

**United States of America  
OCCUPATIONAL SAFETY AND HEALTH REVIEW COMMISSION**

SECRETARY OF LABOR,

Complainant,

v.

CALDWELL TANKS, INC.,

Respondent.

OSHRC Docket No. 16-1029

Appearances:

Mark H. Ishu, Esq. & Kevin Wender, Esq., U.S. Department of Labor, Office of the Solicitor,  
Chicago, Illinois  
For Complainant

Carl B. Carruth, Esq., McNair Law Firm, P.A., Columbia, South Carolina  
For Respondent

Before: Administrative Law Judge Peggy S. Ball

**DECISION AND ORDER**

**I. Procedural History**

As he was returning to the Appleton, Wisconsin Area Office on April 4, 2016, Compliance Safety and Health Officer (CSHO) Ryan Cooney saw a stainless steel pipe staged at the corner of East Glendale Avenue and Sandra Street in Appleton, Wisconsin. (Tr. 39). According to CSHO Cooney, the Occupational Safety and Health Review Commission has a national emphasis program for hexavalent chromium, which is a highly toxic chemical produced when welding certain types of stainless steel. (Tr. 39). No one was working at the time, so Cooney made a note of the location and returned to the office.

Through research and a phone call to Appleton's utilities director, CSHO Cooney discovered the site was the location of a water tower project, and Caldwell Tanks was responsible for a significant portion of the construction. (Tr. 39–42). CSHO Cooney returned to the site at East Glendale Avenue and Sandra Street on April 14, 2016 at approximately 9:00 a.m. and initiated an inspection of Respondent. As a result of his inspection, CSHO Cooney determined Respondent was in violation of 29 C.F.R. § 1926.353(b)(1) of the Occupational Safety and Health Act. His recommendation was accepted, and Complainant issued to Respondent a *Citation and Notification of Penalty*, alleging a one-item, serious violation of the Act with an associated penalty of \$3,400. (Ex. C-1). Respondent timely contested the *Citation*.

This case was designated for Simplified Proceedings under Subpart M of the Commission Rules. *See* 29 C.F.R. § 2200.200 *et seq.* A trial was held on March 29–30, 2017 in Milwaukee, Wisconsin, and six witnesses testified: (1) CSHO Ryan Cooney; (2) Rick Hightower, a welder for Respondent; (3) David Newcomb, foreman for Respondent;<sup>1</sup> (4) Austin Reynolds, a welder for Respondent;<sup>2</sup> (5) Wilson Frazier, Respondent's Director of Environmental Safety and Health; (5) Scott McIntire, Respondent's Manager of Quality Assurance; and (6) Jerome Spear, Occupational Safety and Health Consultant hired by Respondent. In lieu of closing on the record, per Commission Rule 209(e) both parties submitted post-trial briefs for the Court's consideration. Both briefs were timely filed.

## **II. Stipulations and Jurisdiction**

The parties' stipulations can be found in the parties' *Joint Stipulation Statement*, which was filed with the Court on March 20, 2017. (Tr. 11). As part of their stipulations, the parties

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1. Mr. Newcomb was a foreman at the time of the inspection; however, he was not a foreman at the time of the hearing. (Tr. 237).

2. Mr. Reynolds is no longer employed by Respondent.

agree the Commission has jurisdiction over this proceeding pursuant to section 10(c) of the Act, 29 U.S.C. § 659(c). The parties also agree Respondent is an employer engaged in a business affecting commerce within the meaning of section 3(5) of the Act, 29 U.S.C. § 652(5). *Slingshuff v. OSHRC*, 425 F.3d 861 (10th Cir. 2005).

### **III. Factual Background**

#### **A. The Water Tower Construction Project**

In the spring of 2016, Respondent was building a portion of the water tower to be installed at the intersection of East Glendale Avenue and Sandra Street in Appleton, Wisconsin. (Tr. 39, 42; Ex. C-8). When CSHO Cooney arrived to perform an inspection, Respondent's employees were welding an overflow pipe inside the access tube of a water tower. (Tr. 284, 324; Ex. C-11). An overflow pipe is a safety mechanism that's built into the tank to prevent damage resulting from overfilling the tank. (Tr. 455). The pipe runs from the tank, through an access tube, and spills into a discharge box or splash pan. (Tr. 455; Ex. C-9). The access tube, which allows maintenance personnel to access the roof of the water tank, runs through the middle of the elevated water tank. (Tr. 164, 323; Ex. C-9).

As shown in the photographic exhibits, the process of constructing a water tower takes place in parts—the base of the tower and the access tube are fabricated and built separately. (Ex. C-11). On the day of the inspection, the access tube was resting lengthwise on the ground. (Tr. 64; Ex. C-11a, C-11c). According to CSHO Cooney's measurements, the access tube was 35-feet long and 5 feet in diameter. (Tr. 64). The opening on the East<sup>3</sup> end was a 30-inch diameter manway, which was elevated off the ground and required a handhold and ladder rung to access.

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3. Respondent spent an inordinate amount of time attempting to rebut CSHO Cooney's assessments of the orientation of the access tube, which he assessed as being situated East-to-West. (Tr. 45, 48). Though Frazier testified the tube rested in a Northeast-Southwest direction, the Court finds the tube's direction is irrelevant because it has no impact on whether the standard was violated.

(Tr. 64, 305; Ex. C-11c). The opening on the West end was, more or less, open the entire 5 feet across. (Tr. 64; Ex. C-11g). There were, however, a number of impediments in the West opening, including the overflow pipe that rested along the bottom length of the tube and the chain come-alongs and straps that held the overflow pipe in place during the welding process. (Ex. C-11g). Additionally, a ladder was affixed along the top length of the tube, further decreasing its effective diameter at the West opening. (Tr. 78–79; Ex. C-11g). Finally, the entire tube was slightly tilted upward towards the East end because that end is fitted with a dome. (Tr. 285; Ex. C-11).

