UNITED STATES OF AMERICA
OCCUPATIONAL SAFETY AND HEALTH REVIEW COMMISSION

SECRETARY OF LABOR, Complainant, v. BRONCO OILFIELD SERVICES, INC., Respondent.

DOCKET NO. 16-0996

Appearances:

Christopher Lopez-Loftis, Esq., U.S. Department of Labor, Office of the Solicitor, Dallas, Texas
For Complainant

Michael H. Bagot, Jr., Esq., Wagner, Bagot & Rayer, L.L.P., New Orleans, Louisiana
For Respondent

Before: Administrative Law Judge Brian A. Duncan

DECISION AND ORDER

Background

On January 29, 2016, Compliance Safety and Health Officer John Ammon conducted an inspection of the Hardesty oil well site,[1] located in Grady County, Oklahoma. (Tr. 25). The inspection included multiple employers working at the location, and was conducted under a

[1]. The full identifier for the oil well is Hardesty IH-22-15, SC 22-10 N-6W.

regional emphasis program for upstream oil and gas activities, particularly those involving well sites. (Tr. 41). CSHO Ammon identified this particular well site through the use of state agency documents tracking well activity in a portion of the state near Grady County. (Tr. 41). The Hardesty well belonged to Citizen Energy II, the production company. (Tr. 42). Citizen Energy hired three contractors to conduct pre-frack testing on the well. (Tr. 43).

Bronco Oilfield Services, one of those contractors and the Respondent in this case, was hired to provide water and pressurization equipment to perform a test frack of the Hardesty well. (Tr. 44). A test frack provides information to the production company about how the well, which had already been drilled, would be fracked in the future.[2] (Tr. 44, 182, 268–69). During a test frack, water is pumped down the well until a sleeve is pushed down and the first fracking zone is opened up. (Tr. 182). Once the zone was opened up, Respondent was to perform an injection test and determine the well's pump capacity. (Tr. 182).

The pre-frack process at the Hardesty well required Respondent to attach two 500-barrel water tanks and two truck-mounted pumping units to the wellhead. (Tr. 50; Ex. R-3). One pumping unit contained two pumps (Unit 8096) and the other contained a single pump (Unit 8082). (Exs. R-3, C-12 at 1–2). The two pumps on Unit 8096 were tied together into a single pipeline close to the rear of the truck. (Ex. C-12 at 1). In turn, the merged pipeline from 8096 was tied into the pipeline running from Unit 8082. (Tr. 192; Ex. C-12 at 3). The resulting, single, consolidated pipeline was then run to the wellhead and tied into the Christmas tree.[3] In order to connect/disconnect to the wellhead Christmas tree, Respondent's employees had to reach across a well cellar (essentially a pit) surrounding the wellhead. (Tr. 328; Ex. C-12 at 7).

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[2]. According to CSHO Ammon, there are different approaches to fracking a well, which are dictated by the information gleaned from pre-fracking activities. (Tr. 269).

[3]. A Christmas tree is a series of valves mounted to the top of the wellhead to control the flow of hydrocarbons, and other fluids, into and out of the well. (Tr. 268; Ex. R-36 at § 3.1.21).

All told, roughly 50 pieces of iron pipe were tied together on the ground between Respondent's pumps and the Christmas tree through a series of joints, valves, transducers, and flow meters. (Tr. 177–78; Ex. C-12 at 3). This set-up process is known as "rigging up". (Tr. 176).

After the pumps and pipe were rigged up, the crew performed a pressure test to ensure the set-up was correct and the system was stable. (Tr. 178). The test required the crew to ensure all valves were open along the pipe path to the well, and then power up the pumps to a pre-determined level. (Tr. 279). In this case, the company man for Citizen Energy wanted pressure testing conducted up to 9,500 psi.[4] It should be noted that Respondent's equipment, inclusive of the pumps and pipe, was rated to 15,000 psi. (Tr. 67, 216, 223-224). Due to the extreme high pressure involved in the operation, Respondent implemented various measures to counteract overpressure, including pop-off, or pressure relief, valves and kick-out gauges.

A pop-off valve is designed to "prevent over-pressuring of the lines and pump equipment", which it accomplishes by releasing pressure in the line at a pre-determined limit, in this case 9,500 psi. (Tr. 138–39; Ex. R-5 at 2). A kick-out gauge, on the other hand, is a manual gauge set by the operator on the control panel in the cab that will disengage the motor and transmission of the pump once a pre-determined pressure level has been reached, thus preventing the pressure from exceeding the pre-set limit. (Tr. 201; Ex. R-33). The kick-out gauge is typically set to engage between 500 to 1000 psi lower than the pop-off valve and serves as the "first-line defense for over-pressuring the iron" beyond the level set by the company man. (Tr. 201-202; Ex. R-33). On this particular set-up, Respondent's field supervisor, Andrew Souza, installed a single pressure relief valve for the three-pump system, but each pump was equipped with its own kick-out gauge. (Tr. 315).

Respondent arrived at the Hardesty well on January 27, 2016, and was only scheduled to

[4] pounds of pressure per square inch

be on-site for one day. However, due to problems experienced by another on-site contractor, Respondent remained at the work site for two additional days. (Tr. 173, 182, 211). The testimony provided by Davenport and Souza was somewhat inconsistent as to what activities—breakdown, pressure test, rig up, rig down—occurred on which days; however, there was no dispute that each of the listed activities was carried out between January 27 and January 29, 2016. Further, there was no dispute that the rigging set-up observed by CSHO Ammon was the same throughout the relevant period. (Ex. R-3). According to the activity logs submitted by Respondent, it appears that actual pumping activities occurred on January 27th and 28th. (Ex. R-2).

