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. ACME ENERGY SERVICES dba BIG DOG DRILLING, and its successors, Respondent.	OSHRC Docket No. 08-0088

ON BRIEFS:

Lee Grabel, Attorney; Charles F. James, 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

Steven R. McCown, Esq.; Malone M. Lankford, Esq.; Littler Mendelson, Dallas, TX
For the Respondent

DECISION

Before: ROGERS, Chairman; ATTWOOD, Commissioner.

BY THE COMMISSION:

On July 27, 2007, part of the mast of an oil drilling rig owned and operated by ACME Energy Services dba Big Dog Drilling ("Big Dog") fell, and a Big Dog employee was fatally injured. The accident occurred at a Big Dog oil field worksite in Stanton, Texas, when employees were extending the upper section of the mast during what is known as the "rig-up" process. After an inspection by the Occupational Safety and Health Administration ("OSHA"), the Secretary issued Big Dog a citation alleging a serious violation of the Occupational Safety and Health Act of 1970 ("the Act"), 29 U.S.C. §§ 651-678, under the "general duty clause,"

29 U.S.C. § 654(a)(1),[1] on the grounds that "employees were exposed to [a] 'struck-by' hazard[] on the drill floor during 'rig-up' operations on a telescoping drilling rig." The citation, as amended, asserts that Big Dog could feasibly abate the hazard by implementing the following practice: "Only personnel required to carry out the operation shall be allowed in or under the mast unless it is in the fully raised or lowered position. No one other than the operator should be allowed on the carrier platform . . . or under the mast until well servicing units are fully scoped, raised, or lowered." The Secretary proposed a penalty of $7,000 for the alleged violation.

Administrative Law Judge Dennis L. Phillips vacated the citation, concluding that the Secretary failed to establish that (1) either Big Dog or its industry recognized the hazard, and (2) the proposed means of abatement could feasibly eliminate or materially reduce the hazard. For the following reasons, we reverse the judge's decision, affirm the serious citation, and assess a $7,000 penalty.

BACKGROUND

The drilling rig at issue here, "Rig No. 3," has a mast that was transported in a horizontal position to the drilling site on a vehicle called a "carrier." Once at the site, the carrier was backed up to a structure, the top of which is known as the "rig floor." The rig floor was approximately 18-20 feet long by 15-18 feet wide and accessed from the ground by stairways. The crew began the rig-up process by pivoting the mast up to a vertical position and pinning the base of the mast to the rig floor. The next step of the rig-up process—"scoping" or "scoping up"—required the operators to telescope the upper section of the mast up from its nested position within the mast's lower section, using a hydraulic ram located within the mast itself. Fully scoped, the mast reached 104 feet in height and tilted at an angle of three degrees so that the top or "crown" of the mast was directly over the "rotary table." The portion of the rig floor that contained the rotary table was close to the base of the mast, and the "racking board"—where the deceased employee was assigned to work at the time of the accident—was farther away.

---

[1] The general duty clause requires that each employer "furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees . . . ." 29 U.S.C. § 654(a)(1).

The Big Dog crew for the rig-up operation at issue here consisted of seven employees: two supervisors who also served as operators, Bobby Ruth and Mark Steele (referred to as "tool pushers"); the deceased employee who was assigned to work as a driller; two "rig hands" who stood on the ground toward the back side of the drilling rig, and two welders who were in an enclosure next to the rig floor called the "dog house." When scoping the mast, both tool pushers stood at the controls located on the sides of the rig by the mast base—Ruth operated the scoping controls, while Steele operated the controls for the brakes. From the racking board, the driller was to observe the moving parts of the mast, including cables that are part of the mast's pulley system, and communicate with the tool pushers as they performed the scoping operation.

The day before the accident, the crew raised the mast to the vertical position and scoped it up to its full 104-foot height. The next day, the crew lowered the upper section of the mast to add more counterweights to the mast's pulley system. In addition to the counterweights, the pulley system was comprised of numerous cables and a pulley block, which measured at least six feet long and weighed over five tons. The block was suspended by cables from the scoped mast's crown and hung approximately six feet above the rig floor. After adding the counterweights, the crew began to again scope up the upper section of the mast when the hydraulic ram failed, buckling and falling onto the rig floor along with the pulley block and other suspended equipment. The collapsed ram extended past the racking board and beyond the end of the rig floor. The driller was struck and killed.

In the year before this accident, two incidents occurred on Rig No. 3 while a driller stood on the rig floor. The first occurred when the hydraulic ram failed because a piece of iron it was bolted to at its bottom end had corroded and weakened. No one was injured, but the ram collapsed and, as Ruth described, "curled up on the floor." The second occurred when an operator attempted to "pull" too much weight, causing structural damage to the mast, but nothing fell. After the first incident, Big Dog hired Crown Energy ("Crown") to repair the mast, but after the second incident, Crown replaced the entire mast, including the ram.

DISCUSSION

To prove a violation of the general duty clause, "the Secretary must show that a condition or activity in the workplace presented a hazard, that the employer or its industry recognized this hazard, that the hazard was likely to cause death or serious physical harm, and that a feasible and

effective means existed to eliminate or materially reduce the hazard." *Arcadian Corp.*, 20 BNA OSHC 2001, 2007, 2004-2009 CCH OSHD ¶ 32,756, p. 52,074 (No. 93-0628, 2004).

On review, the Secretary contends that the judge erred in finding she did not establish that (1) Big Dog and its industry recognized the struck-by hazard of falling equipment, and (2) positioning the driller on the ground during scoping up is a feasible abatement method. Big Dog maintains that neither it nor its industry recognizes the cited hazard and that positioning the driller on the ground is infeasible and would not materially reduce the hazard. For the following reasons, we find that the Secretary has established industry recognition and a feasible means of abatement.[2]

I. Industry recognition

The Secretary's expert witness, Ronald Britton, testified that based on his experience in the oil drilling industry, the industry recognizes that when scoping up a rig's mast, a struck-by hazard exists throughout the rig floor. However, the judge found that Britton's opinion was "unsupported" and "undermined" by various industry manuals that Britton referenced and by a video showing Crown, the company that manufactured and refurbished Rig No. 3, scoping up the rig's mast with an employee standing on the rig floor. On review, the Secretary argues that the judge erroneously disregarded Britton's decades-long experience in the industry while misconstruing the manuals and video.[3] We agree.

---

[2] Because we find that the record evidence establishes industry recognition, we need not reach the issue of whether Big Dog itself recognized the struck-by hazard. *See Kokosing Constr. Co.*, 17 BNA OSHC 1869, 1873, 1995-1997 CCH OSHD ¶ 31,207, p. 43,725 (No. 92-2596, 1996) ("Hazard recognition may be shown by *either* the actual knowledge of the employer *or* the standard of knowledge in the employer's industry . . . ." (emphasis added)); *cf. Coleco Indus., Inc.*, 14 BNA OSHC 1961, 1964, 1991-1993 CCH OSHD ¶ 29,200, p. 39,071 (No. 84-546, 1991) (noting that because Commission found that Secretary established employer recognition, it need not address whether she established industry recognition).

[3] The Commission's briefing notice raised two threshold issues to this inquiry: whether the judge found Britton's testimony unreliable or irrelevant under the "gatekeeping" requirement of Federal Rule of Evidence 702 and, if so, whether the Commission should apply an abuse of discretion standard to review that finding. *See* Fed. R. Evid. 702 (2008) ("If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise, if (1) the testimony is based on sufficient facts or data, (2) the testimony is the product of reliable

Hazard recognition "may be shown by proof that 'a hazard . . . is recognized as such by . . . general understanding in the [employer's] industry.' " *Otis Elevator Co.*, 21 BNA OSHC 2204, 2207, 2004-2009 CCH OSHD ¶ 32,920, p. 53,546 (No. 03-1344, 2007) (quoting *Kokosing*, 17 BNA OSHC at 1873, 1995-1997 CCH OSHD at p. 43,725). It is "[t]he hazard, not the specific incident resulting in injury, [that] is the relevant consideration in determining the existence of a recognized hazard." *Kansas City Power & Light Co.*, 10 BNA OSHC 1417, 1422, 1982 CCH OSHD ¶ 25,957, p. 32,539 (No. 76-5255, 1982); *see Arcadian Corp.*, 20 BNA OSHC at 2008, 2004-2009 CCH OSHD at p. 52,079 (making same observation given that " '[t]he goal of the Act is to prevent the first accident' " (citation omitted)). Industry recognition may be shown through the knowledge or understanding of safety experts familiar with the workplace conditions or the hazard in question. *See Kelly Springfield Tire Co. v. Donovan*, 729 F.2d 317, 322 (5th Cir. 1984) ("The [industry] recognition standard centers on 'the common knowledge of safety experts who are familiar with the circumstances of the industry or activity in question.' " (citation omitted)); *Beverly Enters., Inc.*, 19 BNA OSHC 1161, 1187, 2000 CCH OSHD ¶ 32,227, p. 48,978 (No. 91-3344, 2000) (consolidated) (same).

Here, we find that Britton, a registered professional engineer in petroleum engineering with more than forty years in the oil drilling industry who the judge qualified as an expert, has extensive experience that is directly relevant to the issue of industry recognition, including: (1) working with "pretty much every" major drilling company (including Big Dog) as an

---

principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case."); *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579, 589 (1993) (federal district court judge must serve as "gatekeeper" to "ensure that any and all scientific testimony or evidence admitted is not only relevant, but reliable"); *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 149 (1999) (extending the court's gatekeeper function to all expert testimony). In determining the relevance and reliability of an expert's testimony for purposes of admissibility under Rule 702 and *Daubert*, a court's focus "must be solely on principles and methodology, not on the conclusions that they generate." *Daubert*, 509 U.S. at 595.

As to the first issue, we note that Big Dog never invoked Rule 702 or otherwise objected before the judge to Britton testifying as an expert. In addition, the judge never found—implicitly or explicitly—that Britton's testimony was inadmissible. Rather, he found that Britton's conclusions were outweighed by other evidence in the record, as discussed *infra*. Under these circumstances, we do not reach the second issue regarding the standard of review under Rule 702.

employee or consultant; (2) manufacturing, building, and operating his own drilling rigs; and (3) "scoping up . . . rigs just like" Rig No. 3. Britton has also served on the board of directors of the International Association of Drilling Contractors and, as a consultant, he advises numerous drilling companies on "troubleshooting" and the causes of oil rig failures.

Based on his training and experience, Britton's view is that "the [oil drilling] industry is well aware and recognizes that employees are exposed to struck-by hazards on the drill floor," including the area of the rig floor where the driller was assigned to work, "during rig-up operations on a telescoping rig." Britton stated that he would never allow someone to stand "in the area that [the driller] was at the time he was killed" during scoping because, with the mast towering over the relatively small area of the rig floor, "[t]here really isn't anywhere on the rig floor that he is not exposed." And Britton emphasized that his opinion is consistent with what the "leaders" in the oil drilling industry recognize as hazards and have adopted as safe practices, which he testified are reflected in the company manuals he referenced at the hearing.

