EXCLUSIONS AND EXEMPTIONS FROM OSHA'S COMMERCIAL DIVING STANDARD

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This paper provides a summary review of the history, scope, and applicability of exclusions and exemptions to the Occupational Safety and Health Administration's (OSHA) commercial diving operations standard. Federal Register (F.R.) notices pertinent to the development of the original OSHA diving standard and the subsequent amendment for the scientific diving exemption are noted in the text and discussed to identify references for a more comprehensive study of the issues involved.

ISSUANCE OF ORIGINAL COMMERCIAL DIVING STANDARD AND SCOPE OF OSHA'S STATUTORY JURISDICTION

On July 22, 1977 [42 F.R. 37650] the U.S. Department of Labor's Occupational Safety and Health Administration issued final public notice of the adoption of a permanent diving standard which became effective on October 20, 1977. OSHA's original diving standard, 29 CFR Part 1910 - Subpart T "Commercial Diving Operations," established mandatory occupational safety and health requirements for commercial diving operations. The standard applies wherever OSHA has statutory jurisdiction. Consequently, diving in any natural or artificial inland body of water, as well as diving along the coasts (State territorial waters) of the United States and possessions listed in Section 4(a) of the OSH Act [29 U.S. 655] is covered. For coastal States and territories, the State territorial waters extend 3 nautical miles seaward from the coast line, except for the Gulf Coast of Florida and Texas where the territorial waters extend for 3 marine leagues (approximately 9 nautical miles). For States bordering the Great Lakes and St. Lawrence River, all waters in the Great Lakes and associated rivers up to the international boundary line with Canada are State territorial waters.

ORIGINAL EXCLUSIONS FROM OSHA'S COMMERCIAL DIVING STANDARD

The original OSHA diving standard provided three specific exclusions which remain in effect as follows:

1. "**Instructional diving utilizing only open-circuit compressed air scuba within the no-decompression limits.**"

OSHA concluded that a valid distinction existed between scuba diving instructors and commercial divers which warranted an exclusion. The scuba diving instructor, who is an employee, is student-oriented, not task-oriented. The dive site is not determined by the location of a particular job as it is in commercial applications, where operations must of necessity be conducted under environmental conditions which are often adverse. The scuba diving instructor, by contrast, selects a location which is

usually clear, shallow and warm. Indeed, a swimming pool is the dive site for most scuba diving instruction. Such dives are discontinued if the slightest difficulty occurs. Scuba diving instructors do not utilize construction tools, handle explosives, or use welding or burning tools. As a result of these factors, scuba diving instructors are rarely exposed to adverse sea states, temperature extremes, great depths, poor visibility, or heavy work loads, some or all of which are common to the majority of commercial diving operations. However, OSHA took into consideration that some diving techniques and conditions pose greater potential hazards than others, regardless of the purpose of the dive. Thus, this exclusion for scuba diving instruction was limited to a restricted diving range, a particular diving mode, and specific equipment. The exclusion from the standard applies only to instructional diving which uses open-circuit compressed air scuba and is conducted within the no-decompression limits. The standard defines no-decompression limits as the depth-time limits of the "no-decompression limits and repetitive dive group designation table for no-decompression air dives" of the U.S. Navy Diving Manual, or equivalent limits which the employer can demonstrate to be equally effective. No distinction *per se* is made between instructors of prospective recreational divers and instructors of prospective commercial divers. However, by its very nature, the training for commercial divers involves diving that is surface-supplied, uses mixed gas as a breathing gas, requires decompression, often involves adverse environmental conditions, or involves the use of underwater tools and equipment; each of these factors potentially increases the hazard of the operation. It is emphasized that when instruction exceeds the specified limits, the OSHA diving standard applies. It is noted that individuals engaged in recreational diving for their own personal enjoyment, and not otherwise related to their respective employments, are not within the jurisdiction of the OSH Act, and therefore are outside the scope of OSHA's diving standard. On the other hand, scuba diving for a commercial rather than instructional purpose is covered by the OSHA diving standard, regardless of equipment or depth-time range.