After meeting with the Citizen Energy company man on January 29, 2016, CSHO Ammon held an opening conference with Andrew Souza, Respondent's site supervisor, conducted a walk-around inspection of Respondent's equipment, and interviewed pump operator Cody Davenport. (Tr. 53–54; Exs. C-1, C-5). One of CSHO Ammon's first observations was that neither of the pumps on Unit 8096 had its own pressure relief valve; only Unit 8082 had a pressure relief valve installed on its direct line. (Tr. 54). Further investigation revealed additional pressure relief valves were available in the trailer adjacent to the pumping unit. (Tr. 56; Ex. C-12 at 4). CSHO Ammon also noted Respondent had installed whip-checks, or tie-downs, on the first sections of pipe that were directly connected to the pumps; however, none of the other pipe between the pumps and the wellhead had been secured to the ground. (Tr. 63–65; Ex. C-12). Finally, CSHO Ammon found the well cellar, which he measured as roughly 5–6 feet deep and 8 feet across (with the Christmas tree in the center), was not protected with a guard or cover. (Tr. 80; Ex. C-12 at 7).

Based on his observations, CSHO Ammon determined that Respondent violated the

general duty clause based on its failure to install a pressure relief valve for each pump being used, and a failure to tie down the pipe sections to prevent their unintentional movement. CSHO Ammon testified that each of these failures exposed Respondent's employees to blunt force trauma, lacerations, and potentially death as a result of overpressure resulting in a line or system failure, which could result in shrapnel and exposure to contents under extremely high pressure. (Tr. 67–68, 87). He also concluded that Respondent violated the walking/working surfaces standard due to employees reaching over the unguarded well cellar to attach pipe to the Christmas tree. As a result of CSHO Ammon's investigative recommendations, OSHA issued a *Citation and Notification of Penalty* ("Citation") to Respondent, which alleged one serious violation of the general duty clause (with three sub-instances), and one serious violation of 29 C.F.R. § 1910.22(c). Complainant proposed total penalties of $6,000.00 for the violations. Respondent timely contested the Citation, which brought the matter before the United States Occupational Safety and Health Review Commission ("Commission") for adjudication pursuant to Section 10(c) of the Occupational Safety and Health Act of 1970, 29 U.S.C. § 651 *et seq*. ("the Act").

A trial was conducted in Oklahoma City, Oklahoma on April 4–5, 2017. Before either party presented evidence, Complainant withdrew instance (c) of Citation 1, Item 1. (Tr. 9). Three witnesses testified at trial: (1) CSHO John Ammon; (2) Cody Davenport, Respondent's fluid pump operator;[5] and (3) Andrew Souza, Respondent's field supervisor. Both parties timely submitted post-trial briefs for the Court's consideration.

Jurisdiction & Stipulations

The parties stipulated that the Commission has jurisdiction over this proceeding pursuant to Section 10(c) of the Act. (Tr. 24–25). The parties also stipulated that, at all times relevant to

[5]. By the time of the hearing, Mr. Davenport had been promoted to a supervisor. (Tr. 171).

this proceeding, Respondent was an employer engaged in a business and industry affecting interstate commerce within the meaning of Sections 3(3) and 3(5) of the Act, 29 U.S.C. § 652(5). (Tr. 24–25). *See Slingluff v. OSHRC*, 425 F.3d 861 (10th Cir. 2005).

Discussion

Citation 1, Item 1

Complainant alleged a serious violation of the Act in Citation 1, Item 1 as follows:

> OSH ACT of 1970 Section 5(a)(1): 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 struck by hazards:
>
> Southwest side of the wellhead: On or about January 29, 2016, employees were running two pumping units in support of a pre-fracking operation. The pumping installation and operation exposed the employees to the hazard of being struck by high pressure water and/or high pressure line components in the following instances:
>
> a) The lines carrying the high pressure water from the two pumping units to the wellhead were not secured to prevent movement in the event of a line failure.
>
> b) One of the two pumping units did not have installed pressure relief devices on either of its pumps.
>
> . . .
>
> Among other methods one feasible and acceptable means to protect employees against high pressure water and moving line components would be to comply with The American Petroleum Institute (API) Recommended Practice (RP) 54, Recommended Practice for Occupational Safety for Oil and Gas Well Drilling and Servicing Operations Section 9.13, Pressure Equipment.

Citation and Notification of Penalty at 6.[6]

To establish violation of the general duty clause, Complainant must prove, by a

[6]. As noted above, instance (c) of Citation 1, Item 1 was withdrawn by Complainant. The Court has removed instance (c) from its recitation of Complainant's allegations.

preponderance of the evidence, that: (1) a condition or activity in the workplace presented a hazard; (2) the employer or industry recognized the hazard; (3) the hazard was likely to cause death or serious physical harm; and (4) a feasible and effective means existed to eliminate or materially reduce the hazard. *See Waldon Healthcare Center*, 16 BNA OSHC 1052 (No. 89-2804, 1993); 29 U.S.C. § 654(a)(1). Complainant must also prove that Respondent knew, or with the exercise of reasonable diligence, could have known, of the violative condition. *Tampa Shipyards*, 15 BNA OSHC 1533, 1535 (Nos. 86-360, 86-469, 1992).

The Conditions Presented a Hazard

According to the Commission, "[H]azards 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 (No. 82-388, 1986) (citing *Davey Tree*, 11 BNA OSHC 1898, 1899 (No. 77-2350, 1984)). Put another way, "A safety hazard at the worksite is a condition that creates or contributes to an increased risk that an event causing death or serious bodily harm to employees will occur." *Baroid Div. of NL Indust., Inc.*, 660 F.2d 439, 444 (10th Cir. 1981). *See also Waldon*, 16 BNA OSHC 1052 ("There is no mathematical test to determine whether employees are exposed to a hazard under the general duty clause. Rather, the existence of a hazard is established if the hazardous incident can occur under other than a freakish or utterly implausible concurrence of circumstances." (citing *National Realty & Constr. Co. v. OSHRC*, 489 F.2d 1257, 1265 n. 33)).