The judge nevertheless found that the information contained in these manuals, and the practices depicted in the Crown video, were inconsistent with Britton's opinion. But the judge failed to consider the full scope of Britton's testimony—particularly his detailed explanation of the manuals' applicability and Crown's practices. Indeed, we find no inconsistency given Britton's testimony, which is based on his extensive industry experience, including an in-depth knowledge of the equipment at issue and familiarity with Crown and the various companies and organizations that produced these manuals. Specifically, the judge found many of the manuals inapplicable to Rig No. 3 simply because they referred to a hazard to employees on a "carrier" or "carrier platform" rather than a "rig floor."[4] But Britton testified that the manuals' recognition of a struck-by hazard on a carrier platform was *equally applicable* to a rig floor because a rig floor is the functional equivalent of a carrier platform. He explained that on a "service" or "servicing" rig, the working surface where workers stand to operate the rig is the carrier platform—the part of the rig that the mast rests on horizontally during transport. However, on Rig No. 3, which was

[4] For example, a manual from the Pool Company states: "All persons, except the Crew Chief, shall stay clear of the carrier while the derrick is being raised, lowered or telescoped up or down . . . . No one is to be allowed in the derrick while it is being raised, lowered or telescoped up or down." (emphasis omitted).

converted from a service rig into a "drilling" rig, the working surface where workers stand to operate the rig is the rig floor. As Britton testified, in this respect, the rig floor is "the same thing" as a carrier platform. Because the struck-by hazard is the same whether the working surface is a carrier platform or a rig floor, we agree with Britton's conclusion that these differences are inconsequential.[5]

The judge also concluded that manuals prohibiting employees from working in the area "under the mast"—the phrase used in the amended citation—are inapplicable here because he found that the driller was not working in that location at the time of the accident.[6] The judge dismissed Britton's testimony that "under the mast" comprises the entire rig floor and instead relied on testimony from rig operator Ruth—who did not testify as an expert—indicating that this phrase refers only to the area within and immediately adjacent to the mast's four legs. We find, however, that Britton's expert opinion regarding the meaning of "under the mast" is entitled to more weight than Ruth's lay opinion.[7]

---

[5] Similarly, we reject the judge's finding that other manuals pertaining to "service rigs" are inapplicable to the rig at issue in this case in light of Britton's unrebutted expert testimony that there is no relevant distinction between unconverted service rigs and drilling rigs with regard to the struck-by hazard posed by the mast and its suspended equipment. Likewise, the judge's finding—that manuals prohibiting worker exposure "when a mast or derrick is being raised" are inapplicable because they do not address "scope-up operations involving telescoping rigs"—is directly contradicted by Britton's testimony. Britton testified that such prohibitions are indeed applicable to telescoping rigs.

[6] The judge also found inapplicable certain manuals with provisions prohibiting employees from working under suspended loads because Britton acknowledged that these provisions do not mention being on a rig floor, raising a mast or derrick, or rigging up or down. But Britton did not claim that these manuals specifically address such conditions. Rather, he testified that the manuals reflect the industry's recognition that, *as a general principle*, being under suspended loads is hazardous.

[7] We note that the judge neither compared the two witnesses' experience nor addressed Britton's credibility—he simply noted that Ruth was "a credible witness." This credibility determination was not supported by demeanor-based findings, and therefore we do not defer to it. *See Metro Steel Constr. Co.*, 18 BNA OSHC 1705, 1706-07, 1999 CCH OSHD ¶ 31,802, pp. 46,666-67 (No. 96-1459, 1999) (Commission is "in as good a position as the judge to determine the facts" given a credibility determination not based on demeanor or other factors "peculiarly observable by the judge"); *All Purpose Crane, Inc.*, 13 BNA OSHC 1236, 1240, 1986-1987 CCH OSHD ¶ 27,877, p. 36,550 (No. 82-284, 1987) (rejecting judge's decision as Commission is "in as good a position as the judge to evaluate the qualifications of the experts and weigh their testimony").

Given his professional training and extensive experience in the oil drilling industry, Britton was in a better position than Ruth to judge how specific companies, and the industry generally, use this terminology. *See Indus. Glass*, 15 BNA OSHC 1594, 1601, 1991-1993 CCH OSHD ¶ 29,655, p. 40,174 (No. 88-348, 1992) (finding for party based in part on eminence of its experts); *All Purpose Crane*, 13 BNA OSHC at 1239, 1986-1987 CCH OSHD at p. 36,550 (finding expert's testimony "persuasive in light of his extensive experience"). Although both witnesses have worked for decades in the oil drilling industry, Britton has worked in various capacities for multiple drilling companies, including serving as a consultant tasked with inspecting accident sites and providing advice on safety matters. From that experience, Britton has gained personal knowledge of each of these companies' safety practices and how they interpret the safety provisions in their manuals. *See Beverly Enters.*, 19 BNA OSHC at 1187, 2000 CCH OSHD at p. 48,978 (finding industry recognition based on the "knowledge or understanding of safety experts familiar with the workplace conditions or the hazard in question"). Britton has also designed and manufactured drilling rigs and participated in scoping operations.

In contrast, Ruth has worked for only five companies with scoping rigs and only in the capacity of a driller or tool pusher. According to Ruth, the racking board area was "safe" because those five companies all positioned a worker there during scope-up, and he had been unaware of any accidents affecting that location. But a lack of prior similar accidents "does not show" that the industry did not recognize the underlying hazard. *Kelly Springfield Tire Co.*, 10 BNA OSHC 1970, 1974, 1982 CCH OSHD ¶ 26,227, p. 33,113 (No. 78-4555, 1982) (industry recognition depends on experts familiar with the industry, not awareness of a type of accident), *aff'd*, 729 F.2d 317 (5th Cir. 1984). And Britton's expert opinion on this point carries more weight because he has much more extensive experience working with drilling companies and their rigging policies than Ruth. Moreover, while Ruth gave no reason why the racking board position would not be considered "under the mast," Britton provided a compelling reason why it would: during scoping, the mast is tilted and extended towards a point above the center of the rig floor, creating a zone of danger throughout the rig floor due to the height of the mast and the weight and size of the blocks and cables. In fact, Ruth agreed with Britton that the mast has the potential to fail during scope-up and that such failures pose a danger on the entire rig floor.

Accordingly, we find that the manuals referenced by Britton support, rather than undercut, his opinion that the industry recognizes a struck-by hazard throughout the rig floor.

Finally, the judge erred in concluding that the Crown video "thoroughly undermines Mr. Britton's opinion that no one should be on the rig floor during scope-up, except for persons essential to the operation." The video, taken after Crown modified Rig No. 3's mast prior to the fatal accident, depicts Crown testing the rig by scoping the mast without any counterweights while a Crown employee stood on the rig floor at the base of the mast. Britton testified that because the employee was not operating the controls, it was contrary to industry practice for the employee to stand on the rig floor. Based on his previous work with Crown, Britton stated that Crown believes it is necessary to place employees in such areas as part of its manufacturing process. As a result, we find the video to be of little relevance here as it depicts a manufacturer demonstrating the mast without suspended equipment, not a drilling company using the mast for its stated purpose with the equipment attached. Moreover, the video only represents what one company did on one day. In contrast, Britton's expert opinion of what the industry considers hazardous is based on over 40 years of experience working with nearly every drilling company—experience that specifically includes operating rigs like the one at issue here. *See Indus. Glass*, 15 BNA OSHC at 1601, 1991-1993 CCH OSHD at p. 40,174 (relying on eminence of company's expert); *All Purpose Crane*, 13 BNA OSHC at 1239, 1986-1987 CCH OSHD at p. 36,550 ("extensive experience" of expert).

For all of these reasons, we conclude that the Secretary established that the oil drilling industry recognized the cited struck-by hazard on the rig floor.

II. Abatement

The Secretary asserted in her amended citation that a feasible means of abating the struck-by hazard is for Big Dog to permit "[o]nly personnel required to carry out the operation" to be located "under the mast" when it is being raised or lowered.[8] The judge rejected the Secretary's assertion that this method would feasibly eliminate or materially reduce the struck-by hazard. For the following reasons, we find that the judge erred.

[8] The citation also states that "[n]o one other than the operator should be allowed on the carrier platform . . . or under the mast until well servicing units are fully scoped, raised, or lowered."

The Secretary has the burden of "demonstrat[ing] both that the [proposed abatement] measures are capable of being put into effect and that they would be effective in materially reducing the incidence of the hazard." *Beverly Enters.*, 19 BNA OSHC at 1190, 2000 CCH OSHD at p. 48,981. "Feasible means of abatement are those regarded by conscientious experts in the industry as ones they would take into account in 'prescribing a safety program.' " *Id.* at 1191 (quoting *Nat'l Realty & Constr. Co. v. OSHRC*, 489 F.2d 1257, 1266 (D.C. Cir. 1973)). If the proposed abatement "creates additional hazards rather than reducing or eliminating the alleged hazard, the citation must be vacated for failure to prove feasibility . . . ." *Kokosing*, 17 BNA OSHC at 1875 n.19, 1995-1997 CCH OSHD at p. 43,727 n.19. But the Secretary is not required to show that the proposed abatement would completely eliminate the hazard. *Morrison-Knudsen Co./Yonkers Contracting Co.*, 16 BNA OSHC 1105, 1122, 1993-1995 CCH OSHD ¶ 30,048, p. 41,279 (No. 88-572, 1993).

Here, the judge agreed with Big Dog's claim that it met the terms of the Secretary's proposed abatement method because the driller is one of the personnel "required to carry out the operation" on the rig floor. According to Big Dog, tasks performed by the driller—watching the pulley system's cables to ensure that they do not become entangled, trouble-shooting other problems when they arise, and communicating with other personnel on the rig floor—would be hampered by distance and thus cannot be done as effectively from the ground. As a result, Big Dog maintains, the proposed abatement would increase the risk of an accident occurring. Big Dog further contends that even if the driller worked from the ground, there would remain a risk of being struck.[9]

[9] In rejecting the Secretary's proposed abatement method, the judge faulted her for relying on a work rule from American Petroleum Institute ("API") Recommended Practice 54, ¶ 9.2.9 (3rd ed. 1999) ("¶ 9.2.9") that refers only to "servicing units," which he found rendered the rule inapplicable to Rig No.3, as it is a drilling rig and not a servicing rig. We disagree. Although the Secretary does assert that the practice embodied in this work rule would constitute a feasible means of abatement if implemented here, she does not argue that API's adoption of the rule is evidence of its feasibility on a drilling rig. And regardless whether API intended ¶ 9.2.9 to apply only to servicing rigs, the Secretary need only show, as she has done here, that her proposed abatement method is "capable of being done." *Beverly Enters.*, 19 BNA OSHC at 1191, 2000 CCH OSHD at p. 48,981.

The Secretary concedes that positioning the driller on the ground may not eliminate every struck-by hazard, especially if the entire mast were to fall. But she argues, and we agree, that any adverse effects of such positioning would be minor compared to the safety benefits. Indeed, based on the record evidence before us, the safety benefits of the Secretary's proposed abatement method significantly outweigh its disadvantages. *See, e.g.*, *Chevron Oil Co.*, 11 BNA OSHC 1329, 1334, 1983-1984 CCH OSHD ¶ 26,507, p. 33,725 (No. 10799, 1983) (finding that "[t]he benefit afforded by the use of flotation devices greatly outweighs the harm that could be caused in the unlikely event that one of these devices were to hit an employee"). *Compare Kokosing*, 17 BNA OSHC at 1875 & n.19, 1995-1997 CCH OSHD at p. 43,727 & n.19 (finding no material reduction where Secretary failed to rebut testimony that abatement method could cause additional hazards). Big Dog's arguments against positioning the driller on the ground center on its contention that the driller has a better view of the mast and cables from the rig floor, and can both communicate more easily with the other employees engaged in scoping and more quickly resolve problems with the mast from that position. But according to Ruth, the driller is not the only worker watching the mast during scoping—the tool pushers who are operating the mast and brakes from positions on the rig floor and the two rig hands who are positioned on the ground also watch the equipment and the cables. Ruth described it as the driller being simply a "third set of eyes." And Big Dog's claim that communication would be impaired is not compelling given Ruth's acknowledgement that scoping up is a "quiet" process. As Ruth put it, "if anyone were to holler and say they've got an issue, you'd be able to hear them . . . ." With regard to problem-solving, Ruth noted that it would take "a little extra time" for the driller to assess a situation and get onto the rig floor from the ground. But Britton explained that any such delay would not affect safety because problem-solving would only begin after the scoping operation had been halted.

