United States of America
OCCUPATIONAL SAFETY AND HEALTH REVIEW COMMISSION
1120 20th Street, N.W., Ninth Floor
Washington, DC 20036-3457

SECRETARY OF LABOR, Complainant, v. ASSOCIATED UNDERWATER SERVICES, Respondent, PILEDRIVERS LOCAL UNION 2396, Authorized Employee Representative.	OSHRC Docket No. 07-1851

ON BRIEFS:

Ronald J. Gottlieb, Attorney; Heather R. Phillips, Counsel for Appellate Litigation; Joseph M. Woodward, Associate Solicitor of Labor for Occupational Safety and Health; M. Patricia Smith, Solicitor of Labor; U.S. Department of Labor, Washington, DC
For the Complainant

Erica A. Krikorian; Bullivant Houser Bailey P.C., Seattle, WA
For the Respondent

DECISION

Before: ROGERS, Chairman; ATTWOOD, Commissioner.

BY THE COMMISSION:

On August 7, 2007, an Associated Underwater Services ("AUS") employee working approximately 140 feet underwater was killed when a metal piling, also known as a "pile," fell on him. After conducting an inspection of the worksite, the Occupational Safety and Health Administration ("OSHA") issued AUS two citations alleging a total of three violations of the Occupational Safety and Health Act of 1970 ("OSH Act"), 29 U.S.C. §§ 651-678. The parties settled two of the citation items prior to the hearing. The remaining citation item alleged a serious violation of 29 C.F.R. § 1910.421(d)(2), which provides that the "[p]lanning of a diving

operation shall include an assessment of the safety and health aspects of the following: . . . (2) Surface and underwater conditions and hazards." OSHA proposed a $2,500 penalty for the alleged violation. Following the hearing, Administrative Law Judge Sidney J. Goldstein[1] issued a decision vacating the citation item.

For the reasons discussed below, we reverse the judge's decision, affirm the item as serious, and assess the Secretary's proposed penalty of $2,500.

BACKGROUND

In August 2007, AUS was working on a project with General Construction Company ("GC") at BP's Cherry Point facility in Blaine, Washington. The project involved the construction of an oil containment boom and included the installation of metal pilings into the ocean floor as foundation for the boom. AUS provided underwater diving support to GC for its installation of the pilings, which GC positioned and drove into the ocean floor. Each piling weighed approximately 8,600 pounds and measured 22 feet long.

To drive the pilings into the ocean floor, GC used a "vibratory hammer."[2] The vibratory hammer has hydraulic jaws designed to grip a steel plate, known as a "pad-eye," which GC welded to the top of each piling. With the jaws clamped to the piling's pad-eye, the piling is directly suspended from the hammer. This type of hammer vibrates the piling at 25 vibrations per second, and the vibrations, combined with the downward pressure from the weight of the hammer, cause the piling to work itself into the ocean floor. The pile-driving process required GC's crew to first lift each piling off a barge using a crane hooked to the vibratory hammer that gripped the piling, and then lower the piling down to the ocean floor. The pad-eye was 1.25 inches thick but the jaws of the hammer could only open a maximum of 1.17 inches, and it is undisputed that GC's efforts to ensure a proper grip on the pad-eye damaged the hammer's jaws.

Once the piling was positioned on the ocean floor, GC's crew raised it one to two feet, and AUS sent a diver down to ensure that the area underneath the piling was free of obstructions.

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[1] Judge Goldstein has since retired from the Commission and is currently serving as a senior judge on a limited appointment.

[2] GC had initially planned to drive the pilings using an "impact hammer," which would drive each piling into the ocean floor through repeated downward blows, but changed to the vibratory hammer before work on the project began.

After determining that the area was clear, the diver radioed instructions to GC to lower the piling until it went into the ocean floor and reached the "point of refusal"—the depth in the ocean floor that the piling would reach through the force of its own weight and the weight of the hammer. The diver then instructed GC to activate the hammer. During the pile-driving operation, the diver either stayed near the base of the piling or moved to a position above the piling, in which case the diver had to ask GC to stop the hammer periodically so the diver could go back to the base of the piling and make sure the piling was being driven plumb. Prior to the accident, GC had successfully driven four pilings into the ocean floor on two separate days.

AUS prepared for each day's dive by conducting step-by-step pre-dive meetings with its employees. It is undisputed that at the pre-dive meeting held on the day of the accident, AUS discussed a dive plan with its employees that did not address the hazards of suspended loads or the possibility of a falling piling.[3] On that day, GC attached a wire cable to the piling before lowering it into the water. The cable had not been used on any prior dives and was attached at the request of GC's parent company. The AUS diver then entered the water to check for obstructions and subsequently informed GC that too much of the cluster of hoses that control the functions of the hammer had accumulated in the water. While GC adjusted the hoses, the diver received authorization from AUS's dive supervisor to remove the wire cable attached to the piling. The diver removed the wire cable, returned to the base of the piling, and radioed GC to activate the hammer. Almost immediately after GC activated the hammer, the piling came loose from the hammer's damaged jaws and fell on the diver, killing him.