The manway was not practical as a point of access, so Respondent’s employees—Hightower and Reynolds—entered through the West end of the tube. According to Reynolds, entering and exiting the tube required some degree of maneuvering. (Tr. 299–300). First, the tube’s diameter was only 5 feet wide, which required Respondent’s employees, all of whom were over 5-feet tall, to crouch in order to enter the space. (Tr. 183). Second, the “floor” of the tube housed the one-foot diameter overflow pipe, thereby restricting the manner in which Respondent’s employees could walk through the tube. (Tr. 221, 300; Ex. C-11g, h). Reynolds testified he either had to straddle the pipe as he walked from end to end, or he had to walk to the side of the pipe, along the access tube’s curved inner surface. (Tr. 300; Ex. C-11g). His preference was to straddle the pipe because he could place his hands on the pipe to guide him, whereas walking to one side made it more likely for him to trip over his own feet. (Tr. 300–302). He also noted the ladder, attached to the “ceiling” of the tube, forced a person to crouch over even further when entering/exiting the tube. (Tr. 301). Finally, when exiting the tube, Reynolds stated he would have to move to the side of the overflow pipe in order to avoid the come-along straps that supported the pipe and hanged from the ceiling to the floor of the tube. (Tr. 302–303; Ex. C-11g).

Hightower, on the other hand, was adamant that neither the size of the access tube, nor the presence of the overflow pipe, ladder, or come-alongs had any impact on his ability to maneuver the 5-foot diameter pipe. Indeed, he claimed that he could walk through the pipe as easily as he had walked to the witness stand, notwithstanding the fact that he was a full 8 inches taller than the full diameter of the pipe. (Tr. 231). While the Court does not fully discount Mr. Hightower's testimony—he did later admit that it was not perhaps quite as easy as walking to the witness stand—it does find Mr. Reynolds' characterization of how he navigated the tube to be more consistent with the set-up and orientation of the tube, as well as the testimony of his foreman, David Newcomb. (Tr. 233, 249, 253–54).

### **B. The Welding Process**

In order to attach the overflow pipe to the access tube, Respondent's crew had to position the overflow pipe inside the access tube. (Tr. 213). Once it was positioned, Hightower placed a series of four small welds around the pipe to hold it in place (tack welds). (Tr. 213). Reynolds tack welded the standoffs, or brackets, which were already attached to the pipe, to the inside of the access tube. (Tr. 214–15). According to Scott McIntire, these brackets were welded to the tube in roughly 15-foot increments. (Tr. 457). Once the tack welds were complete, Hightower had to finish welding around the pipe, tying the access tube and overflow pipe together at the point where the overflow pipe entered the access tube. (Tr. 221). McIntire referred to this as a fillet weld. (Tr. 457).

Hightower and Reynolds applied the welds using approximately five FleetWeld 5P, 6010 welding rods, also referred to as electrodes. (Tr. 242; Ex. C-10b). Using a Lincoln Electric arc welder, the welds were applied through the creation of an arc strike, which generates incredible

amounts of heat<sup>4</sup> to melt the electrode onto the surface of the base metal (carbon steel) and fuses the separate components. (Tr. 534). Thus, the bulk of the weld is comprised of the metal contained within the welding stick, which McIntire referred to as a consumable because it is literally consumed during the welding process. (Tr. 534). Due to the immense heat, a welding plume is generated. (Tr. 218, 535). According to McIntire:

A plume is a good bit of the smoke that you get from there is actually the coating on the outside of the electrode. Stick electrode actually has a coating of what's called flux. The purpose of the flux is actually to improve the weld process.

It actually prevents oxygen and other atmospheric gases from contaminating the weld. So a major product of it is cellulose, which is similar to wood. So as that electrode is consumed, the majority of it is actually deposited into the weld puddle, or the weld metal, and then a portion of that electrode and all of the flux is actually vaporized and becomes part of the plume.

(Tr. 535–36). In its discussion on “Fumes and Gases”, the Handbook for Welding characterizes the plume similarly, “The fume plume contains solid particles from the consumables, base metals and base metal coatings.” (Tr. 99; Ex. C-13 at 2). The Handbook also states the composition of the plume is contingent upon a number of variables, including the welding process, electrodes used, the base metal, and other possible contaminants. (Tr. 99; Ex. C-13).

The heat at the point of the arc causes the plume to rise to the top of the access tube. (Tr. 537). According to Reynolds, the location of the welds and the size of the space inside the tube required him and Hightower to either lie down on the floor or kneel very close to the point of the weld. (Tr. 286). Hightower admitted a plume was generated during his work on the access tube; however, he testified the visible smoke quickly drifted up and out of the access tube while they occupied it, which he attributed to natural ventilation supplied by the wind that day. (Tr. 218–22). Respondent did not test the atmosphere of the access tube at the Appleton worksite. (Tr. 414).

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4. According to McIntire, the temperature of the arc is somewhere between ten-thousand and fifty-thousand degrees. (Tr. 537).

Further, the record is unclear as to how Reynolds and Hightower positioned themselves when they were not welding; however, it was established the employees had been inside the access tube for approximately 10–15 minutes prior to Cooney’s inspection. (Tr. 221, 293–94).

### **C. The Inspection**

When CSHO Cooney approached the worksite on April 14, 2016, he observed sparks emanating from a metal box located on the bottom of the tube. (Tr. 45; Ex. C-11). As he moved towards the west end of the access tube, he met with David Newcomb, Respondent’s on-site foreman, who was standing at the opening. (Tr. 52–53). Newcomb informed CSHO Cooney that two employees were welding inside the tube. (Tr. 53). Cooney inquired whether the steel was stainless, and was told the employees were welding on carbon steel, which does not present the same health hazards. (Tr. 53–54). He then asked whether Newcomb was using any form of local or mechanical ventilation during the welding process. (Tr. 54). Newcomb said they did not install mechanical ventilation because Hightower said that it was not necessary. (Tr. 54, 239).

