



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

Secretary of Labor,

Complainant,

v.

Quick Transport of Arkansas, LLC,

Respondent.

OSHRC Docket No. **14-0844**

ON BRIEFS:

Amy S. Tryon, Attorney; Heather R. Phillips, Counsel for Appellate Litigation; Ann S. Rosenthal, Associate Solicitor of Labor for Occupational Safety and Health; M. Patricia Smith, Solicitor of Labor; U.S. Department of Labor, Washington, D.C.

For the Complainant

George R. Carlton, Jr., Esq.; Godwin Lewis PC, Dallas, TX

For the Respondent

DECISION

Before: MACDOUGALL, Chairman; ATTWOOD and SULLIVAN, Commissioners.

BY THE COMMISSION:

After an explosion occurred at a truck yard owned by Quick Transport of Arkansas, LLC, the Occupational Safety and Health Administration issued the company a one-item serious citation alleging a violation of section 5(a)(1) of the Occupational Safety and Health Act, 29 U.S.C. § 654(a)(1), with a \$7,000 proposed penalty. The Secretary claims that Quick Transport exposed its employees to an explosion hazard by allowing them to use a propane torch to thaw frozen valves on vacuum truck trailers used in “fracking” operations.

Following a hearing, Administrative Law Judge Heather A. Joys vacated the citation on the ground that the Secretary failed to prove that Quick Transport’s valve-thawing practice presented an explosion hazard. For the reasons discussed below, we vacate the citation.

BACKGROUND

This case involves a “vacuum truck”¹ used to transport water that had been injected into the earth to extract oil or natural gas from a well in a fracking operation. In such operations, after being injected into the well, this “produced water” becomes mixed together with hydrocarbons and groundwater before being brought back to the surface. The term “produced water” refers both to the water injected into the earth and to the groundwater that was preexisting in the earth and brought to the surface as a byproduct of the extraction process. After produced water surfaces from a well, it is sent through a gas separator to remove the hydrocarbon material, and then it is funneled into holding tanks. Quick Transport specializes in hauling produced water to and from hydrocarbon well sites. The company uses vacuum trucks to remove produced water from the holding tanks at these sites and deliver it to storage sites, disposal sites, or to other wells to be reused for hydrocarbon extraction.²

The incident triggering the OSHA inspection at issue here occurred early one morning when a Quick Transport vacuum truck driver was inspecting his truck and its tank trailer before starting his work day. It had been very cold overnight and the valves on the rear of the tank trailer, which were left in the closed position the day before, had frozen shut. Two other Quick Transport drivers were also preparing for the work day, and the valves on their tank trailers were also frozen in the closed position. One of the drivers, DT, testified that it was “common” for drivers to leave the tank valves in the closed position at the end of the day, though he would not call it a “standard practice.”

The other driver, DD, obtained a propane torch and used it to thaw the valves on his tank and DT’s tank. He had used this same practice on four previous occasions and had learned to do it from watching other Quick Transport drivers do the same. After DD finished thawing both his and DT’s valves, he passed the torch to the decedent so that he could use it to thaw his tank’s valves. DD and DT were not watching the decedent and did not see him light or use the torch, but moments later they heard a loud explosion. DT testified that he felt a “pressure blast” and saw

¹ A “vacuum truck” has a tank trailer with suction lines and is designed to haul liquids.

² Quick Transport also owns two trucks that are permitted by the Arkansas Oil and Gas Commission to transport hydrocarbon-dense liquids like petroleum, but the company does not use these trucks to transport produced water. There is no dispute that the vacuum trucks at issue were never used to transport any substance other than produced water.

faint “plumes” arising from the back of the decedent’s tank trailer. DD testified that he saw two tank lids from the trailer flying through the air and a little “vapor.” DD found the decedent lying about five feet from his truck.

DISCUSSION

Section 5(a)(1) of the Act, known as the general duty clause, states that “[e]ach employer . . . shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees.” 29 U.S.C. § 654(a)(1). To establish a violation of the general duty clause, the Secretary must prove: “(1) a condition or activity in the workplace presented a hazard; (2) the employer or its industry recognized the hazard; (3) the hazard was causing or likely to cause death or serious physical harm; and (4) a feasible and effective means existed to eliminate or materially reduce the hazard.” *S. J. Louis Constr. of Tex.*, 25 BNA OSHC 1892, 1894 (No. 12-1045, 2016).

Here, the judge found that the Secretary failed to prove that Quick Transport’s valve-thawing practice presented an explosion hazard.³ According to the judge, the Secretary needed to “show the tankers at [Quick Transport’s] worksite contained hydrocarbons or toxic and/or flammable or combustible gases or vapors that could explode when in contact with an ignition source,” which he failed to establish. As to the remaining elements of the Secretary’s burden of proof, the judge summarily concluded that even if the cited activity was shown to present a hazard, the Secretary did not prove that either Quick Transport or its industry recognized the hazard.

³ The citation defines the alleged hazard in two different ways. It states that Quick Transport failed to “ensure ignition sources are not present when employees attempt to thaw valves on vacuum truck trailers.” It also states that “this violation most recently occurred” when employees “used a propane torch to thaw frozen valves on vacuum truck trailers and *did not ensure hydrocarbons, toxic and/or flammable gases or vapors were [not] present.*” (emphasis added). On review, the Secretary provides a third definition, stating that the hazard is “*not* the employer’s failure to ascertain the absence of [flammable] gases,” but “the explosion that can result when an ignition source is used in proximity to flammable gases or vapors.” (emphasis added).

Quick Transport does not claim that it lacked adequate notice that the hazard at issue is the risk of an explosion from a propane torch igniting flammable material inside a vacuum truck tank. In any event, the hazard the parties litigated is the potential for flammable vapors to be present inside the company’s vacuum trucks and to ignite if a torch is used to thaw the valves. *See Beverly Enters., Inc.*, 19 BNA OSHC 1161, 1168-69 (No. 91-3144, 2000) (consolidated) (inadequate hazard definition in pleadings does not establish a lack of fair notice if it is clear that the employer understood the nature of the hazard being litigated).

On review, the Secretary argues that it was error for the judge to require him to prove “the actual, definitive existence of flammable vapors or hydrocarbons at Quick Transport’s worksite,” which “effectively [required him] to prove the cause of the fatal accident.” According to the Secretary, he need only show that produced water has the *potential* to contain sufficient flammable material to ignite if exposed to a torch. In response, Quick Transport does not dispute that the Secretary need not show that the tanks *actually* contained flammable material but argues simply that this is “not the point of the [judge’s] decision” and that the Secretary “has misinterpreted [its] thrust.” “The point” of the decision, Quick Transport claims, is “that the Secretary did not prove the existence of a hazard at all.”

We agree with the Secretary that to prove that Quick Transport’s valve-thawing practice presented a hazard under the general duty clause, he need not show the vacuum truck tanks actually contained flammable material, only that this practice exposed employees to a “significant risk” of harm. *See Beverly Enters., Inc.*, 19 BNA OSHC 1161, 1170-1172 (No. 91-3144, 2000) (consolidated); *see also Pratt & Whitney Aircraft v. Donovan*, 715 F.2d 57, 63 (2d Cir. 1983) (holding that a “significant risk” of harm can be established by showing a “meaningful possibility” of injury); *Titanium Metals Corp. v. Usery*, 579 F.2d 536, 541 (9th Cir. 1978) (the possibility of harm resulting must be “upon other than a freakish or utterly implausible concurrence of circumstances”); *Nat’l Realty & Constr. Co. v. OSHRC*, 489 F.2d 1257, 1265 n.33 (D.C. Cir. 1973). Proof that a cited activity actually caused harm or necessarily could have caused harm under the precise physical conditions that happened to be present at the time of the violation, or at any other specific time, is not required. *See Bomac Drilling*, 9 BNA OSHC 1682, 1691-92 (No. 76-450, 1981) (consolidated) (“Under section 5(a)(1) case law, the ‘hazard’ that must be ‘recognized’ is not a particular set of circumstances at a specific location and specific point in time but rather the broader, more generic or general hazard.”), *overruled on other grounds by United States Steel Corp.*, 10 BNA OSHC 1752 (No. 77-1796, 1982); *Brennan v. OSHRC*, 494 F.2d 460, 463 (8th Cir. 1974) (Secretary need not prove general hazard was cause of the accident that gave rise to the citation); *Beverly Enters.*, 19 BNA OSHC at 1171 (same).

