

Introduction to Commercial Diving

Commercial diving is a career requiring unique physical and intellectual skills commonly not required of the general working populace. In many regards the successful commercial diver could be thought of as a professional athlete. They must possess physical ability, endurance, and a substantial degree of intellectual aptitude to become proficient in their chosen field.

When discussing *Ability*, it is wise to consider all of the variants that the word encompasses within the context of commercial diving. Foremost are the affective aptitudes: those being dependability, reliability, work ethic, and concern for your employer's business interests. Second is natural athletic ability. Does the diver possess the strength, dexterity and vigor, to perform at a high level under potentially stressful conditions underwater by themselves?

Does the diver have the mechanical *aptitude* to understand how things work in relationship to each other? If shown a tractor, could you figure out where the engine is, how many cylinders it has, where the hydraulic pump is located, and how it supplies power to the machine's rams? If not, can you learn these skills? Are you inquisitive and willing to learn?

These attributes can be developed through practice and conditioning to prepare yourself for the requirements of the career path you are considering. This preparation will however require effort on your part. The student will be required to invest considerable time learning the unique language and terminology of diving. Rudimentary math skills are required to calculate gas pressures, mixtures, and depth/time profiles, as well as, manipulation of rigging equations and formulas. Development of good communication skills is of importance to ensure the student is capable of communicating in a professional and business-like manner. Day rates for commercial diving operations exceeding \$100,000.00 dollars a day are not uncommon and clients expect to receive information in a manner consistent with that investment.

Commercial diving can take on several different forms and the vast majority of commercial divers' work in oil field related services. The companies that hire divers' contract with oil exploration and production companies to provide construction, inspection, maintenance, repair, and increasingly, decommissioning services. The bulk of this activity is conducted in the U.S. Gulf of Mexico (GOM) along the Louisiana and Texas coasts. There is some lesser activity on the Western coast of the U.S. off California and Alaska. American citizens can also find themselves supporting oil field operations in Mexico, Central and South America, Africa, and Asia. It is generally difficult for an American citizen to work in any of the former British Commonwealths and Europe, as they vigorously protect their own labor market.

With the introduction of modern dynamically positioned diving support vessels, weather is becoming less of a factor, and operations are being conducted year-round with greater frequency. Divers generally work 'until the job is finished'. Projects may range anywhere from one day to several months, and the crew will typically remain onsite to completion. It is wise to remember the adage, "make hay while the sun shines", since oil field diving activities are directly correlated to operator investment in their infrastructure. If the price of oil drops so will diving activity.

Oil field diving is by far the fastest way to gain experience. The large diving companies are in constant need of personnel due to attrition by less than prepared or capable entry level personnel. A motivated individual with the correct proportions of skill, endurance and intellect can advance quite rapidly in the "oil patch". As discussed previously, it will require dedication to your discipline as you will be competing against the world's best divers.

Civil diving is an area of increased activity and growth. Civil construction diving is diving that generally occurs near shore or inland. Often this type of diving work is government funded, which provides opportunity for prevailing wage work, but not always. Civil work may be as diverse as pier, dock or bridge construction, inspection, and maintenance to the construction of multimillion-dollar fish bypass structures on monumental western dams. If there is water present, there will also be diving work. Some people find this type of work preferable because it is land based and at times more comfortable in terms of living conveniences (hotels vs. vessel cabins). The work however is no less difficult to perform.

Diver pay is determined by the type and location of the project. The following must be understood to be generalizations meant to give the reader an overview of what to expect when entering the commercial diving industry.

Entry level diving personnel are considered tenders and will serve in that capacity for a period of 2 to 5 years depending on geographical location. As a generalization, tenders in the GOM will "break out" (become divers) after approximately 2 to 3 years, in the inland market tenders typically dive alongside the more experienced divers as opposed to the apprenticeship experienced offshore, but then this is a generalization. There are various reasons for this disparity, mostly regarding pay, type and amount of work, and potential for experience gain. Tenders are the driving force of the team. They perform the bulk of topside labor, tend the diver's hoses, run chamber decompressions, set up and operate equipment, and support all diving operations. Good tenders are in demand and respected as vital to the operation. Non-union tenders earn, as a general rule, \$18 to \$20 per hour in the shop and perhaps a little more offshore. Pay on the jobsite is generally based on 12-hour days, so the break out would be 8 hours straight and 4 hours time and a half. A week's work would, therefore, be 84 hours. Most jobs (all projects offshore) operate on a continuous basis without days off until completed.