After the initial meeting with Newcomb, CSHO Cooney had a telephone conversation with Wilson Frazier and discussed the purpose of his inspection and the observations he had made to that point. (Tr. 56). Cooney told Frazier they would speak again and indicated he might request various documents related to Respondent’s safety and health program. After the call, Cooney informed Newcomb he needed to interview the employees individually. (Tr. 56). While CSHO Cooney was performing his employee interviews, Newcomb installed a Venturi fan, also known as an air horn, which uses compressed air to create a vortex that can either push or pull a volume of air out of a space. (Tr. 59; Ex. C-11g).

During his interviews, CSHO Cooney learned both Reynolds and Hightower were simultaneously welding inside the access tube for about 10–15 minutes before he arrived at the worksite. (Tr. 76–77). Because they were welding inside the access tube, which Cooney

determined to be a confined space, without mechanical ventilation, he determined Respondent was in violation of 29 C.F.R. § 1926.353(b)(1). A *Citation and Notification of Penalty* was issued on May 26, 2016. The merits of the violation are discussed below.

#### **IV. Discussion**

##### **A. Citation 1, Item 1**

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

29 CFR 1926.353(b)(1): General mechanical or local exhaust ventilation meeting the requirements of paragraph (a) of 29 CFR 1926.353 was not provided where welding, cutting, or heating was performed in a confined space:

On April 14, 2016 at a worksite located near the intersection of E. Glendale Ave and N. Sanders St. in Appleton, WI 54911, the employer did not provide general mechanical or local exhaust ventilation when employees were welding a steel overflow pipe while inside the confined space riser pipe.

(Ex. C-1).

The cited standard states:

Except as provided in paragraph (b)(2) of this section, and paragraph (c)(2) of this section, either general mechanical or local exhaust ventilation meeting the requirements of paragraph (a) of this section shall be provided whenever welding, cutting, or heating is performed in a confined space.

29 C.F.R. § 1926.353(b)(1).

##### **i. The Cited Standard Applies**

In order to assess whether the cited standard applies, the Court must determine whether the access tube, as constructed on the day of the inspection, was a confined space. Respondent contends the access tube was not a confined space and Complainant's attempt to characterize it as such is premised on an inapplicable definition of the term. Complainant points out, however, the definition of "confined space" relied upon by Respondent has been rescinded, and the only available definition of the term is now found in subpart AA, which supplanted the previous iteration of the definition found at 29 C.F.R. § 1926.21(b). *See Confined Spaces in Construction,*

80 Fed. Reg. 25,366, 25,377 (May 4, 2015). For the following reasons, the Court agrees with Complainant and finds the standard applies.

### **1. The Access Pipe is a Confined Space**

Prior to addressing whether the access pipe is, in fact, a confined space, Respondent has called into question whether the definition relied upon by Complainant is appropriate. The cited standard, which is found in subpart J, does not supply a definition of “confined space”. Therefore, Complainant relied upon the definition supplied at 29 C.F.R. § 1926.1202, which is found in subpart AA. It states:

*Confined space* means a space that:

- (1) Is large enough and so configured that an employee can bodily enter it;
- (2) Has limited or restricted means for entry and exit; and
- (3) Is not designed for continuous employee occupancy.

29 C.F.R. § 1926.1202. Respondent, on the other hand, urges the proper definition should be either 29 C.F.R. § 1926.21(b)(6), which was rescinded in 2015, or the portion of 29 C.F.R. § 1926.1202 that defines a “permit-required confined space”. *Id.* Neither of Respondent’s proposed definitions is appropriate based on the facts of this case.

The applicability of the cited standard is contingent upon two prongs: (1) welding (2) in a confined space. *Id.* § 1926.353(b)(1). There is no question that Respondent’s employees were welding inside the access tube; thus the only question remaining is whether the tube was a confined space. Respondent’s arguments on this point are somewhat confusing: its analysis of the confined space issue blends together with its discussion of whether a hazard existed within the access tube. In particular, Respondent places significant emphasis on the issue of whether the cited standard presumes a hazard, or whether Complainant is obligated to establish the existence of a hazard in order to prove the access tube is a confined space. *See Manson Constr. Co.*, 26 BNA OSHC 1568 (No. 14-0816, 2017) (“[S]pecification standards detail the precise equipment, materials, and work

processes required to eliminate hazards.”). While such an analysis may have been appropriate under the former 1926.21(b)(6) or the current 1926.1202, such a determination is irrelevant to whether the access tube was properly classified as a confined space.

According to the preamble, the former iteration of the definition of confined spaces in construction “did not adequately protect construction employees in confined spaces from atmospheric, physical, and other hazards.” *Id.* at 25,371. Thus, the definition of confined space found at 1926.21(b)(6) was rescinded by OSHA through notice and comment rulemaking. *See* 80 Fed. Reg. at 25,518 (noting the removal of § 1926.21(b)(6)); *see also id.* at 25,381 (“The Agency notes . . . that any guidance previously provided with respect to its previous confined spaces in construction standard, 29 CFR 1926.21, is no longer applicable or in effect.”). Because the rule was rescinded consistently with Complainant’s power to promulgate or revoke rules, 1926.21(b)(6) no longer has the force and effect of law. *See* 5 U.S.C. § 553(a). As such, Respondent’s reliance on 1926.21(b)(6) is misplaced and its argument in support of its application is rejected.

Perhaps Respondent’s reticence to rely upon the most obvious definition stems from its desire to find an equivalent replacement for the rescinded definition, which defined a confined space as “[a] compartment of small size and limited access . . . or other space which by its small size and confined nature can readily create or aggravate a hazardous exposure.” 29 C.F.R. § 1926.21(b)(6)(ii) (rescinded). This would explain why Respondent’s alternative proposal is the definition of a permit required confined space, or PRCS, which also requires proof that the space “[c]ontains or has a potential to contain a hazardous atmosphere.” *Id.* § 1926.1202. Although Respondent is correct that the PRCS definition of ‘confined space’ does not presume a hazard, the Court finds Respondent’s argument, if taken to its logical conclusion, would be redundant and

unnecessary. *See Unarco Comm. Prods.*, 16 BNA OSHC 1499, 1502 (No.89-155, 1993) (“It is well established that a statute or, in this case, a standard must be construed so as to avoid an absurd result.”). If, as Respondent suggests, 1926.353(b)(1) requires proof of a hazard within the confined space for the standard to apply, then it makes no sense to also require proof of a hazard for a particular location to qualify as a confined space in the first instance.

