



OCCUPATIONAL SAFETY AND HEALTH REVIEW COMMISSION

1120 20th Street., N.W., Ninth Floor
Washington, DC 20036-3457

SECRETARY OF LABOR,

Complainant,

v.

CONSTRUCTURAL DYNAMICS, INC., t/a
SILVI CONCRETE,

Respondent.

OSHRC Docket No. 07-0976

APPEARANCES:

Ronald J. Gottlieb, Attorney; Michael P. Doyle, Counsel for Appellate Litigation; Joseph M. Woodward, Associate Solicitor of Labor for Occupational Safety and Health; Gregory F. Jacob, Solicitor of Labor; U.S. Department of Labor, Washington, DC
For the Complainant

Thomas Benjamin Huggett, Esq.; Courtney A. Wirth, Esq.; Morgan, Lewis & Bockius LLP, Philadelphia, PA
For the Respondent

DECISION

Before: ROGERS, Chairman; THOMPSON, Commissioner.

BY THE COMMISSION:

Constructural Dynamics, Inc. (“CDI”), a producer and supplier of ready mix concrete, operates a repair shop for its concrete mixer trucks and equipment at its company headquarters in Fairless Hills, Pennsylvania. On December 28, 2006, a welder in CDI’s repair shop was killed when a mixer truck’s 200-gallon water tank he had repaired exploded while he was conducting a pneumatic leak test of the weld repair. After an inspection by the Occupational Safety and Health Administration, the Secretary issued CDI a citation alleging a serious violation of § 5(a)(1) of the Occupational Safety and Health Act of 1970, 29 U.S.C. § 654(a)(1) (“General Duty Clause”),¹ on the grounds that “[CDI] employees were exposed to the hazard of an exploding water tank during pneumatic leak testing.” The Secretary proposed a penalty of \$4,900 for the alleged violation.

Administrative Law Judge Covette Rooney issued a decision vacating the citation on the grounds that the Secretary failed to show that either CDI or its industry recognized the alleged hazard.² We have examined the record in its entirety, considered the arguments of the parties, and affirm the judge for the reasons stated in her decision.³

¹ The General Duty Clause requires that each employer:

(1) 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

²

To prove a violation of the General Duty Clause, “the Secretary must show that a condition or activity in the workplace presented a hazard, that the employer or its industry recognized this hazard, that the hazard was likely to cause death or serious physical harm, and that a feasible and effective means existed to eliminate or materially reduce the hazard.” *Arcadian Corp.*, 20 BNA OSHC 2001, 2007, 2005 CCH OSHD ¶ 32,756, p. 52,073 (No. 93-0628, 2004); *Pelron Corp.*, 12 BNA OSHC 1833, 1835, 1986-87 CCH OSHD ¶ 27,605, p. 35,871 (No. 82-388, 1986).

³

In her decision, the judge stated in dicta that to prove the existence of a hazard under the General Duty Clause, the Secretary must show “that employees are exposed to a significant risk of harm,”

Although not relied upon by the judge, we further note that the Secretary’s own expert witness significantly undermined her case regarding recognition by testifying that a repair shop which tests vessels exempt from the American Society of Mechanical Engineers Boiler and Pressure Vessel Code—like the water tanks used by CDI—effectively would not recognize the hazard of water tanks exploding during pneumatic leak testing:

[Y]ou must go to the code, you must know the code for the warnings concerning the pneumatic testing.

If you don’t know the code, you won’t see the danger in the pneumatic testing, because the non-code vessels, obviously, don’t have a code. There’s nothing in writing. So, you have to know written documents, the national standards in this area.

So, you really have to deal with something more sophisticated than a non-code vessel to understand non-code vessels.

(Tr. 253.) Accordingly, we affirm the judge, whose decision is attached hereto.

SO ORDERED.

citing *Kastalon, Inc. and Conap, Inc.*, 12 BNA OSHC 1928, 1932, 1986-87 CCH OSHD ¶ 27,643, p. 35,975 (No. 79-3561, 1986) (consolidated). Chairman Rogers reiterates her view that the “significant risk” test does not apply in cases involving harm that has already occurred, such as here. See *Beverly Enters., Inc.*, 19 BNA OSHC 1161, 1170 n.25, 2000 CCH OSHD ¶ 32,227, p. 48,959-60 n.25 (No. 91-3344, 2000) (consolidated).