Instance (a)

CSHO Ammon identified the unsecured pipe between the pumps and the wellhead as a hazard based upon the high operating pressure of the system. According to Davenport, Citizen Energy's company man wanted the pump system operating up to 9,500 psi. (Tr. 202). At this

level of pressure, CSHO Ammon testified that a line failure could cause: (1) flying objects in the form of pipe unions or joints that connect the multiple pieces of pipe; (2) sudden, unexpected movement of the pipe itself; and (3) severe lacerations if an employee were exposed to a release of the liquid contents under pressure. (Tr. 67). CSHO Ammon supported his conclusion that the unsecured line presented a hazard by recounting injuries and deaths on other worksites that resulted from line failures occurring at much lower levels of pressure, including one worksite on which an air receiver operating at 100 psi came loose and struck an employee's head. (Tr. 66).

Respondent argued that Complainant failed to establish the existence of a hazard, pointing to its policy of implementing a buffer zone, which placed employees behind barriers ("iron") to prevent exposure to the hazard, and the existence of gauges and valves designed to protect against over-pressurization. *Resp't Br.* at 29. However, these practices addresses Respondent's precautions to prevent exposure to the hazard, not the existence of the hazard. Accordingly, the Court finds that a hazard existed with respect to Instance (a).

Instance (b)

The hazard identified by CSHO Ammon with respect to Instance (b) is essentially the same as in Instance (a): over-pressurization leading to line or equipment failure. (Tr. 237-238). In this instance, however, CSHO Ammon added the hazard of shrapnel resulting from an explosion. (Tr. 139–140). Whereas the previous instance more specifically addresses a line failure at the pipe unions, instance (b) addresses the potential for the pipe or pressure equipment to explode due to the system's inability to adequately relieve pressure. Given the tremendously high pressure at which Respondent's equipment operated, and in consideration of CSHO Ammon's testimony regarding deaths that have occurred as a result of over-pressured equipment operating at much lower pressures, the Court finds that the pump system presented a hazard as

alleged by Complainant.

As with Instance (a), Respondent contends it adequately addressed the hazard through its implementation of pressure relief valves and kick-out gauges, as well as the aforementioned buffer zone. Again, however, the implementation of such devices or policies does not negate the existence of the hazard in the first instance; rather, they are designed to abate an already recognized hazard. *See Peacock Eng'g, Inc.*, 26 BNA OSHC 1588 (No. 11-2780, 2017) ("The efficacy of Peacock's work methods in avoiding injury, however, is a separate inquiry from whether an alleged hazard was present."). Respondent did not rebut Complainant's allegation that the pressurized equipment presented a hazard; indeed, as will be discussed below, Respondent implemented a number of measures and controls to prevent such a hazard from actually causing injury.

Respondent and its Industry Recognized the Hazards

According to the Commission, a hazard is recognized when either the cited employer or its industry recognizes the risk of harm from the cited conditions. *See Arcadian Corp.*, 20 BNA OSHC 2001, 2008 (No. 93-0628, 2004). Probative evidence of industry recognition includes, amongst other things, voluntary industry standards, such as those published by ANSI, NFPA, and API. *See, e.g., Cargill, Inc.*, 10 BNA OSHC 1398 (No. 78-5707, 1982) (NFPA); *Kokosing Constr. Co.*, 17 BNA OSHC 1869 (No. 92-2596, 1996) (ANSI); *Duriron Co.*, 11 BNA OSHC 1405, 1407 n.2 (No. 77-2847, 1983) (NIOSH). Regarding employer recognition, the Commission stated, "While an employer's safety precautions *alone* do not establish that the employer believed that those precautions were necessary for compliance with the Act . . . precautions taken by an employer can be used to establish hazard recognition in conjunction with other evidence." *Beverly Enters., Inc.*, 19 BNA OSHC 1161 (Nos. 91-3144 *et al.*, 2000)

(emphasis added) (citing *Wheeling-Pittsburgh Corp.*, 16 BNA OSHC 1218 (No. 89-3389, 1993); *Waldon*, 16 BNA OSHC at 1061–62).

Instance (a)

The Court finds both Respondent and the well-servicing industry recognized the hazard of overpressure leading to line movement and/or line failure. API Recommended Practice 54 states, "Each section of a high pressure rigid line should be secured using appropriate means to prevent movement should the line fail." (Ex. R-36 at § 9.13.3). This standard directly addresses the hazard identified by CSHO Ammon—the potential for line failure and unintentional movement of the iron pipe. (*Id.*). The Court's finding of industry recognition is bolstered by CSHO Ammon's testimony that he has observed other employers secure pipe between the wellhead and pumps as suggested in API RP 54. (Tr. 66).

In addition to industry recognition, the Court also finds Respondent was directly aware of the hazard posed by unsecured pipeline. The Job Safety Analysis filled out by Souza that indicated "pressure" as a hazard, and CSHO Ammon took photographs that showed a series of cables stretched over the top of the portion of the pipeline immediately extending from the back of the double pump unit. (Ex. C-12 at 1, R-28). These cables are commonly referred to as "whip checks" and, according to CSHO Ammon, whip checks are designed to limit movement, or whipping, of the line in the event of an overpressure event or line failure. (Tr. 70–71). This was confirmed by Souza, who testified his crew installed whip checks on the back of the double pump to prevent their movement. (Tr. 313). Souza also admitted when the pipeline is operating under pressure, line failure is "always a possibility." (Tr. 314). Because Respondent not only recognized the possibility of a line failure, but also implemented abatement measures to mitigate the effects of such a failure, the Court finds Respondent recognized the hazard described in

Instance (a).