Indeed, the Commission has upheld general duty clause violations without regard to whether the actual physical conditions at the time of the violation or inspection would necessarily result in harm. For example, in *Bomac Drilling*, the employer argued that the hazard alleged—encountering hydrogen sulfide gas while drilling a well—was not established because the

employees did not actually encounter the gas. 9 BNA OSHC at 1691-92. The Commission rejected this argument because the evidence showed that the well *could have* contained dangerous hydrogen sulfide gas. *Id.* at 1693. *See also Deep S. Crane & Rigging Co.*, 23 BNA OSHC 2099, 2100-02 (No. 09-0240, 2012), *aff'd*, 535 F. App'x. 386 (5th Cir. 2013) (unpublished) (affirming general duty clause violation for failing to properly train and ensure employee was qualified to operate crane based on evidence employer failed to instruct and test operator's proficiency—Secretary was not required to show operator actually was unqualified).

In this case, therefore, the Secretary can establish that Quick Transport's valve-thawing practice posed an explosion hazard by showing there was a significant risk of the tanks containing sufficient flammable material to cause an explosion if a propane torch were applied to a frozen valve. For the reasons discussed below, we find that the Secretary has not made this showing.

Explosion Risk

On review, the Secretary contends that the evidence shows produced water can sometimes contain sufficient flammable material to ignite if exposed to an ignition source and that this occurs frequently enough to establish that Quick Transport's valve-thawing practice posed a significant explosion risk.⁴ The only evidence the Secretary cites in support of his position is a publication from the American Petroleum Institute (API) titled, "Safe Operation of Vacuum Trucks in Petroleum Service – API Recommended Practice 2219."⁵ From this guide, the Secretary relies on a single statement:

⁴ There is no dispute that using propane torches to thaw frozen valves was a common practice among Quick Transport employees and that they never tested the contents of the tanks prior to using this method. There is also no dispute that produced water mixes with large amounts of flammable hydrocarbon oil and gas when it is injected into the earth to extract such hydrocarbons. The parties do dispute, however, whether produced water retains any hydrocarbon material after it has passed through a gas separator and been loaded onto a vacuum truck.

⁵ Although Quick Transport objected to the introduction of this document into evidence on hearsay grounds, the judge admitted the guide, though not for the truth of the statements within it. At the same time, however, the judge made factual findings in her decision that indicate she did consider the guide for the truth of its contents. On review, Quick Transport does not argue that the API guide is hearsay or that it was otherwise wrongly considered by the judge. Since the company has not briefed or even raised this issue to the Commission, we consider its objection abandoned. *See Cleveland Wrecking Co.*, 24 BNA OSHC 1103, 1107 n. 2 (No. 07-0437, 2013) ("The Secretary does not challenge the judge's ruling [regarding amendment of the citation] on review. In these circumstances, we deem this issue abandoned."); *Sharon & Walter Constr., Inc.*, 23 BNA OSHC 1286, 1290 n. 6 (No. 00-1402, 2010) ("On review, [the employer] does not challenge the judge's

Vacuum truck operators shall be aware that whenever materials (such as produced water or spent acid) that have the potential to contain trace amounts of hydrocarbon condensates or hydrogen sulfide are placed under a vacuum, flammable vapors and toxic gases are freely released, creating potential ignition and exposure hazards.

It is unclear, however, if this statement is asserting that produced water is a material that *always* has the potential to contain hydrocarbons and hydrogen sulfide or if the statement's caution applies only *if* the produced water contains such chemicals.⁶

We also reject the Secretary's claim that it is "common sense" that produced water may contain flammable material given that it is used in fracking operations. As noted, the produced water in the instant case was processed through a gas separator; whether—or to what extent—this gas separation process may be incomplete is hardly a matter of common experience and, in our view, necessitates consideration by an expert qualified in this field of work. *Cf.* Fed R. Evid. 701(c) (generally prohibiting lay opinion testimony on scientific, technical, or other specialized knowledge); *U.S. v. Natal*, 849 F.3d 530, 536 (2d Cir. 2017) ("testimony on how cell phone towers operate must be offered by an expert witness"); *Asplundh Mfg. Div. v. Benton Harbor Engineering*, 57 F.3d 1190, 1193 (3rd Cir. 1995) (lay opinion testimony on "technical matters . . . such as the design of hydraulic cylinders or the cause of metal failure" is impermissible absent sufficient

decision to reject its unpreventable employee misconduct defense. Therefore, we consider this argument abandoned."); *Ragnar Benson, Inc.*, 18 BNA OSHC 1937, 1938 (No. 97-1675, 1999) ("The Commission need not review an issue abandoned by a party.").

⁶ Our colleague finds the latter reading of this provision to be "implausible," and contends that it is "more natural" to read it as requiring the vacuum truck operator to assume that the produced water may contain trace amounts of flammable liquids. Even if she were correct in this regard—a point we strongly dispute—it would mean only that the provision can reasonably be interpreted in more than one way and therefore, it is ambiguous. Since it is the Secretary's burden to prove the existence of a hazard, relying on an industry source which is at best unclear is a failure of proof. In addition, our colleague's conclusion that the provision is evidence of a hazard under the circumstances in this case fails for an even more fundamental reason: the precautions in the API guide do not indicate whether trace amounts of flammable vapors in produced water, if any, would remain in a full tank, or as in the case before us, in an emptied tank.

This same ambiguity is reflected in the section of the API guide that sets forth its scope, which "includes the movement of liquid mixtures (such as 'produced water,' BS&W or tanks bottoms) that may contain sufficient hydrocarbon materials to present comparable hazards [to flammable and combustible liquids]." This can be read as either a statement of fact—the guide applies to produced water *because* it may contain hydrocarbon materials, or a limitation—the guide only applies to produced water *if* it may contain hydrocarbon materials.

experience or specialized knowledge). In fact, one of Quick Transport’s corporate officers testified that he did not “see how any gas would stay contained in [the] water.” We therefore cannot infer from the API guide, which on its face does not apply here, that Quick Transport’s valve-thawing practice posed an explosion risk.

Even if the guide were applicable here, we agree with the judge that the Secretary has not shown that the hazards it describes were present at Quick Transport’s truck yard. First, the record fails to establish a basis for concluding that Quick Transport’s vacuum trucks have the potential to contain produced water at the start of a work day. Drivers typically deliver their last loads before parking their trucks in the yard for the night; indeed, DT testified that he had operated the truck involved in the accident the day before and had emptied its last load of produced water.⁷ The Secretary provided no evidence regarding the likelihood of any deviation from this practice.

