UNITED STATES OF AMERICA
OCCUPATIONAL SAFETY AND HEALTH REVIEW COMMISSION

Secretary of Labor, Complainant, v. Post Buckley Schuh & Jernigan, Inc., Respondent.	DOCKET NO. 10-2587

Appearances:

Clara H. Saafir, Esq., Colleen B. Nabhan, Esq., Office of the Solicitor, U.S. Department of Labor
Dallas, Texas
For the Complainant

Michael G. Murphy, Esq., Greenberg Traurig, P.A., Orlando, Florida
For the Respondent

Before: Administrative Law Judge Patrick B. Augustine

DECISION AND ORDER

Procedural History

This proceeding is before the Occupational Safety and Health Review Commission ("the Commission") pursuant to section 10(c) of the Occupational Safety and Health Act of 1970, 29 U.S.C. § 651 *et seq*. ("the Act"). The Occupational Safety and Health Administration ("OSHA") inspected a worksite of Post Buckley Schuh & Jernigan, Inc. ("PBSJ" or "Respondent") located in Jourdanton, Texas ("Worksite"), on August 26, 2010. The inspection occurred after an employee at the Worksite lost consciousness, was taken to the emergency room, and subsequently died. As a result of the inspection, OSHA issued a *Citation and Notification of Penalty* ("Citation") to PBSJ alleging violations of the Act and proposed a total penalty of

$9,450.00. PBSJ filed a timely Notice of Contest. The trial was held on October 4 and 5, 2011, in San Antonio, Texas. At the beginning of the trial, Complainant moved to withdraw Citation 1, Item 2 and Citation 2, Item 1. The Court granted the unopposed motion. Therefore, the trial only addressed Citation 1, Item 1. (Tr. 7-8). Citation 1, Item 1 alleges a violation of § 5(a)(1) of the Act, 29 U.S.C. § 654(a), and proposes a penalty of $6,300.00. Both parties filed post-trial briefs in this matter.

Jurisdiction

The parties stipulated that the Act applies and the Commission has jurisdiction over this proceeding pursuant to § 10(c) of the Act, 29 U.S.C. § 659(c). (Compl't. Br. at 10; Resp't. Br. at 2). Further, the record establishes that at all times relevant to this matter, Respondent was an employer engaged in a business affecting commerce within the meaning of § 3(5) of the Act, 29 U.S.C. § 652(5). *Slingluff v. OSHRC*, 425 F.3d 861 (10th Cir. 2005).

Applicable Law

There is no specific OSHA standard addressing exposure to excessive levels of heat. The Complainant consequently cited the alleged violation under the general duty clause, § 5(a)(1) of the Act, 29 U.S.C.§ 654(a)(1). Section 5(a)(1) of the Act 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 prima facie violation of § 5(a)(1), Complainant must prove by a preponderance of the evidence that: (1) a condition or activity in the workplace presented a hazard to employees, (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 and effective means existed to eliminate or materially reduce the hazard. *Kokosing Constr. Co*., 17

BNA OSHC 1869, 1995-96 CCH OSHD ¶ 31,207 (No. 92-2596, 1996).

A violation is "serious" if there was a substantial probability that death or serious physical harm could have resulted from the condition. 29 U.S.C. § 666(k). Complainant need not show that there was a substantial probability that an accident would actually occur; she need only show that if an accident had occurred, serious physical harm or death could have resulted. *Whiting Turner Contracting Co*., 13 BNA OSHC 2155, 1989 CCH OSHD ¶ 28,501 (No. 87-1238, 1989). If the possible injury addressed by the cited standard is death or serious physical harm, a violation is serious. *Phelps Dodge Corp. v. OSHRC*, 725 F.2d 1237, 1240 (9th Cir. 1984); *Dec-Tam Corp*., 15 BNA OSHC 2072, 1993 CCH OSHD ¶ 29,942 (No. 88-0523, 1993).