In fact, Britton testified that his own work practice for scoping—as well as the standard industry practice, which was utilized by the companies he worked for—is to position the driller on the ground, not on the rig floor. *See Beverly Enters.*, 19 BNA OSHC at 1191, 2000 CCH OSHD at p. 48,981 ("The question is whether a precaution is recognized by safety experts as feasible . . . ."). He emphasized that the industry uses this practice to avoid the known, inherent risk posed by the close proximity of large, multi-ton objects suspended from a moving mast. *See*

PSP Monotech Indus., 22 BNA OSHC 1303, 1306-07, 2004-2009 CCH OSHD ¶ 32,976, p. 54,044 (No. 06-1201, 2008) (indicating that working near a suspended load is a recognized hazard in general industry). That risk is compounded here by the rig floor's elevation, a condition that makes it difficult for the driller to escape in the event of an equipment failure. Thus, positioning the driller on the ground not only provides the obvious benefit of being farther away from any equipment that could fall, but also provides a better chance of escape should a failure occur. *See Nelson Tree Servs., Inc. v. OSHRC*, 60 F.3d 1207, 1211 (6th Cir. 1995) (finding that restricting access of employees "not directly involved" in tree-felling operation would have "substantially reduce[d]" the struck-by hazard); *Chevron Oil*, 11 BNA OSHC at 1334, 1983-1984 CCH OSHD at p. 33,725 (finding that requiring fire detection system with automatically-ejected flotation devices for offshore drilling platform would materially reduce drowning hazard).

Under these circumstances, we find that even though the driller may still be exposed to a struck-by hazard while standing on the ground, working from that location would materially reduce "the incidence of the hazard," which is all that the general duty clause requires. *Beverly Enters.*, 19 BNA OSHC at 1190, 2000 CCH OSHD at p. 48,981. Accordingly, we conclude that the Secretary has established the feasibility of her proposed means of abatement by showing that the duties assigned to the driller can be adequately performed from the ground, and that the safety benefits of this abatement method substantially outweigh the harm.[10] *See Chevron Oil*,

---

[10] Big Dog contends it lacked notice of the abatement method the Secretary asserts on review—restricting unnecessary personnel from being anywhere on the rig floor during scoping. None of the arguments Big Dog makes in support of its claim have merit. According to Big Dog, the Secretary never effectively amended the citation because her motion to amend sought only to "clarify" the originally proposed abatement—"insuring *no personnel* is [sic] on the drill floor when telescoping the mast." (emphasis added). But this ignores the plain language of the amended citation, as approved by the judge, which specifically limits the restriction to "personnel [not] required to carry out the operation" and "non-operators." *See* Fed. R. Civ. P. 15(a)(2) (allowing for liberal amendment of pleadings); 29 U.S.C. § 661(g) (Federal Rules of Civil Procedure apply to Commission proceedings unless Commission adopts a different rule); *see also Gen. Dynamics Land Sys. Div., Inc.*, 15 BNA OSHC 1275, 1279, 1991-1993 CCH OSHD ¶ 29,467, p. 39,751 (No. 83-1293, 1991) (OSHA citations "are to be liberally construed and easily amended"), *aff'd*, 985 F.2d 560 (6th Cir. 1993) (unpublished).

Big Dog further asserts it lacked notice that the Secretary's proposed abatement applied to the entire rig floor because the restriction applied only "under the mast" or "on the carrier platform,"

11 BNA OSHC at 1334, 1983-1984 CCH OSHD at p. 33,725 (finding that employer failed to rebut Secretary's evidence supporting proposed abatement because the benefit afforded by the abatement "greatly outweighs the harm that could be caused" by the abatement); *see also Morrison-Knudsen*, 16 BNA OSHC at 1122, 1993-1995 CCH OSHD at p. 41,279 (affirming general duty clause violation where proposed abatement method "would have materially reduced the harm").

Accordingly, we affirm the general duty clause violation.

III. Characterization and penalty

The Secretary characterized this violation as serious and proposed a penalty of $7,000. Having vacated the citation, the judge did not address either characterization or penalty, and neither party has addressed these issues in their briefs before the Commission. However, the record is sufficiently developed for the Commission to make these determinations. *See, e.g.*, *Spancrete Ne., Inc.*, 15 BNA OSHC 1020, 1024, 1991-1993 CCH OSHD ¶ 29,313, p. 39,358 (No. 86-521, 1991) (finding it inefficient to remand a case for a penalty determination where the Commission "thoroughly reviewed the record and [is] able to make the necessary determinations").

A violation is serious if there is "a substantial probability that death or serious physical harm could result." 29 U.S.C. § 666(k). This "does not mean that the occurrence of an accident must be a substantially probable result of the violative condition but, rather, that a serious injury is the likely result should an accident occur." *Pressure Concrete Constr. Co.*, 15 BNA

---

and was applicable only to service rigs. However, the Secretary made clear at the hearing that the abatement she sought applied to the entire rig floor, regardless of rig type. As discussed above, she elicited testimony from Britton in her case in chief that the term "under the mast" encompassed the entire rig floor and that, with respect to working surfaces, a drilling rig's floor is the functional equivalent of a service rig's "carrier platform."

Finally, as the evidence discussed above shows, the parties clearly litigated the issue that is on review: whether positioning the driller on the ground instead of the rig floor during scoping would feasibly and materially reduce the struck-by hazard. *See* Fed. R. Civ. P. 15(b)(2) ("When an issue not raised by the pleadings is tried by the parties' express or implied consent, it must be treated in all respects as if raised in the pleadings. A party may move—at any time, even after judgment—to amend all the pleadings to conform them to the evidence and to raise an unpleaded issue. But failure to amend does not affect the result of the trial of that issue."); *KS Energy Servs., Inc.*, 22 BNA OSHC 1261, 1263, 2004-2009 CCH OSHD ¶ 32,958, p. 53,921 (No. 06-1416, 2008).

OSHC 2011, 2018, 1991-1993 CCH OSHD ¶ 29,902, p. 40,813 (No. 90-2668, 1992). Here, the compliance officer gave unrebutted testimony that falling equipment from a collapsing mast could cause serious injury. And the record shows that the struck-by hazard did lead to serious harm in this case. Accordingly, we find that the violation was serious.

In assessing an appropriate penalty, the Commission is required to consider: "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 previous violations." 29 U.S.C. § 666(j). The gravity of a violation is generally "the primary element in the penalty assessment" and depends upon "the number of employees exposed, the duration of the exposure, the precautions taken against injury, and the likelihood that any injury would result." *Hern Iron Works Inc.*, 16 BNA OSHC 1619, 1624, 1993-1995 CCH OSHD ¶ 30,363, p. 41,884 (No. 88-1962, 1994); *J.A. Jones Constr. Co.*, 15 BNA OSHC 2201, 2214, 1991-1993 CCH OSHD ¶ 29,964, p. 41,033 (No. 87-2059, 1993).

Here, the driller was the only non-operator on the rig floor and the record shows that the scoping process takes only a few minutes.[11] But the driller was exposed to the potential for serious injury from the struck-by hazard throughout the entire scope-up process. *See Gen. Motors Corp.*, 22 BNA OSHC 1019, 1048, 2004-2009 CCH OSHD ¶ 32,928, p. 53,627 (No. 91-2834E, 2007) (consolidated) (noting that "even momentary exposure" poses a significant risk of serious harm or death). Thus, we find that the gravity of the violation was high. *See Roberts Pipeline Constr. Inc.*, 16 BNA OSHC 2029, 2030, 1993-1995 CCH OSHD ¶ 30,576, p. 42,331 (No. 91-2051, 1994) (finding high gravity although "only a small number of employees were exposed to the violative conditions for only a short period of time," because "violations exposed the employees to death"), *aff'd*, 85 F.3d 632 (7th Cir. 1996) (unpublished).

We find no basis to reduce the penalty for company size given testimony from Big Dog's drilling manager that there were approximately 750 employees under his supervision. *See George Campbell Painting Corp.*, 18 BNA OSHC 1929, 1935, 1999 CCH OSHD ¶ 31,935, p. 47,391 (No. 94-3121, 1999) (no penalty reduction based on size for a "substantial company" with between 200 and 250 employees). In addition, the record is silent about Big Dog's prior citation history and contains no evidence to support a good faith reduction given Big Dog's

[11] The video in evidence establishes that scoping up Rig No. 3's mast without any weights takes approximately two minutes.

failure to protect the driller from the struck-by hazard. For all of these reasons, we find the proposed penalty of $7,000 to be appropriate.

ORDER

We affirm Citation 1 Item 1 as serious and assess a penalty of $7,000.

SO ORDERED.

/s/
Thomasina V. Rogers
Chairman

/s/
Cynthia L. Attwood
Commissioner

Dated: September 19, 2012

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	:	OSHRC DOCKET NO. 08-0088
	:	
ACME ENERGY SERVICES,	:	
d/b/a BIG DOG DRILLING,	:	
	:	
Respondent.	:	

APPEARANCES:

U.S. Department of Labor
Office of the Solicitor
Dallas, Texas
For the Complainant.

Josh Bernstein, Esquire
Steven R. McCown, Esquire
Malone M. Lankford, Esquire
Littler Mendelson, P.C.
Dallas, Texas
For the Respondent.

BEFORE: Dennis L. Phillips
Administrative Law Judge

DECISION AND ORDER

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"). On July 20, 2007, a fatal accident occurred at a work site of Respondent, Acme Energy Services, d/b/a Big Dog Drilling ("Respondent" or "Big Dog"). The work site was located in Stanton, Texas. The accident took place as the crew at the site was "scoping up" the mast, or derrick, of "Rig No. 3," one of Big Dog's oil drilling rigs. The Occupational Safety and Health Administration ("OSHA") investigated the accident. As a result,

OSHA issued a citation to Respondent, alleging a violation of section 5(a)(1) of the Act. Respondent contested the citation. The hearing in this matter was held on December 2 and 3, 2008, in Midland, Texas. Both parties have filed post-hearing briefs, and Respondent has filed a reply brief.

Jurisdiction

In its Answer, Respondent admits the Commission has jurisdiction of this matter pursuant to section 10(c) of the Act. It also admits that it is an employer engaged in a business affecting commerce within the meaning of section 3(5) of the Act. I find, therefore, that the Commission has jurisdiction of the parties and the subject matter in this case.

Background

On the afternoon of July 20, 2007, a Big Dog crew was at the Stanton site to finish rigging up, or setting up, Rig No. 3. The mast, or derrick, of Rig No. 3 had been transported to the site in a horizontal position on a carrier.[12] The first part of the rig-up involved raising the mast hydraulically up to vertical onto the rig floor at the site.[13] The second part involved raising the interior of the mast with a hydraulic ram, or cylinder, located inside the mast, so that the mast would be extended up to its full height of 104 feet. This particular type of rig is called a "telescoping rig." The raising of the mast's interior, which is analogous to raising up an extension ladder, is referred to as "scoping up" the mast. Once the mast is vertical, and is in the process of

[12]The carrier is the truck (mobile 18-wheeler), or moving device, that brings the rig to the site. (Tr. 109-10, 257-58).

[13]R-24A is a photo of another of Big Dog's rigs, Rig No. 25, which is the same type of rig as Rig No. 3. R-24A shows the carrier platform with the mast lying on it. It also shows the floor of the rig, which consists of the "drill floor" and the "racking board." Additionally, it shows the "dog house," the blue structure on the rig floor that has the rig's number on it. (Tr. 108-18).

being scoped up, it actually tilts 3 degrees over vertical. When fully scoped up, the top, or crown, of the mast is situated right over the hole, or well, where drilling will take place.[14] Also, when the mast is being scoped up, there is a "traveling block," or "block," which is suspended by cables from the top of the mast. The block is part of the pulley system through which various cables travel. The block is very large and very heavy, weighing about 10,500 pounds. There are also other items suspended from the top of the mast, including counterweights. (Tr. 67-77, 104, 109-11, 116, 121-23, 132-35, 227).

[14]C-27 is a DVD showing the rig-up of Rig No. 3. Crown Energy, the rig's manufacturer, made the video after making repairs to the rig in June 2007. These repairs consisted of replacing the existing mast, and the hydraulic ram, with a new mast and ram. (Tr. 79, 102, 429-33; R-15).