Second, the guide does not specify whether, after a trailer tank has been emptied, residual produced water and/or flammable vapors may remain, and if so, whether sufficient quantities to pose an explosion hazard would likely be present. Nor does the guide address the likelihood that, if hydrocarbons do remain in the tank, a propane torch applied to a frozen valve in the closed position would ignite them. The Secretary again resorts to “common sense,” but—as with the issue of whether hydrocarbons may remain in produced water after the gas separation process—whether using a propane torch to thaw a frozen valve on the outside of the tank can cause an explosion inside the tank is a technical matter beyond the realm of common knowledge. Given the lack of any expert testimony or other evidence addressing these key issues, the API guide does not establish that Quick Transport’s valve-thawing practice posed an explosion risk.⁸ For these

⁷ Although photographs of the inside of the tank taken after the accident appear to show some damp spots or liquid residue, it is difficult to discern what is depicted and there is no testimony addressing this evidence.

⁸ We note that on review, the Secretary does not rely on the occurrence of the accident as evidence that the alleged explosion hazard was present here. Conflicting theories as to the accident’s cause, which is not self-evident, were offered by Quick Transport’s secretary-treasurer and the compliance officer, neither of whom were presented as expert witnesses. The secretary-treasurer testified that the company’s investigation into the cause of the accident yielded “any number of theories,” and his own theory is that the tank may have exploded due to overpressure. Warning labels on the tank hatches state, “15 P.S.I. MAX PRESSURE,” and direct operators to relieve all pressure before opening the hatch. The API guide also warns vacuum truck operators to “stay within the operational [pressure] limits . . . to prevent over-pressurizing vacuum cargo tanks.”

reasons, we find that the Secretary has failed to meet his burden of showing that Quick Transport's valve-thawing practice posed an explosion hazard.⁹

Consistent with the secretary-treasurer's theory, DT testified that the tank that exploded had been pressurized the day before.

The CO testified that, in her opinion, use of the torch "may have . . . caused an explosion because there may have been some residual toxic substances or hydrocarbons or things of that [nature] . . . in the tank." However, she admitted that she had no background, education, or training related to oil fields or vacuum truck operations and that her knowledge of Quick Transport's industry was based merely on visiting the company's truck yard after the accident, looking up the API guide, and reviewing the U.S. Environmental Protection Agency's website. See *United States v. Smith*, 591 F.3d 974, 982-83 (8th Cir. 2010) ("a lay witness's opinion must not be based on 'scientific, technical, or other specialized knowledge within the scope of [FRE] Rule 702,'" citing Fed. R. Evid. 701). In addition, pages from the EPA website that were submitted into evidence describe produced water as "fluid returned to the surface after [a] well is in production," and state that it "may contain added chemicals, naturally-occurring substances, hydrocarbons and potential reaction and degradation products," but like the API guide these pages give no indication if these substances may be present in sufficient quantities to cause an explosion.

Finally, the CO testified that OSHA had previously cited a company after an explosion occurred when a driver applied a torch to the valve of a vacuum truck. In fact, the API guide's appendix contains a reference to what may be the same incident, though the record neither confirms nor refutes that possibility. In any event, there is no evidence regarding what the truck(s) involved had been carrying. Our colleague seizes upon this reported accident to bolster the Secretary's failed attempt to prove the existence of a hazard. Her reliance on this accident, however, is misplaced, because, as the guide notes: "It is presumed that the valve was frozen in the *partially open position*. . . . Flame propagation through the *partially open valve* ignited an explosive mixture in the vacuum tank." (emphasis added). In the case before us, it is undisputed that the valve was closed. In sum, absent evidence regarding the cause of the explosion in the instant case, its mere occurrence cannot establish the Secretary's burden of proving a hazard.

⁹ As Commissioner Sullivan explained in both *Integra Health Management, Inc.*, No. 13-1124, slip op. at 23-29 (OSHRC Mar. 15, 2019) (Sullivan, Comm'r, concurring) and *A.H. Sturgill Roofing, Inc.*, No. 13-0224, slip op. at 12 n. 14 (OSHRC Mar. 1, 2019), he proposes that the Commission return to using a "reasonable foreseeability" test to determine whether a general duty clause violation has been established. See *Pratt & Whitney*, 8 BNA OSHC 1329 (No. 13591, 1980), *aff'd in part, rev'd in part, remanded*, 649 F.2d 96, 101 (2d. Cir. 1981); *Bomac Drilling*, 9 BNA OSHC 1681 (No. 76-0450, 1981) (consolidated), *overruled by U.S. Steel Corp.*, 10 BNA OSHC 1752 (No. 77-1796, 1982). This test requires the Secretary to establish both that a truly "meaningful" and "significant" possibility of harm existed, and that "employers receive adequate notice of their legal responsibilities under the general duty clause." See Donald J. Morgan and Mark N. Duvall, *OSHA's General Duty Clause: An Analysis of Its Use and Abuse*, 5 BERKELEY J. EMP. & LAB. L. 283, 297 (1983). In Commissioner Sullivan's view, the question in this case should be whether it would have been "reasonably foreseeable" to a "reasonable employer" acting under the same set of circumstances as Quick Transport that allowing employees to use a propane torch

Hazard Recognition

A hazard is deemed “recognized” when “the potential danger of a condition or activity is either actually known to the particular employer or generally known in the industry.” *Pepperidge Farm, Inc.*, 17 BNA OSHC 1993, 2003 (No. 89-265, 1997) (quoting *St. Joe Minerals v. OSHRC*, 647 F.2d 840, 845 (8th Cir. 1981)). The Secretary does not contend that Quick Transport itself recognized that its valve-thawing practice posed an explosion hazard but maintains that this hazard is recognized by the oil and gas industry. The only evidence the Secretary cites in support of industry recognition is the API guide, which the Secretary contends establishes that the industry recognizes that produced water can contain flammable vapors.

For the reasons discussed above, we find that the API guide does not establish industry recognition of the alleged hazard. As we have already found, the guide indicates that produced water can release flammable vapors but does not address whether it can release them in sufficient quantities to cause an explosion or whether there is a significant risk of any produced water and/or flammable vapors remaining inside a vacuum truck tank after it has been emptied. Nor does the guide address the likelihood of any such vapors igniting if a propane torch were applied to the exterior of a frozen valve in the closed position. Thus, the guide does not address or otherwise recognize that a hazard is present after produced water has been emptied from the truck. *See, e.g., Oberdorfer Indus., Inc.*, 20 BNA OSHC 1321, 1326-27 (No. 97-0469, 2003) (consolidated) (finding that industry standards in evidence did not establish a recognized hazard under the circumstances at issue in the case).

to thaw the frozen vacuum truck valves would pose an explosion hazard. In his view, there being no expert testimony, the only evidence in the record that clearly bears on this question is the fact that an incident similar to the one at Quick Transport’s worksite *may* have occurred previously (though it is not clear if this actually was a similar incident, as the truck involved may not have been used to transport produced water), as well as the undisputed fact that using a propane torch to thaw frozen valves was a common practice by other employers in the industry and by Quick Transport employees. Commissioner Sullivan finds that this evidence does not show that it would have been reasonably foreseeable to a reasonable employer that the valve-thawing practice posed a hazard under the facts in this case; to the contrary, the fact that the practice was apparently very common in the industry and yet the record only contains evidence of one previous incident (and no evidence that produced water was involved in that incident) strongly suggests that it would not have been reasonably foreseeable. The Secretary has failed, therefore, to meet his burden of establishing a general duty clause violation.

Having failed to prove that Quick Transport's valve-thawing practice posed an explosion hazard and that the company or its industry recognized that the practice posed a hazard, we conclude that the Secretary has not established a violation of the general duty clause. Accordingly, we vacate the citation.

SO ORDERED.

/s/
Heather L. MacDougall
Chairman

Dated: March 27, 2019

/s/
James J. Sullivan, Jr.
Commissioner

ATTWOOD, Commissioner, concurring:

For the reasons set forth below, I agree that the Secretary did not establish that Quick Transport or its industry recognized that the company's valve-thawing practice posed an explosion hazard. Therefore, I concur with my colleagues' decision to vacate the citation. I disagree, however, with their finding that the Secretary also failed to establish that Quick Transport's practice posed an explosion hazard.