DISCUSSION

I. Alleged violation

Section 1910.421(d)(2) requires an employer to assess surface and underwater conditions and hazards in planning a diving operation. Because it is a performance standard, the employer is required to assess only those hazards that a "reasonably prudent employer" would recognize. *See W.G. Fairfield Co.*, 19 BNA OSHC 1233, 1235, 2000 CCH OSHD ¶ 32,216, p. 48,864 (No. 09-0344, 2000), *aff'd*, 285 F.3d 499 (6th Cir. 2002); *see also Thomas Indus. Coatings, Inc.*, 21 BNA OSHC 2283, 2287, 2004-09 CCH OSHD ¶ 32,937, p. 53,736 (No. 97-1073, 2007)

[3] AUS had developed a written dive plan before the project started but does not dispute that the written plan was not used on the day of the accident.

("[P]erformance standards . . . are interpreted in light of what is reasonable."). A reasonably prudent employer is a reasonable person familiar with the situation, including any facts unique to the particular industry. *W.G. Fairfield Co.*, 19 BNA OSHC at 1235, 2000 CCH OSHD at pp. 48,864-65; *Farrens Tree Surgeons, Inc.*, 15 BNA OSHC 1793, 1794, 1991-93 CCH OSHD ¶ 29,770, p. 40,489 (No. 90-998, 1992); *see also Brennan v. Smoke-Craft, Inc.*, 530 F.2d 843, 845 (9th Cir. 1976). Under Commission precedent, industry practice is relevant to this analysis, but it is not dispositive. *W.G. Fairfield*, 19 BNA OSHC at 1235-36, 2000 CCH OSHD at p. 48,865; *Farrens Tree Surgeons*, 15 BNA OSHC at 1794, 1991-93 CCH OSHD at p. 40,489; *see also Smoke-Craft*, 530 F.2d at 845 (noting that in absence of any industry custom the need to protect against an alleged hazard "may often be made by reference to" what a reasonably prudent employer "familiar with the industry would find necessary to protect against this hazard").

Here, the Secretary asserts that a reasonably prudent employer would have assessed any hazards arising out of GC's pile-driving operation, in particular the recognized hazard of a falling piling. Because AUS failed to assess this hazard in the dive plan discussed during its pre-dive meeting, the Secretary maintains that AUS failed to comply with the standard. AUS contends, however, that it was responsible only for assessing hazards arising out of its own diving activities and that it could not have foreseen GC would use a vibratory hammer with jaws that were too small to grip the piling's pad-eye. In vacating the citation, the judge agreed with AUS that GC's use of an inadequate hammer, as well as the resulting fatal accident, was unforeseeable. He also concluded the Secretary failed to establish that an employer in the commercial diving industry would have conducted its pre-dive hazard assessment any differently than AUS did here.

As a threshold matter, we find the judge erred in analyzing the citation in terms of the foreseeability of the accident and the events that led to it.[4] The Commission has long held that "it is the hazard, not the specific incident that resulted in injury or might have resulted in injury, that is the relevant consideration in determining the existence of a recognized hazard." *Arcadian Corp.*, 20 BNA OSHC 2001, 2008, 2004-09 CCH OSHD ¶ 32,756, p. 52,074 (No. 93-0628,

[4] We note that the judge's error lies in part on his incorrect factual finding that GC drove the four previous pilings with an impact hammer and then switched to a vibratory hammer for the fatal dive. The record, however, establishes that GC had used only a vibratory hammer to drive pilings at the site.

2004) (citing *Kelly Springfield Tire Co.*, 10 BNA OSHC 1970, 1973, 1982 CCH OSHD ¶ 26,223, p. 33,113 (No. 78-4555, 1982), *aff'd*, 729 F.2d 317 (5th Cir. 1984)); *see also American Wrecking Corp.*, 19 BNA OSHC 1703, 1707 n.4, 2001 CCH OSHD ¶ 32,504, p. 50,400 n.4 (No. 96-1330, 2001) (consolidated) ("Determining whether the standard was violated is not dependent on the cause of the accident."), *aff'd in part, rev'd in part*, 351 F.3d 1254 (D.C. Cir. 2003); *Pressure Concrete Constr. Co.*, 15 BNA OSHC 2011, 2017, 1991-93 CCH OSHD ¶ 29,902, p. 40,812 (No. 90-2668, 1992) (finding that the employer may not have foreseen the precise circumstances of the accident but generally knew the potential dangers associated with the location where its employees were working). The hazard here was that the piling could fall, not that the jaws of the vibratory hammer were too small for the pad-eye. Thus, a determination regarding whether the accident or its precise cause was foreseeable is legally irrelevant.

We also find that the judge's analysis of the reasonably prudent employer test was too narrow in that he considered only the practices of the commercial diving industry to determine the scope of AUS's assessment obligation under the cited standard. Indeed, we find that a reasonably prudent employer familiar with AUS's situation would have assessed whether any hazards that might have arisen from the onsite work activities, including those of GC, could impact its divers. Specifically, the term "hazards" as used in § 1910.421(d)(2) encompasses not only those hazards directly related to AUS's own industry, but also those created by fellow employers on the jobsite to which AUS divers may be exposed. The standard does not limit which surface and underwater hazards should be assessed in an employer's dive plan—in fact, it expressly requires that "diving operations shall be *coordinated with other activities in the vicinity* which are likely to interfere with the diving operation." 29 C.F.R. § 1910.421(e) (emphasis added). Even the preamble to § 1910.421 recognizes that "[e]xamples of surface and underwater conditions which may appropriately be evaluated include not only natural conditions . . . but *surface conditions . . .* ; they also include *underwater hazards such as mechanical devices in the vicinity of the dive . . . .*" 42 Fed. Reg. 37659 (July 22, 1977) (emphasis added). And such a requirement is consistent with Commission precedent requiring an employer to detect and assess the hazards to which its employees may be exposed, even those it did not create. *See Pressure Concrete*, 15 BNA OSHC at 2016, 1991-93 CCH OSHD at p. 40,811 (determining it was employer's responsibility to inquire about and examine worksite for potential hazards rather than city's responsibility to inform employer of potential hazards); *Grossman Steel & Alum. Corp.*, 4