Big Dog's crew at the site consisted of two supervisors, called "tool pushers," a driller, two rig hands, and two welders. Bobby Ruth was the "lead tool pusher." He was responsible for the other crew members and for operation of the rig. Mark Steele was the other tool pusher, and the driller was Gabriel Chavarria. The day before the accident, the crew had raised the mast of Rig No. 3 to vertical and scoped it up to its full height. On July 20, 2007, they lowered the top part of the mast to put more weight in the counterweight buckets. They then proceeded to scope up the top part of the mast again. Mr. Ruth, located back behind the mast, was operating the hydraulic controls to scope up the mast.[15] The two rig hands were on the ground behind the mast. They were holding onto guy lines as the mast went up. The two welders were in the dog house. Mr. Steele was up on the rig floor. He was on the left side of the mast operating the brakes for the block. Mr. Chavarria was also up on the rig floor. His job was to watch the various cables and lines and the mast as it was scoped up. He was also to insure that the tubing/belly board halfway up the derrick folded out correctly and to communicate with the tool pushers if a problem occurred. As the mast was being scoped up, at about 3:00 p.m., there was a loud pop, the ram gave way, and the top part of the mast slid down inside itself. The ram buckled and fell, and the equipment suspended by cables and all of the drilling lines also fell. Mr. Chavarria was found lying on the rig floor with the ram adjacent to, and partly above, his left side. The block was to his right. Emergency medical help was summoned, but Mr. Chavarria was pronounced dead at about 4:00 p.m. (Tr. 66-77, 85-89, 92-97, 113-21, 125-28, 134-35, 165-66, 198, 227-32, 446; C-27, C-28, Nos. 61-64, C-34, C-44).

[15]C-28, No. 61, is a photograph showing the front of Rig No. 3 right after the accident. Mr. Ruth identified where he and the others were when the accident took place. (Tr. 69-77, 93-94, 125-28).

Deputies from the Martin County Sheriff's Office, Stanton, Texas, also responded to the emergency summons. One of the deputies, Ashley Borgstedte, took a number of photographs at the site at about 4:00 p.m., July 20, 2007, that included views of the mast, the rig floor and the accident scene. Texas Ranger Sergeant Don Williams also arrived at the oil rig. Later that evening, the law enforcement authorities obtained statements at the Sheriff's Office from some of the crew members, including Messrs. Ruth and Steele. The Sheriff's Office and the Texas Rangers determined that the incident had been an industrial accident. The Sheriff's Office and the Texas Rangers turned their entire investigation over to OSHA. (Tr. 32-42, 56-63; C-28).

Big Dog began investigating the accident, and notified OSHA, right after the incident occurred. According to statements of the crew members, the scope-up was proceeding normally and there was no indication anything was wrong. According to the statement of Mr. Steele, the block struck Mr. Chavarria on one side and the ram, or cylinder, struck him on the other side. Violet Hobbs, an OSHA compliance officer ("CO"), arrived at the site at about 6:40 p.m. She surveyed the scene, took photographs of her observations, and spoke with some Big Dog employees, including Mr. Sanchez, its safety director. The CO interviewed employees of Big Dog, including Mr. Ruth and Mr. Steele, during November 2007. OSHA made no determination as to the cause of the accident. The citation was issued on December 18, 2007. (Tr. 211-17; C-34).

The Alleged Violation

The OSHA citation, as amended, alleges a violation of the general duty clause, section 5(a)(1) of the Act, as follows:

> Section 5(a)(1) of the [Act]: The employer did not furnish employment and a place of employment which were free from recognized hazards that were causing

> or likely to cause death or serious physical harm to employees in that employees were exposed to the condition(s) below:
>
> ACME Energy Services, Inc., DBA Big Dog Drilling, Rig 3, Lost Dutchman #1, Martin Co., TX. For the period of time up to and including 7/20/07, employees were exposed to "struck-by" hazards on the drill floor during "rig-up" operations on a telescoping drilling rig.
>
> Among other methods, one feasible and acceptable abatement method to correct this hazard would include complying with API Recommended Practice 54, Third Edition, April 1999, titled "Recommended Practice for Occupational Safety for Oil and Gas Drilling and Servicing Operations," which states in Section 9, Paragraph 9.2.9, "Only personnel required to carry out the operation shall be allowed in or under the mast unless it is in the fully raised or lowered position. No one other than the operator should be allowed on the carrier platform in the derrick or under the mast until well servicing units are fully scoped, raised, or lowered."

The Secretary's Burden of Proof

To prove a violation of the general duty clause, the Secretary has the burden of demonstrating that: (1) an activity or condition in the employer's workplace presented a hazard to employees; (2) the cited employer or its industry recognized that the condition or activity was hazardous; (3) the hazard was causing or likely to cause death or serious physical harm; and (4) there were feasible means to eliminate or materially reduce the hazard. *See Kokosing Constr. Co.*, 17 BNA OSHC 1869, 1872 (No. 92-2596, 1996), citing to *Waldon Healthcare Center*, 16 BNA OSHC 1052, 1058 (No. 89-2804, 1993). Hazards "must be defined in a way that apprises the employer of its obligations, and identifies conditions or practices over which the employer can reasonably be expected to exercise control." *Pelron Corp.*, 12 BNA OSHC 1833, 1835 (No. 82-388, 1986) (citation omitted).

The Secretary contends she has met her burden of proof as to all four elements. She asserts that the equipment suspended above Mr. Chavarria's work area, like the ram and the

block, presented struck-by hazards during the scope-up of Rig No. 3. She also asserts that Big Dog and its industry recognized the hazard, based on the testimony of her expert, Big Dog personnel, and industry documents she presented at the hearing. She further asserts that the hazard was causing or likely to cause death or serious physical harm. Finally, she asserts that a feasible means of abating the hazard was to comply with American Petroleum Institute ("API") Recommended Practice 54, Section 9. Respondent contends the Secretary has not met her burden of proving the alleged section 5(a)(1) violation.

Testimony of Bobby Ruth

Mr. Ruth has worked in oil drilling for 34 years. He testified it is known in the oil industry that the rig-up of a mast like on Rig No. 3 can be potentially dangerous due to the suspended equipment over an area where people may be working. He further testified that how the scope-up was done on July 20, 2007, with Mr. Chavarria located about mid-center on the racking board, was standard procedure.[16] He and Big Dog were unaware then that where Mr. Chavarria was standing was hazardous or dangerous during the scope-up operation. Mr. Ruth said he had worked for about 12 oil companies. Four of those had telescoping rigs like Rig No. 3. As driller for those companies, he had stood on the racking board of those rigs during scope-up "hundreds of times."[17] He also said that before the accident, he did not think a man could be hit

[16]Mr. Ruth indicated that being in that location was how he and others in the oil industry were trained. He also indicated he personally trained the employees who worked on his rigs and that to be a driller, like Mr. Chavarria was, an employee had to work at least a year to a year and a half on the same rig. He further testified that Big Dog was following the industry practice by having Mr. Chavarria on the racking board during the scoping operation. (Tr. 77-78, 97, 124).

[17]Mr. Ruth identified the four companies as: 1) Key Energy, 2) Rowley Drilling Company, 3) Fairmore Drilling, and 4) J.C. Wells Service. He testified that during the scope-up of these rigs, these other companies always had a man on the racking board. (Tr. 105-106; R-38).

as Mr. Chavarria was.[18] In all of his experience he had never seen a similar accident. Mr. Ruth agreed Rig No. 3 had two previous failures. They were not the same as the one occurring on July 20, 2007, and had not caused any injuries. The first, occurring in about 2006, was due to equipment deterioration, which caused the ram to "curl up" on the floor.[19] After that incident, the mast was completely rebuilt and recertified. The second was due to an operator trying to pull too much weight through the block, causing the ram to buckle. After that incident, the mast and ram were replaced with a new mast and ram. Mr. Ruth did not know what had caused the July 20, 2007 accident, but he believed it was due to equipment failure. (Tr. 71-72, 77-85, 93-94, 98-106, 117-18, 125).

[18]Mr. Ruth agreed that while Mr. Steele had also been exposed to the overhead block, other crew members were not as exposed to equipment collapsing as Mr. Chavarria had been. (Tr. 134-38).

[19]In that instance, according to Mr. Ruth, the ram was not bent out as it was in this case, as shown in C-28, No. 62.

Mr. Ruth viewed R-24A and said it accurately depicted Rig No. 25 and where the drill floor and racking board were.[20] He drew a line he marked as "A" on R-24A to show where the raised mast would be. He noted that neither the drill floor nor the racking board was actually under the mast.[21] Rather, "under the mast" was the 3-foot space between the mast and the drill floor where the rotary table, guard and chain were located.[22] Mr. Ruth also viewed C-43, a sketch of the raised mast of Rig No. 3 over the rig floor. He marked an "A" on the sketch to indicate where Mr. Chavarria had been standing, a "B" to show the drill floor, a "C" to show the rotary table area, and a "Y" to indicate where the block would have been suspended.[23] Mr. Ruth next viewed C-28, No. 61, which is a front view of the raised mast of Rig No. 3 right after the accident. He marked various areas on No. 61, including a "D" to show where at the time of the accident he had been, an "E" to show where Mr. Steele had been, and an "F" and "G" to show where the rig hands had been. He identified "A" as where Mr. Chavarria had been. Finally, Mr. Ruth viewed C-28, Nos. 63 and 64. They showed Mr. Chavarria after the accident with the ram

[20]Mr. Ruth testified that Rig No. 25 was another telescoping rig owned by Respondent. (Tr. 113).

[21]Mr. Ruth stated that Mr. Chavarria was not under the mast at the time of the accident. (Tr. 121, 123).

[22]Mr. Ruth said C-28, No. 49, showed the rotary table area. It also showed the controls, where Mr. Steele had been, which were 8 to10 feet from Mr. Chavarria. (Tr. 139-41, 163-64).

[23]Mr. Ruth testified that the blocks are kept as low to the rig floor as possible during scope-up of the top section of the mast. He stated that the block was not suspended above the area of the rig floor where Mr. Chavarria was working. Mr. Ruth said the block was suspended about 6 feet off the floor during the scope-up of the top section of the mast. Messrs. Ruth and Steele were operating the raising controls and brake, respectively, to maintain the block's 6-foot height. As Mr. Ruth was scoping the derrick up, Mr. Steele was releasing the brake drum keeping the blocks about 6 feet off the rig floor. He marked an "L" on C-28, No. 61, to indicate where the block was before it fell. (Tr. 132-33,162, 164).

to his left side and the block to his right. Photograph No. 64 also showed where Mr. Chavarria was from the legs of the mast. He testified that he had no reason to believe that the ram did not strike Mr. Chavarria and that it was a "possibility" the block also struck him. (Tr. 70-74, 108-21, 125-27, 134-38, 165-68).

Mr. Ruth testified that during both a rig-up and scope-up there are lots of wires which could potentially get tangled or fouled up and which need to be watched by all of the crew. There are at least ten wires that the crew needed to keep an eye on during the scope-up that occurred on July 20, 2007. Mr. Ruth also testified that while he was at the raising controls, Mr. Steele was on the brake, and the two "rig hands" were on the ground at the back or opposite side of the rig. They were all watching the cables so that they would not "get hung up," as well as the board to insure that it folded out correctly.[24] They were also trying to guide the wires as they came up to the rig floor so that the wires did not get caught. Mr. Chavarria was an extra set of eyes to insure the same while he stood on the racking board, also known as the rig floor. He was also there to watch the derrick going up and the stabilizer bars that come out and go around the scoping ram. Mr. Chavarria's role was also to communicate with both tool pushers during the scope-up operation. From his position on the racking board, Mr. Chavarria could view the whole derrick and better see what was coming toward the front end of the rig. Two welders, located inside the dog house, were also present during the scope-up on July 20, 2007. The welders were adding weight to the counterweight buckets. Respondent's general rule during scope-up was not to allow third parties, such as the welders, on the rig floor. (Tr. 86-95, 127).