Divers are generally divided by skill level into three groups:

- **Class Three (3)** Divers meet the minimum standards identified by the diving contractor as necessary to work safely and efficiently underwater, as well as, having the potential to grow in the position and become a greater asset to the company
- **Class Two (2)** Divers have refined their skills and require very little in water direction by the supervisor, they intuitively “know what has to be done and the steps required to do it”. They are extremely competent riggers both topside and underwater and are very capable in the tasks normally associated with underwater activities. Class Two Divers are also capable of supervising all air diving and possible mixed gas diving activities.
- **Class One (1)** Divers are masters of their realm. They are competent and capable in all facets of their company’s underwater operations. They possess advanced skills in underwater welding and cutting, inspection, construction and decommissioning. Class one divers routinely act as supervisors in air, gas and saturation diving operations. Think of them as franchise players in the company they protect.

Many dive schools offer specialty courses designed to provide you with a direction once you have entered the profession. However, few divers are making their living purely as inspection diver or underwater welder. Those skills are just additional arrows in the

quiver of a top hand. One of the most valuable skills a person entering marine construction can possess is that of a topside welder or fitter. These skills make you valuable to an employer when you are not diving (which is most of the time). Good mechanical aptitude is extremely advantageous, again affording the opportunity to provide value to your employer outside of diving. Another skill offering advantage is Diver EMT type training. Most contracts require at least one EMT per shift and most tenders let their certificates expire with time. Therefore, if your certificate is current there will be greater opportunity to work.

There are three different ways divers are compensated - Non-union, Union and Prevailing Wage:

- Oilfield divers are in most cases non-union. Diver pay varies from a low of approximately \$18 to a high of \$65 dollars per hour. The higher rates are reflecting West coast pay scales. Non-union diver pay is better understood as a day rate; it is based on an hourly rate with generally a 12-hour minimum, worked or not worked. In addition to day-rate, a diver is compensated with depth pay for their deepest hyperbaric exposure of the day over fifty feet. There may also be other peripheral compensations such as penetration, inspection or welding rates that may add to a divers pay.

- Diving operations conducted in states with a strong union presence or projects funded with Federal dollars, often require the contractor to be a signatory to a union agreement, and that all the divers on the project be members of a local or sister union hall. Becoming a member of a diver's union is generally a very difficult endeavor as they already have more than enough members, and are not looking for additional mouths to feed. While difficult but not impossible, you generally have to have an "in" of friends, family or a corporate sponsor to help grease the skids and get the business agent to talk to you. Union pay scales vary dramatically depending on region. Tenders can earn \$20 to \$35 per hour and divers can demand up to approximately \$65 per hour plus benefits. Remember, these are generalizations based on my experience. Because of the higher cost of union labor, work performed is usually based on an 8-hour day and a 40-hour week to mitigate overtime expenses to the project. It is, however, entirely possible to work great amounts of overtime if the project requires.
- Prevailing wage pay/projects just means that a civil entity of some sort is required to pay the prevailing union rate for that location. The difference is the entity does not have to hire union divers; they just need to pay union scale. The good part about this is that the benefit dollars that normally would be paid to the union to finance your benefits are now paid directly to the diver. For example, if you were earning \$65.00/hour plus an additional \$14.00/hour benefits, you would get the \$65.00/hr. and the union would get the \$14.00/hr. On a prevailing wage job, you earn both the hourly rate and the hourly benefit rate, but do not earn overtime on the hourly benefit rate.

Typically, the difference in yearly pay between civil, oil field, union and non-union is insignificant. The difference is how many hours/days a person has to work for the same yearly income. The following should be considered a rough guide to the potential yearly earning power of a commercial diver, regardless of union or non-union status. Again, this is just general information to give you an idea of the opportunity available to you as a commercial diver.

Tender - \$35,000 to \$50,000
 Diver tender - \$35,000 to \$55,000
 Diver III - \$35,000 to \$60,000
 Diver II - \$50,000 to \$80,000
 Diver I - \$70,000 to \$100,000+
 Saturation Diver - \$80,000 to \$200,000+

Most large companies also provide very good insurance and 401K retirement benefits.

In some cases, especially for highly valued employees, profit sharing can add significant value to a diver's compensation package.

In conclusion, I began this discussion stating that diving is a "career" and it must be thought of as such; the commitment is too great to think of it as an adventure or diversion on your path through life. The people who are most successful in this field are those that invest in their education, pay attention to detail, and take advantage of the opportunity to learn (even if it comes in dirty cold water on Christmas Day).