BNA OSHC 1185, 1189, 1975-76 CCH OSHD ¶ 20,691, p. 24,791 (No. 12775, 1975) (finding that an employer should take reasonable steps to (1) detect hazards created by other employers but to which its employees are exposed, and (2) protect its employees from those hazards); *see also W.G. Fairfield*, 19 BNA OSHC at 1236, 2000 CCH OSHD at p. 48,865 (finding that employers must assess hazards related to the environment in which they are operating). Under these circumstances, we find that AUS was required to determine and assess how GC's pile-driving activities could affect AUS's divers.

Given this obligation, a reasonably prudent employer familiar with AUS's situation would have considered not only the commercial diving industry, but also the construction industry, in determining what hazards to assess. By limiting his inquiry to the commercial diving industry, the judge overlooked the fact that AUS was assisting GC with work that plainly falls within the definition of construction. Construction work is defined as work "for construction, alteration, and/or repair, including painting and decorating." 29 C.F.R. § 1926.32(g). And it is undisputed that GC was driving pilings into the seabed to create the foundation for a new oil containment boom. *See United Geophysical Corp.*, 9 BNA OSHC 2117, 2121, 1981 CCH OSHD ¶ 25,579, pp. 31,905-06 (No. 78-6265, 1981) (stating that construction work involves the erection, modification, or repair of a building or structure). AUS's own expert acknowledged that driving a piling underwater is no different from driving a piling above ground. And the preamble to the commercial diving standard specifically recognizes that "[m]any divers are subjected to the dangers commonly associated with . . . construction work." 42 Fed. Reg. 37651 (July 22, 1977). Under these circumstances, we find that AUS was obligated to assess the construction-related dangers to which its employees may be exposed while assisting GC with the pile-driving operation.[5]

Finally, we find that had a reasonably prudent employer familiar with AUS's situation conducted the requisite assessment, it would have recognized the possibility that a piling could fall during the pile-driving operation and pose a hazard to its employees. Information about this

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[5] AUS seeks to discredit testimony from the Secretary's witnesses about the construction-related hazards of pile-driving. It claims that their testimony is irrelevant because two of the witnesses lacked specific expertise in commercial diving and the third witness lacked experience with vibratory hammers. Based on our finding that GC's pile-driving operation was a construction activity, we view the witnesses' testimony as relevant to our inquiry.

hazard was readily available to AUS through GC's written safety program, which recognized the possibility of a falling piling:

> Pile driving has the inherent risk of parts, equipment, concrete, and material falling from the pile while lofting or driving. . . . . *During pile driving operations all employees and others not involved with the activity should be kept well clear of the fall radius and immediate work area*. . . . . Piling can break, rigging and crane booms can fail and fall . . . .
>
> . . . .
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> A secondary sling, independent of the vibrator with a capacity exceeding the maximum anticipated load must be in place *in the event the piling pulls free of the vibrator jaws* during extraction, placing or lofting.

Indeed, the operating manual for the vibratory hammer also identified this hazard, cautioning, "[a]lways attach safety line to pile when extracting or hoisting into position."[6] And a warning sign on the vibratory hammer—which AUS's dive supervisor admitted observing at the worksite and AUS's expert acknowledged should have prompted AUS to address the hazard—read: "Danger! Falling piles can cause serious injury or death. Do not use [vibratory hammer] as a pile lifting device." In these circumstances, we find the record establishes that the danger posed by a falling piling was a recognized hazard that AUS should have discovered and assessed to satisfy the requirements of the cited standard.[7] *See Siemens Energy & Automation Inc.*, 20 BNA OSHC 2196, 2199, 2004-09 CCH OSHD ¶ 32,880, pp. 53,229-30 (No. 00-1052, 2005) (considering, among other evidence, manufacturer's manual and other publications to determine compliance with performance-oriented standard); *Young Sales Corp.*, 7 BNA OSHC 1297, 1298,

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[6] Similarly, the operating manual of another manufacturer of vibratory hammers, introduced into evidence at the hearing, states, "Do not stand any closer to this equipment than necessary when it is in operation. Parts may loosen and fall. Piling may shatter or break. Always attach a safety line to the pile when extracting or hoisting into position."

[7] We also note that AUS could have obtained information about the hazard of a falling piling by speaking with individuals familiar with pile-driving, such as the crew performing that work for GC. In fact, it had an opportunity—which it did not take—to question GC's superintendent about possible risks when he told AUS's dive supervisor before the fatal dive that a wire cable must be attached to the piling because GC's parent company was concerned with "losing the pile." In addition, three witnesses, one of whom was qualified as an expert, with extensive construction experience and knowledge of hydraulic systems testified for the Secretary at the hearing, and their testimony reflects that (1) working near suspended pilings is inherently dangerous, (2) OSHA requires protections from falling pilings during pile-driving, 29 C.F.R. § 1926.603(c)(2)—a requirement consistent with industry consensus standards, and (3) a failure of the vibratory hammer's hydraulic system could cause a piling to fall.