Hazard

Under the applicable standard of proof, the Secretary must establish the existence of a hazard by a "preponderance of the evidence," which means the Secretary need only show that it is more likely than not that the practice presented a hazard. *See Ultimate Distribution Sys., Inc.*, 10 BNA OSHC 1568, 1570 (No. 79-1269, 1982) ("The Secretary satisfies his burden of proof if the record, when considered as a whole, contains preponderating evidence in support of his allegations."); *Almerfed v. Obama*, 654 F.3d 1, 5 (D.C. Cir. 2011) ("The preponderance standard . . . asks the court simply to make a comparative judgment about the evidence to determine whether a proposition is more likely true than not true based on the evidence in the record.") (internal citation omitted). In my view, the record establishes that it is more likely than not that Quick Transport's valve-thawing practice posed an explosion hazard.

The first sentence in the forward of the American Petroleum Institute's vacuum truck safety guide, "Safe Operation of Vacuum Trucks in Petroleum Service – API Recommended Practice 2219," states that the guide contains safety recommendations for the transportation of produced water in vacuum trucks:

This third edition of Safe Operation of Vacuum Trucks in Petroleum Service provides information *concerning the safe operation of vacuum trucks engaged in all aspects of handling* flammable and combustible liquids, associated waste water, *produced water*, sour water, basic sediment and water (BS&W), caustics, spent acids, *or other fluids stemming from petroleum operations*.

(emphasis added). The "Scope" section reiterates that the guide addresses the use of vacuum trucks to haul produced water and states that produced water is a substance that may contain "sufficient hydrocarbon material" to present hazards "comparable" to flammable and combustible liquids:

The scope of this recommended practice includes the use of vacuum/pressure trucks, skids, portable tanks and trailers (herein referred to as vacuum trucks) to remove flammable and combustible liquids from tanks and equipment and to clean up liquid hydrocarbon spills. *The scope includes the movement of liquid mixtures*

(such as “produced water”, BS&W or tank bottoms) that may contain sufficient hydrocarbon material to present comparable hazards.

(emphasis added). Thus, the scope of the API guide clearly encompasses the vacuum trucks at issue in this case.

The API guide further explains that because produced water can contain residual hydrocarbon material, it can pose an “ignition” hazard when transported in vacuum trucks. Specifically, section 5 (“Safe Vacuum Truck Operations”) contains subsection 5.10, which states that produced water may contain “trace amounts of flammable liquids,” and that vacuum truck operators should be aware that even these trace amounts can pose a potential “ignition” hazard when “placed under a vacuum” (as would occur in a vacuum truck), because flammable vapors will then be freely released. Section 5.10 states in full:

5.10 NON-PETROLEUM PRODUCTS

Vacuum truck operators shall be aware that hazardous and toxic vapors, mists or solid materials may be released to the atmosphere during transfer of non-petroleum products.

5.10.1 Vacuum truck operators shall be trained to follow safe operating practices and use appropriate personnel protective equipment when loading and off-loading non-petroleum products such as sour water, *produced water*, spent acids, spent catalyst and other materials *which may contain trace amounts of flammable liquids*, hydrogen sulfide and other toxic substances.

5.10.2 Vacuum truck operators shall be aware that whenever materials (*such as produced water or spent acid*) *that have the potential to contain trace amounts of hydrocarbon condensates or hydrogen sulfide are placed under a vacuum, flammable vapors and toxic gases are freely released, creating potential ignition and exposure hazards.*

(emphasis added). The majority contends that section 5.10.2 could mean that vacuum truck operators only need to exercise caution with respect to produced water “*if the produced water contains [hazardous] chemicals.*” In my view, this reading is implausible. The more natural interpretation is that the API warning shows that produced water is an example of a substance that drivers must be aware can pose an ignition hazard because it has the potential (in general) to contain trace amounts of flammable material. This interpretation is confirmed by the immediately preceding statement in section 5.10.1 (which also provides context for section 5.10.2) listing produced water as a substance “which may contain trace amounts of flammable liquids.”

The potential ignition hazard posed by produced water when hauled in vacuum trucks, given its potential to have trace amounts of flammable material, is further confirmed by section 4

(“Safe Handling of Hazardous Materials”), specifically subsection 4.1 (“HAZARDOUS MATERIALS AWARENESS”), which contains a provision (subsection 4.1.3) stating that “vacuum truck operators shall be aware that when under vacuum, even trace amounts of hydrocarbons and hydrogen sulfide gas can be easily separated and create flammable and/or toxic atmospheres.” In section 5.12, regarding “PERSONNEL SAFETY,” subsection 5.12.5 further instructs that “[s]moking, or any other sources of ignition, shall not be permitted within at least 100 ft (depending on local procedures and atmospheric conditions) of the truck, the discharge of the vacuum pump or any other vapor source.”¹

Although the API guide expressly states that produced water can release flammable vapors and pose an “ignition” hazard when hauled in vacuum trucks, I agree with my colleagues that it is not sufficient by itself to establish that Quick Transport’s valve-thawing practice posed an explosion hazard. As their opinion points out, the guide does not indicate whether a vacuum truck tank that has been emptied of its produced water contents would be likely to retain any flammable vapors, or if so, whether a propane torch applied to the closed exterior valves would be likely to ignite them and cause an explosion.

The API guide, however, is not the only evidence on this issue. The record also establishes that the rear hatch cover of the tank trailer blew out when the decedent was at the back of the truck, moments after he was handed the torch for the purpose of thawing the valves on the back of his truck. When considered in light of the API guide’s multiple warnings that there are fire hazards involved in transporting produced water in vacuum trucks, the occurrence of this explosion is compelling circumstantial evidence that Quick Transport’s valve-thawing practice presented an

¹ An introductory paragraph at the beginning of section 5.12, which provides context for subsection 5.12.5, states:

Vacuum truck personnel working in petroleum facilities shall be trained in the safe operation of the vacuum equipment; shall be familiar with the hazards of the petroleum products, by-products, wastes and materials being transferred; and shall be aware of relevant government and facility safety procedures and emergency response requirements.

As this paragraph refers to the need for personnel to understand the hazards of “by-products, wastes and materials being transferred,” it is evident that the subsequent instruction in subsection 5.12.5 to keep ignition sources 100 feet from vacuum trucks applies to vacuum trucks transferring produced water.

explosion hazard.² In addition, there is evidence of a similar explosion occurring when vacuum truck drivers used a propane torch to thaw a frozen valve and thereby caused flammable material inside the tank to ignite. In an appendix cataloging “Vacuum Truck Operating Experience and Incidents,” the API guide describes an incident in which two workers were killed in an explosion that occurred after they used a torch to thaw a frozen valve on the rear of a vacuum truck:

A vacuum truck was being prepared to pick up a load in freezing weather. The main suction/discharge connection on the vacuum tank’s rear bulk head was malfunctioning. It is presumed the valve was frozen in the partially open position. The workers chose to use a propane torch to free the valve. Flame propagation through the partially open valve ignited an explosive mixture in the vacuum tank. The ignition blew off the vacuum tank’s rear door. The door struck two workers resulting in fatal injuries to both.

The guide does not state what type of material the truck involved in this explosion had been transporting, and as Quick Transport contends, it is possible it had been used to haul petroleum or another hydrocarbon-dense liquid that would have left behind more flammable material (and/or

² There is other evidence, as well, that supports a finding that the explosion was in fact caused by the presence of combustible or flammable material in the tank. DD, one of Quick Transport’s drivers who witnessed the explosion, testified as follows:

Q. What did you see when you took off running? . . .

A. Well, I went over towards where I heard the explosion, if that’s what you want to call it. . . . And when I c[a]me around, all I could see was just a little vapor and two tank lids flying through the air.