/s/
Thomasina V. Rogers
Chairman

Dated: December 3, 2009

/s/
Horace A. Thompson III
Commissioner

SECRETARY OF LABOR,

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v.

CONSTRUCTURAL DYNAMICS, INC.,
Trading as SILVI CONCRETE,

Respondent.

OSHRC Docket No. 07-0976

APPEARANCES:

For the Complainant:

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For the Respondent:

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Philadelphia, Pa. 19103

Before: Covette Rooney
Administrative Law Judge

DECISION AND ORDER

This case is before the Occupational Safety and Health Review Commission (“the Commission”) pursuant to the Occupational Safety and Health Act of 1970, 29 U.S.C. §§ 651-678 (“the Act”), to review a citation issued by the Secretary of Labor (“Secretary”). The citation alleges that respondent, Constructural Dynamics, Inc., committed a violation of Section 5(a)(1)⁴ of

⁴Section 5(a)(1) requires that each employer:

1) 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;

the Act, the “General Duty Clause, 29 U.S.C.§654(a)(1) on the grounds that “employees were exposed to the hazard of an exploding water tank during pneumatic leak testing.” The Secretary proposes a penalty of \$4,900.00 for the violation.

BACKGROUND

A. Leak Testing

Respondent, Constructural Dynamics, is an independent producer of ready mix concrete. It is a family business, and is commonly known by the trade name of Silvi Concrete. As part of its business, respondent owns and uses numerous concrete mixer trucks and each of these trucks has a water tank. (Tr. 32-33) Respondent also operates a repair shop at the company headquarters in Fairless Hills, Pennsylvania. (Tr. 7) This repair shop only services vehicles and equipment owned by respondent. (Tr. 30) Respondent’s employees who work in the shop are mechanics, service personnel and welders. (Tr. 31) As of December 2006, one of the services routinely performed at the shop was repairing leaks in the water tanks from the concrete mixer trucks. (Tr. 33-34) To repair a tank, the water tank is removed from the concrete mixer truck and brought into the shop. The leak is welded and then leak tested to confirm that the repair was successfully made. (Tr. 33-36)

Leak-testing involves pressurizing the vessel with air and then pouring soapy water on top of the pressurized tank. Air bubbles will form if the tank is not properly sealed. (Tr. 71, 257)

According to Tim Kurtz, respondent’s vice-president and safety director, it only takes 5 lbs. of pressure to determine if a repair is good. (Tr. 71) However, respondent’s employees Strauss and Watson both told the Compliance Officer (CO) that they pressurized the tank to 25-30 psi. (Tr. 141) The tanks were rated for 55 psi. (Tr. 79) Respondent has been using this method of leak testing for at least 32 years without incident. (Tr. 75) To ensure that the tanks are not over pressurized, employees use pressure gauges, pressure relief valves and regulators. There is no evidence that employees ever conducted leak testing without these devices. (Tr. 218-221)

Pneumatic leak-testing must be distinguished from integrity testing. Integrity testing, as its name implies, is intended to determine the integrity of a tank. Therefore, the tank is intentionally pressurized beyond its rated limit to see if it holds together or explodes. (Tr. 72) Respondent does not conduct pressurized integrity testing. (Tr. 73)

Another method of conducting least-testing is the hydrostatic method which uses water instead of air. (Tr. 36, 157, 199) In hydrostatic testing, the tank is filled with water and observed for leaks. (Tr. 267) Unlike air, water is not compressible and does not cause a tank to explode. (Tr. 200-01) There is no indication in the record to suggest that respondent could not have used hydrostatic testing. (Tr. 283)