1979 CCH OSHD ¶ 23,768, pp. 28,821-22 (No. 8184, 1979) (holding that manufacturer warnings establish that a hazard is recognized).

In sum, we find that AUS did not take the steps a reasonably prudent employer in its situation would have taken to discover the hazards it needed to assess, specifically those related to a falling piling. Because AUS did not assess these hazards, we conclude that it failed to comply with § 1910.421(d)(2) and affirm the citation.

II. Characterization and Penalty

The parties do not challenge the Secretary's characterization of the violation as serious. As we have found, AUS failed to address the hazard of a falling piling in its pre-dive assessment, and its divers were allowed to remain next to the piling while the vibratory hammer was activated. As is evident from the accident here, if the 8,600-pound piling detached from the hammer's jaws, it would likely fall on a diver and cause death or serious physical harm. *See J.A. Jones*, 15 BNA OSHC 2201, 2208, 1991-93 CCH OSHD ¶ 29,964, p. 41,027 (No. 87-2059, 1993) (finding violation of instruction standard serious where measures required are necessary to protect against serious or life-threatening hazards); 29 U.S.C. § 666(k) (defining serious violation as one in which "there is a substantial probability that death or serious physical harm could result"). Accordingly, we affirm the violation as serious.

The Secretary proposed a penalty of $2,500. When assessing a penalty under section 17(j) of the OSH Act, 29 U.S.C. § 666(j), the Commission must give "due consideration to the appropriateness of the penalty with respect to the size of the business of the employer being charged, the gravity of the violation, the good faith of the employer, and the history of the previous violations." The principal factor in a penalty determination is gravity, which "is based on the number of employees exposed, duration of exposure, likelihood of injury, and precautions taken against injury." *Siemens*, 20 BNA OSHC at 2201, 2004-09 CCH OSHD at p. 53,231.

On review, AUS does not dispute the penalty amount proposed by the Secretary. We find that this amount is appropriate in light of the section 17(j) penalty factors. Under the circumstances here, we consider the gravity of the violation to be high. Based on the record, we further find that reductions for size and lack of prior history are appropriate but see no basis for a reduction based on good faith. Accordingly, we assess a penalty of $2,500.

ORDER

We affirm Citation 1, Item 1, as serious and assess a penalty of $2,500.

SO ORDERED.

/s/
Thomasina V. Rogers
Chairman

/s/
Cynthia L. Attwood
Commissioner

Dated: February 28, 2012

UNITED STATES OF AMERICA
OCCUPATIONAL SAFETY AND HEALTH REVIEW COMMISSION

Secretary of Labor, Complainant, v. Associated Underwater Services, Respondent, Piledrivers Local Union 2396, Authorized Employee Representative.	OSHRC DOCKET NO. 07-1851

Appearances:

Patricia Drummond, Esq., Office of the Solicitor, U.S. Department of Labor, Seattle, Washington
For Complainant

Erica Krikorian, Esq., Janis Puracal, Esq., Bullivant, Houser, Bailey, P.C., Seattle, Washington
For Respondent

Leiter Hockett, Senior Representative, Kent, Washington
For Piledrivers Local Union #2396

Before: Administrative Law Judge Sidney J. Goldstein

DECISION AND ORDER

Procedural History

This proceeding is before the Occupational Safety and Health Review Commission ("the Commission") pursuant to Section 10(c) of the Occupational Safety and Health Act of 1970, 29 U.S.C. §651 *et seq.* ("the Act"). The Occupational Safety and Health Administration ("OSHA") conducted an inspection of an Associated Underwater Services, Inc. ("Respondent") worksite at Cherry Point, Washington between August 8, 2007 and October 10, 2007. As a result of the inspection, OSHA issued a *Citation and Notification of Penalty* to Respondent alleging three violations of the Act. Citation 1 Item 1 alleged a serious violation of 29 C.F.R. §1910.421(d)(2). Citation 1 Item 2 alleged a serious violation of 29 C.F.R. §1926.550(a)(19). Citation 2 Item 1 alleged an other than serious violation of 29 C.F.R. §1910.1200(f)(5). Citation 1 Item 2 and

Citation 2 Item 1 were settled by the parties prior to trial. Therefore, only Citation 1 Item 1 remained in dispute at the time of hearing. The Secretary proposed a penalty of $2,500 for Citation 1 Item 1. Respondent timely contested the citation and an administrative trial was held on April 27-28, 2009 in Seattle, Washington. The Pile Drivers Local Union #2396 elected party status and participated during the hearing. (Tr. 5, 56).

Approximately two weeks before trial, the court received *Motions in Limine of Respondent* and *Complainant's Opposition to Respondent's Motions in Limine*. In response to the motions, the Secretary stipulated that she was not alleging that Respondent violated Section 5(a)(1) of the Act in this case. Therefore, the court granted Respondent's request that any evidence and argument in support of a Section 5(a)(1) violation be excluded. Respondent's other requests for relief were stayed pending the production of evidence at the hearing and are hereby DENIED to the extent such requested findings of fact are inconsistent with this decision.