[24]The board was the platform located halfway up the mast. (Tr. 86-87).

Mr. Ruth said no one should be on the carrier when the mast is raised to vertical. It is raised hydraulically, and if that equipment fails, the mast can fall and injure someone. He also said that no one should be inside the mast, the area within its four legs, during the scope-up operation. It would be very dangerous to be inside the mast since the derrick could slide down inside itself and because of any overhead suspended equipment. Mr. Ruth noted that no one should be in the rotary table area, shown in C-28, No. 49, during scope-up. If equipment fails, the block or ram can fall in that area. He further noted that while Big Dog no longer has a driller stand in the area where Mr. Chavarria was standing, a driller still stands on the racking board during the scope-up of a telescoping rig. Mr. Ruth stated that although the driller's job could be done from the ground, it would not be as effective. The driller has the best view of the mast, cables and lines from the racking board. There is not a good vantage point from the ground. Unclear communications and an inability to watch the stabilizer arms and other rig areas occur when the driller is on the ground. If a cable or line gets caught, or if there is a problem with the mast, the driller is in the best position to see it and tell a tool pusher before the problem becomes a hazard.[25] Mr. Ruth also stated that it can be more dangerous to not have a driller up on the racking board. If a cable or line catches on something, it can have a slingshot effect and rip a board or equipment off the rig that can strike someone on the ground. He noted that being on the ground is not necessarily safer than being on the racking board. When a mast failure occurs, there is no way to tell which way or where it will fall. The tool pusher on the controls or a rig hand in another area of the rig can just as easily be hit by the mast if it fails. Mr. Ruth did not

[25]Mr. Ruth agreed he had said in his statement to OSHA, when asked if scoping up could be done as effectively with no one on the rig floor, "Yeah, I think so." He indicated he no longer agreed with that statement at the hearing. (Tr. 156-60).

consider Mr. Chavarria to be in the zone of danger when he was standing on the racking board at the time of the accident. (Tr. 77-79, 84, 92-99, 103-08, 132, 141-42, 147, 153-63).

Testimony of Lee Sanchez

Mr. Sanchez was Big Dog's safety director at the time of the accident. He no longer works for the company. He testified that before July 20, 2007, he was unaware of a telescoping rig ever collapsing. It had never occurred to him an accident like that could happen. He had never heard of such an accident before. Mr. Sanchez agreed that being anywhere on the rig floor during scope-up was hazardous and dangerous. If a block falls, you cannot know where it will fall.[26] He stated that he did not know whether Mr. Chavarria was exposed to a hazard during the scope-up process in the area where he was standing. He further agreed that he and Big Dog recognized before the accident that drilling rig moves were among the most hazardous tasks the employees performed and that all personnel were to be completely and safely clear before a derrick or mast was raised. He said he did not know all the procedures for setting up rigs and that he relied on the operational personnel in that regard.[27] He also said that when he went to sites to inspect rigs he was looking at items such as fall protection, grounding, and substructure.[28] Mr.

[26]Mr. Sanchez stated that because of the potential dangers on the rig floor during scope-up, the number of employees allowed up on the floor was kept to a minimum. He acknowledged changing his November 8, 2007 deposition testimony by adding on August 22, 2008 that he could not "say that the [sic] just the rig floor is dangerous because the entire oil field is dangerous." (Tr. 185-93, 201; R-26, at p. 115).

[27]Mr. Sanchez indicated he was more familiar with conventional rigs, which he called "jackknife rigs." He noted that such a rig does not have the hazard of the mast sliding down inside itself like a telescoping rig does. (Tr. 182-85).

[28]Mr. Sanchez testified that he had never seen any OSHA regulation that related to procedures to be followed to rig-up a telescoping rig like Rig No. 3. (Tr. 198).

Sanchez noted that while Big Dog attempted to have a safety person at sites during rig-up, it was not possible to do so for every rig-up. Prior to July 20, 2007, Mr. Sanchez did not think that where Mr. Chavarria was standing at the time of the accident was unsafe. He had not recognized prior to the accident that being on the rig floor was a hazard. He further noted that after the accident, Big Dog no longer had anyone on the rig floor where Mr. Chavarria had been. Mr. Sanchez did not know why the ram or cylinder in the mast had failed on July 20, 2007. (Tr. 175-208).

Testimony of Ronald Britton

Mr. Britton has been continuously in the oil business since 1965. He is a registered petroleum engineer and a board-certified oil and gas forensic examiner. He worked for several oil companies before starting his own consulting firm. He also designed, built and operated his own drilling rigs. He has been a member of the API for most of his career. For the past ten years, he has been on API subcommittees that address hoisting systems on drilling rigs. Mr. Britton's experience has included the operation of telescoping rigs like Rig No. 3.[29] (Tr. 219-20).

[29]Mr. Britton was found to be a qualified expert as proffered by the Secretary. (Tr. 292).

Mr. Britton testified Rig Nos. 3 and 25 were actually pulling units that had been modified to be drilling rigs by adding a drill floor. He further testified that in his experience with telescoping rigs, he never had anyone on the rig floor where Mr. Chavarria had been during scope-up. He drew C-44, a bird's-eye, not to scale, sketch of the mast and floor of Rig No. 3. The sketch showed where the ram was after it failed and the approximate area where Mr. Chavarria could have been standing based on photographs he had seen and witness testimony. Mr. Britton estimated the rig floor to be 10 by 12 feet with the hole in its center. He stated that the testimony had been that, at the time of the accident, Mr. Chavarria was "everywhere" on the rig floor, from the two matting boards to the V-door. He noted that the photographs of Mr. Chavarria's body showed him laying alongside the side of the hole in the floor. Mr. Britton assumed that Mr. Chavarria was standing where he was found, or on one of the mats. He said that Mr. Chavarria was trying to keep straight two guy lines off the top of the crown, as well as two other guy lines that were on the tubing/belly board halfway up the derrick as the derrick was being raised. He also said an employee anywhere on the rig floor where Mr. Chavarria may have been standing could be struck by falling equipment should the mast fail during scope-up. Mr. Britton noted this was due to possible equipment failure, as in this case, which can cause the ram, block and drilling cables to fall to the floor.[30] He stated that the crown got scoped almost up to the top [104 feet] before the scoping cylinder either failed or the latching "dogs" did not catch. The block, which is 6 to 8 feet off the floor at about head height and essentially over the hole during scope-

[30]Mr. Britton did not determine the actual cause of the accident in this case. (Tr. 236-37).

up, can fall in any direction.[31] The drilling cables, which are heavy and stiff, can also fall and "whip all over" the rig floor. He further noted that the only persons who should be on the floor during scope-up are the two persons operating the controls on either side of the mast, that is, the driller's controls on the left and the scoping controls on the right. Mr. Britton explained that those persons have to be there to operate the controls and that they are protected by being right next to the legs of the mast.[32] (Tr. 223-34, 306, 323, 388-90, 408-09).

[31]Mr. Britton testified that, in this instance, the block fell toward the V-door and back toward the mast. (Tr. 233; C-28, No. 63, C-44).

[32]Mr. Britton said the area he circled on C-44, which was the "zone of danger" on the rig floor, did not include the legs of the mast. (Tr. 321).

Mr. Britton identified various exhibits as safety and operating manuals that address rigging up in the oil and gas industry. He said the exhibits were from his library of manuals from the many companies with which he had worked. He also said that while the exhibits mainly prohibit being under a suspended load, some of them prohibit being on the rig floor or carrier during raising operations. Mr. Britton stated that when the mast is being raised or lowered the suspended load is the block. He also stated that the scoping cylinder was not a suspended load. Mr. Britton discussed provisions from the manuals. He testified that the manuals "say mainly don't be under a suspended load." He further testified that some manuals say "don't be on rig floors during rigging up. There are some [manuals] that say don't be in the rig or the carriers."[33] The Pool Company manual, "U.S. Land Accident Prevention Handbook," revised August, 1988 ("Pool Manual"), requires all persons, except the crew chief, to stay clear of the carrier while the derrick is being raised, lowered, or scoped up or down.[34] The Pool manual also states that all persons, except the crew chief, shall stay clear of the carrier while the derrick is being raised, lowered, or telescoped up or down. (C-6, DOL 83). Mr. Britton defined "carrier" as being "the mobile 18-wheeler under the rig that brings the rig out to the location .... And it has the mast

[33]Mr. Britton stated that his testimony would address the industry standards addressing "suspended load problems." He explained that suspended load problems pertained to temporary arrangements that included anything being lifted temporarily during rigging up. He said that once a rig is rigged up it was appropriate for people to be on the rig floor under suspended loads. He also said that "we're kind of splitting hairs" on whether a worker can be on a rig floor and not be under a suspended load, or whether an area is a drill floor and not a rig carrier. (Tr. 244-47).

[34] During cross examination, Mr. Britton admitted that a paragraph in the Pool Manual, Derrick , No.12, at DOL 83-84, did not address where workers were to be located during rigging up or telescoping the derrick. (Tr. 339-340; C-6).

mounted on the top of it. It's one piece." Mr. Britton interpreted "carrier" in these and other manuals to mean the actual vehicular carrier, as well as the rig floor. He explained that using the word carrier now "gets confusing" because small pulling or servicing rigs, like Rig No. 3, originally had a small floor that was attached to the carrier. The carrier then obviously included the floor. When such rigs were modified to become drilling rigs, the rig floor was a completely separate piece. The terms in the manuals were never changed. He believed that when the manuals referred to the carrier it included the rig floor and meant that workers were to stay clear of the mast on both the carrier and the rig floor during raising and scoping operations. The Key Energy manual, "Key Energy Services Employee Safety Handbook," January, 1999, prohibits standing under the derrick or on the carrier while it is being raised or lowered.[35] The manual issued by the Association of Energy Servicing Companies ("AESC") entitled "Recommended Safe Procedures and Guidelines for Oil and Gas Well Servicing," 4th revision, April, 2000, recommends as a safe operating practice that "people on the floor should stand clear when rigging up ...." (Tr. 235-71, 277-79, 288; C-7, at DOL 89, C-11, DOL 114).

A Schramm, Inc. manual, "Schramm Rotadrill Operator's & Maintenance Manual," undated, states as follows:

> Before raising the mast (derrick), clear all drill rig personnel (with exception of the operator) and visitors from the areas immediately to the rear and sides of the mast. Inform all drill rig personnel and visitors that the mast is being raised prior to raising it. (Tr. 272-73; C-9, DOL 98).[36]

[35]Mr. Britton agreed that the referenced provision of C-11 did not mention scoping. (Tr. 355; C-11).

[36]Mr. Britton agreed that the manual does not say to clear personnel from the front of the mast before raising the mast and reiterated his position that no one can predict or predetermine where a struck-by hazard was going to go in the event of a failure. (Tr. 341-342).

Mr. Britton discussed other manuals. One, called "Safety on the Rig," published by PETEX in 1999,[37] notes that one of the most dangerous times is during rigging up and down and that these periods account for 15.8 percent of lost time incidents. (Tr. 273-74; C-10, DOL 106). It also states: "Absolutely no one should be on or under the derrick while it is being raised because the possibility of equipment failure is always present." (Tr. 275; C-10, DOL 108). It additionally states:

> Never walk or stand under anything being lifted. Use tag lines to guide a load. When loads are being hoisted there is always the possibility that a line may slip or break; objects may fall from above; and, broken lines can whip about dangerously. *Id*.

[37]PETEX refers to the Petroleum Extension Service of the University of Texas and the International Association of Drilling Contractors. These entities write the manual. (Tr. 273-74).

