

United States of America  
**OCCUPATIONAL SAFETY AND HEALTH REVIEW COMMISSION**  
1924 Building – Room 2R90, 100 Alabama Street SW  
Atlanta, Georgia 30303-3104

Secretary of Labor,  
Complainant,  
v.  
Imperial Aluminum,  
Respondent.

OSHRC Docket No. **12-1129**

Appearances:

Brian D. Mauk, Esquire, U.S. Department of Labor, Office of Solicitor, Nashville, Tennessee  
For the Secretary

Melissa Livingston, *pro se*, Safety Director, Imperial Aluminum, Scottsboro, Alabama  
For the Respondent (*Appearance prior to and at hearing*)

Mark D. Katz, Esquire, Ulmer & Berne, LLP, Cleveland, Ohio  
For the Respondent (*Appearance post hearing*)

BEFORE: Administrative Law Judge Sharon D. Calhoun

**DECISION AND ORDER**

Imperial Aluminum (Imperial) operates a secondary aluminum production facility in Scottsboro, Alabama. On November 22, 2011, the Occupational Safety and Health Administration (OSHA) conducted a limited inspection of the facility in response to a complaint reporting that an explosion had occurred ten days earlier. As a result of the OSHA inspection, on May 7, 2012, the Secretary issued a Citation and Notification of Penalty to Imperial. The citation alleges Imperial committed a serious violation of the general duty clause, § 5(a)(1) of the Occupational Safety and Health Act of 1970 (Act), 29 U.S.C. §§ 651-657, by exposing employees to struck-by, crushed-by, and explosion hazards during the installation of a new furnace. The Secretary proposed a penalty of \$5,390.00 for the violation.

Imperial timely contested the citation. The undersigned held a hearing in this matter on February 20, 2013, in Huntsville, Alabama. Imperial stipulated the Commission has jurisdiction over this proceeding under § 10(c) of the Act and is an employer engaged in a business affecting

interstate commerce under § 3(5) of the Act. Imperial contends the Secretary failed to establish a § 5(a)(1) violation.

The undersigned determines the Secretary failed to establish that a recognized hazard existed and that Imperial had actual or constructive knowledge of the cited hazard. The citation is vacated.

### **Background**

Imperial's customers bring scrap aluminum to its facility in Scottsboro, Alabama, where Imperial melts it, removes impurities, and recasts it into large bars. Imperial then stores the recast aluminum in warehouses until the customers return to pick it up. Imperial uses rotary furnaces to melt the aluminum. A rotary furnace consists of a large cylindrical container, like a concrete mixer, equipped with a ceramic shell liner. The shell is heated with a combination of oxygen and natural gas. The heated shell melts the aluminum (Exh. C-4; Tr. 166-167).

A housing/vent stack is built over the furnace. The unit is approximately 20 feet wide and 40 to 50 feet tall, and is built up to the ceiling of the facility. Metal ductwork from the unit extends outside to the roof and across into the bag house. The bag house is a separate building where the furnace emissions are vented and cleaned for environmental safety (Exhs. C-4, C-5, C-7 and C-9; Tr. 33-36, 41-43). The furnace operates on natural gas and oxygen, which is supplied by valves and piping referred to as the "gas train" (Tr. 28, 47). The furnace operator stands in the "crow's nest," an elevated platform located approximately 20 feet from the furnace. The crow's nest is 15 to 20 feet high and is surrounded by Plexiglas. The operator uses a control station/module located at the crow's nest to operate the furnace (Exhs. C-1, C-2, and C-3; Tr. 28, 39, 47).

On November 12, 2011, Imperial's original rotary furnace (Rotary 1 Furnace) was operating. Imperial was in the process of installing a new rotary furnace (Rotary 2 Furnace) which would enable the company to double its production (Tr. 159). Rotary furnaces are equipped with "Delta Pressure Transducers," which are referred to by their brand name "Rosemounts." Rosemounts are electronic flow devices which sense the gas flow and meter it to assure the combustion system is calibrated correctly. Charles Stalnaker is Imperial's project manager at the facility. He discovered the Rosemounts were not working, so he contacted an outside contractor (Contractor), who had worked with Imperial previously to program the

Rosemounts (Tr. 148-149). When the Contractor arrived at the site on November 12, 2011, he and Stalnaker spoke briefly and the Contractor told Stalnaker he would take care of the Rotary 2 Furnace (Exh. C-11). The Contractor told Stalnaker, "Go. We'll get it." (Tr. 151).