* * *

Q. When you say you saw vapor, where was the vapor coming out?

A. It was just like a thermocline.

Q. Okay. But what was the vapor coming out?

A. I’m assuming it came out of the tank.

* * *

Q. And what’s a thermocline?

A. Thermocline is kind of like if you look in the roads where the sun is shining, you know, and the heat is rising or the wind is blowing, it kind of distorts the vision. That’s a thermocline.

Thus, the vapor DD saw was *hot*, which would have been the case had the tank exploded as a result of the presence of combustible or flammable material in the tank.

vapors) than if it had hauled produced water. This documented incident reflects, however, that applying a propane torch to the frozen valve of a vacuum truck *can* ignite flammable material inside the tank *and* cause an explosion. And section 1.2 of the guide, quoted above, recognizes that produced water “may contain sufficient hydrocarbon material to present comparable hazards” to those involved in transporting petroleum.

My colleagues note that it is possible the explosion at Quick Transport’s truck yard had a different cause than this prior incident, citing the testimony of Quick Transport’s secretary-treasurer that his own theory was that the explosion was caused by excessive tank pressure, and evidence that drivers are warned to keep their tanks within safe pressure limits. Although Quick Transport has never claimed the explosion was caused by excessive pressure, I find this theory highly implausible. The vacuum truck’s tank had been emptied of produced water at the end of the day before the incident and the truck then sat in Quick Transport’s yard over a night in which the temperature dropped to 9°F. Such a drop in temperature would surely have *decreased* whatever pressure there was in the tank. In my view, the timing and circumstances in which the explosion occurred, coupled with the API guide’s multiple references to flammable vapors being released from produced water, as well as the evidence that there was a prior vacuum truck explosion involving the very same valve-thawing method, together constitute preponderating evidence that Quick Transport’s valve-thawing practice posed an explosion hazard. *See Ultimate Distribution Sys., Inc.*, 10 BNA OSHC at 1570 (“The Secretary satisfies his burden of proof if the record, when considered as a whole, contains preponderating evidence in support of his allegations.”).

Hazard Recognition

I agree with my colleagues that the Secretary failed to establish industry recognition of the cited explosion hazard.³ The only evidence in the record potentially demonstrating that the industry recognized Quick Transport’s thawing practice as hazardous is the API guide. And the only part of the guide arguably establishing the requisite recognition is section G.6.5 of the appendix that describes a similar incident in which a rear hatch of a vacuum truck tank blew off while a worker was thawing the tank’s valves with a propane torch. But, as discussed above, the API guide’s description of this incident does not specify whether the vacuum truck tank in that incident had been used to haul petroleum or another hydrocarbon-dense liquid that would have left

³ As noted by my colleagues, the Secretary does not contend that Quick Transport itself recognized its valve-thawing practice posed an explosion hazard.

behind more flammable material than the tank at issue here, which was only used to haul produced water. Thus, although the guide does establish industry recognition that it is hazardous to use a propane torch to thaw the valves of *some* vacuum truck tanks, it does not establish recognition of the specific “condition or activity” at issue here—using a propane torch to thaw the valves on a vacuum truck tank used *solely* for hauling produced water. *Pepperidge Farm, Inc.*, 17 BNA OSHC 1993, 2003 (No. 89-265, 1997) (quoting *St. Joe Minerals v. OSHRC*, 647 F.2d 840, 845 (8th Cir. 1981)).

Because I find the Secretary failed to establish hazard recognition, I concur with my colleagues’ decision to vacate the citation.

Dated: March 27, 2019

/s/ _____
Cynthia L. Attwood
Commissioner

United States of America
OCCUPATIONAL SAFETY AND HEALTH REVIEW COMMISSION
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Secretary of Labor,
Complainant,

v.

Quick Transport of Arkansas, LLC,
Respondent.

OSHRC Docket No. **14-0844**

Appearances:

Lindsay A. Wofford, Esquire, U.S. Department of Labor, Office of the Solicitor, Dallas, Texas
For the Secretary

George R. Carlton, Jr., Esquire, Godwin Lewis, P.C., Dallas, Texas
For the Respondent

BEFORE: Administrative Law Judge Heather A. Joys

DECISION AND ORDER

This proceeding is before the Occupational Safety and Health Review Commission pursuant to § 10(c) of the Occupational Safety and Health Act of 1970, 29 U.S.C. § 651- 678 (2014) (the Act). Quick Transport of Arkansas, LLC (hereinafter QT) is a transportation company that services natural gas wells. Beginning on January 24, 2014, Occupational Safety and Health Administration Compliance Officer (CSHO) Michelle Martin conducted an inspection of QT at its Knoxville, Arkansas, truck yard following a fatal accident at that location that same day. Based upon CSHO Martin's inspection, the Secretary of Labor, on May 13, 2014, issued a Citation and Notification of Penalty alleging a serious violation of § 5(a)(1) the Act. The Secretary proposed a penalty of \$7,000.00 for the Citation. QT timely contested the Citation. Both the Citation and penalty are at issue.

The Citation alleges QT violated the general duty clause set out at § 5(a)(1) of the Act by allowing employees to use propane torches to thaw frozen valves on vacuum trucks potentially

containing hydrocarbons or toxic and/or flammable gases or vapors thereby exposing employees to an explosion hazard. The Secretary proposed as a feasible means of abatement that frozen valves be thawed using methods other than potential ignition sources such as by bringing the trucks into a heated facility.

QT timely contested the citation. It contends the Secretary did not meet his burden of proof for the alleged general duty clause violation. QT contends the Secretary failed to establish either it or the industry recognized the potential for empty vacuum trucks, previously used for hauling produced water, to contain hydrocarbons or toxic and/or flammable gases or vapors. QT argues the industry does not recognize any hazard associated with use of ignition sources near empty vacuum trucks, or the need to test the contents of vacuum trucks used in the transport of produced water.

I held a hearing in this matter on February 10, 2015, in Little Rock, Arkansas. The parties filed post-hearing briefs on May 7, 2015.¹³

For the reasons discussed below, the citation is VACATED.

Jurisdiction

At the hearing, the parties stipulated jurisdiction of this action is conferred upon the Commission pursuant to § 10(c) of the Act (Tr. 6). The parties also stipulated at the hearing that at all times relevant to this action, QT was an employer engaged in a business affecting interstate commerce within the meaning of § 3(5) of the Act, 29 U.S.C. § 652(5) (Tr. 6).

Background

QT's Operations

QT is engaged in the business of servicing gas and oil producers. According to Richard Bittle, the Secretary/Treasurer for QT and several other commonly held companies, QT is considered part of the natural gas industry (Tr. 179). The company's main function is the hauling of "produced water" for natural gas producers in the State of Arkansas (Tr. 179). Its trucks are permitted by the Arkansas Oil and Gas Commission solely for this purpose (Tr. 179).

¹³ To the extent either party failed to raise any other arguments in its post-hearing brief, such arguments are deemed abandoned.

The fatality that prompted the OSHA inspection in this matter occurred at QT's Knoxville yard where it stores and services its trucks.