Respondent’s argument suggesting a ‘confined space’ requires proof of a hazard makes even less sense when the definitions of ‘confined space’ and ‘permit-required confined space’ are compared. In order to be a confined space under subpart AA, a space must meet the three requirements discussed above. *See* 29 C.F.R. § 1926.1202. A permit-required confined space, however, “means a confined space *that has one or more of the following characteristics . . .*” *Id.* (emphasis added). The listed characteristics go on to describe four different hazards or potential hazards associated with the confined space. *Id.* (listing hazardous atmosphere, engulfment, entrapment, or other recognized hazards). Thus, in its current iteration, the term ‘confined space’ merely describes a location. A permit-required confined space, on the other hand, is defined as that location *plus some other hazardous characteristic* other than the fact of the confinement. *See* 80 Fed. Reg. at 25,373 (“Whether a confined space exists is a separate analysis from whether a hazard exists, unless the hazard prevents unrestricted egress from the space.”). This distinction, laid out in plain language, illustrates the redundant and absurd consequences of Respondent’s argument. Thus, the Court rejects Respondent’s argument urging the use of the definition of permit-required confined space.

The express intent of the final confined spaces in construction rule was for it to “work in conjunction with other construction standards to provide additional protection needed to address hazards that may arise when employees are working in or near a confined space.” 80 Fed. Reg. at

25,377. Indeed, 29 C.F.R. § 1926.1201(c) codifies this understanding: “Where this standard applies and there is a provision that addresses a confined space hazard in another applicable OSHA standard, the employer must comply with both that requirement and the applicable provisions of this standard.”<sup>5</sup> If an employer is expected to comply with disparate sections of the Act, consistent application of the terms used is necessary to ensure uniformity of enforcement and provide fair notice. *See Simpson, Gumpertz & Heger, Inc.*, 15 BNA OSHC 1851 (No. 89-1300, 1992) (reiterating the ‘general principle’ that standards containing broad or undefined terms can be given meaning by reference to other standards). Complainant’s interpretation of the term ‘confined space’ as used in the cited standard is reasonable and is consistent with the Act’s use of the term in both the general industry and construction standards.<sup>6</sup> Accordingly, the Court finds the definition of ‘confined space’ as provided in 29 C.F.R. § 1926.1202 to be the proper understanding of the term as it is used in 29 C.F.R. § 1926.353(b)(1).

As recounted above, the access tube was a 35-foot long pipe, which, devoid of any additional implements, was five feet in diameter. On the East end, the pipe was fitted with a 30-inch manway, located dead center of the tube. (Ex. C-11c). The West end was open to the extent of the pipe’s diameter; however, the floor had a one-foot diameter overflow pipe that extended the length of the tube, which, in turn, was supported by chain come-alongs and vinyl straps that hung from the ceiling and held it in place. The “ceiling” of the pipe (as it was oriented on the day of the

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5. As regards the interplay between subpart AA and subpart J (which includes the cited standard), the preamble to the confined spaces in construction standard states, “Although the welding standard has a section designed to address the hazards of welding in a confined space, the Agency is applying the provisions of the confined-spaces standard to all other hazards associated with confined-spaces work to the extent these provisions of the confined-spaces standard do not conflict with employee protections in subpart J. . . . Employers must comply with the ventilation requirements in § 1926.353(a) of subpart J to address atmospheric hazards produced by welding fumes, but employers also must comply with § 1926.1204(c), which requires ventilation as necessary to control any atmospheric hazards beyond those generated by welding because the welding standard does not address those hazards.” 80 Fed. Reg. at 25,377–25,378.

6. The preamble notes, “OSHA is using the organization, language, and most of the substantive requirements in the general industry confined spaces standard as the basis for the final confined spaces in construction rule”. 80 Fed. Reg. at 25,370.

inspection) was equipped with a ladder that extended downward from the ceiling, thereby reducing the effective diameter of the tube and the employees' ability to maneuver. (Tr. 79; Ex. C-11g). Thus, employees had to duck just to enter the space, which necessity was only compounded by the presence of the ladder.<sup>7</sup> Further, in addition to ducking, Respondent's employees had to maneuver around the pipe, the ladder, and the attached come-alongs in order to enter or leave the tube. Given the size of the access tube, neither Hightower nor Reynolds were able to stand upright while they occupied the space.

The Court finds the access tube was a confined space. First, the parties do not dispute that the access tube, as configured on the day of the inspection, was large enough for an employee to "bodily enter it". Thus, the first element is satisfied.

Second, the Court also finds the access tube had limited or restricted means for entry and exit. While Respondent's employees' testimony differed as to the *extent* to which they believed the impediments at the entrance to the access tube affected their ability to enter or exit the tube, their testimony and the configuration of the space itself show the tube had "limited or restricted means for entry and exit." 29 C.F.R. § 1926.1202. This phrase has been consistently interpreted and applied by Complainant, albeit in the context of the general industry standards, for over 20 years. *See, e.g.*, OSHA Directive CPL 02-00-100: Application of the Permit-Required Confined Spaces (PRCS) Standards, 29 CFR 1910.146 (May 5, 1995), Appendix E. In the preamble to the construction industry PRCS standard, Complainant explicitly adopted the guidance applicable to the general industry PRCS standard. *See* 80 Fed. Reg. at 25,381. As it pertains to this element, the cited directive states:

A space has limited or restricted means of entry or exit if an entrant's ability to escape in an emergency would be hindered. The dimensions of a door and its

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7. Reynolds and Hightower were 5'10" and 5'8", respectively. Both of them were substantially taller than the diameter of the pipe, even without the addition of the ladder.

location are factors in determining whether an entrant can easily escape; however, the presence of a door does not in and of itself mean that the space is not a confined space. For example, a space such as a bag house or crawl space that has a door leading into it, but also has pipes, conduits, ducts, or equipment or materials that an employee would be required to crawl over or under or squeeze around in order to escape, has limited or restricted means of exit. A piece of equipment with an access door, such as a conveyor feed, a drying oven, or a paint spray enclosure, will also be considered to have restricted means of entry or exit if an employee has to crawl to gain access to his or her intended work location. *Similarly, an access door or portal which is too small to allow an employee to walk upright and unimpeded through it will be considered to restrict an employee's ability to escape.*

*Id.* (citing OSHA Directive CPL 02-00-100, *supra*) (emphasis added).