After Stalnaker left, the Contractor worked with the assistance of two Imperial employees. One of the Imperial employees and the Contractor lit the pilot light for the Rotary 2 Furnace (two people are required to perform the task). To light the pilot light, the Contractor stood in the crow's nest at the control panel, while one of the Imperial employees held a long pole with a lighted kerosene-soaked rag attached at the end to the burner (Tr. 68). After the pilot light was lit, the Contractor came down from the crow's nest and went to the gas train to check the readings. He discovered the natural gas was flowing into the furnace at "high fire," but no oxygen was flowing (Tr. 48, 96). This situation created an unsafe condition because the natural gas was building up pressure inside the furnace instead of being burned off (Tr. 96-97).

The Contractor wanted to stop the flow of natural gas to the furnace and relieve the pressure. He went back up into the crow's nest and turned off the flow of natural gas. The Contractor also opened the furnace door to relieve the pressure. When he opened the door, air from outside the furnace entered it and ignited the natural gas, causing an explosion. The explosion created a fireball that burst out of the furnace. The Contractor felt the heat of the fireball as he stood in the crow's nest, 20 feet away. The fireball left scorch marks on the furnace. The explosion traveled up through the ductwork and damaged several sections of the duct work as well as several duct support beams. No employees were injured (Exhs. C-4 through C-9; Tr. 64-65, 97-98).

Jennifer McWilliams is an OSHA Safety Engineer (a Compliance Safety and Health Officer (CSHO) with an additional educational background in engineering). Safety Engineer McWilliams earned a degree in Mechanical Engineering from the University of Alabama and an MBA from Florida Atlantic University (Tr. 14-16). She arrived at Imperial's facility on November 22, 2011, to initiate an inspection in response to the complaint to OSHA regarding the explosion (Tr. 23). During the inspection, she interviewed Imperial employees and took photographs of the relevant areas of the facility (Tr. 23-25). She interviewed the Contractor on January 26, 2012 (Exh. C-12). As a result of McWilliams' inspection, the Secretary issued the citation that gave rise to this proceeding.

### **The Citation**

The Secretary charges Imperial with a serious violation of § 5(a)(1). The citation alleges:

Section 5(a)(1) of the Occupational Safety and Health Act of 1970: The employer did not furnish to each of his employees a place of employment which was free from recognized hazards that were causing or likely to cause death or serious physical harm to his employees in that employees were exposed to a struck-by, crushed-by and explosion hazards:

- (a) On or about November 12, 2011 - at Rotary 2 Furnace, when troubleshooting the gas train system during installation of a new furnace.

Among other methods, one feasible and acceptable method to correct this hazard would be to comply with the requirements of the National Fire Protection Association standard, NFPA 86, Standard for Ovens and Furnaces, 2007 edition, regarding the use of documented safety interlocks including those to prevent fuel gas from being admitted prior to establishment of combustion air and furnace heating system operation without essential fan or ventilations systems functioning; following safe operating procedures, and properly training employees.

### **Elements of a § 5(a)(1) Violation**

Section 5(a)(1) of the Act mandates that each employer “furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees.” 29 U.S.C. § 654(a)(1). 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, 2005 CCH OSHD ¶ 32,861, p. 53,077 (No. 01-0547, 2005).

*Erickson Air-Crane, Inc.*, 2012 WL 762001 at \*2 (No. 07-0645, 2012).

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*, 24 BNA OSHD 1089 (5<sup>th</sup> Cir. 2013).

*(1) The Cited Condition Presented a Hazard*

The Commission has held that, as part of his burden for 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).

Imperial argues the Secretary failed to define the hazard adequately in the citation. The undersigned disagrees. Imperial was aware of the November 12, 2011, explosion and its attendant property damage. The citation cited Imperial for exposing employees to “a struck-by, crushed-by and explosion hazards” and referred to the National Fire Protection Association (NFPA) standard that requires the use of safety interlocks designed “to prevent fuel gas from being admitted prior to establishment of combustion air and furnace heating system operation without essential fan or ventilation systems functioning.” The citation adequately gave Imperial fair notice of the conditions for which it was being cited.