Instance (b)

For similar reasons, the Court finds Respondent and its industry also recognized the hazard described in Instance (b). Again relying on API RP 54, Complainant argued that the well servicing industry recognized the hazards associated with over-pressurization. (Tr. 75–76; Ex. C-8). Section 9.13.8 of RP 54 states, "Positive displacement pumps shall be equipped with pressure relief devices that discharge to the circulation system or other acceptable location." (Ex. R-36 at 21). Similarly, Respondent's own procedures state:

> A pop off valve is a pressure relief valve, its purpose is to prevent over pressuring of lines and pump equipment and should be installed as near the pump as possible taking into consideration wind direction and populous area. It is recommended that a manual valve be ran under the pop off valve so in case the pop off valve washes out you can close the manual valve.

(Ex. R-5 at 2). In this case, Respondent installed a single pressure relief valve for the collective three-pump system. Thus, Respondent not only had procedures that addressed the hazard of overpressure, but Respondent also actually installed and used devices to counteract the hazard of over-pressurization, including pressure relief valves and kick-out gauges. Accordingly, the Court finds that Respondent and its industry recognized the hazard alleged by Complainant in Instance (b).

The Hazards were Likely to Cause Death or Serious Physical Harm

"[T]he Commission has made clear [that] the criteri[on] . . . [in this regard] is not the likelihood of an accident or injury, but whether, if an accident occurs, the results are likely to cause death or serious physical harm." *Peacock Eng'g*, 26 BNA OSHC 1588 (quoting *Waldon*, 16 BNA OSHC at 1060). As previously discussed, CSHO Ammon testified the hazard of over-pressurization leading to line failure or explosion could result in exposure to high pressure

liquid spray, pipe shrapnel, and violent movement of pipe or associated connections. Exposure to these hazards, according to CSHO Ammon, could cause severe lacerations, blunt force trauma, and even death. Respondent did not dispute these assertions. Accordingly, the Court finds the hazards addressed by both Instance (a) and Instance (b) were likely to cause death or serious physical harm.

Respondent's Employees were Exposed to the Hazard

Though not explicitly an element of the general duty clause, the Commission has held that "[i]mplicit in the above elements is the necessity for establishing employee exposure to the cited hazardous condition." *Grossman Steel & Aluminum Corp.*, 6 BNA OSHC 2020, 2022 (No. 76-2834, 1978). "The Secretary may prove employee exposure to a hazard by showing that, during the course of their assigned working duties, their personal comfort activities on the job, or their normal ingress-egress to and from their assigned workplaces, employees have been in a zone of danger or that it is reasonably predictable that they will be in a zone of danger." *Rgm Constr. Co.*, 17 BNA OSHC 1229 (No. 91-2107, 1995).

The question of exposure in this case is an interesting one. Respondent instituted a buffer/danger zone policy, which was intended to remove employees from the zone of danger imposed by the pressurized equipment. (Tr. 193; Ex. R-5). Prior to starting the pumps and pressurizing the system, employees were instructed to vacate the area and place "iron" between themselves and the pressurized equipment. (Tr. 194). In this case, the "iron" was either the equipment trailer or standing on the opposite end of the tractor that housed the pumps. (Tr. 194; Ex. R-3). According to Souza—who, along with Davenport, would be stationed in the operator's cabin of the double pump—he would communicate with two of his employees via

radio, who would, in turn, keep other employees and contractors out of the zone of danger. (Tr. 348).

Complainant argues that Respondent's buffer zone policy was insufficient to fully protect its employees for two reasons. First, Complainant argues that Respondent failed to conspicuously identify the buffer zone with red tape or other warning signs, which he had seen at other worksites implementing a similar policy. (Tr. 92–94). While such warning signs may have been more effective at highlighting the danger zone, there is no evidence to suggest that they were required, nor did Complainant establish the policy implemented by Respondent was ineffective or ignored. Accordingly, the Court finds those employees covered by the buffer zone policy were not exposed to the hazard.

Complainant's second argument, however, points out that not all of Respondent's employees were protected through the use of the buffer zone. Davenport and Souza were seated in the operator cabins while the pumps were being used. (Tr. 173, 178–79, 337). The operator's cabin on the double pump is located directly behind the pumps, with the window of the cabin overlooking the pipeline leading to the wellhead.[7] (Tr. 134; Ex. R-23). With respect to both Instance (a) and Instance (b), CSHO Ammon testified that an overpressure event leading to a line failure or explosion could cause whipping pipes; flying objects in the form of components, such as the unions that join pipes; exposure to contents under extreme pressure; and shrapnel. (Tr. 67–68, 139–140). In both instances, CSHO Ammon testified the pressure of the system was capable of ejecting metal components at such a speed that it could penetrate other metal. (Tr. 67, 78). CSHO Ammon's testimony is bolstered by Respondent's buffer zone policy, which addresses this hazard by placing the other employees behind the iron trailers. Davenport, and potentially Souza, however, were located in the pump cabs during pressurization, behind nothing

7. The control cab for the single pump unit was located on a separate trailer. (Tr. 134, 347; C-12 at 2).

more than a pane of glass.