B. The Accident

On December 28, 2006, one of respondent's welders, {redacted} was conducting pneumatic leak testing a 200 gallon water tank in Bay 8 to determine if a leak had been properly repaired. (Tr. 8-9, 116) During the operation, the tank exploded and {redacted} was killed. The force of the explosion knocked an electrical panel off the wall, dented a transformer and knocked out electrical service to the facility. (Tr. 121-122, Ex.G-4G) {redacted} left leg was found 140 feet from the bay (Tr. 127, 131) and his right leg was found 35 feet away. (Tr. 131) No evidence was introduced to suggest why the tank exploded. However, after the accident, an air hose was still attached to the tank and was leaking air. (Tr. 121)

The accident was investigated by OSHA compliance officer Adam Hamrick ("CO"). As a result of that inspection, respondent was issued a citation alleging a serious violation of Section 5(a)(1) of the Act for failing to furnish employment or a place of employment that was free from recognized hazards that were causing or likely to cause death or serious physical harm to employees in that "employees were exposed to the hazard of an exploding water tank *during pneumatic leak testing.*" (emphasis added) The citation continued: "[t]he employer did not comply with the manufacturer's specifications applicable to an Oshkosh S-Series concrete mixer truck in that an empty 200 gallon water tank was repaired and pressurized with air on or about December 28, 2006."

The citation further asserted that "one feasible method to abate this hazard is to follow warnings from the tank manufacturer, McNeilus truck, which states that welding or repairing may

weaken the water tank causing it to explode; if tank is damaged or worn it should be replaced with new equipment.”

A penalty of \$4,900.00 was proposed by the Secretary.

Respondent filed a timely notice of contest and a hearing on this matter was heard in Philadelphia, Pennsylvania on April 29, 2008. Briefs have been filed by both parties, and this matter is now ready for disposition.

DISCUSSION

In order to prove a violation of section 5(a)(1), the Secretary must show that a condition or activity in the workplace presented a hazard, that the employer or its industry recognized this hazard, that the hazard was likely to cause death or serious physical harm, and that a feasible and effective means existed to eliminate or materially reduce the hazard. *Arcadian Corp.*, 20 BNA OSHC 2001, 2007 (No. 93-0628, 2004); *Pelron Corp.*, 12 BNA OSHC 1833, 1835 (No. 82-388, 1986). A hazard must be defined in a way that apprises the employer of its obligations, and identifies the conditions or practices over which the employer can reasonably be expected to exercise control. *Arcadian Corp.*, 20 BNA OSHC at 2007. Here, the citation explicitly states that “employees were exposed to the hazard of an exploding water tank *during pneumatic leak testing.*” (emphasis added)

At the hearing, the Secretary attempted to adduce evidence to establish that pneumatic leak testing constituted a recognized hazard. However, the Secretary regularly bootstrapped her case by mixing in evidence of the undisputed hazard of pneumatic integrity testing, where the purpose of the activity is to pressurize a tank beyond its rated limit to assess its structural integrity. Moreover, the Secretary adduced evidence of manufacturers’ warnings against pressure testing which, upon examination, has nothing to do with leak testing. Therefore, on this record, I cannot conclude that the Secretary established that pneumatic leak testing constituted a recognized hazard causing or likely to cause death or serious physical harm.

To establish that pneumatic leak testing constitutes a “recognized hazard” the Secretary asserts:

1. Respondent had actual knowledge of the potential danger of pneumatic leak testing;

2. The hazard of pneumatic leak testing was recognized by respondent's industry as demonstrated by:

a. the manufacturer of the tank and concrete truck warned against pneumatic testing; and

b. the testimony of the Secretary's expert witness, John Mooney.

1. Respondent's Actual Knowledge

Throughout the hearing, the Secretary sought to adduce testimony from Respondent's officials that would demonstrate that they had actual knowledge of the hazard of pneumatic leak testing. However, the Secretary sought to demonstrate that pneumatic leak testing constituted a recognized hazard by blurring the distinction between leak testing and integrity testing. Indeed, one wonders if the Secretary is aware of this blurring. In her opening brief, the Secretary properly notes that the citation specifically alleged that "employees were exposed to the hazard of an exploding water tank *during pneumatic leak testing.*" (emphasis added)(SOL opening brief at 3). Yet, at the beginning of her analysis she states that "the alleged hazard is the activity of 'pneumatic testing' of water tanks. (SOL opening brief at 5) By including hazards encountered during all types of pneumatic testing, including pneumatic integrity testing, the Secretary seeks to expand the hazard far beyond what was alleged in the citation.