2. "Search, rescue, and related public safety diving by or under the control of a governmental agency."

OSHA received a number of comments from persons engaged in diving incidental to police and public safety functions, and the Agency concluded that an exclusion was appropriate for such applications. The "by or under the control of a governmental agency" language is intended to make the exclusion applicable to all divers whose purpose is to provide search, rescue, or public safety diving services under the direction and control of a governmental agency (*e.g.,* local, state, federal government) regardless of whether or not such divers are, strictly speaking, government employees. Diving contractors who occasionally perform such services privately on an emergency basis, and who are not under the control of a governmental agency engaging their services, do not come under this exclusion. Such divers may, however, be covered by the provision concerning application of the standard in an emergency [29 CFR §1910.401(b)]. In excluding these search and rescue operations, OSHA determined that safety and health regulation of the police and related functions are best carried out by the individual States or their political subdivisions. It is pointed out that this exclusion does not apply when work other than search, rescue and related public safety diving is performed (*e.g.,* police divers repairing a pier).

3. "**Diving governed by the Protection of Human Subjects regulations of the Department of Health, Education and Welfare (HEW) or equally effective rules or regulations of another Federal Agency."**

Diving operations which are governed by 45 CFR Part 46 are not within the scope of OSHA's commercial diving standard. Such operations involve research and development or related scientific activities requiring human subjects and receive HEW grants or contracts. Compliance with HEW regulations is mandatory for such employers or contractors, and the regulations are designed to promote safety and health. Similarly, any other Federal agency which adopts rules or regulations that are equally

effective (*i.e.,* similar in design, purpose, and effect to those of HEW) are covered by this exclusion. The exclusion is supported in the record on the grounds that it would permit continued scientific research designed to extend the safe limits of diving physiology and technology. The long-term safety and health interests of divers are best served by the continuation of this research, and such diving cannot reasonably be expected to comply in every respect with a standard designed to reflect current commercial diving operational practice.

EMERGENCY PROVISION OF OSHA'S COMMERCIAL DIVING STANDARD

The original OSHA diving standard also included a provision for emergency situations [29 CFR §1910.401(b)], which remains in effect, when the overriding consideration is the preservation of life and the protection of the environment as follows:

> **"The 'Emergency Provision' permits deviations from the requirements of OSHA's diving standard in situations where death, serious physical harm, or major environmental damage is likely, but only to the extent that such action is immediately necessary to prevent or minimize the harm."**

No exemption is provided by the emergency provision for situations where purely economic or property damage is likely. Further, the emergency provision is not intended to substitute for the statutory variance procedures under Sections 6(b)6(A), 6(b)6(C), 6(d), and 16 of the OSH Act. This emergency provision anticipates the unique circumstances for which diving services are sometimes needed and thus obviates the need for a continuous OSHA variance capability to make *ad hoc* determinations in emergency situations. Although temporarily exempt from inappropriate substantive portions of the standard in such emergency situations, employers are required to notify the nearest OSHA Area Office within 48 hours and, upon request of the Area Director, to submit a record of the notification with an indication and explanation of what deviations from the standard were taken as a result of the emergency. This reporting requirement enables OSHA to monitor the use of this exemption.

SCIENTIFIC DIVING EXEMPTION - BACKGROUND AND DEVELOPMENT

The original OSHA standard for commercial diving operations did not exempt diving performed solely for scientific research and development purposes. Subsequent to the publication of OSHA's original standard, the Agency received numerous requests from various individuals and organizations to reconsider the applicability of the standard to educational/scientific diving. Proponents for exempting educational/scientific diving noted that it was customary for the educational/scientific diving community to follow well-established, consensual standards of safe practice. They pointed out that the first set of consensual diving standards was developed by the Scripps Institution of Oceanography of the University of California (Scripps) in the early 1950's. Further, in 1973, diving safety boards and committees from ten major educational institutions involved in scientific diving met and accepted the University of California Guide for Diving Safety as a minimum standard for their individual programs. Therefore, it was contended that most diving programs at educational institutions were complying with this consensual standard, with limited modifications for regional and operational variations in diving, before the publication of the OSHA original diving standard. The educational/scientific diving community pointed to their excellent safety record prior to OSHA's publication of a diving standard, and attributed their safety record to the effectiveness of self-regulation by their community. Additionally, they noted that significant differences exist between commercial diving and educational/scientific diving. For example, the educational/scientific diver is an observer and data gatherer who chooses the work area and diving conditions that will minimize environmental stresses, and maximize the safety and efficiency of gathering

