be Fully Explained in Blank Space

	Yes	No		Yes	No
Do you have any physical defects or any partial disabilities?			Have you been advised to have a surgical operation or medical treatment that has not been done?		
Do you have any condition that may require special work assignment?			Have you ever resigned, been terminated or changed jobs for medical reasons?		
Have you ever been rejected or rated for insurance, employment or armed forces for health reasons?			Have you ever been dismissed from employment because of excess use of alcohol or drugs?		
Have you had significant exposure to mining dust, asbestos, silica or toxic chemicals?			Do you presently use marijuana, LSD, narcotics or controlled substances?		
Have you ever had ill effects from any work that you have done?			Do you have any allergies or reactions to food, chemicals, drugs, insect stings or marine life?		
Are you taking any type of medications including Patent medicines?			Are you presently under the care of a physician? Give physician's name and address.		

COMMENTS: \_\_\_\_\_

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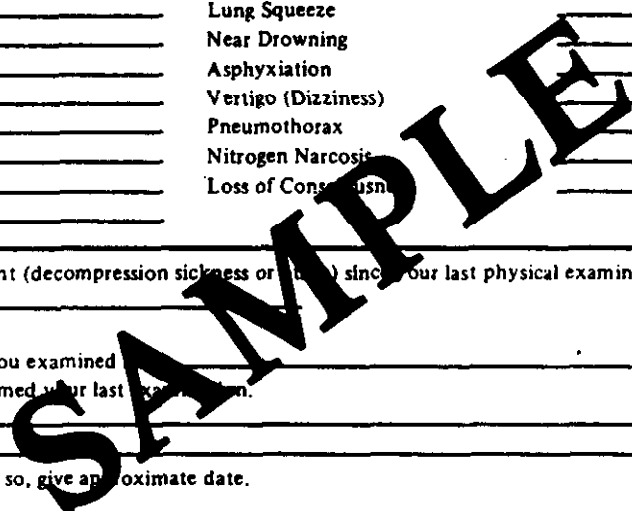
16. MY PERSONAL PHYSICIAN IS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

17. HOW LONG HAVE YOU BEEN DIVING! \_\_\_\_\_  
Max. Depth: Sur. Air \_\_\_\_\_  
Sur. Mixed Gases \_\_\_\_\_  
Longest Bottom Time: Air \_\_\_\_\_  
Mix Gas \_\_\_\_\_  
HAVE YOU MADE ANY SATURATION DIVES? ( ) Yes ( ) No  
Car Mix: Heilox  Trimix  Nitrox   
Max. Depth \_\_\_\_\_ Total Duration (Days) \_\_\_\_\_

18. DIVING EXPERIENCE: (Number of Years Experience)  
AIR \_\_\_\_\_ MIXED GASES- \_\_\_\_\_ SATURATION \_\_\_\_\_  
HAVE YOU PASSED AN OXYGEN TOLERANCE TEST? \_\_\_\_\_ NAME OF COMPANY/SCHOOL \_\_\_\_\_

19. NUMBER OF DECOMPRESSION INCIDENTS:  
Bends: Pain Only \_\_\_\_\_ Neurological \_\_\_\_\_  
Serious Symptoms: Choker \_\_\_\_\_ Inner Ear \_\_\_\_\_  
List any residuals: \_\_\_\_\_

20. IN DIVING HAVE YOU HAD A HISTORY OF: (Provide details of dates and severity)  
Gas Embolism \_\_\_\_\_ Lung Squeeze \_\_\_\_\_  
Oxygen Toxicity \_\_\_\_\_ Near Drowning \_\_\_\_\_  
CO2 Toxicity \_\_\_\_\_ Asphyxiation \_\_\_\_\_  
CO Toxicity \_\_\_\_\_ Vertigo (Dizziness) \_\_\_\_\_  
Ear Squeeze \_\_\_\_\_ Pneumothorax \_\_\_\_\_  
Ear Drum Rupture \_\_\_\_\_ Nitrogen Narcosis \_\_\_\_\_  
Sinus Squeeze \_\_\_\_\_ Loss of Consciousness \_\_\_\_\_  
Deafness \_\_\_\_\_



21. Have you been involved in a diving accident (decompression sickness or other) since your last physical examination? \_\_\_\_\_  
Date of last physical examination \_\_\_\_\_  
For what company or organization were you examined \_\_\_\_\_  
Name and address of physician who performed your last examination \_\_\_\_\_

22. Have you ever had any of the following? If so, give approximate date.  
( ) Chest X-Ray \_\_\_\_\_ ( ) Nerve Condition Studies \_\_\_\_\_  
( ) Longbone series \_\_\_\_\_ ( ) Pulmonary Function Studies \_\_\_\_\_  
( ) Back (Spine) X-Ray \_\_\_\_\_ ( ) Audiogram \_\_\_\_\_  
( ) ENG \_\_\_\_\_ ( ) EKG \_\_\_\_\_  
( ) EEG \_\_\_\_\_ ( ) Exercise EKG \_\_\_\_\_  
( ) EMG \_\_\_\_\_ ( ) Treadmill EKG \_\_\_\_\_