Statement of Facts[1]

Respondent is a consulting firm engaged primarily in engineering and architectural design. At the time of the cited incident, Respondent had approximately 3,100 employees. Archeological field work, like the type being performed at the Worksite, was generally performed by less than one hundred (100) of Respondent's employees. During the summer of 2010, Respondent, at times, had over fifty (50) employees performing archeological field work. Archeological field work consists of surveying sites for artifacts. The survey work required the team, which is composed of degreed archeologists or anthropologists employed on a permanent or temporary basis, to do shovel tests to ascertain the presence of any artifacts. Each shovel test required clearing a specified area of brush, using a hand shovel to dig a 1-foot-square hole about 3 feet in depth, and then screening the extracted earth and recording the results. (Tr. 31, 578-584, 627-29, 632).

[1] The Statement of Facts is based upon undisputed evidence in the record. Except for the first paragraph, the following is a summary of the deposition testimony of Lisa Hopwood read into the record upon agreement of the parties and her written statement. (Ex. J-10). Ms. Hopwood has a Master's degree in archeology. She was the acting supervisor for PBSJ on August 9, 2010. (Tr. 21, 26-30, 206-08).

In late June or early July 2010, Respondent started performing archeological survey work in connection with the installation of a pipeline which comprised an area one hundred (100) miles long located approximately sixty (60) miles south of San Antonio, Texas ("Project"). Before commencing work on the Project, Respondent conducted an orientation for the crew members that provided general instructions about the scope of work and the working conditions at the Worksite ("Initial Orientation"). Respondent was performing archeological survey work at the Worksite when the incident giving rise to the inspection occurred. Generally, the crew would meet early each day at a designated hotel before heading out to the Worksite, which was about an hour away. Two new crew members, C.L. and C.C., joined the Project on August 9, 2010, and thus they were not present for the Initial Orientation.[2] On the morning of August 9, 2010, the team met at about 6:30 a.m. to prepare for the workday. C.L. and C.C. had to complete paperwork for PBSJ's human resources department ("HR") before they could go to the Worksite. C.L. was having trouble finding the documents he needed, so Ashley Brown, the team supervisor, went to the Worksite with four team members while C.L. stayed behind to finish his paperwork. Luke Hugman, another team member, stayed behind so that he could drive C.L. to the Worksite. (Tr. 31, 34, 44-47, 55-58, 77-83, 129-30; Ex. J-10).

Mr. Hugman and C.L. arrived at the Worksite around 9:30 a.m. The rest of the team was still getting water and equipment together and putting on sunscreen and insect repellent. Ms. Brown and C.L. had a telephone conversation with HR which lasted thirty (30) minutes to further discuss his incomplete paperwork. Ms. Brown was then stung by a bee, and, because she was allergic to bee stings, she consulted with HR and decided to go back to the hotel. Before leaving the Worksite, Ms. Brown designated Ms. Hopwood to act as supervisor due to her

[2] The initials of these two employees are being used to protect their privacy. *See generally* Commission Rule 8, 29 C.F.R. §2200.8 and Fed.R.Civ.P. 5.2(a).

advanced degree. (Tr. 31-32, 81-87; Ex. J-10).

Before leaving the site, Ms. Brown instructed Ms. Hopwood to train C.L. and C.C. on how to perform shovel tests and how to properly complete the paperwork. Ms. Hopwood did so. She also told C.L. and C.C. that, because they were new and she was a new supervisor, they would "take it … pretty slow and easy" and "just go at whatever pace we could". At 10:10 a.m., she paired C.L. and C.C. with other team members so they could see how to do shovel tests and complete the paperwork.[3] After completing his first shovel test with another team member, C.L. was ready to perform a shovel test on his own. Ms. Hopwood showed C.L. where to dig the hole. She then checked on the other team members and returned to where C.L. was working about thirty (30) minutes later. At that time, C.L. stated he was not feeling well. Ms. Hopwood instructed him to sit down, rest and drink some water. C.L. sat down near his work area, which was shaded by a small mesquite tree.[4] Ms. Hopwood checked on C.L. about fifteen (15) minutes later, and he said he still was not feeling well. Ms. Hopwood told C.L. to go sit in the company truck with the air conditioning ("AC") on. C.L. agreed to do so. Ms. Hopwood did not know if he drank any water as she had instructed him earlier, nor did she see him actually go to the truck, which was on the main access road and about 300 feet away. (Tr. 38-39, 85-100, 187-88, 191; Ex. J-10).