Respondent attempted to undercut CSHO Ammon's conclusions by suggesting the cabs' control consoles could serve as a barrier, and also intimated that the operator would be seated at the lower edge of the pump cab windows. (Tr. 136, 214). While the control console may be substantial, there was no evidence to suggest it could (or was intended to) stop flying shrapnel, flying sections of pipes, or other components. Likewise, there was no evidence that the windows of the pump cabs were rated for such protection, nor is the Court convinced that the location of the operator's chair relative to the window reduced the risk of exposure in any way. Instead, the Court is persuaded by Respondent's own policy, which places all employees except the operator of the double pump and his supervisor behind the iron trailers. In Souza's words, "You always try to get something between you and the pressurized equipment. In case it does fail, you have something to take the force of it before it ever gets to you." (Tr. 340). There was no evidence that the cab provided that level of protection. Souza testified he did not feel at risk when in the operator's cabin only because "the chance of anything coming back at you is very slim." (Tr. 339). While likelihood of an actual injury may be relevant to a penalty determination, it does not negate the fact that the occupants of the cab were not adequately protected from the hazards described in Citation 1, Item 1. Accordingly, the Court finds that Davenport and Souza were exposed to the hazards in both Instances (a) and (b).

Respondent further argues Section 16 of API RP 54 was more specifically applicable to Respondent's work and thus takes precedence over the requirements of Section 9. *Resp't Br.* at 27. A brief review of Section 16 quickly dispels this argument: "All applicable recommended practices of other sections of this publication, in addition to the practices under Section 16, apply to acidizing, fracturing, and hot oil operations." (Ex. R-36 at § 16.1.2). Respondent's second

argument, which is premised on the first, is that Section 16 "mandate[s] that the operator be at the controls during operations . . . ." This is not entirely true. Section 16 actually states "[p]ump operators *should* remain at the controls while the pump is in operation." (*Id.* at § 16.2.2) (emphasis added). According to API RP 54, the term 'should' means, "a recommended practice(s) (a) where a safe comparable alternative practice(s) is available; (b) that may be impractical under certain circumstances; or (c) that may be unnecessary for personnel safety under certain circumstances." (*Id.* at § 3.1.89). Further, even though Davenport "should" be in the operator's cabin, nothing in the API standards (presented in this record) indicated that the cab was required to be located in any particular place. Although Davenport testified that the cab of the double pump is always set up in the manner described above, there was no testimony that its location directly behind the double pump was where it had to be. (Tr. 221). In fact, the operator's cabin for the single pump was located on a separate trailer, which tracks with Souza's testimony that Respondent determines the location of the cab relative to the pump equipment. (Tr. 347). Respondent's arguments are rejected. Respondent's pump operators were exposed to the hazardous condition of highly pressurized lines and equipment.

Respondent had Knowledge of the Hazardous Conditions

In addition to proving that Respondent, or its industry, recognized the hazard, Complainant must also prove that Respondent knew or, with the exercise of reasonable diligence, could have known of the presence of the violative condition. *See Pride Oil Well Svc.*, 15 BNA OSHC 1809 (No. 87-692, 1992). Complainant need not show Respondent knew the conditions were hazardous or violated the Act; rather, he need only show Respondent had actual or constructive knowledge of the conditions giving rise to the hazard. *Phoenix Roofing, Inc.*, 17 BNA OSHC 1076 (No. 90-2148, 1995). A supervisor's knowledge of the condition can be

imputed to the employer. *See Access Equip. Sys., Inc.*, 18 BNA OSHC 1718, 1726 (No. 95-1449, 1999).

Souza, Respondent's on-site supervisor, testified he did not install tie-downs on the pipeline, nor did he install more than one pressure relief device, because he "figured it would be enough." (Tr. 315). This constitutes actual knowledge of the hazard. Because Souza was a supervisory employee, his knowledge is properly imputable to Respondent. Accordingly, the Court finds Respondent was aware of the conditions constituting the hazard alleged by Complainant.

Feasible and Effective Means of Eliminating or Materially Reducing the Hazard

In order to establish a violation of the general duty clause, Complainant must "'specify the proposed abatement measures and demonstrate both that the measures are capable of being put into effect and that they would be effective in materially reducing the incidence of the hazard.'" *Arcadian Corp.*, 20 BNA OSHC 2001 (quoting *Beverly Enters., Inc.*, 19 BNA OSHC 1161 (No. 91-3144 *et al.*, 2000)). "Feasible means of abatement are established if 'conscientious experts, familiar with the industry' would prescribe those means and methods to eliminate or materially reduce the recognized hazard." *Id.* (quoting *Pepperidge Farm, Inc.*, 17 BNA OSHC 1993)). Where an employer has taken steps to abate the recognized hazard, Complainant must show those measures are inadequate. *Alabama Power Co.*, 13 BNA OSHC 1240 (citing *Cerro Metal Prods. Div., Marmon Grp., Inc.*, 12 BNA OSHC 1821, 1822 (No. 78-5159, 1986)). *See, e.g., SeaWorld of Florida, LLC v. Perez*, 748 F.3d 1202, 1215 (D.C. Cir. 2014) ("[SeaWorld] had already implemented abatement for at least one of its killer whales and needed only to apply the same or similar protective contact measures it used with Tilikum to other killer whales.").

Instance (a)

In order to abate the hazards associated with a pipeline failure or unintended pipe movement, Complainant proposed that Respondent use a staking system to secure the iron pipeline in place during pumping operations. (Tr. 64–65). API RP 54 does not specify the means by which the line should be "secured using appropriate means", but CSHO Ammon suggested driving pairs of substantial metal stakes into the ground at an angle over the top of the pipeline at various points, creating a "teepee" anchor, as it were. (Tr. 65). CSHO Ammon suggested that these anchors be installed at or near critical connection points and midpoint of each pipe section. (Tr. 65). Respondent did not dispute the efficacy of this form of abatement. Indeed, when confronted with the question of whether Respondent anchored the lines, Davenport also described a process by which anchors could be installed. (Tr. 199). Nonetheless, he testified that: "we just do not do that." (Tr. 198-199). Instead, he testified that anchors are typically utilized by employers engaged in flowback—drawing fluid out, instead of pumping it in—"[b]ecause the pump jobs usually consist of a day to a few days job but the flowback iron will be out there for months on general time." (Tr. 199). There was no evidence that that using tie-down stakes or anchors was exceedingly onerous or otherwise infeasible.