data. In contrast, it was noted that the commercial diver is an underwater construction worker, builder and trouble shooter whose work area and diving conditions are determined by the location and needs of the project.

Based on the concerns expressed by the educational/scientific diving community, on August 17, 1979, OSHA published an advance notice of proposed rulemaking (ANPR) [44 F.R. 48274] to obtain additional information concerning which provisions of the OSHA diving standard were causing the most difficulty and what modifications to the standard should be considered. The responses to the ANPR, together with other information and data contained in OSHA's commercial diving record, convinced the Agency that there was a significant difference between educational/scientific diving and commercial diving; that the safety record of the educational/scientific diving community represented evidence of its successful self-regulation and, as a result, an exemption for educational/scientific diving might be justified. Accordingly, on March 26, 1982, OSHA published a notice of proposed rulemaking [47 F.R. 13005] to exempt diving "performed solely for marine scientific research and development purposes by educational institutions" from the OSHA diving standard. Although it was proposed to exempt only educational institutions that perform scientific diving, in the notice of proposed rulemaking OSHA requested responses to three specific questions in order to solicit data and information for determining if the exemption should include other segments of the scientific diving community. The original comment period for this notice of proposed rulemaking was May 10, 1982; however, on May 26, 1982, OSHA published a notice [47 F.R. 22972] extending the comment period as requested by the American Academy of Underwater Sciences to June 18, 1982, and scheduled informal public hearings for June 29-30, 1982, in Washington, D.C., and July 7-9, 1982, in Los Angeles, California. Following completion of the public hearings, the submission of post-hearing comments, and receipt of arguments and briefs relating to the hearing issues, the Administrative Law Judge certified the record on September 3, 1982.

Based on the overwhelming support from comments and hearing testimony, as well as other information contained in the record, OSHA concluded that an exemption was justified for all scientific diving, not just solely scientific diving performed by educational institutions. Therefore, OSHA decided to broaden the exemption to include all segments of the scientific diving community. Based on the record, OSHA's exemption for scientific diving included specified conditions that scientific diving programs must meet before members of the scientific diving community may avail themselves of the exemption. On November 26, 1982, OSHA exempted scientific diving from coverage under 29 CFR Part 1910, Subpart T, Commercial Diving Operations, provided that the diving meets the Agency's definition of scientific diving and is under the direction and control of a diving program utilizing a safety manual and a diving control board meeting certain specified criteria [47 F.R. 53357; §1910.401(a)(2)(iv)].

The November 1982 scientific exemption, however, was subsequently challenged by the United Brotherhood of Carpenters and Joiners (UBCJ) under Section 6(f) of the OSH Act. The union filed a petition for judicial review of the final rule regarding the scientific exemption, and on April 4, 1984, the Court of Appeals issued a memorandum and court order which required further action regarding this final rule. In compliance with the Court's memorandum and order, OSHA published a notice on July 18, 1984 [49 F.R. 29105], which reopened the record, and required a determination of the interpretive guidelines that OSHA proposed to use in determining which enterprises may avail themselves of the exemption for scientific diving. Final action regarding this court order was concluded and published by OSHA on January 9, 1985 [50 F.R. 1046], "Commercial Diving Operations - Exemption for Scientific Diving - Final Guidelines." This notice established the final guidelines that OSHA uses, in conjunction with the exemption criteria contained in the final rule [47 F.R. 53357; 29 CFR §1910.401(a)(2)(iv)], to determine whether a scientific diving program can avail itself of the exemption from the OSHA commercial diving standard. It is emphasized that the absence of any factor specified in the guidelines [Appendix B to 29 CFR Part 1910 - Subpart T, Commercial Diving Operations] or the final rule [29 CFR

§1910.401(a)(2)(iv)] renders a diving program ineligible for the exemption.