"Produced water," also called production water, salt water, brine, or formation water, is a byproduct of the extraction of natural gas using the fracturing process (Tr. 15, 83, 125, 181). Water is injected into a natural gas well during drilling to help "fracture the formation" or to cause the natural gas to flow out of the well (Tr. 197-98). A variety of chemicals may also be used in this process along with the water such as biocides and anti-friction chemicals (Tr. 182-84). The water that is injected into the wells during this process comes out with these chemicals and the natural gas (Tr. 125, 184-87). The natural gas is separated from the water and is sent to a pipeline or stored; the water is sent to a holding tank (Tr. 27, 187). It is from these holding tanks at the well site that QT drivers pick up the produced water to be transported (Tr. 27).

The trucks used by QT drivers are vacuum trucks. These trucks consist of a tractor and a tanker equipped with a self-loading system (Tr. 17). This system allows material to be either blown out of or drawn into the tanker (Tr. 18). The back of the tanker, depicted in Exhibit C-1 pp. 5, 9, 10, 20, 21 and 22, has two valves that are part of the vacuum system used for this purpose and a larger hatch. QT's Knoxville yard manager assigns the driver his tractor and tanker (Tr. 18). The dispatcher assigns the driver the loads to be picked up, transported, and delivered (Tr. 20).

The driver records each load on a load ticket, carried in a book in the tractor's cab (Tr. 20; Exh. C-2). Each load ticket identifies the tractor and tanker by number, the amount of produced water picked up and delivered, the location of the well, and the location of the storage facility to which the load is delivered, among other information (Tr. 22-27; Exh. C-2).

QT drivers pick up produced water from various locations, but all of QT's customers are natural gas producers (Tr. 127). The produced water is drawn into the tanker by vacuum. This is accomplished by connecting hoses to the valves and engaging the vacuum system. The produced water is delivered to both disposal wells, where it is disposed back into the ground, and facilities that recycle the water for use it in other drilling operations (Tr. 128-29). The only difference is the manner in which the produced water is off-loaded from the tanker (Tr. 39, 49, 75, 90). The produced water is drained from the tanker into disposal tanks by gravity; it is blown into the

recycling tanks with air (Tr. 39-40, 75, 90). The driver considers the tanker empty when no water continues to flow out (Tr. 40). He may also check the level visually by using a sight tube (Tr. 89). The Knoxville Yard Manager¹⁴ testified the tankers contain no residue from production water (Tr. 170). Employee A, a driver with QT, testified the tankers contain no residual produced water after they are drained (Tr. 76), but admitted he has never checked (Tr. 53). Employee B, another QT driver, testified the valves could retain small amounts of moisture (Tr. 92).

Drivers take certain measures when loading and off-loading produced water. When at a natural gas well site, no open flames are allowed to be present (Tr. 86). During the process of loading the tanker, the tractor must be grounded (Tr. 70-71, 77, 84). When produced water is being pumped into or out of the tanker, a bucket is placed under the valves to ensure no produced water spills onto the ground (Tr. 30, 39, 84). Drivers are required to wear flame retardant clothing (Tr. 77).

Each tanker is required to be permitted by the Arkansas Oil and Gas Commission (Tr. 88, 131, 133-34). These permits read:

EXPLORATION AND PRODUCTION
FLUID TRANSPORTATION

(Exh. C-1 p. 13). The tankers do not have permits to transport any hazardous or toxic materials (Tr. 72, 180). Nor do the drivers carry any special licenses to haul hazardous materials. Other than a general understanding the water has been used in the natural gas extraction process, drivers are not provided with information about the contents of produced water (Tr. 31-32, 84). QT does no testing of the produced water (Tr. 35, 76, 149-50). Nor does QT test the atmosphere in the tanks (Tr. 52, 149-50). Tanks are not routinely cleaned for residual water or any other chemicals (Tr. 53, 145).¹⁵

The Accident

¹⁴ Names have not been used to protect the privacy of the individuals testifying in this matter.

¹⁵ QT does have the tanker cleaned when it is to be used to haul clean city water (Tr. 145). Cleaning is performed by a contractor because QT does not have the necessary “wash out” permit issued by the Arkansas Department of Environmental Quality (Tr. 146).

On January 24, 2014, Employee A arrived at work at QT's Knoxville yard in the morning and began his pre-trip inspection of his tractor and tanker (Tr. 55). The temperature had dropped well below freezing the night before and Employee A found the valves on the tanker had frozen shut (Tr. 55). Employee B, who was more experienced than Employee A, was inspecting his truck and found the valves on his tanker frozen shut as well (Tr. 56). Both drivers had left the valves on their tankers closed the night before, which both testified was common practice (Tr. 58). Employee B went to the shop and returned with a propane tank and wand (Tr. 57). He proceeded to thaw both tankers' valves with the flame of the wand connected to the propane tank (Tr. 57-60). The process took only a moment (Tr. 57).

Once both tankers' valves were thawed, Employee B gave the propane tank and wand to a third driver who had also found the valves to his tanker frozen shut (Tr. 60). This third driver - the deceased - walked out of Employee A's and Employee B's sight to the back of his tanker. A few moments later, Employee A and Employee B heard an explosion and saw two "plumes" or "vapors" rising from the tanker (Tr. 61-62, 99). Employee B ran toward the shop but was intercepted by other employees coming out of the shop (Tr. 63). Someone called 911 (Tr. 63).

Upon hearing the explosion, Employee B ran toward it, thinking it was a tire blow-out (Tr. 99). He testified he saw two tank lids flying through the air (Tr. 99). Employee B, the only witness who saw the deceased immediately following the explosion described the scene. He testified the deceased was lying on the ground 5 feet behind the truck (Tr. 100-01). He was non-responsive (Tr. 101). The front of the deceased's flame retardant shirt had been "blown off" and he had blood coming from his nose and ear (Tr. 110-13). Employee B unsuccessfully attempted CPR until emergency responders arrived about 5 minutes later (Tr. 114). The deceased was never revived and succumbed to his injuries.

Both Employee A and Employee B testified they observed no indication of fire immediately following the explosion.¹⁶ Employee B testified he did not smell gas, oil, or any

¹⁶ The undersigned observed the demeanor of both Employee A and Employee B and found both to be credible witnesses. Their answers were straightforward and consistent. The Yard Manager also testified about the conditions following the accident. Unlike Employee A and Employee B, the Yard Manager was a reluctant and evasive witness. On examination by the Secretary's counsel he repeated questions back and feigned a lack of understanding of unambiguous questions. In contrast, his answers to counsel for QT's questions were concise and

other odor indicative of burning hydrocarbons (Tr. 107-09). He observed no burns on the deceased's body (Tr. 112). Employee A testified he did not observe the deceased at the time of the accident and only observed the tanker several days later (Tr. 65, 78). He saw no signs of fire in or around the tanker.

Following the accident, QT changed its procedures for thawing valves (Tr. 150). Drivers are now to ventilate the tanker thoroughly (Tr. 68-69). No open flames are to be used around tankers (Tr. 87). QT instituted a policy to leave valves open at the end of a day if there is a possibility of freezing temperatures (Tr. 153). If a tanker's valves do become frozen shut, the driver is to bring the tanker into the shop and thaw the valves using a small heater (Tr. 94; Exh. C-1 p. 26).

The Inspection

OSHA was informed of the explosion on the same day it occurred. CSHO Martin was assigned to conduct an investigation and went to QT's Knoxville yard that afternoon (Tr. 208-10). CSHO Martin was accompanied by CSHO John Wolfe (Tr. 209). While at the site, CSHO Martin and CSHO Wolfe observed and photographed the area in which the explosion had occurred (Tr. 212; Exh. C-1). CSHO Martin was informed by QT management nothing at the site had been moved, other than the deceased's body (Tr. 213). CSHO Martin observed the hatch cover of the tanker had blown off (Tr. 214-15). She photographed the area near the valves and observed some liquid below the valves (Tr. 216, 219; Exh. C-1 pp. 10, 20). She also saw the propane tank and wand in the immediate area (Tr. 218; Exh. C-1 p. 18).