23. Physician's Remarks: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

I CERTIFY THAT I HAVE REVIEWED THE FOREGOING INFORMATION SUPPLIED BY ME AND THAT IT IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE. I UNDERSTAND THAT LEAVING OUT OR MISREPRESENTING FACTS CALLED FOR ABOVE MAY BE CAUSE FOR REFUSAL OF EMPLOYMENT OR SEPARATION FROM THE COMPANY. I AUTHORIZE ANY OF THE DOCTORS, HOSPITALS OR CLINICS MENTIONED ABOVE TO FURNISH THE COMPANY MEDICAL EXAMINER A COMPLETE TRANSCRIPT OF MY MEDICAL RECORD FOR PURPOSES OF PROCESSING MY PHYSICAL EXAM.

DATE \_\_\_\_\_ NAME (Print) \_\_\_\_\_

WITNESS \_\_\_\_\_ SIGNATURE \_\_\_\_\_

Physical Examination Form  
Company's Name \_\_\_\_\_

Name		Date of Examination		Date of Birth	
First Name	Middle Name	2. Social Security Number			
3. Height (Inches)	4. Weight	5. Temperature	6. Blood Pressure Right _____ Left _____		7. Pulse/Rhythm
8. General Appearance/Hygiene		9. Nutrition	10. Build ( ) Slender ( ) Muscular ( ) Obese		
11. Distant Vision: Snellen R. _____ / _____ Corr. to 20/ _____ L. _____ / _____ Corr. to 20/ _____			12. Near Vision: Jaeger R. _____ % Corr. to _____ L. _____ % Corr. to _____		
13. Color Vision (Test & Results)		14. Field of Vision R. _____ % I. _____ %		15. Contact Lenses ( ) Yes ( ) No	

Check each item in appropriate column (enter NE for not evaluated)	Abnormal	REMARKS
16. Head, Face & Scalp		
17. Neck		
18. Eyes		
19. Fundus		
20. Ears - General (Int. & Ext. Canal)		
21. Eustachian Tube Function		
22. Drum Perforation		
23. Nose (Septal Alignment)		
24. Sinuses		
25. Mouth & Throat		
26. Lungs & Chest (Include Breast)		
27. Heart (Thrust, size, rhythm, sounds)		
28. Pulses (Equality, etc.)		
29. Vascular System (Varicosities, etc.)		
30. Abdomen & Viscera		
31. Hernia (All Types)		
32. Endocrine System		
33. G-U System		
34. Upper Extremities (Strength, ROM)		
35. Lower Extremities (Except Feet)		
36. Feet		
37. Spine		
38. Skin, Lymphatics		
39. Anus & Rectum		
40. Sphincter Tone		
41. Pelvic Exam		

SAMPLE

**NEUROLOGICAL EXAMINATION**

Reflexes: \_\_\_\_\_

**CEREBELLAR NERVES**

I Olfactory _____	VII Facial _____
II Optic _____	VIII Auditory _____
III Oculomotor _____	IX Glossopharyngeal _____
IV Trochlear _____	X Vagus _____
V Trigeminal _____	XI Spinal Accessory _____
VI Abducent _____	XII Hypoglossal _____

**FLEXES: Deep Tendon (Gradation of 4)**

	Right	Left	Pathological	Right	Left	Superficial
Biceps	_____	_____	Babinski	_____	_____	Upper Abd. _____
Biceps	_____	_____	Hoffman	_____	_____	Lower Abd. _____
Patella	_____	_____	Ankle Clonus	_____	_____	Cremasteric _____
Achilles	_____	_____				

<b>REFLEXAR FUNCTION</b>		Yes	No	<b>46. POWER &amp; TONE OF MUSCLES</b>
Ataxia		_____	_____	Right Upper Extremity _____
Tremor (Intention)		_____	_____	Left Upper Extremity _____
Finger to Nose		_____	_____	Right Lower Extremity _____
Heel to Shin (Sliding)		_____	_____	Left Lower Extremity _____

<b>PROPRIOCEPTION-STEREOGNOSIS</b>		Right	Left	<b>48. ROMBERG SIGN</b>	<b>49. UNTERBURGER (If Performed)</b>
Joint Position Sense		_____	_____		Degrees 10 Sec. _____
Astereognosis		_____	_____		20 Sec. _____
Vibratory Sensations		_____	_____		30 Sec. _____
					Direction R L

<b>STAGMUS</b>		Yes	No	<b>51. SENSATIONS</b>
End Point		_____	_____	Hot _____ Cold _____
Pathological		_____	_____	Sharp _____ Soft _____
				Two Point Discrimination NL _____ ABN _____