Respondent implemented a similar form of abatement through its use of whip-checks, but only with respect to the first section of pipe immediately connected to the double pump. (Tr. 68–69). In lieu of securing the entire line, Respondent contends that its buffer zone policy was sufficient to abate the hazard. However, as discussed above with respect to the issue of exposure, the buffer zone policy did not cover the pump operators in the control cabins during pressurization.

The Court finds that Complainant established the feasibility and utility of the staking/anchoring system described by both CSHO Ammon and Davenport. According to

CSHO Ammon, installing stakes or anchors at the midpoint of each pipe section, and at the connection points would prevent, or severely restrict, the unintentional movement of the pipe and, subsequently, the ejection of joints, collars, or other implements attached to it. (Tr. 64–69, 140). Respondent did not present evidence to suggest otherwise. Accordingly, Citation 1, Item 1(a) will be AFFIRMED.

Instance (b)

The Court finds that Complainant failed, however, to establish by a preponderance of the evidence that Respondent's use of a single pressure relief device ("pop-off valve") failed to address the explosion hazard associated with an overpressure event.

API RP 54 is not a model of clarity when it comes to the installation of pressure relief devices. It states, "Positive displacement pumps shall be equipped with pressure relief devices that discharge to the circulation system or other acceptable location." (Ex. R-36 at § 9.13.8). According to Complainant, § 9.13.8 requires a pressure relief device on a per pump basis to properly abate the hazard. The Court is not convinced. The language of the API standard is ambiguous and key terms are left undefined. For example, though Complainant urges a one-device-per-pump interpretation, the standard merely states that pumps shall be equipped with pressure relief devices; it does not indicate where those devices shall be installed, whether the installation is contingent on the use of multiple pumps, or even define the term "pressure relief device." There was no expert or other testimony proffered by Complainant that provided additional clarity. Instead, CSHO Ammon testified that the problem with using a single pressure relief valve had to do with the possibility of intervening valves being closed between the pump and the lone pressure relief device. (Tr. 76). There are multiple problems with this position.

First, although there were multiple valves between the pump and the lone pressure relief device, Respondent's policy addressed the potential hazards associated with one of the valves being erroneously closed when pressurization occurred. Specifically, Respondent's policy "recommended running as few of [sic] valves in the pump line as possible", thus reducing the likelihood that one or more would be closed prior to pressurizing the system. (Ex. R-5 at 2). Further, Respondent's policy also required "[a]ll valves inline [to be] *double checked* to make sure they are fully open and or [sic] stiff to open and close so as to prevent valve closing while pumping at high rates." (*Id.*) (emphasis added). On this jobsite, there was no indication that these policies had been disregarded, and Davenport testified that a supervisor always confirms that all valves are open before pressure is introduced into the system. (Tr. 219–20). The Court also notes that opening and closing valves on the line required the use of a valve-specific tool. (Tr. 254).

Second, and perhaps more enlightening, is the following trial colloquy between Respondent's counsel and CSHO Ammon:

BY MR. BAGOT [Respondent's counsel]:

> Q. Good morning, Mr. Ammon. When we talked yesterday, you made a comment about the fact that your intervening valves between the two pumps – remember the single pump and the double pump? And because of that, you didn't think it was appropriate to use the pressure relief valve on the single pump to also be the relief valve for the dual pump.
>
> Do you remember that testimony?
>
> A. Yes.
>
> Q. Do you remember testifying that in your deposition in this case, that if the valves had been locked open, that in your opinion they could use the pressure relief valve on the single pump for both the single pump and the – and the dual pump.
>
> A. I indicated that my research had indicated that that could be done under some state laws that cover this area. I think particularly the state of

> California laws allows that. And that we would probably allow that, too, if that pressure relief valve would provide relief for the whole system.
>
> Q. Okay. So if they had locked the valves open, you would have allowed the use of the one pressure relief valve for both pumping units; is that –
>
> A. Most likely, yes.

(Tr. 251–52). This testimony undermines Complainant's principal assertion that industry-recognized abatement requires the installation of multiple pressure relief devices on a per pump basis. CSHO Ammon suggests that Complainant would allow a single pressure relief device insofar as it "would provide relief for the whole system." (Tr. 252). Based on the testimony of Davenport, and the aforementioned elements of Respondent's operating policy, that is exactly how the system, as set up on the day of the inspection, appears to have operated.

In response to a question about how a single pressure relief valve is adequate to relieve pressure across both pumps, Davenport testified:

> Well, the pressure's going to be the same over all lines. I mean, it's – they're tied together into the wellhead. So if both units are pumping, they're both seeing the same amount of pressure.
>
> So say that the double pump has a malfunction, they are still tied in to line together. And the pressure will be the same no matter if you're pushing water or pulling water or anything. The pressure's is going to be the same over the entirety of the line.

(Tr. 197). Davenport subsequently explained:

> So that pressure will not be detained – or deterred just because this pump is pumping at nine barrels a minute compared to this pump, pumping at six barrels a minute. The pressure down that line is going to be the same no matter what flow rate you have down either line. It's like, the pressure is on the well and you're pushing down the well. So therefore the pressure is coming back up through the lines.

(Tr. 226). Complainant did not dispute this characterization of how pressure equalizes throughout the system, and CSHO Ammon's testimony regarding system-wide pressure relief

implicitly endorses it.[8] CSHO Ammon's concerns regarding the possibility of a closed valve within the system seemed speculative, and were belied by Respondent's policy of having a supervisor double-check all valves in the pump line prior to pressurizing the system.