The Secretary also has established the cited condition presented a hazard. It is undisputed that when the Contractor opened the door to the Rotary 2 Furnace, an explosion occurred which damaged sections of ductwork and which released a fireball whose heat the Contractor felt from 20 feet away. The Secretary has proven the first element of the violation.

*(2) The Hazard Was Likely to Cause Death or Serious Physical Harm*

Imperial had 10 to 12 other employees working in the same building at the time of the explosion. Three or four employees of another contractor were working outside on the new bag house (Tr. 122, 76). Imperial had not set up barricades to keep employees away from the Rotary 2 Furnace area, as was its regular practice when a furnace was being worked on (Tr. 151). Employees had access to the zone of danger created by the explosion.

The Secretary has established the explosion hazard was likely to cause death or serious physical harm if any of the employees present had happened to be within the zone of danger when the explosion occurred.

*(3) Feasible Means of Abatement*

Safety Engineer McWilliams testified Imperial could have abated the cited hazard in a number of ways:

Some of the different ways that we've talked about are in regards with ensuring safety interlocks are in place and are operating before fuel is allowed into the system, such as some of the ones indicated in the NFPA 86, where fuel is not allowed to flow unless combustion air is already established and prior to letting . . . the natural gas fuel flow in, to ensuring that the ventilation system is operating and being able to pull that airflow through and ventilate so that you don't end up creating the situation that [the Contractor] felt he was in, where basically he had a bomb, he—he was building up pressure and didn't have any way to relieve it. . . .

Another type of way that would have helped to prevent this would have been that if the pilot light had been turned off before the door was opened, was another way. [The Contractor's] main concern was stopping that fuel flow of gas pressure, relieving the pressure, but if the pilot light had been turned off and there had been no ignition source, opening the door would not have caused the fireball.

. . . .  
Another way the gas flow could have been shut off is there could have been a manual hand valve installed in the system so that when he was down there troubleshooting the actual equipment and he saw that the gas valves were fully opened, instead of having to take that additional time and concern to go back up to the crow's next to be able to close that valve, if the manual valve had been installed, he could have just turned the hand valve and shut the flow of fuel off, and that possibly could have given him more time to evaluate the situation.

(Tr. 122-124).

She also suggested the Contractor could have used an inert gas instead of natural gas when troubleshooting the Rotary 2 Furnace: “[A]n inert gas could have been used if you needed to have flow through the system, such—for instance, you could use nitrogen or helium. You can flow gas through there to verify flow and your valves are functioning correctly, but you don't—you're not flowing a flammable gas” (Tr. 126).

All of these means of abating the hazard are feasible. Imperial installed a safety interlock on the Rotary 2 Furnace approximately one week after the explosion (Tr. 124). The Secretary has established this element.

#### *(4) Employer or Industry Recognition of the Hazard*

An essential requirement for meeting the Secretary's burden of proof is establishing the employer had knowledge of the hazard. “As part of the Secretary's *prima facie* case, [he] must show that the employer had actual knowledge of the violation or could have discovered it with the exercise of reasonable diligence.” *Otis Elevator Co.*, 21 BNA OSHC at 2207.

The Secretary did not raise the issue of employer knowledge at the hearing, nor did he address the issue in his post-hearing brief. It is undisputed that the person responsible for operating the Rotary 2 Furnace in an unsafe manner was a third-party consultant who was not employed by Imperial. Because the issue of employer knowledge is intertwined with the issue of recognized hazard, it will be addressed in this section.

In his post-hearing brief, the Secretary musters only a cursory argument that he has established the cited hazard is recognized by either Imperial or the industry:

There is no dispute that this explosion hazard is recognized by respondent and by the industry. An industry-wide standard has been published to prevent this type of hazard, the NFPA 86 (C-13). Respondent's witness, Michael Chenoweth, testified that NFPA is "definitely applicable to our particular industry" (Tr. 179). Respondent has implicitly acknowledged that hazards exist in the installation and set-up of a new furnace by bringing in third-party contractors who are more qualified to perform this type of work.

(Secretary's brief, p. 7).

Michael Chenoweth is Imperial's vice-president of operations (Tr. 166). The phrase attributed to him by the Secretary is taken out of context. The pertinent question and answer at the hearing was as follows:

Q. And in your experience and expertise, would you say that the specific cited NFPA standards apply or do not apply to what we are going through today with the explosion, the scope, the purpose, applications?