Complainant's interpretation is reasonable and adequately addresses the concerns associated with performing work in a confined space. Respondent's employees had to enter a pipe, the diameter of which was 8 inches less than the height of the shortest employee (Hightower) on site; crouch down to avoid the ladder hanging along the entire length of the tube's 'ceiling'; step to the side of or straddle a one-foot diameter pipe running along the tube's floor; and sidestep chain come-alongs and vinyl straps at the tube's entrance. Compounding matters, Hightower and Reynolds were required to wear hardhats, which further reduced the effective space available to stand in, enter, and exit the access tube. Based on these facts, the Court finds the access tube had limited or restricted means for entry and exit.

Finally, the Court finds the access tube was not designed for continuous employee occupancy. As with the previous element, Complainant has consistently interpreted the phrase "continuous employee occupancy" for over 20 years. *See, e.g.*, 80 Fed. Reg. at 25,380 (citing various letters of interpretation). Specifically, Complainant interprets the phrase to "capture all spaces where conditions are such that employees would normally exit the space relatively soon after entering, absent the construction activity." *Id.* A quick review of the facts describing the access tube illustrates it is not designed for continuous occupancy: employees had to crouch to enter and occupy the space, multiple implements restricted where and how an employee would

occupy that space, and there was no reason for Respondent's employees to be in the access tube for any longer than was necessary to weld the overflow pipe in place. In fact, the access tube, whether during its time under construction or in its final form as a passageway through the water tower, was never meant for continuous occupancy; rather, its design is targeted towards getting an employee from one place to another. While on its side, the access tube was too small to continuously occupy, and while standing vertically, the ladder was the only part of it that allowed human occupancy at all. Thus, the access tube was not designed for continuous employee occupancy. Accordingly, Complainant properly characterized the access tube as a confined space, and the standard applies.

**ii. The Terms of the Standard Were Violated**

Respondent contends the plain language of 29 C.F.R. § 1926.353(b)(1) requires Complainant to prove a hazardous atmosphere existed within the access tube in order to establish a violation of the standard. Conversely, Complainant argues the hazard is presumed in 1926.353(b)(1), and the only facts required to establish a violation are (1) welding, (2) occurring in a confined space, (3) without mechanical ventilation. For the reasons discussed below, the Court agrees with Complainant.

Respondent attempts to establish air quality inside the access tube was not hazardous at the moment of the inspection, either because of natural ventilation, the placement of the workers' heads, the particular welding rod in use, the direction in which the plume was exiting, or other widely variable factors – and argues this precludes a finding it was in violation. In support of its argument, Respondent highlights the cross-reference within 1926.353(b)(1), which states “either general mechanical or local exhaust ventilation meeting the requirements of paragraph (a) of this section shall be provided . . . .” 29 C.F.R. § 1926.353(b)(1). Paragraph (a) states that mechanical ventilation must meet two requirements:

- (1) Mechanical ventilation shall consist of either general mechanical ventilation systems or local exhaust systems.
- (2) General mechanical ventilation shall be of sufficient capacity and so arranged as to produce the number of air changes necessary to maintain welding fumes and smoke within safe limits, as defined in subpart D of this part.

*Id.* § 1926.353(a). Subpart D defines threshold limit values of airborne contaminants for construction. *See id.* § 1926.55(a). Although this cross-reference lends some credence to Respondent’s position, the structure of the standard and relevant case law support a finding that 1926.353(b)(1) is a specification standard, which presumes the existence of a hazard. *See Bunge Corp.*, 638 F.2d 831, 834 (5th Cir. 1981) (“Unless the general standard incorporates a hazard as a violative element, the proscribed condition or practice is all that the Secretary must show; hazard is presumed and is relevant only to whether the violation constitutes a “serious” one.”).

At first blush, what sticks out to the Court is the lack of any reference to natural ventilation as it relates to confined spaces. Instead, as written, the standard states general mechanical or local exhaust ventilation “shall be provided” if welding is performed in a confined space. 29 C.F.R. § 1926.353(b)(1). That the ventilation system must meet certain minimum requirements does not imply a threshold for its implementation. Paragraph (e) of 1926.353 gives a clearer picture of the structure of the standard as a whole. It provides:

Welding, cutting, and heating *not involving conditions or materials described in paragraph (b), (c), or (d)* of this section, may normally be done without mechanical ventilation or respiratory protective equipment, but where, because of unusual physical or atmospheric conditions, an unsafe accumulation of contaminants exists, suitable mechanical ventilation or respiratory protective equipment shall be provided.

*Id.* § 1926.353(e)(1) (emphasis added). This paragraph makes clear that specific conditions (confined space) or materials (metals of toxic significance or inert-gas metal-arc welding) mandate the use of mechanical ventilation, whereas welding under other conditions requires the exercise of judgment. In other words, paragraph (b) presumes the possibility of hazardous accumulations

based on the activity and the space it occurs in. Paragraph (e), on the other hand, makes the opposite presumption; namely, activities not involving the conditions specified earlier in the standard are presumed to be safe without mechanical ventilation *unless* performed under some set of unusual physical or atmospheric conditions. In that case, it would be incumbent upon Complainant to show how those physical and atmospheric conditions created a hazard. *See Bunge*, 638 F.2d at 835 (“When the standard incorporates hazard as an element of the violation, then the Secretary must show hazard in addition to condition or practice . . .”). As the following case shows, the cited standard does not place that burden on Complainant.