SCIENTIFIC DIVING EXEMPTION - DISCUSSION OF APPLICABLE FINAL RULE AND GUIDELINES

The final rule [29 CFR §1910.401(a)(2)(iv)] which became effective on November 26, 1982, exempts any diving operation that is, "Defined as scientific diving and which is under the direction and control of a diving program containing at least the following elements:

(A) Diving safety manual which includes at a minimum: Procedures covering all diving operations specific to the program; procedures for emergency care, including recompression and evacuation; and criteria for diver training and certification.

(B) Diving control (safety) board, with the majority of its members being active divers, which shall at a minimum have the authority to: Approve and monitor diving projects; review and revise the diving safety manual; assure compliance with the manual; certify the depths to which a diver has been trained; take disciplinary action for unsafe practices; and, assure adherence to the buddy system (a diver is accompanied by and is in continuous contact with another diver in the water) for SCUBA diving."

In addition to the final rule, Appendix B to 29 CFR Part 1910, Subpart T (Commercial Diving Operations Standard), "Guidelines for Scientific Diving," became effective on January 9, 1985. This appendix provides guidelines that are used in conjunction with the final rule to determine those scientific diving programs which are exempt from OSHA's diving standard. The guidelines are as follows:

1. **"The Diving Control Board consists of a majority of active scientific divers and has autonomous and absolute authority over the scientific diving program's operations."**

The first guideline concerns organizational structure. OSHA concluded that the organizational structure of the scientific diving community's consensual standard program is not only vital to the integrity of scientific diving programs, but effectively serves to segregate scientific diving from commercial diving. The Diving Control Board required of scientific diving programs contains several elements that distinguish between commercial diving and the exempt scientific diving programs. These distinctive elements include absolute authority over diving operations, the autonomy inherent in the Diving Control Board's decision-making powers and responsibilities, and peer review. OSHA's intent was for the Diving Control Board, primarily consisting of the divers themselves, to regulate the diving activities in a manner consistent with that described by the scientific diving community during the rulemaking process. Therefore, OSHA requires that Diving Control Boards have this autonomous and absolute authority over scientific diving operations. OSHA also concluded that the peer review system has successfully regulated scientific diving programs and, therefore, OSHA mandated that the majority of members of the Diving Control Board be active divers. OSHA's intent with respect to this "peer review" was that the active divers required to make up the Diving Control Board would be scientists who actively dive, since at issue was the control of a scientific program. Thus, OSHA will interpret the membership requirement as it was intended in the final rule. The "majority of active divers" on the Diving Control Board must also be scientists.

2. **"The purpose of the project using scientific diving is the advancement of science; therefore, information and data resulting from the project are non-proprietary."**

The second guideline concerns the restricted purpose of the project. In part, the definition of

scientific diving is "diving performed solely as a necessary part of a scientific, research, or educational activity" [47 F.R. 53365; 29 CFR §1910.402]. The National Oceanic and Atmospheric Administration (NOAA) Diving Manual notes that "marine research using diving as a tool has been important in understanding the ocean, its organisms, and its dynamic processes." Such diving includes the study of fish behavior, ecological surveys and benthic surveys (the aggregate of organisms living on or at the bottom of a body of water). Scientific diving is an adjunct used in the advancement of underwater science. For example, representatives from the scientific diving community noted during public hearings and in written comments that "Our objective is to promote the advancement of science and the use of underwater methods," that "Research and the furtherance of scientific knowledge are their (the divers) primary goals," that results are "shared worldwide," and further that coverage of the scientific diving community by Subpart T, Commercial Diving Operations, may cause "irreparable damage to the underwater scientific effort of the United States." Because the exemplary safety record which led OSHA to promulgate the scientific exemption to Subpart T was created by diving with the restricted purpose of advancing science, OSHA limited the scope of the exemption to diving intended to advance science. OSHA recognizes that the advancement of science cannot occur unless such studies are made available to contribute to and enhance scientific knowledge. Therefore, OSHA's intent was to restrict the exemption to scientific research dives that result in non-proprietary information, data, knowledge, or other work product. The requirement that information be non-proprietary applies to scientific, research, and educational activities engaged in by scientific divers. Material available to the public for review is non-proprietary, whether or not it is published; material not available for review is proprietary.