Even if a problem arose due to a valve being closed, Respondent had alternative pressure relief devices designed to prevent over-pressurization. As referenced earlier, the pump operating cabs are equipped with kick-out gauges. According to Davenport, these gauges are set approximately 500 to 1000 psi below the operating pressure set by the company man, which is also the level at which the pressure relief (pop-off) valve is set. (Tr. 202). If the system reaches the designated pressure point, the kick-out gauges disengage the pumps motor and transmission, thereby preventing the system from exceeding the designated amount. (Tr. 201). Based on this understanding, if a standard valve along the route to the pressure relief device happened to be left closed when the double pump was turned on, the kick-out gauge would cause the pump motor to immediately disengage once the designated pressure limit had been reached. This process, in effect, instantly relieves pressure on the system.

CSHO Ammon attempted to downplay the effectiveness of the kick-out gauges by characterizing them as "operational controls" as opposed to safety devices. (Tr. 273). He did not provide any additional justification for the distinction, which the Court finds to be without significance. If the principal concern about Respondent's system was the potential for an explosion due to over-pressurization, then any and all devices that restrict or relieve that pressure could serve an important safety function. Based on CSHO Ammon's testimony, the Court is not aware of any reason why an operational control cannot also serve safety-related purposes.

Complainant also attempted to undermine the efficacy of the kick-out gauges by

[8]. CSHO Ammon also stated explicitly that the pressure "should be pretty well equal all the way through that whole system." (Tr. 259).

suggesting that, in the event of a line failure or rupture *below* the designated pressure limit, the kick-out gauges would have no effect, whereas the in-line pressure relief device would still protect employees. *Compl't Br.* at 14. Complainant's argument is not supported by the record evidence. Both the pressure relief valve and the kick-out gauges were set to engage when the system reached or approached the upper limit (9,500 psi) set by the company man. As the Court understands it, unless the pressure within the system reaches that designated limit, then neither the valve nor the gauge would activate. (Tr. 216).

When Respondent provides evidence of abatement measures to address a recognized hazard, it is incumbent upon Complainant to provide evidence that those measures are somehow deficient. *See Alabama Power Co.*, 13 BNA OSHC 1240, *supra*. Complainant was unable to meet that burden. While Complainant may have preferred a one-to-one ratio of pressure relief valves to pumps, there is nothing in the API standards or in Respondent's own materials that persuade the Court that such a requirement exists. Respondent provided convincing evidence that the combination of kick-out gauges, a single pressure relief valve, iron pipe and components rated almost 50% higher than the operational pressures, and its work practices constituted an effective plan designed to prevent an overpressure explosion. Accordingly, Citation 1, Item 1(b) is VACATED.

Citation 1, Item 2

> Complainant alleged a serious violation of the Act in Citation 1, Item 1 as follows:
>
> 29 CFR 1910.22(c): Covers and/or guardrails were not provided to protect personnel from the hazards of open pits, tanks, vats, ditches, etc.:
>
> Well head: On or about January 29, 2016, and times prior to, employees engaged in pre-fracking operation worked over and around the unguarded well cellar. Employees were exposed to the hazard of falling into the well cellar.

Citation and Notification of Penalty at 7.

The Cited Standard Did Not Apply

Surrounding the wellhead and Christmas tree was a well cellar, a circular pit that was roughly 8 feet in diameter (with the Christmas tree in the center) and between 5 and 6 feet deep. (Ex. R-29; Ex. C-12 at 7). The bottom one or two feet of the pit was filled with oil and water. (Tr. 83). In order to connect pipe to the Christmas tree, at least one of Respondent's employees was required to reach over a small gap, approximately a foot-and-a-half wide, between the edge of the well cellar and the Christmas tree. (Tr. 328). Complainant alleges that Respondent violated the walking-working surfaces standard found at 29 C.F.R. § 1910.22(c)[9] because its employees were exposed to the possibility of falling into the unguarded pit while connecting pipe to the Christmas tree. In response, Respondent argues that the walking-working surfaces standard does not apply because the well site, including the well cellar, was not its "permanent place of employment" as required in the standard. The Court agrees.

According to the standard, "This section applies to all permanent places of employment, except where domestic, mining, or agricultural work only is performed." 29 C.F.R. § 1910.22. In support of its argument that the area around the well cellar was Respondent's permanent place of employment, Complainant cites to series of cases involving oil well servicing rigs. *See Signal Oilfield Serv., Inc.*, 6 BNA OSHC 1717 (No. 77-0226, 1978) (ALJ); *Basic Energy Svcs.*, 25 BNA OSHC 1811 (No. 14-0543, 2015) (ALJ). In each case, the ALJ held that the mobile well servicing rig was the employees' permanent place of employment. In *Signal*, the ALJ stated, "[T]he word 'permanent' refers to the place of employment where the men actually do their work. In this instance, Signal's employees obviously perform their duties on the drilling

9. The numbering and language of the walking-working surfaces standard changed in January 2017. For the purposes of discussing Complainant's allegation, the Court is referring to the former 29 C.F.R. § 1910.22. *See* Walking-Working Surfaces and Personal Protective Equipment (Fall Protection Systems), 81 Fed. Reg. 82494, 82502 (November 18, 2016).

rig—regardless of where the rig might be located geographically. *Signal*, 6 BNA OSHC 1717 at *12. This was echoed by the ALJ in *Basic Energy*, who held, "The rig is a mobile unit, capable of traveling to different well sites, and the work performed by Respondent's employees is considered well-servicing. Even though the specific type of servicing work may be different day-to-day—Stewart testified that well-servicing rigs perform a number of different functions—*the work nonetheless always takes place on or about the rig*." *Basic Energy*, 25 BNA OSHC 1811 (emphasis added).