Mr. Britton also considered the PETEX provision prohibiting being under a load relevant as it shows that industry standards require keeping the rig floor clear. (Tr. 275-76). A Corsair manual, "Owner Operator's Manual for CORSAIR Oil Well Servicing Rig," by Crane Carrier Company, March 1, 1982, provides: "Do not permit personnel under mast when it is being raised or lowered, and do not let personnel climb or be on mast when extending upper section."[38] (C-12, DOL 216).[39] Mr. Britton considered that Mr. Chavarria was under the mast when he was killed.[40] He noted that accidents commonly occur when people are struck by the falling block or drill lines. (Tr. 276-78, 377). A Continental Emsco Company manual for Wilson Fabricated masts, "Wilson Manufacturing, Mogul 42-B Double Drum B.I. Winchmobile, Operation & Maintenance," recommends that the operator study safety points that include a recommendation that all personnel keep clear of the mast in the raising, lowering, and telescoping operations. It also states that the crew should never be beneath the mast in these operations. (Tr. 283-84, C-15, DOL 153). Another Wilson manual, "Wilson Manufacturing, Drilling Rig Manuals, Machine: Mogul "42" S.D. Winchmobile for J. & C. Drilling Company," dated February 23, 1970 [The 65', 84', 90', 96', 102', and 110' Wilson Fabricated Masts], has similar provisions, except that it recognizes the necessity "for the crew to keep the guy lines clear in both raising and lowering

[38]Other manuals also prohibit being in the derrick when the derrick is being raised, lowered or telescoped up or down, and for all, except the crew chief, to stay clear of the carrier while the derrick is being scoped up or down. *See, e.g.*, "Sundown Operating, Inc., Wilson Operating, Inc., Employee Handbook & Safety Manual," undated, C-13, DOL 119.

[39]The Corsair manual pertains to a well-servicing rig. (Tr. 355; C-11, DOL 195).

[40]Mr. Britton defined "under the mast" as including the area within the four legs of the mast where attached to the drill floor, as well as the area beneath the tilted crown directly over the center of the drilling floor. (Tr. 277-78).

operations, but these men should never be beneath the mast in raising and lowering operations." In addition, it prohibits "[being] in a position where he might be injured if the upper section should fall, and the upper section should not be moved while any man is up on the mast...." (Tr. 279-80; C-14, DOL 125-26). A Stewart & Stevenson ("Stewart") manual, "Parts and Service Manual Workover Rig Model: WTD-00550, rev00-February07," states:

> WARNING: Personnel must never work on the raised mast unless wearing their safety harness.
>
> WARNING: If the latches are not fully extended, the top section of the mast may fail. This may cause extensive damage to the equipment and possible injury to personnel.[41]

(Tr. 285-86; C-16, DOL 166). Mr. Britton agreed that the cited Stewart reference did not address workers being in or under the mast, or on the rig floor.

[41]Mr. Britton first said Stewart was the manufacturer of Rig No. 3. He later indicated that it was Crown Energy ("Crown"). Later still, he indicated that Stewart had bought out Crown at some point. (Tr. 284, 305-06, 309-10, 312-14, 325-26). *See also* R-14, R-15. In this decision, the rig's fabricator and manufacturer is referred to as Crown.

A Unit Drilling Company "Safe Workplace Handbook," undated, states that when raising a derrick, workers should not be positioned underneath the derrick.[42] It further states, when securing a derrick to A legs with pins/bolts, all personnel should stand clear of all overhead work. Mr. Britton also identified a Safety Alert from the International Association of Drilling Contractors, "Alert 07-03," undated, that pertained to a drilling rig mast that had a raising line whip during failure. He explained that the Safety Alert was not "100 percent on point." Finally, a Basic Energy Services, "Employee Safety Handbook," August 2000 ("BES Handbook"), states that before a derrick is raised, personnel are to be placed to observe the derrick from all positions to prevent line entanglement. The BES Handbook further states that "No one but the operator should stand under the derrick or on the carrier, while it is being raised or lowered." (Tr. 287-89; C-17, DOL 162, C-19, C-21, DOL 181).

Mr. Britton testified that, based on his experience, there was "no question in [his] mind" that the industry recognized that employees working up on the rig floor where Mr. Chavarria was were exposed to the hazard of being struck by equipment during scope-up. He opined that the ram, the block, or a cable could have struck Mr. Chavarria.[43] He said that the block and cables were clearly suspended loads. He also believed the ram was a suspended load. He explained that the ram was part of the mast and that the mast, once it was "up there," was a suspended load. (Tr. 281-85, 289, 383-85).

[42]The handbook's disclaimer states that the recommended practices are not mandatory.

[43]Mr. Britton opined that the equipment failure may have been caused by stabilizers not working properly.

At the hearing, Mr. Britton viewed C-27, Crown's DVD of its rig-up of Rig No. 3[44] at Crown's yard, and he explained what it showed.[45] The mast was raised from the carrier platform by a hydraulic cylinder. While this was taking place, a person was standing on the carrier platform, under the mast. He stated that anything underneath the mast was under the suspended load. A second person was sitting in the middle of the rig floor. That person, once the mast was raised and tilted 3 degrees over vertical, proceeded to pin into place the two derrick legs of the mast that were on the rig floor. This person was also in the zone of danger. The scope-up of the mast began while that person was still pinning the legs.[46] Once the scope-up was completed, the down-scoping took place. A person then appeared on the floor, to unpin the legs of the mast. That person stayed near the driller's controls as the mast was lowered. At the end of C-27, a person appeared on the carrier platform as the mast was almost down on the carrier. Mr. Britton said no one should have been under the mast while it was being raised from or lowered onto the carrier, as the hydraulic cylinder could have failed, causing the mast to fall. The person under the mast should have been raising the mast from the controls on the far side of the mast leg.[47] (Tr. 305-25; C-27, frame 833).

---

[44]Mr. Britton stated that Rig No. 3 was, at one time, a filling unit or well-servicing unit that had been since modified to be a drilling rig. (Tr. 306-07).

[45]Mr. Britton explained that Rig No. 3 as shown in the video, was not rigged up with blocks, tongs, or counterweight buckets. (Tr. 396-400; C-27).

[46]Mr. Britton noted that C-27 showed the two sets of "stabilizer arms" that come out on either side of the ram during scope-up. C-27 also showed the "dog," a latching mechanism that serves to hold the ram in place at the end of the scope-up. (Tr. 314, 317-18).

[47]On redirect, Mr. Britton changed his testimony to state that the person raising the mast to vertical had to be on the carrier to operate the raising controls. (Tr. 390-91).

Mr. Britton also stated that only two workers should be "anywhere around the rig floor" during the raising of the mast, or while it was being scoped up or down. This is because the ram could fail, fall and strike workers on the rig floor. One of these two workers was the person operating the controls on the far side of the mast. The other was the driller having to be at the controls controlling the block when scoping up.[48] He conceded that someone had to be on the rig floor to pin and then unpin the legs, but he noted that the scope-up should not have been done while the pinning was still being done. Mr. Britton agreed that it is almost impossible to predict the direction equipment would fall in the event of mast failure. He further conceded that while he would expect Crown, the rig's manufacturer, to follow the industry standard, the employees in C-27 were not doing so. Mr. Britton stated that Crown should have followed the industry standard even though there was no equipment on the mast other than guy lines. He also stated that he planned to discuss C-27 with Stewart, which he described as a top company, and inform it that what its workers had been doing on the C-27 video was unsafe and in violation of the industry standards that he identified earlier in his testimony. He agreed that the industry standards applied to pulling rigs, and not Rig No. 3. (Tr. 322-26, 342, 385-400; C-44).

Mr. Britton discussed the "Grey Wolf Safety Manual," revised July, 2000, Basic Safety Rule No. 14, that states that "Employees should never position themselves under a suspended load. (Taglines should be used to position and control loads.)" He noted that it said nothing about being on the rig floor, under the mask, or in the derrick. (Tr. 327; C-2). He also noted that he did not think that Gray Wolf has any telescoping rigs, although they may have had some originally.

[48]In this instance, at the time of the accident, Mr. Steele was the tool pusher operating the blocks and Mr. Ruth was the lead tool pusher at the controls running the scoping cylinder. (Tr. 58, 96, 125-26, 323).

Similarly, Mr. Britton stated that the "Safety Manual," Exxon Company U.S.A. Production Department, December, 1994, said nothing about being under a mast or being off the rig floor in the manual's personnel precaution section.[49] (Tr. 330-33; C-3). He also said that Nabors Safety Manual, Item 17 (revised February, 1998), did not address the raising or lowering of a rig. (Tr. 332-333; C-4, 22). Likewise, he said that the Pool Safety & Training Policies & Procedures, General Safety Section, page 3 (effective March 1, 1994), made no reference to rigging up or rigging down a telescoping rig. (Tr. 334; C-5).

[49]Mr. Britton testified that he observed a driller by the mast leg on the rig floor when a rig was rigged up for Exxon. (Tr. 332).

Mr. Britton testified that it was proper for crew members to be on a rig floor underneath blocks, rigs and suspended loads, including casing pipes, provided the derrick was already fully rigged up correctly. (Tr. 348-352). He further testified that it was his opinion that only limited personnel were allowed in or under the mast during the raising or lowering of the mast. (Tr. 361). He stated that there was no OSHA regulation telling companies how to raise and lower rigs. He believed that there was no specific OSHA regulation that applied directly to the oil and gas business. (Tr. 361-62). Mr. Britton opined that Mr. Chavarria was beneath the mast in the area where the top of the mast was over the center of the hole and directly below the block at the time of the accident during the raising and lowering operation. (Tr. 377; C-44). From his review of the photographs and testimony, he opined that Mr. Chavarria was hit by the cylinder, the blocks, or the cables.[50] (Tr. 383-84). He also opined that the block, cables and cylinder (as part of the mast arrangement) were suspended loads. (Tr. 384). He agreed with the Secretary's counsel that it was his experience, based upon background, education, training and the materials entered into evidence, that the oil field industry is well aware and recognizes that employees are exposed to struck-by hazards on the drill floor during rig-up operations on a telescoping rig. (Tr. 404, 409).

Testimony of Walter Smith

[50]Mr. Britton did not examine Rig No. 3 after the accident. He also did not review the forensics, autopsy of the decedent, or a good set of photographs. (Tr. 383-84).

Mr. Smith has worked in oil drilling since 1972. He has been a drilling manager with Big Dog for almost five years. He supervises approximately 750 employees. He testified that in his opinion, the policies of the various companies that Mr. Britton discussed were directed at pulling or servicing units, and not drilling units. He further testified that to his knowledge Rig No. 3 was bought as a rotary drilling rig. He explained the difference. A pulling unit has a work floor mounted on the unit itself that stays on the carrier at all times. When the unit is scoped up the floor is laid down, and that floor, usually 6 or 8 feet square, is the work floor. A drilling unit has a substructure that is designed as a totally separate piece. The substructure, holding the rotary table area and the racking floor, is rated to support a certain amount of weight. The mast of a drilling unit is transported to the work site on a carrier. The substructure is transported to the site separately on a hauling or rig-up truck. Mr. Smith stated that the written materials referenced by Mr. Britton were directed at pulling units, and not drilling rigs. (Tr. 418-25).

Mr. Smith described the two previous failures of Rig No. 3. In the first, the flat piece of iron attached to the bottom of the ram had corroded and it gave way while the rig was being raised, causing the ram to fail and bend. In December 2006, Crown completely repaired and redid the mast and recertified it, at a cost of $529,232.70. Crown recertified that Rig No. 3 was repaired to specifications and, in Mr. Smith's words, that it could "handle what it was originally designed to handle." In the second, the operator attempted to pull an 8 3/4 IB into the rotating head with only a 7 7/8ths opening, which damaged the top legs of the top part of the mast.[51] At the time, Rig No. 3 was already rigged up and was not engaged in raising or lowering the mast. The damaged mast did not fall below. In June 2007, Crown put a "brand new" mast, which

[51]Mr. Smith indicated the operator was disciplined after the incident. (Tr. 432).

included a new ram, on the rig, and again recertified the rig, at a cost of $212,234.50.[52] The new mast was heavier and could pull more weight during raising and lowering. Mr. Smith described the new derrick as a 250,000 pound test pull derrick. Mr. Smith chose the heavier mast to avoid a similar incident in the future and to add a larger margin of safety to the rig. No one was injured in either incident, and no changes were made in where employees were positioned on the floor during rig-up. (Tr. 425-32; 441-42, 457-58, 469-70; R-14, R-15).