In *Dravo Corporation*, a shipyard employer was cited pursuant to 29 C.F.R. § 1916.31(b)(1), because it failed to provide ventilation to a confined space called the “rake”.<sup>8</sup> *See Dravo Corp.*, 7 BNA OSHC 2095 (No. 16317, 1980). Dravo argued, as Respondent does here, the ventilation standard “imposes on the Secretary the burden of proving that welding fumes and smoke in a confined space exceeded safe limits.” *Id.* The reasons asserted are almost identical: (1) Because “a hazardous exposure must be shown to have existed because a confined space is one that readily creates or aggravates a hazardous exposure”; and (2) due to the cross reference requiring mechanical ventilation be of sufficient capacity to keep fumes and smoke within safe limits. *Id.* The Commission rejected both arguments.

First, the Commission noted that a confined space differs from other space “by its potential for creating or aggravating a hazardous exposure, not . . . by the actual creation or aggravation of such exposure.” *Id.* Thus, the Commission held “[v]entilation is required when welding begins in order to prevent injuries that might occur if an employer were permitted and decided to withhold

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8. In 1982, Complainant consolidated three disparate parts of the action (1915, 1916, and 1917 of Title 29) into a single, comprehensive shipyard standard, which is now codified at 29 C.F.R. Part 1915. The standard cited in *Dravo* is now codified at 29 C.F.R. § 1915.51(b)(1). *See Occupational Safety and Health Standards for Shipyard Employment*, 47 Fed. Reg. 16,984, 16,985.

ventilation until excessive fumes and smoke were predicted or discovered and the prediction were faulty or the discovery untimely.” *Id.* In other words, the standard is preventive in nature and not triggered by anything other than a particular activity occurring in a particular location. *See, e.g., Bethlehem Steel Corp.*, 11 BNA OSHC 1247 (No. 78-3512, 1983) (“We conclude that the standard at issue in this case is similar to the standard at issue in Anaconda, both standards require specified precautions to be taken whenever employees are engaged in specified activities. Therefore, the cited standard like the standard at issue in Anaconda is not limited in its application to situations where a showing is made that permissible exposure limits have been exceeded.”). Second, though the Commission noted the cross-reference to subsection (a) did not automatically incorporate the requirements of (a) into the cited standard, it found the “[r]eference in the ventilation standard to subsection 1916.31(a) is limited to noting that the ventilation provided pursuant to the standard must perform as required by the subsection.” *Id.* In other words, the cited standard required ventilation when performing welding in a confined space, period. The cross-reference to subsection (a) is only there to ensure the ventilation used meets certain minimum requirements, not to absolve the employer of requiring its use.

Dravo also proposed a hypothetical wherein natural ventilation was sufficient to keep fumes within safe limits. The Commission found that “if sufficient natural ventilation is present in a space to prevent the accumulation of air contaminants, the space is not one in which a hazardous exposure could be created.” *Id.* Thus, under those circumstances, the space would not be classified as ‘confined’ and no violation of the ventilation standard would be found. The Commission’s response to Dravo’s hypothetical relied upon the now-rescinded definition of confined space, but the Court considers the rationale in relation to this case to be complete.

According to witness McIntire, here natural ventilation was sufficient to remove hazardous fumes from the access tube through a process called displacement ventilation, wherein the hot air rises to the top of the tube and is replaced by colder, denser air at the bottom. (Tr. 543–47). This, in turn, creates a pressure differential of low pressure, hot air at the top of the tube, and high pressure, cooler air at the bottom. As the warm air rises and is exhausted out of the manhole, McIntire testified more cool air enters the tube through the bottom of the 5-foot opening, which, in turn, pushes the warm air up and out of the tube. The problem as it relates to the issue of ventilation,<sup>9</sup> however, is that McIntire also testified the orientation of the tube was such that fumes could accumulate in the area above the manhole opening. (Tr. 546–47). Considering the size of the employees, the work being performed, and the size of the work space, accumulations were still possible. The Court finds it has not been conclusively established that natural ventilation alone was sufficient to substitute for mechanical ventilation in preventing the accumulation of air contaminants in this space. Accordingly, the space is one in which a hazardous exposure could be created.<sup>10</sup>

Conversely, Respondent argues that the fumes would be confined to a specific location—the upper part of the tube towards the end—and, therefore, its employees would not be exposed to such fumes because the area of potential accumulation was outside of the particular breathing zone of Hightower and Reynolds, who were predominantly working on the floor of the tube. While it

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9. The Court also notes Respondent failed to properly disclose his expert witnesses as experts in his pretrial disclosures, which were scheduled to occur during a pre-trial conference call that took place one week prior to trial. Respondent's counsel failed to appear for the call and did not provide a satisfactory excuse for his absence. Although Respondent is correct that neither the Simplified Proceedings rules nor the Court's pretrial orders require disclosure in advance of trial, the Court finds Respondent's attempts to circumvent the usual course of disclosure to be antithetical to the principle of fair play and an attempt to use the Simplified Proceeding Rules for unfair advantage. However, the foregoing discussion of displacement ventilation is not recounted for the purposes of establishing that a violation did or did not occur, but to provide context for the explanation of how fumes could accumulate in the area above the manway on the East end of the access tube relating to the question of exposure.

10. Though this characterization comes close to the definition of a permit-required confined space, i.e., one that has the potential to contain a hazardous atmosphere, that does not undercut the fact that the access tube is, in fact, a confined space.

*may* have an impact on the question of exposure or seriousness, the location of the employees vis-à-vis the point of potential accumulation does not negate the fact that such accumulations are possible.