Based upon her investigation, CSHO Martin recommended a citation alleging a general duty clause violation be issued to QT. She concluded the explosion had been the result of the deceased's use of a flame to thaw the valves on the tanker which, she opined, may have contained residual hydrocarbons (Tr. 223-24). CSHO Martin did no testing of the contents of the tanker or the atmosphere inside the tanker during her investigation. In the citation, the Secretary alleges QT exposed its employees to an explosion hazard by not ensuring tankers contain no residual flammable or combustible materials prior to allowing introduction of an

appeared rehearsed. To the extent it is not otherwise corroborated, the undersigned gives the Yard Manager's testimony little weight.

ignition source. CSHO Martin testified use of insulation around the valves to prevent freezing or thawing frozen valves by moving the tanker into the shop were feasible means to abate the hazard (Tr. 248).

QT timely contested the citation. QT contends the cause of the explosion is not known and the Secretary failed to establish it was the result of the use of a propane torch on a tanker containing residual hydrocarbons. QT further contends there is no potential for produced water from natural gas wells to contain residual flammable or combustible vapors or gasses. Therefore, neither it nor the natural gas industry recognize an explosion hazard should an ignition source be used near tankers used to haul produced water.

The Citation

The citation alleges a serious violation of the general duty clause, § 5(a)(1) of the Act. Section 5(a)(1) requires each employer to “furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees.” 29 U.S.C. § 654(a)(1). The citation alleges a violation of § 5(a)(1) as follows:

The employer does not ensure ignition sources are not present when employees attempt to thaw valves on vacuum truck trailers. This violation most recently occurred on January 24, 2014 on the north side of the truck parking lot at 601 Ash Street in Knoxville, Arkansas, where employee(s) used a propane torch to thaw frozen valves on vacuum truck trailers and did not ensure hydrocarbons, toxic and/or flammable gases or vapors were present.¹⁷ This practice exposed employees to an explosion hazard.

The citation itself did not identify a feasible means of abatement.¹⁸ CSHO Martin testified feasible means of abatement would include insulating the tanker valves or thawing frozen valves by bringing the tankers into the shop. The Secretary argued in his post-hearing

¹⁷ As QT points out in its brief, the Citation is unartfully drafted. QT has not argued the Citation was vague. Its brief makes clear QT understood the alleged violation to be the failure to ensure the absence of hydrocarbons or flammable or combustible gases or vapors within the tankers prior to introducing an ignition source. The Court finds the parties tried this issue by consent.

¹⁸ QT did not raise a defense of lack of fair notice in response to this omission and the Court finds it unnecessary to address the issue.

brief abatement would involve ensuring ignition sources are not used to thaw frozen valves (Sec’y’s Brief at p. 3).

DISCUSSION

Elements of a § 5(a)(1) Violation

To establish a violation of the general duty clause, the Secretary must show that: (1) a condition or activity in the workplace presented a hazard; (2) the employer or its industry recognized the hazard; (3) the hazard was likely to cause death or serious physical harm; and (4) a feasible means existed to eliminate or materially reduce the hazard. *Pegasus Tower*, 21 BNA OSHC 1190, 1191 (No. 01-0547, 2005). In addition to the above-quoted elements of a § 5(a)(1) violation, the Secretary must also establish the employer had either actual or constructive knowledge of the hazardous condition. *Deep South Crane & Rigging Co.*, 23 BNA OSHC 2099 (No. 09-0240, 2012), *aff’d Deep South Crane & Rigging Co. v. Seth D. Harris*, 535 Fed. Appx. 386 (5th Cir. 2013).

Whether an Activity or Condition at the Site Constituted a Hazard

The Commission has held that as part of his burden of proving a § 5(a)(1) violation, the Secretary “must define the cited hazard in a manner that gives the employer fair notice of its obligations under the Act by specifying conditions or practices over which the employer can reasonably be expected to exercise control.” *Otis Elevator Co.*, 21 BNA OSHC 2205, 2206 (No. 03-1344, 2007). The Commission has held the Secretary has the obligation to define the hazard in terms of the preventable consequences of the work operation, not by the method of abatement. *Otis Elevator*, 21 BNA OSHC at 2208, *citing Morrison-Knudsen Co./Yonkers Contracting Co.*, 16 BNA OSHC 1105, 1121-22 (No. 88-572, 1993); *see also Arcadian Corporation*, 20 BNA OSHC 2001, 2009 (No. 93-0628, 2004). Put another way, the Secretary must define the hazard “in terms of **the physical agents that could injure employees** rather than the means of abatement.” *Arcadian Corporation*, 20 BNA OSHC at 2009, *quoting Chevron Oil Co.*, 11 BNA OSHC 1329, 1331 n. 6 (No. 10799, 1983) (emphasis added).

The Secretary defined the hazard in this case as an explosion hazard resulting from the use of an ignition source to thaw valves on tankers without ensuring the absence of hydrocarbons

or toxic and/or flammable gases or vapors within the tankers (Sec’y’s Brief at p. 4). Having defined the hazard, the Secretary must also show the existence of the hazard at the worksite. To do so, the Secretary must show the tankers at QT’s worksite contained hydrocarbons or toxic and/or flammable or combustible gases or vapors that could explode when in contact with an ignition source. In his brief, the Secretary points only to evidence in the record establishing QT drivers used propane torches as standard practice to thaw frozen valves without conducting any testing of the contents of the tanker (Sec’y’s Brief at p. 4). The Secretary’s error is one of conceptualization, i.e. he has conflated the hazard and the abatement method. *Morrison-Knudsen Co./Yonkers Contracting Co.*, 16 BNA OSHC at 1121-22 (holding the hazard was exposure to excessive levels of airborne lead, not absence of protective clothing); *See also Bunge Corp.*, 7 BNA OSHC 1654 (No. 78-1881, 1979) (distinguishing evidence of feasible means of abatement by compliance with NFPA code and proof of the hazard).¹⁹ Although the Secretary is correct the record establishes QT drivers engaged in a practice of using an ignition source to thaw frozen valves without testing the contents of the tanker, the Secretary has not established this practice exposed employees to the explosion hazard alleged in the Citation.

The Secretary presented no expert testimony or other scientific evidence establishing the chemical components of the produced water hauled by QT drivers from natural gas wells. CSHO Martin did not sample or test the water she observed near the valves of the tanker. She did not test the atmosphere in any of the tankers in QT’s Knoxville yard. The record contains no testimony from representatives of or experts in the natural gas industry regarding the potential for produced water from natural gas wells to contain flammable or combustible gases or vapors. Rather, the Secretary relies on statements contained on the Environmental Protection Agency’s (EPA) website and in a document published by the American Petroleum Association (API). The Court finds this evidence insufficient.

According to the excerpt from the EPA’s website relied upon by the Secretary, produced water “may contain chemicals, naturally-occurring substances, hydrocarbons and potential reaction and degradation products.” (Exh. C-10, p. 2). This broadly worded statement, taken

¹⁹ Although *Bunge* is an unreviewed ALJ decision without precedential value, the undersigned finds the ALJ’s analysis instructive.

from a 2012 progress report on the EPA’s study of the impact of fracturing on drinking water resources, establishes only the potential for *some* produced water to contain hydrocarbons in some unspecified quantities. It is insufficient to establish hydrocarbons and/or flammable or combustible gases were present in QT’s tankers in sufficient concentrations to pose an explosion hazard.