3. "The tasks of a scientific diver are those of an observer and data gatherer. Construction and trouble-shooting tasks traditionally associated with commercial diving are not included within scientific diving."

The third guideline concerns the tasks performed. The scientific diving definition in the standard states that such diving must be done by employees whose sole purpose for diving is to perform scientific research tasks. Also contained in the definition is a list of those tasks that are traditionally considered commercial, with emphasis on construction and the use of construction tools (*e.g.,* heavy equipment, power tools, explosives, welding equipment, burning equipment). As OSHA discussed in the final rule [47 F.R. 53357], a commercial diver is typically an underwater construction worker, builder and trouble shooter; a scientific diver is an observer of natural phenomena or responses of natural systems, and a gatherer of data for scientific analysis. The tasks performed by the scientific diver are usually light and short in duration; if any hand tools are used, they are simple ones (*e.g.,* small hammer, collecting jars, special hand-held measuring devices, plastic core tubes, hand net, suction fish collector, camera, slate/pencil). As was indicated in a federal register notice [49 F.R. 29105], an example of task distinction might involve a scientific study of kelp. The construction of the kelp bed used in the project is not scientific diving since construction activities are commercial diving tasks, however, the consequent studies made of the kelp would be scientific diving tasks. Another example of task distinction was provided in the discussion of the final guidelines [50 F.R. 1046]. The lowering of a large object (*e.g.,* Sea Lab, Project Aquarius Habitat), even though a part of a scientific project, is not scientific diving. The special skills of an underwater scientist, including observation and data collection skills, obviously do not contribute to the placement of a large object underwater. OSHA avoided the possibility of the exemption applying to scientific divers who undertake such tasks while participating in a scientific research project by focusing the definition on the sole purpose of the dive (scientific research tasks), eliminating dives with mixed purposes, and further indicating typical examples of what OSHA considers to be commercial tasks. It is noted that the scientific diving community supported this limited definition [Amicus Brief, UBCJ v. OSHA, No. 82-2509 (D.C. Circuit)].

4. "Scientific divers, based on the nature of their activities, must use scientific expertise in

studying the underwater environment and, therefore, are scientists or scientists-in-training."

The fourth guideline concerns special qualifications. As was previously noted, a scientific diver is an observer and data gatherer involved in studying the underwater environment, its organisms and its dynamic processes in order to promote underwater science. OSHA concluded, based on the nature of these activities, that these divers must be able to use scientific expertise in studying and analyzing the underwater environment. Consequently, OSHA requires these divers to be scientists or scientists in training. For example, a project to map segments of the ocean floor might hire commercial divers to undertake certain mapping tasks. These commercial divers are neither scientists nor scientists in training as prescribed by this guideline and, therefore, would not be eligible for the exemption. If, however, scientific expertise were needed to effectively accomplish tasks associated with the mapping (*e.g.,* specialized geological knowledge), and a geologist trained as a diver were hired to perform the special geological tasks associated with the mapping, then such diving tasks would meet this particular criterion. As stated previously, however, all program criteria and guidelines must be met in order for this diving scenario to qualify for the exemption. In promulgating the exemption, OSHA rejected credentialism to determine who is a scientist; the Agency did not reject the limitation that individuals must be scientists. Such a limitation reflects the scientific diving community's underwater activities, and it prevents obvious commercial diving from being construed as scientific diving.