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## I. Background

The Agency published a final rule in 1977 regulating the occupational safety and health employees engaged in commercial diving operations under 29 CFR part 1910, subpart T (42 FR 37668). In 1999, acting under Section 6(d) of the Occupational Safety and Health Act of 1970 ("OSH Act"; 29 U.S.C. 655), OSHA published an order granting a permanent variance to Dixie Divers, Inc. ("Dixie") (Ex. 2–11). The permanent variance exempted Dixie from OSHA's decompression-chamber requirements specified at § 1910.423(b)(2) and (c)(3)(iii), and § 1910.426(b)(1) when its recreational diving instructors and diving guides engage in underwater instructional and guiding operations. The variance applies only to mixed-gas diving operations at a maximum depth of 130 feet of sea water ("fsw") performed within the no-decompression limits; employees used a breathing-gas mixture consisting of a high percentage of O<sub>2</sub> mixed with nitrogen (*i.e.*, a nitrox breathing-gas mixture) supplied by an open-circuit, semi-closed-circuit or closed-circuit SCUBA. In issuing the permanent variance, the Agency noted that it met or exceeded the level of protection afforded by OSHA's decompression-chamber requirements.

In a letter dated February 4, 2000, Mr. Jeff Nadler, Vice President of the Professional Association of Diving

Instructors Americas, requested guidance from OSHA regarding other employers of recreational diving instructors who complied with the conditions of the permanent variance granted to Dixie (Ex. 3–1). The Agency responded to Mr. Nadler on May 3, 2000, stating that it would consider such employers "to be in de minimis violation of the decompression-chamber requirements specified at paragraphs (b)(2) and (c)(3)(iii) of § 1910.423(b)(2), and paragraph (b)(1) of § 1910.426(b)(1)." OSHA noted that "[d]e minimis violations carry no penalties, do not require abatement and no citations are issued."

While the de minimis policy may provide regulatory relief to some employers, it has several disadvantages. For example, many employers prefer not to invoke the policy because they remain in violation of the applicable standard even though the violation is only "technical" and has no enforcement consequences (see OSHA's "Field Inspection Reference Manual," chapter III, paragraph C.2.g. (September 26, 1994)). Additionally, some employers may not know of the policy and, therefore, are unable to benefit from it. Accordingly, the Agency is now proposing to amend its Commercial Diving Operations ("CDO") standards to incorporate the terms and conditions of the Dixie Divers variance into the standard itself. OSHA believes that the proposed amendment would improve the effectiveness of recreational diving instructors and diving guides by enabling them to remain at the maximum diving depth without developing decompression sickness ("DCS") or arterial gas embolism ("AGE") when they return to the surface. By preventing DCS and AGE under these conditions, the proposed amendment would make a decompression chamber near the dive site unnecessary for these divers.

## II. Summary and Explanation of the Proposal

OSHA has now had nearly three years of experience with the conditions of the permanent variance granted to Dixie (and with the subsequent application of these conditions by other employers under the de minimis policy). Based on this experience, the Agency believes that diving operations involving recreational instruction and guiding, when performed under the alternative conditions specified in this proposed rule, either meet or exceed the level of employee protection afforded by the diving standard's decompression-chamber requirements. The purpose of having a decompression chamber

available and ready for use at the dive site is to treat DCS, which may occur from breathing air or mixed gases at diving depths and durations that require decompression, and AGE, which may result from over-pressurizing the lungs, usually while ascending rapidly to the surface during a dive.

As with the permanent variance granted to Dixie, this proposed rulemaking would impose a number of conditions on employers of recreational diving instructors and diving guides. The following sections describe these conditions, and provide the rationale for including them in this proposal.

### A. Proposed §§ 1910.401(a)(3) and 1910.402 ("Definitions")

Proposed § 1910.401(a)(3) specifies that this regulatory alternative would apply only to recreational diving instructors and diving guides who are engaging solely in recreational diving instruction and dive-guiding operations. In this regard, OSHA is proposing to add definitions of "recreational diving instruction" and "dive-guiding operations" to § 1910.402 of the CDO standards to clarify the application of the proposed alternative. Accordingly, "recreational diving instruction" would mean the training of diving students in the use of recreational diving procedures and the safe operation of diving equipment, including open-circuit, semi-closed-circuit, or closed-circuit SCUBA during dives; additionally, "dive-guiding operations" would mean the leading of groups of trained sports divers, who use open-circuit, semi-closed-circuit, or closed-circuit SCUBA, to local undersea diving locations for recreational purposes. In addition, proposed § 1910.401(a)(3) requires that employers ensure that the instructors and guides conduct these dives within the no-decompression limits, and use a nitrox breathing-gas mixture consisting of a high percentage of O<sub>2</sub> (more than 22% by volume) mixed with nitrogen and supplied by an open-circuit, semi-closed-circuit, or closed-circuit self-contained underwater breathing apparatus; employers also must comply with the requirements specified in Appendix C of subpart T. As noted in the Dixie Diver variance (64 FR 71257), OSHA believes that by limiting application of the proposed alternative as discussed above, recreational diving instructors and diving guides who dive according to the proposed requirements would receive a level of safety and protection equivalent to recreational diving instructors who are exempted from the CDO standards altogether under § 1910.401(a)(2)(i); the recreational diving instructors covered