About an hour later, around 11:45 a.m., C.L. returned from the truck. After sitting in the AC truck, drinking some water and eating some almonds, C.L. said that he felt much better. C.L. appeared exuberant, and he thanked Ms. Hopwood for letting him rest in the truck. Ms.

[3] According to Ms. Hopwood, C.C. was very new to field work, while C.L. had worked out in the field before with a different company. (Tr. 89).

[4] Ms. Hopwood indicated that the vegetation at the site consisted of brush and small mesquite trees that provided some shade, but not the kind of shade that larger trees would provide. (Tr. 95-98).

Hopwood found his behavior rather odd, especially considering how he had been feeling before.[5] She told him because it was almost lunchtime, he could help another team member finish a shovel test. C.L did so, and then returned to Ms. Hopwood. Ms. Hopwood asked him to go back to the truck and move it to where the team was so that the water cooler, which was in the truck, would be closer to their location in the afternoon. When he did not return shortly as expected, the team walked to the road looking for C.L. The team watched as the truck sped by at an excessive speed, and the cooler in the back flew up as the truck hit bumps in the dirt road. It appeared that C.L. had not been able to find the team's location, even though he had just been there, and that he had been driving back and forth on the road. C.L. finally saw them, turned around and came back. Ms. Hopwood admonished him for driving the company truck in such an inappropriate manner, and she told him he should not do so again. C.L. said he understood. (Tr. 101-11; 131-32; Ex. J-10).

The team had lunch from 12:30 p.m. to 1:30 p.m. At first C.L. sat with Mr. Hugman, who had returned to the Worksite in his jeep. The rest of the team sat in the truck. Both vehicles had the AC on, due to the heat. C.L. got out of the jeep and walked to the truck to talk to the other team members. He had a water bottle in his hand, and when someone asked him if he had enough to eat, he said that he only had nuts and dried fruit when out in the field. C.L was out in the heat for fifteen (15) to thirty (30) minutes during the lunch hour. After lunch, the team walked back to the Worksite, and Ms. Hopwood showed each team member where to dig. As before, the members worked alone but were within five (5) to ten (10) meters of each other. Mr. Hugman was working closest to C.L., and while they could not see each other, due to the brush, they

[5] Ms. Hopwood testified that she and others on the team found C.L. to be rather odd. She learned, for example, that C.L. had driven all night to reach the hotel; he had been drinking coffee to stay awake and wasn't feeling well, but he still intended to do a full day's work. He only had orange juice that morning, even though the hotel provided a full breakfast. C.L. also had an unusual way of communicating and seemed to express incomplete thoughts. These observations led Ms. Hopwood to conclude that C.L. was somewhat "strange." (Tr. 79-80, 105-06, 128-30).

could hear each other. After about twenty (20) minutes, Ms. Hopwood returned to C.L.'s dig site. She saw that rather than clearing an area of one foot by one foot, he had cleared the brush from an area about five (5) feet by nine (9) feet. Ms. Hopwood found this very strange. She told him that he did not need to clear that large of an area and that he should start his shovel test, which he did. Ms. Hopwood continued checking on the rest of the crew. Around 3:00 p.m., Ms. Hopwood returned to C.L.'s location and found him standing about twenty (20) yards away from his test area holding grass in his hand. She asked him if he was all right, and he said he was "not lollygagging but feeling a bit disoriented." She told him to have some water and sit in the shade. He said that sounded "like a good idea". As he walked toward some shade, Ms. Hopwood heard C.C. tell C.L. that she had some water if he wanted some. Ms. Hopwood assumed C.L. took the water but later learned he did not. (Tr. 111-26, 131; Ex. J-10).