Each party submitted a timely post-trial brief. Therefore, this case is ready for disposition.

Jurisdiction

Jurisdiction of this action is conferred upon the Occupational Safety and Health Review Commission pursuant to Section 10(c) of the Act. The record establishes that at all times relevant to this action, Respondent was an employer engaged in a business affecting interstate commerce within the meaning of Section 3(5) of the Act, 29 U.S.C. §652(5). (*Complaint* and *Answer*).

Factual Findings

This inspection resulted from a fatality accident which occurred on August 7, 2007, in which commercial diver Christopher Primeau was killed while working approximately 140 feet underwater in Cherry Point, Washington. (Tr. 24, 122, 159, 258). Respondent, a commercial diving company, was subcontracting with British Petroleum ("BP") to provide underwater diving

support for the installation of metal pilings. (Tr. 24). The pilings were going to serve as underwater structural support for an oil containment boom being installed in an area where oil tankers off-load to refineries. (Tr. 24-25).

General Construction, another BP subcontractor at the jobsite, was responsible for positioning and driving the pilings into the ocean floor. (Tr. 25, 283). Respondent's job was to observe the driving of the pilings into the ocean floor, through the use of underwater divers, to ensure they were being driven correctly. (Tr. 25). Respondent had no direct contractual relationship with General Construction on this jobsite. (Tr. 283). Each piling weighed approximately 8,000 pounds and measured 22 feet long. (Ex. 10).

At the beginning of this project, Respondent's dive crew participated in a large, multi-employer safety meeting which included General Construction employees, tugboat operators, and others, in which the entire project was "walked through." (Tr. 526). Included in that multi-party safety meeting was a discussion of General Construction's responsibilities and the specific manner in which Respondent's dive crew would be involved. (Tr. 526). In addition, Respondent conducted a daily, step-by-step, pre-dive discussion with its dive crew during "toolbox" meetings on this job. (Tr. 270-278). These daily pre-dive discussions included anticipated hazards and methods to address them. *Id*. The details of these daily dive crew meetings are extensively described by Kerry Donohue, Respondent's Vice President and Dive Supervisor, over the course of eight pages of trial transcript. *Id.* The pre-dive meeting on the day of the fatal accident was even more comprehensive than usual because Respondent had a new diver present on the dive crew. (Tr. 287).

Mr. Donohue has been involved in commercial diving operations for thirty years and has extensive experience. (Tr. 239-250). Just to become a certified commercial diver requires 400-500 hours of academic and diving training, including such things as basic diving operations, decompression tables, chamber operations, and practical welding and burning skills. (Tr. 260).

Even then, a certified commercial diver would start at the lowest entry level. The Association of Diving Contractors International ("ADCI") recognizes three levels of divers: (1) air divers (first level), (2) mixed-gas divers (second level), and (3) saturation divers (highest level). (Tr. 261-262). In saturation diving experience alone, the most complicated and dangerous type of commercial diving, Mr. Donohue personally has more than a year of actual submerged time. (Tr. 242, 250).

In addition to the multi-party pre-dive safety meeting and daily dive team meetings, Respondent had prepared a written "Work & Dive Operations Plan" for this specific dive which included, among other things, an "Activity Hazards Analysis." (Tr. 397; Ex. 5). In this written, pre-dive document, Respondent identified "rigging failure" as a possible hazard on this particular dive project, and listed multiple recommended controls for addressing that hazard. They included: (1) use only approved rigging in good condition, (2) use proper rigging techniques, (3) ensure all equipment is secured to deck for transport, (4) personnel instructed in the hazards associated with working around cranes, (5) all hands stand clear of equipment and other items on crane hook, and (6) tag lines to be used to control loads on hook. (Ex. 5, p. 130).

The pilings being installed were driven one at a time into the sea floor, during "slack tides" when there was not a lot of water movement and it was safer for the divers. (Tr. 29, 38). Respondent's employees were not involved in any way with General Construction's lifting of the pilings off the barge and lowering them down to the ocean floor. (Tr. 363). In fact, Respondent's dive crew did not typically arrive on site each day until after General Construction's crew was prepared to drive the pilings because the Respondent's hourly costs to BP were higher than the General Construction crew. (Tr. 284-285).

Respondent's divers did not enter the water until the piling had already been lowered into position approximately one foot off the sea floor. (Tr. 38-39). Respondent's practice was to have the diver enter the water and follow the hydraulic control lines from the surface down to the

location of the piling. (Tr. 29). Once the diver was on the bottom, he checked the sea floor for any obstructions that might interfere with the driving of the piling, then backed away approximately 3-4 feet, and instructed the Dive Supervisor to tell the General Construction crew to activate the hammer which drives the pilings. (Tr. 30).

Respondent's divers' primary responsibilities on this jobsite were to: (1) monitor the underwater pile-driving for any problems during the driving process, and (2) command an "all stop" if a problem developed. (Tr. 320-321). To perform these duties, divers had to remain within a few feet of the piling while it was being slowly driven since visibility at that depth was only 3-4 feet. (Tr. 320-321). There was a wired telephone communication system between the underwater diver and the Dive Supervisor on the barge. (Tr. 31). Communications between the diver and the Dive Supervisor were repeated to ensure no miscommunication occurred. (Tr. 30). There was also a video camera attached to the diver's helmet, which transmitted a visual image to the Dive Supervisor during the course of the dive. (Tr. 31; Exs. 3, 7).