Mr. Smith observed the video of Crown's test of Rig No. 3 at the hearing. He said that rig-up was "naked," as there was no equipment such as the block and drilling lines suspended from the mast, but he considered the top part of the mast to be part of the load. He also said Big Dog tested the rig in its yard after Crown delivered the rig. The test involved scoping up Rig No. 3 half way. The yard was too close to the airport to scope it up to its full height, which cannot be done without advance notice to and permission from the airport. The scope-up in the yard was done with as many lines on the mast as possible, but there was no equipment like the block or counterweights on the mast. After the test, Big Dog took the rig to the site. Mr. Smith was not present at the time, but he knew the crew had scoped up the mast to its full height the day before the accident.[53] That scope-up included all of the equipment that was on the mast at the time of the accident, except for the 200 to 300 pounds added to the counterweight buckets just before the accident occurred. (Tr. 432-33, 458-60).

[52]These recertifications were in accordance with API standards and regulations. (Tr. 442).

[53]Mr. Smith was also not there for Crown's rig-up of Rig No. 3 or Big Dog's test in the yard. He indicated he was familiar with telescoping rigs, but he agreed that he had never actually worked on one. He also agreed that, in his statement to OSHA, he had indicated he was not that familiar with such rigs. He said he had been on Rig No. 3's floor many times. (Tr. 436-39, 466).

During cross-examination, Mr. Smith agreed, after reviewing a photograph of Mr. Chavarria's body, that he did not know where Mr. Chavarria was standing at the time he was killed. He stated that he was familiar with API standards and practices to some extent. He testified that he was not familiar with any API standards that addressed where personnel should or should not be standing on platforms during rig-up. Mr. Smith also stated that he was unaware that Mr. Steele had said that the block came down and caught Mr. Chavarria on the right side. Mr. Smith estimated that the rig floor of Rig No. 3 was 18-20 feet wide and 15-18 feet long. (Tr. 419, 443, 447-51).

Mr. Smith said he believed that all personnel needed to be safe and clear of any hazards and in their proper position before a mast or derrick was raised.[54] He also said there were always potential hazards up on the rig floor and that he and Big Dog had been aware of the hazards of falling equipment before the accident. In his view, the driller and tool pusher both needed to be up on the rig floor for scope-up, and both were in a potential danger zone. He believed it was necessary to have the driller on the floor of Rig No. 3 for scope-up and indicated the job could not have been done as effectively from the ground. Mr. Smith stated that Big Dog had not revised its policy as to where the driller was located. That policy was for the driller to be on the far corner on the "off side" of the racking board, which was not right in front of the mast. In that position, the driller could see both tool pushers, communicate with everyone, and watch the mast. Mr. Smith noted that if Mr. Chavarria had been where he was shown in the photos, he had been in the wrong

[54]The Safety Policy of Acme Energy Services, Respondent's parent company, states that "It shall be the responsibility of the Contractor's operator to ensure that all personnel are completely and safely clear before a derrick or mast is raised or lowered." (Tr. 455-56; C-39, p. 254).

place and in harm's way. He stated that Mr. Chavarria was supposed to be further back from where his body was shown in photographs and not out in the middle of the work floor. (Tr. 439, 456-57, 460-65; C-39, p. 254).

The Secretary Has Met the First and Third Elements of her Burden of Proof

The first element the Secretary must show is that an activity or condition in the employer's workplace presented a hazard to employees. Respondent asserts the Secretary's citation does not even identify a condition or practice. I disagree. The citation alleges that "employees were exposed to 'struck-by' hazards on the drill floor during 'rig-up' operations on a telescoping drilling rig." The evidence in this case shows that as the mast was being scoped up, the ram failed and Mr. Chavarria was struck by the ram, block, or cables, or a combination thereof. Mr. Ruth testified that although he did not see what happened, he saw the ram to the left side of Mr. Chavarria and the block to his right immediately after the accident. He also testified he had no reason to believe the ram did not strike Mr. Chavarria and that it was a "possibility" the block also struck him. (Tr. 165-66). Mr. Steele's statement, taken July 20, 2007, indicates he saw the block hit Mr. Chavarria on one side and the ram hit his other side. (C-34, p. 112). Mr. Britton opined the ram or the block, or even cabling, had hit Mr. Chavarria. (Tr. 383). The hazardous condition, therefore, was Mr. Chavarria's exposure to being struck by equipment as he stood on the rig's floor while the mast was being scoped up. The citation does not identify the specific items that struck or could have struck Mr. Chavarria. However, I find that the citation sufficiently describes the hazard. The Secretary has thus shown the first element. She has also shown the third element that the hazard was causing or likely to cause death or serious physical harm. This is so in view of Mr.

Chavarria's fatal accident and the certainty that heavy equipment, like the ram and block, striking employees would cause death or serious physical harm.

The Secretary Has Not Met the Second Element of Her Burden of Proof

The second element is whether Respondent or its industry recognized that the condition or activity was hazardous.

1. Big Dog did not recognize at the time of the accident that having an employee standing on the racking board during scope-up operations was hazardous.

The parties agree that Mr. Chavarria was standing on the racking board, the part of the rig floor farthest from the mast, at the time of the accident. S. Brief, p. 3; R. Brief, p. 4. *See also* R-24A. They disagree whether Big Dog recognized Mr. Chavarria's location as a hazard. Mr. Ruth testified Mr. Chavarria was about mid-center on the racking board. He indicated he himself had stood in that location "hundreds of times" during scope-up operations when he was a driller for other companies. He also indicated that being in that location was standard procedure and how he and others in the industry were taught. (Tr. 77-78, 103-06, 118). Upon viewing the photographs at C-28, Nos. 64 and 49, Mr. Ruth disagreed that Mr. Chavarria's feet were "just a few feet" from the mast legs. He said the driller's console, where Mr. Steele was, was 8 to 10 feet from Mr. Chavarria.[55] (Tr. 71-72, 163-67). Mr. Ruth also identified, on C-43, where Mr. Chavarria was, where the drill floor and rotary table area were, and where the block was. He said Mr. Chavarria was not "under the mast," as that refers to the 3-foot space between the mast and the drill floor

[55]At the hearing, the Secretary suggested the rig floor was only 6 to 8 feet square. Mr. Smith disagreed, estimating it was 18 to 20 feet by 15 to 18 feet. (Tr. 450-51, 457). Mr. Britton himself estimated the floor to be 10 by 12 feet or larger. (Tr. 230-31). Upon viewing C-28, No. 61, and considering all of the testimony, I conclude that Mr. Smith's estimate was the most accurate.

where the rotary table area is. (Tr. 118-19, 136-38). He also said that, at the time of the accident, he did not believe that someone working around the racking board area would be exposed to being hit by materials suspended above should the mast fail. Prior to the accident, he did not believe that it was dangerous to have someone on the racking board during the scope-up process. Mr. Ruth had never seen a similar accident before. (Tr. 78-79, 84, 103, 153, 163). Mr. Ruth stated that there is still an employee on the racking board for scope-up on telescoping rigs. (Tr. 153-55, 162).

Mr. Sanchez testified that, before the accident, he and Big Dog recognized that drilling rig moves were among the most hazardous tasks the employees performed and that all personnel were to be completely and safely clear before a derrick or mast was raised. However, he also testified he had never before heard of an accident like the one involving Mr. Chavarria and it had not occurred to him such an accident could happen. (Tr. 179-82).

Mr. Smith testified there were always potential hazards on the rig floor and that he and Big Dog knew of the hazards of falling equipment before the accident. He also testified he believed that all personnel needed to be safe and clear of any hazards before a mast or derrick was raised. However, in his view, both the driller and tool pusher had to be up on the floor and both were in a potential danger zone. (Tr. 456, 460-65).

Based on C-43, R-24A and Mr. Ruth's testimony, I find that the block was not "right above" Mr. Chavarria's work area, as the Secretary suggests. S. Brief, p. 3. Rather, in view of the evidence, the block was basically above the rotary table area, and beyond that was the racking

board, where Mr. Chavarria was.[56] *See* C-43; R-24A. I also find that Big Dog did not recognize that having the driller where Mr. Chavarria was located during scope-up operations was hazardous before the accident. Mr. Ruth's testimony made this clear, and I found him a credible and convincing witness. I also found Mr. Sanchez a credible witness. He and Mr. Ruth both indicated they knew of no similar accidents before the one in this case and had not believed such an accident could have happened.[57] Mr. Sanchez did testify that he and Big Dog recognized that rig moves were hazardous and that all persons must be completely and safely clear before a derrick or mast is raised during drilling rig moves. These provisions are in Big Dog's safety policy. *See* C-39, p. 254. However, as I read the provisions, they are not specific enough to show that Big Dog recognized, before the accident, that Mr. Chavarria's location on the racking floor during Rig No. 3's scope-up was dangerous.[58] This is especially so in light of Mr. Ruth's testimony.

Mr. Ruth was adamant that Mr. Chavarria's feet were not "just a few feet" from the mast legs. He also said the driller's console, where Mr. Steele was, was 8 to 10 feet from Mr. Chavarria. (Tr. 71, 163-67). I have already found Mr. Ruth to be a credible witness, and no one testified specifically how far Mr. Chavarria was from the mast when the accident occurred. I find Mr. Ruth's testimony to be the most reliable evidence regarding the location of Mr. Chavarria due

[56]Mr. Britton's testimony also shows that the block hung over the hole, or rotary table area. (Tr. 225-26).

[57]In this regard, I have noted Mr. Ruth's testimony that the two prior incidents involving Rig No. 3 were not the same as the accident in this case. I have also noted Mr. Smith's testimony concerning the two prior incidents. (Tr. 100-01, 425-32, 457-58, 469-70). I find that the two prior incidents do not establish Big Dog's recognition of the cited hazard.

[58]This finding is supported by the discussion that follows as to industry recognition.

to his familiarity with Rig No. 3 and his viewing the scene right after the accident took place.[59] This finding supports my conclusion that Big Dog did not recognize Mr. Chavarria's location on the racking board to be a hazard.

2. The Secretary did not prove that the industry recognized that having an employee on the racking board during scope-up operations was hazardous.

[59]Mr. Britton indicated on C-44, his sketch of the rig floor, the two locations where he thought Mr. Chavarria could have been based on other witness testimony and the photographs of Mr. Chavarria after the accident. (Tr. 226-33). One of these location shows Mr. Chavarria lying just to the left of the hole. Mr. Britton conceded his sketch was not to scale and that it represented approximations, especially as to Mr. Chavarria's location. (Tr. 306). I find that Mr. Chavarria was not lying just to the left of the hole, in view of the creditable evidence of record.