Chenoweth: Parts and pieces. They're, you know—it's definitely applicable to our particular industry, parts and pieces. Does every single thing here directly apply? No, because there are, you know, differences within our particular actual equipment.

(Tr. 179).

The National Fire Protection Association standard cited by the Secretary, NFPA 86, is the "Standard for Ovens and Furnaces" (Exh. C-13). The standard "provides the requirements for furnaces to minimize the fire and explosion hazards that can endanger the furnace, the building, or personnel." (C-13, § 1.2). It is undisputed that Imperial was in the process of installing the Rotary 2 Furnace and so had not yet brought the furnace into full compliance with NFPA 86. Stalnaker testified the installation of a furnace can take six months to a year to complete (Tr. 159). Imperial was not operating the Rotary 2 Furnace at the time of the explosion. It was not until January or February of 2012 that it began operating the Rotary 2 Furnace (Tr. 162).

At the hearing, the Secretary specified certain sections of NFPA 86 he deemed applicable to the instant case. Section 3.3.33.2 defines “safety interlock” as “A device required to ensure safe start-up and safe operation and to cause safe equipment shutdown.” Section 6.2.3.4 provides:

Where primary or secondary combustion air is provided mechanically, combustion airflow or pressure shall be proven and interlocked with the safety shutoff valves so that fuel gas cannot be admitted prior to establishment of combustion air and so that the gas is shut off in the event of combustion air failure.

An industry standard demonstrates industry recognition only when it is established that noncompliance with the industry standard created the cited safety hazard. *K.E.R. Enterprises, Inc., dba Armadillo Underground*, 2013 WL 157681 (No. 08-1225, 2013). Chenoweth explained that the Rotary 2 Furnace is equipped with an electronic eye and pressure switches on the fuel system. The electronic eye focuses on the furnace’s flame. If it detects insufficient oxygen to maintain the flame, the furnace shuts down. Although the oxygen supply flow was not functioning correctly the day of the explosion, air was still entering the furnace from the outside exhaust port and from the mouth of the furnace (Tr. 194-196). The electronic eye performed the equivalent safety function as the safety interlock. The absence of the safety interlock on the oxygen line did not create the cited hazard.

The cited hazard was the result of operator error on the part of the outside Contractor. Chenoweth testified:

Generally, we don’t have this problem. We’ve been through multiple installations like this before, and we’ve never had an issue. I think this was an isolated case where the contractor left the burner on high fire for a period of time, and that’s what we would say was his first error in doing this.

In order to check the flow, all he had to do was leave the pilot light on. He did not have to have the high fire on, so we’re not sure why he had to turn the high fire on. You just need to have a little bit of flow going in order to check the valves. And then not shutting it—the burner off entirely so that eliminated the—the flame was the ultimate culprit behind this.

(Tr. 177).

When the contractor opened the door to the furnace, the inrush of air caused the explosion. Safety Engineer McWilliams acknowledged it was the Contractor's actions what created the hazard:

Another type of way that would have helped to prevent this would have been that if the pilot light had been turned off before the door was opened, was another way. [The Contractor's] main concern was stopping that flow of gas pressure, relieving the pressure, but if the pilot light had been turned off and there had been no ignition source, opening the door would not have caused the fireball.

(Tr. 123).

In his statement taken by McWilliams, the Contractor confirms he acted alone in deciding on the course of conduct that resulted in the November 12, 2011, explosion. He stated that after one of Imperial's employees helped him light the pilot light, the employee wandered off. Once the Contractor realized the gas was flowing at the high fire setting with no flow from the oxygen line, he scrambled to correct the situation:

Lonely feeling when you look up & find yourself all alone & something needs to be done. At least an additional 40-50 seconds of flow. Every second bad. Instead of trying to find someone to help I decided to stop the flow & relieve the pressure. It would have been 5-10 minutes to find someone.

(Exh. C-12, p. 8).

The Secretary also cited § 8.5.1 of NFPA 86, which provides: "Where a fan is essential to the operation of the oven or allied equipment, fan operation shall be proved and interlocked into the safety circuitry." Imperial contends that, while a fan is used with the Rotary 2 Furnace, it is not essential to the operation of the oven. Chenoweth stated:

This particular furnace does not require any secondary assistance or operation of a fan, *per se*, for its operation. Again, the purpose of the bag house is primarily as an environmental control capture unit. Does it assist in some of the ventilation? Yes, because it creates a natural draw so that all the emissions actually are contained and sent to the particular bag house and contained within the bags themselves.