At the time of the accident, four pilings had already been successfully driven into the sea floor over the course of the previous two days. (Tr. 45). Three different divers had been in the water monitoring the pile-driving up until the time of the accident: Chris Primeau (deceased), Kirk Neumann, and Marty Edwards. (Tr. 67). The previous four pilings had been driven into the sea floor using an impact hammer. (Tr. 51). On the day of the accident, the General Construction crew changed to a vibratory hammer to drive the pilings into the sea floor. (Tr. 51). An impact hammer drives pilings through repeated downward blows, whereas a vibratory hammer causes the piling to vibrate (25 vibrations per second) while downward pressure causes it to work itself into the sea floor. (Tr. 51, 155). The parties agreed that vibratory hammers are designed to "fail closed," that is, hammer jaws are interlocked so they will not inadvertently open while the vibration feature is engaged. (Tr. 217, 504). The hammers were secured, and lowered, by a crane positioned on a barge at the surface of the water. (Tr. 290-291; Ex. 1).

On the day of the accident, General Construction attached (for the first time) a wire cable to the piling as it was lifted off the barge and lowered into position in the water. (Tr. 32, 39, 52, 293-294; Ex. 1). On the previous dives, the pilings were positioned while being held only by the grip of the hammer. (Tr. 52). However, the record establishes that Respondent did not have a diver in the water during the movement of the pilings from the barge into the water at any time on this project.

After he entered the water and descended the 140 feet to the bottom, diver Chris Primeau removed the wire cable from the piling and told Dive Supervisor Donohue that the General Construction crew could activate the vibratory hammer. (Tr. 293-294). Almost immediately after the hammer was started, Mr. Primeau repeatedly ordered "all stop" to the surface. (Tr. 40; Ex. 3). The video feed from Mr. Primeau's dive helmet terminated a few seconds later and the dive team could not get a response from Mr. Primeau on the telecommunications system. (Tr. 40; Ex. 3). It was later discovered that the piling had come loose from the grip of the vibratory hammer and fallen over onto Mr. Primeau. (Tr. 307). Prior to the "all stop" commands, Mr. Primeau never said or did anything to indicate any type of problem during the dive. (Tr. 297).

OSHA Compliance Safety and Health Officer Michael Bonkowski conducted the accident investigation. (Tr. 24). Prior to this investigation, he had never inspected any commercial diving pile-driving projects, or any type of worksite using a vibratory hammer to drive pilings. (Tr. 69-72). His only experience with underwater diving came from recreational scuba diving 40 years ago and a three-day community college course on scuba diving 15 years ago. (Tr. 72).

Dale Cavanaugh, OSHA Assistant Regional Administrator, assisted CSHO Bonkowski with the investigation. (Tr. 133). Prior to this inspection, he had never investigated a commercial diving accident or an underwater pile-driving project. (Tr. 192). His only experience with underwater diving was a two-day "familiarization" course and a certification for recreational

scuba diving. (Tr. 132). ARA Cavanaugh never looked at any of Respondent's equipment or interviewed any of Respondent's employees. (Tr. 195). His primary role in the investigation was to observe post-accident testing of the vibratory hammer and piling involved in the accident. As a result of those tests, he learned that the maximum opening for the vibratory hammer jaw was 1.17 inches. (Tr. 142). The width of the pad-eye connection on the piling, onto which the vibratory hammer jaws clamped down, was 1.25 inches. (Tr. 142). Therefore, the vibratory hammer jaw opening was .08 inches too small to fit around the piling connection. The parties agree that this caused the piling to come loose from the hammer while Mr. Primeau was in the water. (Tr. 85, 198).

The citation at issue in this case alleges that Respondent failed to conduct an adequate pre-dive hazard assessment, exposing their divers to the hazard of falling pilings. (Tr. 60, 64). OSHA acknowledged that Respondent did assess certain hazards, but omitted any assessment of hazards associated with diving near crane and pile-driving operations. (Tr. 63-64). CSHO Bonkowski also maintains that implicit in the assessment requirement is the "basic duty" to take specific action to protect employees from the hazards assessed. (Tr. 65). OSHA maintains that having divers observing the pile-driving process within a few feet of the piling, with no safety line between the crane and the piling, proves that Respondent's hazard assessment was deficient. (Tr. 165). OSHA acknowledged that the cited standard, 29 C.F.R. §1910.421(d)(2), is a performance-based standard, which affords employers some discretion in assessing and addressing hazards. (Tr. 506-507).

OSHA points to several other facts in support of its position:

(1) There was a warning sign on the vibratory hammer which stated: "Danger. Falling piles can cause serious injury or death. Do not use vibro as a pile lifting device." (Tr. 156, 338, 362; Ex. 12). Although OSHA placed significant focus on this warning sign during trial, they described it only as "fairly visible" in their post-trial brief. (Secretary's Brief, p.25). The

Secretary also acknowledges that the hazard of a falling piling "is not the general type of diving issue that is common to all diving." (Secretary's Brief, p.27). However, the court notes that Respondent's divers did not enter the water until the piling was lifted off the barge and lowered 140 feet into position on the sea floor. Therefore, any improper lifting and maneuvering of the piling was done before Respondent's employees began to perform their duties.