Applying the foregoing, Complainant argues the pumping units Respondent brought to the Hardesty well qualified as the employees' permanent place of employment and the standard, therefore, applies. While the Court agrees that mobile pumping units can be considered permanent place of employment, the Court is not confronted with a question about walking-working surfaces on mobile pumping units. Rather, the focus of this particular violation is the unprotected well cellar, at the permanent wellhead, surrounding the Christmas tree, which is not Respondent's permanent place of employment.

This conclusion is supported by two sources: The first is Complainant's historical interpretation of the standard and subsequent modification of the scope and application paragraph. As noted by Respondent, Complainant previously published an interpretive letter regarding the scope of 29 C.F.R. § 1910.22. *See* Letter from Thomas Galassi, Directorate of Enforcement Programs, OSHA, to Chip Darius, President, Safety Priority (July 10, 2014).[10] In response to a question regarding the proper scope of a "permanent place of employment", Galassi wrote:

> A permanent place of employment is a fixed place of employment. Those whose principal activity involves going to other sites to perform services, such as plumbers, computer repair workers, and cable installers, are considered to have a

[10]. Available at https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=INTERPRETATIONS&p_id=29810.

> permanent place of employment at the location where they meet with managers, gather supplies, or return the company vehicles.

Id. Respondent and other well servicing companies routinely travel to well sites to perform services. The violations identified in *Signal* and *Basic Energy* were located *on* the mobile rigs the employers brought to the well site. *See Signal*, 6 BNA OSHC 1717 at *12; *Basic Energy*, 25 BNA OSHC 1811 at *4. Thus, under the facts presented in this case, Complainant may have cited Respondent for walking-working surface violations insofar as they were found on the equipment Respondent brought to the site itself. Instead, Complainant cited Respondent for a fixed condition at the well site, which is where Respondent's employees temporarily traveled to perform services. Since Respondent was originally engaged to work at the Hardesty well for only one day, which due to complications involving another contractor, was extended to three days, the Court finds that the Hardesty wellhead was not Respondent's employees' permanent place of employment. (Tr. 173, 182, 211).

Second, this conclusion is supported by recent amendments to the walking-working surfaces standard, which became effective on January 17, 2017. *See* Walking-Working Surfaces and Personal Protective Equipment (Fall Protection Systems), 81 Fed. Reg. 82494, 82502 (November 18, 2016). The new version of the standard no longer references "permanent places of employment"; instead, the standard now applies to "all places of employment." *See id.* *See* 81 Fed. Reg. at 82502 ("The final rule consolidates the scope requirements for subpart D into one provision and specifies that the final rule applies to all walking-working surfaces in general industry workplaces."). The new scope provision in paragraph (a) indicates that, unless otherwise provided by a specific provision, all of general industry is governed by all of Subpart D, which would include oil and gas well sites, irrespective of whether it was a particular employer's permanent place of employment. *See id.* Though this change in the scope provision is

not sufficient itself to support Respondent's argument that the standard did not apply at the time of the present inspection, the Court finds it persuasive when read in conjunction with the foregoing case law, agency interpretations, and the standard itself.

Based on the foregoing, the Court finds that Complainant failed to prove that 29 C.F.R. § 1910.22(c) applied to the well site, as it was not Respondent's employees' permanent place of employment. Accordingly, Citation 1, Item 2 shall be VACATED.

Penalty

In calculating appropriate penalties for affirmed violations, Section 17(j) of the Act requires the Commission give due consideration to four criteria: (1) the size of the employer's business, (2) the gravity of the violation, (3) the good faith of the employer, and (4) the employer's prior history of violations. Gravity is the primary consideration and is determined by the number of employees exposed, the duration of the exposure, the precautions taken against injury, and the likelihood of an actual injury. *J.A. Jones Construction Co.*, 15 BNA OSHC 2201 (No. 87-2059, 1993). It is well established that the Commission and its judges conduct *de novo* penalty determinations and have full discretion to assess penalties based on the facts of each case and the applicable statutory criteria. *Valdak Corp*., 17 BNA OSHC 1135 (No. 93-0239, 1995); *Allied Structural Steel*, 2 BNA OSHC 1457 (No. 1681, 1975).

Complainant proposed a penalty of $3,750.00 for Citation 1, Item 1, which included Instances (a), (b), and (c). The Court vacated Instance (b), and Complainant withdrew Instance (c), so the penalty discussion is limited to Instance (a). Complainant originally calculated a gravity-based penalty of $5,000.00, by characterizing the violation as high gravity, but with a low likelihood of actual injury. (Tr. 87; Ex. C-3). The Court agrees. Complainant then applied a 25% penalty discount for Respondent's good faith, based on its safety and health program, which

the Court also accepts. Lastly, no additional discounts were applied for history, because there was no OSHA inspection history to evaluate, nor for size, because Respondent has over 251 employees. (Tr. 89, Ex. C-3).

Although the high pressure in this pump and pipe system exposed Respondent's employees to a hazard capable of causing significant injury and death, the likelihood of that accident actually coming to fruition was low. The buffer zone policy kept Respondent's employees out of the zone of danger, with the exception of the pump operators, and the whip checks located at the pumps provided at least some limited measure of protection for the operator's cabin occupants. Considering the totality of the circumstances, the Court finds that a slightly lower penalty is appropriate in light of its vacation of Instance (b) and Complainant's withdrawal of Instance (c). Accordingly, a penalty of $2,000.00 will be assessed for Citation 1, Item 1, Instance (a).

Order

Based upon the foregoing Findings of Fact and Conclusions of Law, it is ORDERED that:

1. Citation 1, Item 1(a) is AFFIRMED and a penalty of $2,000.00 is ASSESSED;
2. Citation 1, Item 1(b) is VACATED; and
3. Citation 1, Item 2 is VACATED.

/s/ Brian A. Duncan

Judge Brian A. Duncan
U.S. Occupational Safety and Health Review Commission

Date: November 27, 2017
Denver, Colorado