This improper expansion of the hazard beyond the citation is endemic in the evidence relied on by the Secretary. For example, Tim Kurtz, respondent's vice-president and safety director testified that while there was a danger of a tank exploding during pneumatic integrity testing, there was generally no such hazard when conducting pneumatic leak testing. (Tr. 36-37) When the Secretary's attorney further inquired whether the danger of a tank exploding is limited by the type of pneumatic testing the following exchange took place:

A. I think there's only one type of pneumatic testing, testing using air. So, I don't know that there's a different type of testing that can be done.

Q. Okay. So, then, I'll ask my original question again, which is one of the dangers associated with doing pneumatic testing, of which there's only one kind, testing using air is that the test will fail and explode?

A. Yes.

Q. And you're also aware that another danger associated with pneumatic testing of a tank is that air pressure that's released from inside the tank through a release valve or through a leak can cause injury?

A. That's correct.

Q. Now, with regard to the first danger of performing pneumatic testing, the danger of the tank failing and exploding, isn't it true that one of the reasons you are aware of this danger is based on information that you've obtained through communications with peers in the industry?

A. That's one source, yes.

Q. And another source of that information is information that you obtained through your participation in industry meetings?

A. Yes.

Q. And another source of that information for you is that you obtained that information through reading industry magazines?

A. That's correct.

Q. And this danger that we're talking about, the danger that during pneumatic testing a tank will fail and explode, that's something you were aware of before the accident on December 28, 2006?

A. Yes. To answer your question, yes.

(Tr. 37-39)

On cross-examination, however, Kurtz made it clear that he was not aware of any hazard of explosion presented by pneumatic leak testing. He explained that the hazard of pneumatic testing was caused by over pressurization. (Tr. 70) Pneumatic leak testing, however, does not present such a hazard because there is no need to take the pressure anywhere near the rated capacity of the tank. (Tr. 71) Indeed, he testified that a tank can be successfully leak tested at pressures as low as 5 psi. (Tr. 71) He clarified that the industry sources he referred to were referring only to testing done at high pressures. (Tr. 73) Kurtz stated that none of his industry sources identified those hazards with leak testing. (Tr. 73-74)⁵ The Secretary implicitly recognizes this weakness in her case, for in her brief, she relies on this testimony as evidence that respondent

⁵When explaining how he learned that generic pneumatic testing could present a hazard, Kurtz testified that he thought that when a tank was filled with air "releasing that air, 30, 40 pounds, if its not released properly can cause debris to fly, injury to your eyes, that type of thing." (Tr. 73) However, the hazard alleged by the Secretary explicitly involved the hazard of exploding tanks, not the improper release of air from tanks.

had actual knowledge of the hazard presented by “pneumatic testing.” (Secretary’s Brief at 9, Reply brief at 3)

A similar exchange occurred between the Secretary’s attorney and Respondent’s fleet manager, Gerald Dohn:

Q. Mr. Dohn, you are aware, are you not, that pneumatic testing and hydro testing are two forms of testing that can be done on a tank to determine whether a tank leaks?

A. Yes, I am.

Q. And that was something you were aware of before the accident?

A. Yes.

Q. And you are aware that pneumatic testing is *a general description—a general description is using air to test?*

A. Yes, I am.

Q. And hydrostatic testing is testing using water?

A. Yes.

Q. Again, that was something that you understood before the accident in December of 2006?

A. Yes.

Q. And you were also aware, prior to the accident, that a potential danger involved with the process of *pneumatic testing* is that because you’re pressurizing a tank with air, the tank can fail and explode; isn’t that right?

Q. Anything can happen, regardless of what it is, could explode, you know break. You hook your air hose to a gun, it doesn’t hook right with the connector, sure.