(2) General Constructions safety manual identifies the possibility that pilings can fall. (Tr. 66-67; Ex. 9). OSHA also points to American Pile-Driving Equipment, Inc.'s Operations Manual which states: "[a]lways attach safety line to pile when extracting or hoisting into position." (Ex. 4, p.18). OSHA offered these third-party documents as evidence of industry practice requiring the use of safety lines between the piling and the crane. OSHA maintains that Respondent should have addressed and abated the hazard of falling pilings by either securing a safety line to the pilings until they were driven deep enough to stand on their own or by not having divers in the water during the pile-driving. (Tr. 66, 105, 490). However, there was no evidence that Respondent had knowledge of the contents of General Construction's or American Pile-Driving Equipment's manuals. Respondent also pointed out that CSHO Bonkowski did not reference the failure to use a safety line anywhere in his investigation file. (Tr. 111). Lastly, OSHA ARA Cavanaugh could not identify any ADCI consensus standard which mandated the use of a safety line to protect a diver from the possibility of a piling coming loose from a hammer during a dive. (Tr. 197).

(3) Respondent's own dive manual identifies rigging failure as a possible hazard and advises personnel to stay clear of suspended loads. (Tr. 166, Ex. 5). However, the allegation in this case is that Respondent failed to assess the hazards associated with pilings becoming detached from vibratory hammers secured to cranes. The referenced portion of Respondent's dive manual was prepared specifically for this job and is entitled "Activity Hazard Analysis." (Ex. 5, p. 130). This seems to support the proposition that hazards associated with equipment

lifted and positioned by crane were in fact assessed before the dive. In addition, CSHO Bonkowski acknowledged that there is no OSHA regulation which specifically prohibits a diver from standing next to a piling while it is being driven underwater. (Tr. 112). However, he believes 1910.421(d)(2) can be interpreted as prohibiting such a practice. (Tr. 118).

(4) OSHA alleged that Respondent observed General Construction employees having trouble securing the hammer to the pad-eye on the piling. (Tr. 59). CSHO Bonkowski testified that they had to "beat it on every time," indicating that something was obviously wrong with connection between the hammer and the piling. (Tr. 59). However, the Secretary presented no evidence establishing that Respondent's employees were aware of any such "beating" of the hammer onto the piling. In fact, based on this record, the court finds there was no basis upon which Respondent should have suspected that General Construction would use a vibratory hammer that was .08 inches too small for the pad-eye connection on the piling. (Tr. 278, 314).

Although OSHA recognizes that ADCI consensus standards represent the best practices for commercial diving operations, CSHO Bonkowski did not reference them prior to issuing the citation items in this case. (Tr. 81-82). CSHO Bonkowski also acknowledges that a dive plan, including the hazard assessment, does not have to be written to comply with OSHA regulations. (Tr. 82). Finally, CSHO Bonkowski testified that OSHA's commercial diving regulations do not specifically impose a duty on commercial diving employers to inspect the equipment of other contractors on a site. (Tr. 99). OSHA conceded that Respondent did not have a duty to inspect General Construction's crane equipment unless Respondent saw something "that looked hazardous." (Tr. 205).

Each party offered expert testimony in support of their respective positions. Complainant's expert, Stephen Butler, and Respondent's expert, Jon Hazelbaker, were both accepted as experts on the subject of best practices in commercial diving operations. Mr. Hazelbaker has been engaged in commercial diving, both as a commercial diver and consultant,

for 41 years. (Tr. 410-416). He actually served on the ADCI Board of Directors in the 1990's and still performs consultative work for the organization. (Tr. 419). He is the only testifying expert witness with personal commercial diving experience involving underwater pile-driving with a vibratory hammer. (Tr. 417). As a result, the court gives greater weight to Mr. Hazelbaker's testimony on best practices for this particular kind of project.

Mr. Hazelbaker testified that, after reviewing the pre-dive actions of Respondent in this case, he believes Respondent complied with professional diving standards and §1910.421(d)(2). (Tr. 422). He also testified that in his forty years of commercial diving experience, he has never seen or heard (other than the present case) of a vibratory hammer failing and releasing a piling from its grip, or of a safety line being attached from a piling to a hammer while it was being driven underwater. (Tr. 426, 433). He further testified that if he was performing this dive himself, he would have been positioned in the same location as the deceased diver. (Tr. 428). Even Stephen Butler, who is Director of Maritime Enforcement for OSHA, testified that a diver could be positioned next to the piling while it was being driven once it was partially imbedded in the sea floor. (Tr. 467-468, 490).

The court notes that actual pile-driving process is relatively slow. As depicted in video footage, it takes approximately six minutes to drive a 22-foot piling into the sea floor with a vibratory hammer. (Ex. 7). With regard to the sign warning against using the hammer as a lifting device, Mr. Butler testified that all Respondent should have done with regard to this issue was "do a little research, find out a little bit more about it, and then discuss it, you know, with the controlling employer in this case, General Construction, until they get a satisfactory answer relative to that particular piece of equipment." (Tr. 492). Mr. Butler also testified, with regard to Respondent's own procedures and equipment, that he found no problems: "...quite honestly, I haven't found any major disagreements with that part of just running the dive. I think the company has done an incredible thing. I have said so before in the deposition. I think their safe

practices manual, what they have, is adequate." (Tr. 488). Mr. Butler maintained that Respondent had not done enough to address the hazards presented by the equipment of the other subcontractor on site: General Construction. (Tr. 488-489).