Turning to industry recognition of the cited hazard, Mr. Britton, the Secretary's expert, testified there was "no question in [his] mind" that the industry recognized that employees working up on the rig floor where Mr. Chavarria was were exposed to the hazard of being struck by equipment during scope-up. (Tr. 289). His opinion was based on his experience and the numerous industry manuals he discussed.[60] However, Mr. Britton's opinion does not hold up under scrutiny. He said Rig No. 3 was a small pulling or well servicing unit that had been converted to a drilling unit by the addition of a completely separate drill floor. He also said that such a unit before modification had a small floor that was attached to and part of the carrier. While it had a separate drill floor after it was converted, the word "carrier" still included the separate drill floor. (Tr. 260-70). Even assuming Rig No. 3 was a converted well servicing unit, I do not agree. First, Mr. Britton provided no persuasive reasons for concluding that for a converted rig, the word "carrier" included the separate drill floor and racking board. Second, the Pool and Key manuals, discussed *supra*, essentially prohibit persons being on the carrier or under the mast or derrick as it is raised or lowered. (C-6, p. 32, C-11, p. 6-39). Third, the Schramm manual, also discussed *supra*, requires all persons to the rear and sides of the mast or derrick to be cleared before it is raised or lowered. (C-9). Taken together, these manuals indicate the industry prohibits being on or to the sides or back of the carrier when a mast or derrick is being raised.[61] These three manuals do not prohibit employees from standing mid-center on the racking board during scope-up operations involving telescoping rigs. Mr. Britton admitted the Schramm manual did not say to

[60]Several of the materials are undated. *See* C-9, C-13, C-15, C-17, and C-19. Several of them were published more than 20 years ago. *See* C-6, C-12, and C-14.

[61]Mr. Ruth explained this is so as the mast is raised hydraulically. If the hydraulics fail, the mast can fall and injure someone. (Tr. 147-48).

clear persons from the front of the carrier. (Tr. 341-42). He also admitted that Rig No. 3 was a drilling rig and that some of the manuals he relied on applied to servicing rigs. (Tr. 307, 326). His opinion, that the word "carrier" used in the manuals included a separate floor like the one on Rig No. 3, is rejected. Stated another way, the above provisions in the Pool, Key and Schramm manuals do not apply to the accident in this case.

Mr. Britton also opined that excerpts from the manuals prohibiting being under loads were relevant to this case. One of these, from the PETEX manual noted *supra*, states:

> Never walk or stand under anything being lifted. Use tag lines to guide a load. When loads are being hoisted there is always the possibility that a line may slip or break; objects may fall from above; and, broken lines can whip about dangerously.

(C-10, DOL 108). Mr. Britton indicated these provisions showed industry recognition that Mr. Chavarria's location, under suspended loads, was hazardous. (Tr. 275). On cross-examination, however, he agreed these and similar provisions did not mention being on a rig floor, raising a mast or derrick, or rigging up or down.[62] (Tr. 327-38). For example, C-2, C-3, and C-16 do not address workers being on the rig floor. (Tr. 357; C-2, C-3, C-16).

Mr. Britton also believed the manual provisions that prohibited being on or under the mast were relevant. (Tr. 275-80, 283-84). The record in this case shows Mr. Chavarria had not been "on" the mast. (Tr. 316, 356). Further, Mr. Ruth testified, as noted above, that "under the mast" refers to the 3-foot space between the mast legs and the drill floor. I have found Mr. Ruth a credible witness, and I find that Mr. Chavarria was not "under the mast" at the time of the accident. Based on the record, and particularly on Respondent's cross-examination, I conclude

[62]Mr. Britton tried to show that one of these provisions was relevant to this case, in that Mr. Steele was using the controls to raise the block. His effort was not persuasive. (Tr. 335-38).

Mr. Britton's opinions are not supported by the manuals he discussed. (Tr. 314-16, 326-42, 354-60).

The most serious blow to Mr. Britton's opinion was C-27, the DVD showing Crown's rig-up of Rig No. 3 after the mast and ram were replaced in June 2007. Mr. Britton's testimony about C-27 is set out in full earlier in this decision. C-27 shows Crown had an individual up on the rig floor as the mast was being raised from the carrier, as the top part of the mast was being scoped up, and as the mast was lowered back down onto the carrier.[63] Mr. Britton testified that Crown, the rig's manufacturer, should have followed industry practice and not had anyone on the floor during these activities, except the person operating the scope-up controls. Mr. Britton admitted someone had to be up on the floor to pin the mast legs to the rig floor and to then unpin the legs before the mast was lowered back down to the carrier. He noted, however, that the scope-up shown in C-27 began while the person was still pinning the legs, which was improper. He also noted that the person who unpinned the legs stayed on the floor while the mast was being lowered, which was also improper. In addition, the person who appeared on the carrier as the mast was almost back in place should not have been there. Mr. Britton indicated he planned to discuss C-27 with Crown. (Tr. 305-26, 389-400).

[63]Mr. Britton initially said the person on the carrier should not have been there as the carrier was being raised. On redirect, he changed his testimony to state that that person had to be there to operate the raising controls. (Tr. 308-10, 390-91). Also, in view of Mr. Ruth's testimony, Mr. Ruth evidently scoped up the mast from an area back behind the mast and not from any controls on the floor.(Tr. 119-21). And, while it is unclear from C-27, it appears the person on the floor may have used the driller's controls to lower the mast to the carrier. (Tr. 321).

In my view, C-27 thoroughly undermines Mr. Britton's opinion that no one should be on the rig floor during scope-up, except for persons essential to the operation, *i.e.*, those operating the controls on either side of the mast. That Crown, the rig's manufacturer, had an employee pinning the legs right under the mast at the same time scope-up was occurring convinces me, along with the other evidence in this case, that the industry did not recognize that Mr. Chavarria's location at the time of the accident was hazardous.[64] For these reasons, and all of those stated *supra*, I conclude the Secretary has not met her burden of proving that Big Dog or its industry recognized the cited condition as a hazard.

The Secretary Has Not Met the Fourth Element of Her Burden of Proof

The fourth element the Secretary must prove is that there were feasible means to eliminate or materially reduce the hazard. The means of abatement set out in the citation is:

> [to comply] with API Recommended Practice 54, Third Edition, April 1999, titled "Recommended Practice for Occupational Safety for Oil and Gas Drilling and Servicing Operations," which states in Section 9, Paragraph 9.2.9, "Only personnel required to carry out the operation shall be allowed in or under the mast unless it is in the fully raised or lowered position. No one other than the operator should be allowed on the carrier platform in the derrick or under the mast until well servicing units are fully scoped, raised, or lowered."

As Respondent notes, API Recommended Practice 54 ("R.P. 54") has a definitions section that defines the terms "drilling rig" and "well servicing rig," as follows:

> **3.1.33 drilling rig:** Equipment and machinery assembled primarily for the purpose of drilling or boring a hole in the ground.
>
> **3.1.111 well servicing rig:** Equipment and machinery assembled primarily for the purpose of any well work involving pulling or running tubulars or sucker rods, to

[64]This is so even without equipment such as the block being suspended over the floor, as Mr. Britton conceded that the ram in C-27 could have failed and struck the person on the floor as the mast was being scoped up. (Tr. 312).

> include but not be limited to redrilling, completing, recompleting, workover and abandoning operations.

See C-1A, pp. 4, 7. As Respondent also notes, section 9, paragraph 9.2.9, of R.P. 54, by its own terms, applies only to "well servicing units." R. Brief, p. 16. I agree. The citation sets out the terms of section 9, paragraph 9.2.9, verbatim. The fact that "well servicing units" are specified in the final sentence of paragraph 9.2.9 persuades me that paragraph applies to well servicing units and not drilling units. This is so even though section 9 applies generally to both drilling rigs and well servicing rigs, because the latter are specified in paragraph 9.2.9. *See* C-1A, pp. 4, 7, 16.

As Respondent further notes, even if paragraph 9.2.9 does apply to Rig No. 3, the record shows that Big Dog complied with the terms of that paragraph. R. Brief, pp. 16-17. As set out *supra*, Mr. Ruth testified that no one should be on the carrier when the mast is raised to vertical because, if the hydraulic equipment fails, the mast can fall and injure someone. He also testified that no one should be in the rotary table area during scope-up because, if there is equipment failure, the block or ram can fall in that area. Mr. Ruth explained that the rotary table area is the 3-foot area between the legs of the mast and the drill floor and that that is the only part of the drilling rig that is actually under the mast. Mr. Ruth stated that if someone were to say that Mr. Chavarria was "under the mast" at the time of the accident, that person would be wrong. He also stated that Mr. Chavarria was not on the carrier platform on the day of the accident. (Tr. 118-21, 136-41,147, 168; C-28, No. 49, C-43, R24A). I have found Mr. Ruth a credible witness. On the basis of his testimony, I agree with Respondent that Big Dog was in compliance with the terms of both sentences contained in paragraph 9.2.9.

Although it is not necessary to reach this issue, I address whether Mr. Chavarria was a person "required to carry out the operation" such that he had to be up on the rig floor during

scope-up on July 20, 2007. Mr. Ruth testified that Mr. Chavarria had to be on the racking board to watch the lines and to watch the mast as it went up, and to watch the stabilizer bars and the board as it folded out as the mast went up. He also had to be there to communicate with the tool pushers. Mr. Ruth said that although the driller's job could be done from the ground, it would not be as effective. The driller has the best view of the mast, cables and lines from the racking board. If a cable or line gets caught, or if there is a problem with the mast, the driller is in the best position to see it and tell a tool pusher before the problem becomes a hazard. He also said it can be more dangerous to not have a driller up on the racking board. If a cable or line catches on something, it can have a slingshot effect and rip a board or equipment off the rig that can strike someone on the ground. Mr. Ruth stated that being on the ground is not necessarily safer than being on the racking board. When a mast failure occurs, there is no way to tell which way or where it will fall. The tool pusher on the controls or a rig hand in another area of the rig can just as easily be hit by the mast if it fails. (Tr. 92-99, 107-08, 132). Mr. Smith also believed it was necessary to have the driller on the floor for scope-up on Rig No. 3. He indicated the job could not have been done as effectively from the ground. (Tr. 460-62). *See also* R. Brief, pp. 18, 21-22. Based on the evidence of record, I conclude that Mr. Chavarria, in working on the racking board of the rig floor during scope-up, was a person "required to carry out the operation" on July 20, 2007.

In reaching this conclusion, I have noted the Secretary's contrary assertions. I have considered the Secretary's arguments in this regard and find them unpersuasive. In particular, I have considered the Secretary's implying that after the accident, Mr. Ruth no longer had anyone on the rig floor where Mr. Chavarria had been and that he now puts the driller on the ground and has successfully scoped up rigs like Rig No. 3 that way. S. Brief, pp. 19-20. However, as set out

supra, Mr. Ruth's testimony was that while no one stands now where Mr. Chavarria was at the time of the accident, Big Dog still has an employee on the racking board for scope-up. (Tr. 153-55, 162). Mr. Smith explained that Big Dog's policy was for the driller to be on the racking board, but not right in front of the mast. (Tr. 462-64). Mr. Ruth's testimony indicates that while he and others had discussed, after the accident, putting the driller on the ground for scope-up, the policy instead changed as to where the driller stood on the racking board.[65] (Tr. 88, 153-55, 162).

[65]As noted *supra*, in footnote no. 14, Mr. Ruth agreed he had said in his statement to OSHA, when asked if scoping up could be done as effectively with no one on the rig floor, "Yeah, I think so." He indicated he no longer agreed with that statement at the hearing. He also indicated that at the time he made that statement he had been working on a different type of rig and not on Rig No. 3. (Tr. 156-60).

For all of the foregoing reasons, I find that the Secretary has not demonstrated the fourth element of her burden of proof. Because the Secretary has not met two of the elements necessary to prove a violation of the general duty clause, the citation is vacated.[66]

FINDINGS OF FACT AND CONCLUSIONS OF LAW

The foregoing decision constitutes my findings of fact and conclusions of law in accordance with Federal Rule of Civil Procedure 52(a).

ORDER

Based upon the foregoing findings of fact and conclusions of law, it is ordered that:

1. Serious Citation 1, Item 1, alleging a violation of section 5(a)(1) of the Act, is VACATED in its entirety.

/s/_____

The Honorable Dennis L. Phillips
U.S. OSHRC Judge

Dated: November 01, 2009
Washington, D.C.

[66]In vacating the citation, I am very aware of the tragic accident that resulted in the death of Mr. Chavarria. I am also aware of the testimony of all of the witnesses that working up on the rig floor during scope-up can be hazardous. However, in this particular case, the Secretary simply failed to meet her burden of proof with respect to the alleged section 5(a)(1) violation.