(Tr. 199-200)(emphasis added)

Later, however, Dohn explained that a hazard exists when the air inside a vessel “exceeds the limits to a certain point, it can expand and explode.” (Tr. 218) Those limits, he explained, occur when they exceed the rating of “any of the vessels.” (Tr. 218) He never observed an employee exceed the rating of a vessel during leak testing. (Tr. 221)

While both Dohn and Kurz admitted that tank failure was a possibility, even during leak testing, they both did so in recognition that “anything can happen.” Thus, Kurz stated “As remote possibility-wise as it is ever to happen, anything can fail.” (Tr. 94) Similarly, when asked the circumstances under which a tank could fail even though pressurized below its rated limits, Dohn responded: “I really couldn’t tell you. I mean, anything could happen.” (Tr. 226) Recognition that

“anything can happen” is not sufficient to establish actual recognition of a hazard under section 5(a)(1). To prove the existence of a hazard within the general duty clause, the Secretary cannot merely show that there may be some degree of risk to employees. She must show, at a minimum, that employees are exposed to a significant risk of harm. *Kastalon, Inc. and Conap, Inc.*, 12 BNA OSHC 1928, 1932 (No. 79-3561, 1986)(consolidated). To hold otherwise would essentially eliminate the element of establishing recognition from the Secretary’s burden of proof.

As noted, the citation specifically denominated the hazard as “pneumatic leak testing.” What the Secretary demonstrated, however, was that Respondent’s employees recognized the hazard of pneumatic integrity testing, a procedure designed to stress a tank to or beyond its rated limits. Leak testing, to the contrary, is a procedure conducted at pressures far below the rated limits of a tank and is designed only to determine if a weld was sufficient to prevent water from leaking out. In essence, the Secretary is attempting to demonstrate that the hazard presented by a firecracker is recognized by adducing evidence that the employer recognized the hazard presented by a stick of dynamite. The evidence as adduced, fails to demonstrate that Respondent actually recognized that “pneumatic leak testing” presented a hazard to its employees.

2. Industry Recognition

In the citation, the Secretary specifically alleged that “The employer did not comply with the manufacturer’s specifications applicable to an Oshkosh S-Series concrete mixer truck in that an empty 200 gallon water tank was repaired and pressurized with air on or about December 28, 2006.”

At the hearing, the Secretary entered into evidence several warning labels that were either on the concrete mixing truck or in the operator manual ostensibly warning against pressurizing the tank with air. For example, one warning stated: “Do NOT pressurize empty tank.” (Ex. G-8 at p. 14 of 18 Figure 1). In another example, the Mixer Operation and Maintenance Manual states “WARNING ,“DANGER ...Over pressurizing can cause explosive discharge of air pressure, water, and metal fragments. Death or serious injury can result, and “Do not pressurize tank unless it is filled with water.” (Ex. G-7 at p. 14 of 18)

Upon examination, however, it was revealed that these warnings were not directed at leak testing on a vessel after it had been removed from the truck. Rather, the concern was that inflating

a tank with air when on a truck could result in the tank sucking up air intended for the air brakes, thereby leaving the truck with inoperable brakes. (Tr. 57) (Ex. R-7) The CO testified that this warning played a large part in his conclusion that there was a hazard. (Tr. 143-44) However, the CO admitted that this and similar warnings on Ex G-7, p. 14 did not relate to occasions when the tank is being repaired, but during normal operations when the tank is on the truck. (Tr. 148) (Ex. R-7)

The Secretary also points out that the same page in the safety manual has a warning that states: “Do not tamper with regulator or relief valve. Tank is designed for 55 psi max. Over pressurizing can cause explosive discharge of air pressure, water and metal fragments. Death or serious injury can result.” There is no evidence, however, that this warning was directed at leak testing which is conducted at pressures far below the 55 psi maximum of the tank. In any event, the CO admitted that this warning, like the previous two warnings, were taken out of context and related to normal operations when the tank is on the truck. (Tr. 148)