The Secretary maintains that the violation was properly characterized as serious because a falling piling could, and did in this case, result in serious physical harm or death. (Tr. 67).

Discussion

To establish a *prima facie* violation of the Act, the Secretary must prove: (1) the standard applies to the cited condition; (2) the terms of the standard were violated; (3) one or more of the employees had access to the cited condition; and (4) the employer knew, or with the exercise of reasonable diligence could have known, of the violative condition. *Ormet Corporation*, 14 BNA OSHC 2134, 1991 CCH OSHD ¶29,254 (No. 85-0531, 1991).

Citation 1 Item 1

The Secretary alleged in Citation 1 Item 1 that:

> *29 C.F.R. §1910.421(d)(2): Planning of a diving operation did not include an assessment of the safety and health aspects of surface and underwater conditions: (a) At Cherry Point the dive plan did not address hazards resulting from surface and underwater conditions for dives greater than 100 fsw and working around a suspended vibratory hammer clamped to a piling.*

The cited standard provides:

> *29 C.F.R. §1910.421(d) Planning and assessment. Planning of a diving operation shall include an assessment of the safety and health aspects of the following:*
>
> *...(2) Surface and underwater conditions and hazards;*

Respondent concedes that the cited standard applies. (Respondent's Brief, p. 24). With

regard to whether the terms of the standard were violated, the Secretary does not dispute that Respondent conducted a hazard assessment. Rather, she argues that Respondent's hazard assessment was unreasonably deficient in that it did not consider the possibility of falling pilings.

It is undisputed that the cited standard is a performance standard, which differs from a specific standard in that employers are afforded broader discretion by OSHA to identify hazards which are peculiar to their own workplace and determine the steps necessary to abate them. *Secretary's Brief*, p. 52; *OSHRC v. Thomas Industrial Coatings, Inc*., 21 BNA OSHC 2283, 2008 CCH OSHD ¶32,937 (No. 97-1073, 2007). Since performance standards do not identify specific obligations, compliance is evaluated on the basis of reasonableness. *Id*. Broadly worded standards, such as the one here, typically require a showing that a reasonable person familiar with the situation would recognize a hazardous condition which should have been addressed. *Farrens Tree Surgeons, Inc*., 15 BNA OSHC 1793, 1992 CCH OSHD ¶29,770 (No. 90-998, 1992). "If the language of the regulation is not specific enough, however, other sources may provide constructive notice: industry custom and practice; the injury rate for that particular type of [ ] work; the obviousness of the hazard; and the interpretations of the regulation by the Commission." *Corbesco, Inc*., 926 F.2d 422 (5th Cir. 1991).

There was significant testimony and evidence presented at trial concerning the events during actual dives and the unfortunate fatality accident. However, this court finds that such information is only minimally relevant to the issue at hand: What steps did Respondent take ***before*** their divers entered the water to assess anticipated hazards?

"Commercial diving involves exposure to a high degree of risk. The diver's work environment is inherently dangerous." 42 F.R. 37,651. Therefore, it is imperative that commercial diving employers implement precise and comprehensive procedures to protect their divers from recognized hazards. In this instance, the record clearly reveals significant and repeated steps taken by Respondent, both verbally and in writing, to address hazards they

anticipated on this project. Respondent participated in a large pre-dive safety meeting involving all subcontractors, conducted daily meetings covering step-by-step procedures and hazards anticipated in each dive, and included a written hazard analysis in their dive plan which addressed working near suspended loads and cranes.

The third party procedure manuals of General Construction and American Pile-Driving Equipment, Inc., which discuss the hazard of falling pilings, do not specifically apply to underwater pile-driving. They also address the hazard of falling pilings while the pilings are being maneuvered into position. Since Respondent's divers did not enter the water until the pilings were positioned one foot off the sea floor, any improper lifting or moving of pilings occurred before the divers' work began.

Additionally, the court finds that the Secretary failed to establish that other commercial diving employers would have conducted their pre-dive hazard assessment any differently than Respondent in this situation. Alleged violations of broadly worded standards can be vacated when the Secretary fails to establish that an employer failed to comport with industry practice. *Brooks Well Servicing*, 20 BNA OSHC 1286, 2002 CCH OSHD ¶32,675 (No. 99-0849, 2003). The court finds, based on this record, that it was unforeseeable by Respondent that after four previous successful dives monitoring this sea floor pile-driving process, that General Construction would then use a vibratory hammer with a piling connection *eight-one-hundredths-of-an-inch* too small to fit onto the piling, causing it to come loose in the water.

The Secretary failed to establish, by a preponderance of the evidence, that Respondent's pre-dive hazard assessment as required by 29 C.F.R. §1910.421(d)(2), was inadequate.

Affirmative Defenses

Since the Secretary failed to establish a *prima facie* violation of the Act, Respondent's affirmative defenses will not be addressed.

ORDER

Based upon the foregoing Findings of Fact and Conclusions of Law, it is ORDERED that Citation 1 Item 1 is VACATED.

/s/_____
SIDNEY J. GOLDSTEIN
Judge, OSHRC

Date: December 4, 2009
Denver, Colorado