But this particular design does not, you know—I've said the ventilation on this one is the actual door and opening of the door itself. That's how this particular door is ventilated.

(Tr. 178-179).

The Secretary has failed to establish the sections of NFPA 86 cited by him apply to the Rotary 2 Furnace being installed by Imperial. Safety Engineer McWilliams acknowledged there is a difference between a setup and a startup of a furnace. A setup is “the installation of the equipment and the initial check out and operation of the system,” while a startup is “when you are getting ready to run production” (Tr. 137). The Secretary has not shown that the NFPA advisory standard applies to furnaces in the setup stage. When it can take six months to a year to install a furnace, some elements will necessarily be installed later than others.

The Secretary also has failed to establish Imperial had either actual or constructive knowledge that a hazard had been created. The Contractor alone decided to use the high fire setting while troubleshooting the gas train. He was working alone at the time he decided to open the furnace door while the pilot light was still on (Exh. C-12). The Contractor was not an employee of Imperial and his knowledge of his own actions cannot be imputed to Imperial. The two Imperial employees working with the Contractor were not supervisors and they were not aware of the Contractor’s actions once the pilot light was lit. Imperial had no actual knowledge of the hazardous activity.

Nor did Imperial have constructive knowledge of the hazardous activity. “The test is whether the Secretary established that [the employer] could have discovered the violative condition through the exercise of reasonable diligence.” *Otis Elevator*, 21 BNA OSHC at 2208. Imperial reasonably relied on the Contractor to perform the contracted work safely.

Without actually charging that Imperial contracted with an unqualified consultant, the Secretary implies Imperial was at fault for not engaging someone else (“Respondent could have brought in a third-party contractor who had prior experience installing these types of furnaces” (Secretary’s brief, p. 9)). Safety Engineer McWilliams, however, testified the Contractor was qualified and capable of performing the work for which he was contracted.

Q. Do you believe that Imperial Aluminum engaged in a reputable contractor prior—with prior experience and expertise in troubleshooting these types of systems? Do you believe [the Contractor] had experience with PLC programs and, you know, troubleshooting and calibrating?

McWilliams: Based on his interview, yes.

(Tr. 136-137).

The Commission has held that an employer reasonably may rely on an outside contractor to perform specialty work within its expertise, even when assisted by the employer's employees:

[T]he fact that the cited employer has employees who assist in the work and have access to potential hazards does not mean that the employer cannot reasonably place some reliance upon the independent contractor. In many situations in the workplace, it is natural for an employer to rely upon the specialist to perform work related to that specialty safely in accordance with OSHA standards. *Cf. Cities Service Oil Co.*, . . . 4 BNA OSHC 1515, 1518 . . . (No. 4648, 1976), *aff'd*. 577 F.2d 126 (10<sup>th</sup> Cir. 1978) (“Normally, when an employer hires an independent contractor to perform certain work, it relies on the contractor’s expertise to perform the work correctly.”)

*Sasser Electric & Manufacturing Co.*, 11 BNA OSHC 2133, 2136 (No. 82-178, 1984).

The Secretary has failed to establish that either Imperial or its industry recognized the cited hazard, which was created solely by a third-party contractor. The Secretary did not establish that Imperial was required to have the safety interlock installed at that stage of the setup of the Rotary 2 Furnace. The record establishes that no Imperial employee, supervisory or not, had actual knowledge of the cited hazard. The Secretary has failed to prove Imperial had constructive knowledge of the cited hazard. Imperial reasonably relied on the Contractor’s expertise to perform the work safely. Imperial could not reasonably foresee the Contractor would engage in the unsafe work practices that caused the explosion.

Item 1 of the citation 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 HEREBY ORDERED that the Citation and Notification of Penalty, alleging a serious violation of § 5(a)(1), is vacated and no penalty is assessed.

SO ORDERED.

**Date:** November 18, 2013  
Atlanta, Georgia

/s/  
\_\_\_\_\_  
**Sharon D. Calhoun**  
Administrative Law Judge