The Secretary also relies on the testimony of its expert witness, professional engineer John Mooney. Mooney has a Master’s of Science degree in stress analysis, and extensive corporate experience in pressure vessels, tanks and piping for companies such as Exxon (11 years) and Mobil (20 years) (Tr. 230-236) where he conducted in-house courses in pressure vessels, tanks and piping. (Tr. 232) Mooney testified that in the course of his duties, he witnessed repair shops conducting hydrostatic leak testing a dozen times, but never witnessed pneumatic leak testing. (Tr. 233). Mooney testified that “pneumatic testing is much more dangerous than hydro testing...”(Tr. 254) Further, he testified that tanks can fail due to defects in material, corrosion, or other defects and that certain defects could cause the tank to fail before it reaches design pressures. (Tr. 259-60, 264) Mooney stated that it is common knowledge among experts in repair and testing of pressure vessels and tanks that “pneumatic testing” of pressurized tanks constitutes a hazard to employees. (Tr. 270) He explained that, in reaching his conclusion he relied on industry standards and codes, specifically the American Society of Mechanical Engineers (ASME) boiler pressure vessel code, paragraph UG-100, note 34, that has a warning related to pneumatic testing. (Tr. 271) Mooney pointed out that the ASME Code states that “Air or gas is hazardous when used as a testing medium. It is therefore recommended that special precautions be taken when air or gas is used for test purposes.” (Tr. 272, Ex. G-8 at p. 9 of 9)

However, Mooney admitted that, due to its small size, the water tanks at issue are exempt from the cited ASME Code. (Tr. 290-91) The record contains nothing to suggest why ASME found it appropriate to exempt tanks of the size used by respondent. Therefore, the ASME code is of little probative value in establishing that industry recognizes the hazard of pneumatic leak testing of respondent's tanks.

The other problem with Mooney's testimony, as with the Secretary's case in general, is that it failed to distinguish between pneumatic leak testing and pneumatic integrity testing. Indeed, most of his testimony involved situations that would specifically apply only to pneumatic integrity testing. For example, Mooney testified that, under the ASME code:

The safe way to do the pneumatic test is to increase the pressure to half of the test pressure and then to take it up in steps of ten percent of the test pressure until the test pressure is reached. *Now that can be above the design pressure.*

Then you reduce that pressure by ten percent back down to the design pressure, and then and only then can you approach the vessel.

Before that, you have to stay a sufficient distance to keep from getting hit by flying pieces of the vessel so it explodes, so take it slowly up, then take it down, then you're safe to pressurize the vessel, because the vessel has survived the higher pressure. And if you do that, nobody is going to get injured or killed.

(Tr. 284-85)(emphasis added)

Clearly, what Mooney is describing is the proper procedure for conducting pneumatic integrity testing, the purpose of which is to determine if the tank can withstand pressures up to and exceeding those for which it is designed to operate. In short, its purpose is to see if a tank will explode. Pneumatic leak testing however, is intended to determine only if a weld is properly sealed and need be conducted at low pressures sufficient only to create a bubbling of water should the weld be improper. Such a procedure must be conducted close up, rather than remotely, since the welder must be able to see subtle bubbles of air coming from the tank.

While Mooney may have established that pneumatic integrity testing constitutes a recognized hazard, something not disputed by the parties, not placed in issue by the citation, and

not conducted by respondent, he failed to demonstrate that industry⁶ recognizes that pneumatic leak testing constitutes a recognized hazard.

FINDINGS OF FACT AND CONCLUSIONS OF LAW

All findings of fact and conclusions of law relevant and necessary to a determination of the contested issues have been found specially and appear in the decision above. *See* Rule 52(a) of the Federal Rules of Civil Procedure.

ORDER

The Secretary having failed to establish that either respondent or person's familiar with conditions in the industry recognized the hazard of pneumatic leak testing, the Citation for Violation of Section 5(a)(1) of the Act, it is **ORDERED** that the citation and the proposed penalty are **VACATED**.

/s/ _____
Covette Rooney
Judge, OSHRC
Washington, DC

Dated: September 9, 2008

⁶ Respondent argues that Mooney had no experience in the cement industry and, therefore, is not qualified to offer expert opinion on what is recognized in that industry. I note that to establish recognition in an industry, an expert need only be familiar with the general workplace condition or practice being challenged. *Waste Management of Palm Beach*, 17 BNA OSHC 1308, 1310 (No. 93-128, 1995). That knowledge need not be limited to a specific, discreet industry.