Based on the foregoing, the Court finds Complainant is not required to establish the existence of a hazardous condition inside the confined space in order to prove a violation of the standard. The standard presumes a hazard based on two factors: (1) the activity taking place, *i.e.*, welding; and (2) the location of the activity, *i.e.*, inside a confined space. Under those conditions, Respondent was required to provide mechanical ventilation, which it failed to do even though Respondent had a Venturi fan at the worksite. Accordingly, the Court finds the terms of the standard were violated.

Respondent did not perform any particular tests or analyses of the atmosphere inside the access tube at issue. Instead, based on Hightower's feeling the conditions were safe, Newcomb opted not to install the Venturi fan. Thus, the data gained from subsequent testing performed by McIntire on a makeshift model of an access tube was simply fodder for a *post hoc* justification for Newcomb's decision not to comply with the standard. Further, with respect to the exposure data gathered from other projects of a similar type, the Court finds there was insufficient evidence about the atmospheric and physical conditions of the various sites to allow an adequate comparison between the conditions at the Appleton worksite at issue here and the other sites. For that matter, it does not appear the results were shared with Respondent's employees and foreman such that they provided the basis for Newcomb's decision not to supply mechanical ventilation. Rather, the decision was made by fiat, even though Reynolds testified a fan would typically be installed on steel tanks such as this when welding was taking place. (Tr. 306).

### iii. Respondent's Employees Were Exposed to the Hazard

Though Reynolds and Hightower differed in their estimates of how long they were in the access tube and how long they were welding, also referred to as 'arc time', the evidence shows they were inside the access tube for a period of 10 to 30 minutes with approximately 10 to 15 minutes of arc time. During 'arc time', the fume plume that is generated contains solid particles, base metals, and base metal coatings as a result of the intense heat generated by the arc strike. In this particular case, the byproducts from the carbon steel and electrode included carbon dioxide, carbon monoxide, nitrogen dioxide, ozone, iron oxide, and other oxides such as manganese. (Ex. C-10b at 5, R-6). Thus, at the very least, Respondent's employees occupied a space wherein hazardous fumes were being generated.

Although McIntire's testimony appears to suggest the accumulation of smoke and fumes would be limited to a particular area of the access tube, there was no definitive evidence regarding the positioning of Reynolds and Hightower during their time inside the access tube. What is known, however, is that: the tack welds were placed at even intervals along the length of the access tube, requiring Reynolds and Hightower to travel the entire length of the tube; Reynolds performed welding in the eastern portion of the tube, closest to the manway and potential location for accumulations; and most of the welding was performed on the 'floor' of the tube, which required Hightower and Reynolds to kneel or lie down to apply the welds. (Tr. 229, 286, 292).

According to the Commission, "Exposure to a violative condition may be established either by showing actual exposure or that access to the hazard was reasonably predictable." *Phoenix Roofing, Inc.*, 17 BNA OSHC 1076 (No. 90-2148, 1995); *see also Gilles & Cotting, Inc.*, 3 BNA OSHC 2002 (No. 504, 1976). In this case, though Respondent may question whether its employees were directly exposed to any accumulation of hazardous fumes, the evidence is clear that exposure to the hazard was reasonably predictable. Both Reynolds and Hightower moved throughout the

access tube to apply welds to the overflow pipe. During the time they were welding, they generated hazardous fumes, which had the potential to accumulate inside the confined space. Whether they were directly exposed to an accumulation of welding fumes is unclear, but such is not necessary for Complainant to establish its *prima facie* case. It is enough for Respondent's employees to have access to the condition. Because Reynolds and Hightower were generating fumes in a confined space, which had the potential to create hazardous accumulations and limited the employees' ability to maneuver within that space, the Court finds they were exposed to a hazard.

**iv. Respondent, Through its On-Site Foreman, Knew of the Hazardous Condition**

“To establish knowledge, the Secretary must prove that the employer knew or, with the exercise of reasonable diligence, should have known of the conditions constituting the violation.” *Central Florida Equip. Rentals, Inc.*, 25 BNA OSHC 2147 (No. 08-1656, 2016). To satisfy this burden, Complainant must show “knowledge of the *conditions* that form the basis of the alleged violation; not whether the employer had knowledge that the conditions constituted a hazard.” *Id.* “When a corporate employer entrusts to a supervisory employee its duty to assure employee compliance with safety standards, it is reasonable to charge the employer with the supervisor's knowledge[,] actual or constructive[,] of noncomplying conduct of a subordinate.” *Mountain States Tel. & Tel. Co. v. Occupational Safety & Health Review Comm'n*, 623 F.2d 155, 158 (10th Cir. 1980).

David Newcomb was the on-site foreman. (Tr. 281). During the inspection, CSHO Cooney observed Newcomb standing near the west end of the access tube looking inward as Reynolds and Hightower were welding inside. (Tr. 53). Reynolds told Cooney that two of his employees were inside the access tube, welding on carbon steel. He knew his employees were welding inside the access tube without mechanical ventilation; indeed, he chose not to install it at the behest of

Hightower. Given Newcomb's knowledge of the conditions inside the tube, including the activities occurring therein, the restricted nature of the space, and the fact that welding was occurring, the Court finds he was aware of the conditions constituting a violation. Because Newcomb was the on-site foreman, his knowledge of those conditions is properly imputable to Respondent.

**v. The Violation Was Serious**

As an alternative to its claim the standard did not apply, Respondent contends the violation was merely a 'technical' one and should therefore be classified as *de minimis*. "A violation should be classified as *de minimis* when they 'have no direct or immediate relationship to safety or health.' *Whiting-Turner Contracting Co.*, 13 BNA OSHC 2155 (No. 87-1238, 1989) (citing 29 U.S.C. § 658(a)). In other words, such a technical violation "bears such a negligible relationship to employee safety or health as to render inappropriate the assessment of a penalty or the entry of an abatement order." *Cleveland Consol. Inc.*, 13 BNA OSHC 1114 (No. 84-696, 1987).