The Secretary also relies on the API recommended practices for operation of vacuum trucks entitled “Safe Operation of Vacuum Trucks in Petroleum Service” to establish the existence of an explosion hazard (Exh. C-19). The safe operating procedures for vacuum trucks recommended by the API specifically apply to “vacuum trucks, skids and trailers used in flammable and combustible liquid service” and to “movement of liquid mixtures (such as ‘produced water’, BS&W or tank bottoms) that may contain sufficient hydrocarbon material to present comparable hazards” (Exh. C-19 pp. iii, 1). Many of the advisory provisions of the API recommended practices are directed specifically at the handling of hazardous materials (Exh. C-19 pp. 4-5). Others address safe handling procedures for vacuum trucks hauling non-petroleum products such as produced water (Exh. C-19 p. 13). Although these recommended practices put drivers on notice of the potential for trucks hauling produced water to contain “trace amounts of flammable liquids, hydrogen sulfide and other toxic substances” or “trace amounts of hydrocarbon condensates or hydrogen sulfide” and set forth means by which drivers can protect themselves from such hazards, they do not establish QT’s tankers contained such substances at levels sufficient to pose an explosion hazard. *See Dayton Walther Corp.*, 13 BNA OSHC 1966 (No. 87-1383, 1988) (generalized statements in safety publications that moisture and molten metal can pose a danger of explosion is insufficient to establish hazard existed at the worksite; expert testimony that the conditions at the worksite created that hazard was needed).²⁰

A thorough reading of the API document makes clear vacuum trucks are used for a variety of purposes in the oil and gas industry (“Vacuum trucks are used in all segments of the petroleum industry with varied applications.” Exh. C-19 p. 1). The document makes numerous references to the use of vacuum trucks for removal of flammable and combustible or hazardous

²⁰ *Dayton Walther Corp.* is an unreviewed ALJ decisions without precedential value. Like *Bunge*, the undersigned finds the reasoning of the ALJ instructive.

materials from tanks, the transfer of such products, as well as use of vacuum trucks for clean-up of hydrocarbon spills (Exh. C-19 pp. 1, 4, 6, 18, 22, 25, and 33). QT drivers transport produced water from natural gas producers exclusively. Neither XTO nor any of QT's other customers notified QT the produced water was hazardous (Tr. 31-32, 73). QT's tankers are not permitted to carry flammable, combustible, or other hazardous materials. QT drivers are not required to hold licenses to transport such materials. There was no evidence presented establishing QT was required to comply with U.S. Department of Transportation regulations applicable to operation of vehicles transporting hazardous material. *See* 49 C.F.R. §178. Given these facts, the Court is unable to find the API recommended practices necessarily apply to QT's operations or to conditions at QT's Knoxville yard.²¹

Although the API recommended practices do refer to the potential for "waste products" or produced water to contain hydrocarbons, the Court finds these references too non-specific given the broad scope of the document. Moreover, many of the recommended practices are for the loading and off-loading process. Without testimony or other elucidating evidence, the Court is left to speculate whether the hazards associated with loading and off-loading produced water are present at QT's Knoxville yard, where no loading or off-loading takes place.

The Secretary's case relies heavily on circumstantial evidence and speculation as to the cause of the fatal accident. CSHO Martin testified she concluded the accident was the result of an explosion caused by ignition of flammable or combustible gases or vapors. It was uncontroverted there was no sign of fire, including no burns to the deceased's body, at the accident scene.²² There was no eye-witness testimony to establish the deceased lit the propane torch. CSHO Martin's conclusions are based on the assumption that because the deceased had a

²¹ Although QT drivers take certain precautions at the natural gas well, such precautions are not required elsewhere. For example, tankers are not grounded when off-loading at disposal wells (Tr. 71). No other location frequented by QT drivers was shown to have a prohibition against open flames. The fact drivers are required to take certain precautions while loading produced water establishes an explosion hazard at the natural gas well, not within the tankers or at QT's Knoxville yard.

²² The Secretary argues in his brief the absence of burn marks on either the deceased or the truck does not disprove his theory of the accident because the deceased had on flame retardant clothing which would have protected his skin and the truck was dark gray in color which would have masked scorch marks. The Secretary presented no forensic or physical evidence of a fire. Thus, discounting the evidence of an absence of burn or scorch marks simply leaves the record devoid of evidence, it does not prove the fact of a fire.

propane torch prior to the explosion, the deceased must have lit the torch and the flame must have come in contact with the flammable or combustible gases or vapors, causing the explosion.

CSHO Martin testified:

I concluded as a result of flame being introduced to the actual tank itself that that *may* have created and caused an explosion because there *may* have been some residual toxic substances or hydrocarbons or things of that that were in the tank.

(Tr. 223-24) (emphasis added). Rather than proving the existence of the hazardous conditions necessary to cause the explosion were present, the Secretary's theory presumes those conditions were present.

The record contains evidence upon which to base another explanation for the accident. Mr. Bittle testified the hatch may have been blown off by pressure built up in the tanker, rather than an explosion resulting from ignition of hydrocarbons. The record contains evidence, similar to the Secretary's evidence, suggesting hazardous levels of pressure could build-up in the tankers. The hatch to the deceased's tanker contained a warning label reading:

RELIEVE ALL TANK
PRESSURE BEFORE
OPENING COVER
15 P.S.I. MAX.
PRESSURE

(Exh. C-1 pp. 6, 17). Another tanker's hatch contained a label reading:

WARNING
RELIEVE ALL PRESSURE BEFORE OPENING COVER
COVER MAY FREEZE OR STICK TO NECK
DO NOT REMOVE SWING BOLTS UNTIL COVER IS FREE

(Exh. C-1 p. 23). In addition, the API recommended practices refer to hazards associated with over-pressurizing and under-pressurizing vacuum trucks (Exh. C-19, section 5.8, p. 12). Load tickets for the tanker used by the deceased show it had been off-loaded under pressure the day

prior (Exh. C-2, pp. 80-84). The Court finds the record evidence is such that either theory of causation is equally plausible and equally speculative.²³

Considering the record as a whole, the Secretary has not met his burden to establish by a preponderance of the evidence the existence of flammable or combustible gases or vapors in sufficient quantities to pose an explosion hazard at QT's Knoxville yard.²⁴ In so finding, the Court is not insensitive to the fact a tragic accident occurred which may have been preventable had precautionary measures been taken. However, the Court's decision must be limited to the allegations contained in the Citation. The Secretary's evidence is insufficient to establish the violation as alleged. Item 1, Citation 1 is vacated.

FINDINGS OF FACT AND CONCLUSIONS OF LAW

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.

ORDER

Based upon the foregoing decision, it is ORDERED that:

Item 1, Citation 1, alleging a violation of § 5(a)(1) of the Act, is vacated.

SO ORDERED.

²³ Nor does the undersigned find the examples of similar accidents presented by the Secretary in Exhibit C-19 at p. 42 and Exhibit C-17 supportive of a finding of an explosion hazard at QT's Knoxville yard. The Secretary did not present sufficient evidence of the circumstances of either accident to determine whether they were caused by similar conditions.

²⁴ Even if the Secretary had established the existence of an explosion hazard, he did not present sufficient evidence QT or the industry recognized the hazard. A recognized hazard is a practice, procedure or condition under the employer's control that is known to be hazardous by the cited employer or the employer's industry. *Pelron Corp.*, 12 BNA OSHC 1833, 1835 (No. 82-388, 1986). In his brief, the Secretary argues only industry recognition of the hazard and relies almost exclusively on the API recommended practices (Sec'y's Brief at pp. 4-7). For the reasons discussed in detailed above, the Court does not find this document provides sufficient evidence of recognition of an explosion hazard in the tankers or at QT's Knoxville yard.

Date: June 1, 2015

/s/ Heather Joys

HEATHER A. JOYS
Administrative Law Judge
Atlanta, Georgia