On the other hand, a violation is "serious" if there was a substantial probability that death or serious physical harm could have resulted from the violative condition. 29 U.S.C. § 666(k). Complainant need not show that there was a substantial probability that an accident would actually occur; he need only show that if an accident occurred, serious physical harm could result. *Phelps Dodge Corp. v. OSHRC*, 725 F.2d 1237, 1240 (9th Cir. 1984). If the possible injury addressed by a regulation is death or serious physical harm, a violation of the regulation is serious. *Mosser Construction*, 23 BNA OSHC 1044 (No. 08-0631, 2010); *Dec-Tam Corp.*, 15 BNA OSHC 2072 (No. 88-0523, 1993).

According to Respondent, the "uncontradicted evidence established that the atmosphere inside the access tube was not hazardous and that the natural ventilation that existed was sufficient . . . to keep welding fumes and smoke within safe limits." *Resp't Br.* at 29. In support of this assertion, Respondent points to the testimony of Hightower and Reynolds, who stated they did not

observe an accumulation of smoke or fumes within the tube during welding activities, and McIntire and Spear, who testified as to the efficacy of natural ventilation within the access tube and the low level of toxic fumes generated during this particular welding project.

Respondent oversells what the evidence shows. Although Respondent provided sampling data from other worksites indicating low levels of exposure to hazardous chemicals, gases, and fumes, the data was nearly 10 years old. (Ex. R-6). Further, though there was evidence the materials in related cases were similar, only two of the worksites involved the same type of welding, and Respondent did not present any testimony or other evidence illustrating other similarities, such as atmospheric and other physical conditions, whether ventilation was used in those other cases, the duration of the sample period, or the positioning of the exposed workers, all of which affect air flow and possible exposure. (Tr. 430–32).

Respondent also introduced evidence of testing it performed inside what it termed a “false riser”, which was essentially a metal tube made to approximate the conditions inside the access tube at the Appleton worksite. (Tr. 345; Ex. R-7). Though the reported levels of various toxins were below the OSHA-mandated PEL, it is not clear to the Court the conditions under which the samples were taken approximate those found at the Appleton worksite. In addition to lacking any semblance of a diagram or photographic evidence to illustrate the false riser and access tube were, in fact, similar in orientation, the weather data from the day of the inspection was different in material respects from that recorded by Respondent during its false riser test, including variations in wind speed and temperature. *Compare* R-7 at 10 to C-17 at 4; *see also* Tr. 573. McIntire testified that such variations could impact toxin concentration, but also admitted that he had limited knowledge of how the toxins from the plume disperse in the air as a result. (Tr. 570–71). In response to questions about the impact of temperature variability on the false riser test result,

McIntire admitted his assessment was based on his personal experience as to how the plume itself behaves under different temperatures, but that he was not in a position to discuss how that variation impacted toxin concentration other than to say that “the plume rises.” (Tr. 570). Thus, Respondent’s conclusion linking the results of the false riser test to the conditions inside the Appleton access tube is of dubious value.

CSHO Cooney testified, with support from various industry texts and manuals, how the process of arc welding generates fumes that contain hazardous materials from the welding stick, base metal, and any coatings on the base metal. (Tr. 84–85; Ex. C-10, C-12, C-13). He went on to describe how exposure to the fumes in a confined space could result in short-term complications, such as metal fume fever, dizziness, nausea, dryness of mucous membranes, and aggravation of existing respiratory problems; and also long-term complications, including siderosis, bronchitis, and other pulmonary issues. (Tr. 85). Based on CSHO Cooney’s testimony, the Court finds the violation at issue in this case bears more than a negligible relationship to safety and health. Because the injury addressed by the cited standard is death or serious physical harm due to toxic exposure, the Court finds the violation is serious.

The Commission’s holding in *Dravo* supports the Court’s finding. According to the Commission:

[T]he record establishes a likelihood that various hazardous contaminants were in the atmosphere *as a natural consequence of the welding operation being performed*. It also establishes that there was not sufficient ventilation in the rake to remove the contaminants or to prevent the accumulation of an increasing concentration of the contaminants as the welding progressed. In addition, the record establishes the possibility that an oxygen deficient atmosphere would develop in the rake. Finally, the record supports Judge Duvall’s conclusion that there was a substantial probability that death or serious physical harm could result if an oxygen deficiency or sufficiently contaminated atmosphere actually were created.

*Dravo Corp.*, 7 BNA OSHC 2095 (emphasis added). As in *Dravo*, there was a likelihood that hazardous contaminants were in the atmosphere as a consequence of Respondent’s welding

activities. Due to Newcomb's failure to install mechanical ventilation, it was possible for those contaminants to accumulate in such a way to present serious health hazards to Reynolds and Hightower.

Accordingly, the Court finds Complainant established a *prima facie* violation of 29 C.F.R. § 1926.353(b)(1).

## **V. 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 \$3,400, which is the gravity-based assessment according to the four factors mentioned above. Complainant determined the violation was of medium severity due to the potential injuries associated with exposure to welding fumes; however, he also determined the probability of the hazard was low due to the short period of time Reynolds and Hightower were welding. Complainant did not apply a reduction for size, because Respondent has over 2,000 employees. Nor did Complainant apply a discount for history, even though Respondent's only violation in the previous five years was not high gravity. Complainant did, however, apply a fifteen percent discount because Respondent had a satisfactory safety and health

policy regarding hexavalent chromium employee training and air sampling, which was the original purpose for conducting the inspection.

The Court agrees Complainant's penalty assessment was fair and reasonable. The Court notes a compliant ventilation device was available onsite but was not used. Accordingly, the penalty of \$3,400 is affirmed.

**ORDER**

The foregoing Decision constitutes the Findings of Fact and Conclusions of Law in accordance with Rule 52(a) of the Federal Rules of Civil Procedure. Based upon the foregoing Findings of Fact and Conclusions of Law, it is ORDERED that:

1. Citation 1, Item 1 is AFFIRMED. A penalty of \$3,400 is assessed.

SO ORDERED

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*Judge Peggy S. Ball  
Occupational Safety and Health Review Commission*

Date: April 6, 2018  
Denver, Colorado