About 3:30 p.m., while she was helping another team member with a shovel test, Ms. Hopwood heard movement in the brush nearby. She thought it was Mr. Hugman, so she called out: "Hey, Luke, come over this way for your next shovel test." The response was "Okay," and then some mumbling. Ms. Hopwood called out: "[C.L.], is that you?" The response was "Yes." Ms. Hopwood then asked why he had answered as Mr. Hugman. C.L.'s reply was not intelligible. Ms. Hopwood stated: "You don't sound very good. Would you like to go sit in the truck in the AC?" C.L. answered: "Yes, that sounds like a good idea. I think I should get out of the woods." Ms. Hopwood told him the rest of the crew would be done in fifteen (15) to twenty (20) minutes and they would meet him at the truck. Ms. Hopwood could not see C.L. at this time, but she heard him head off in the brush in the direction of the truck. She thought he was experiencing some confusion or disorientation, but she believed, due to his last response, that he was coherent enough to make it back to the truck, which was about 300 feet away. (Tr. 126-28,

132-33, 191; Ex. J-10).

Around 4:00 p.m., the crew headed back to the vehicles. Mr. Hugman had gathered up all of C.L.'s equipment, as it had been left at his last shovel test, and the team carried it with them. Along the way, they saw C.L.'s hat, so they picked that up, too. When they reached the vehicles, C.L. was not there. The crew started calling out his name, and when there was no response, Ms. Hopwood directed the crew members to look for him. She called Ms. Brown, Dale Norton and HR, to let them know what had happened.[6] Ms. Hopwood found C.L. about 300 yards down the road from the truck. He was lying in a ditch, face down and curled up. When she reached him, his body was hot, he was breathing heavily and she was unable to rouse him. In an effort to cool him off, she began pouring water on him. She then called out for help, and when the other team members arrived, they placed wet handkerchiefs on C.L. to try to cool him down. (Tr. 133-39; Ex. J-10).

Mr. Hugman called 911 and arranged for an ambulance to meet them a short distance away in a less remote area that would be easier to find. C.L. was then lifted into Mr. Hugman's jeep and taken to the ambulance. The ambulance transported C.L. to the hospital, where he remained for several days before he died. According to the autopsy report, C.L.'s initial core temperature was 107.8º F. (Tr. 140-42, 329-32, 353; Ex. C-1).

The Alleged Violation

Item 1 of Serious Citation 1 alleges a violation as follows:

> Section 5(a)(1) of [the Act]: 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 employees…:
>
> > a) On or about 08/09/10, at times prior thereto, field techs performing the task of archeological digs at the White Kitchens and Fall City Project, were subjected to the recognized hazards of

[6] Dale Norton was PBSJ's group manager for the archeology team that went to the Worksite. (Tr. 512).

> excessive levels of heat. Exposure to excessive levels of heat may result in serious heat induced illnesses which include: transient heat fatigue, heat rash, fainting, heat cramps, heat exhaustion, and heat stroke. Heat stroke is the most serious of these illnesses and can result in death.
>
> AMONG OTHER METHODS, ONE FEASIBLE AND ACCEPTABLE ABATEMENT METHOD TO CORRECT THIS HAZARD IS TO ESTABLISH A HEAT STRESS MANAGEMENT PROGRAM WHICH INCORPORATES GUIDELINES FROM THE ACGIH'S THRESHOLD LIMIT VALUES AND BIOLOGICAL EXPOSURE INDICES AND/OR THE NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH (NIOSH) DOCUMENT, "WORKING IN HOT ENVIRONMENTS." SUCH A PROGRAM MAY INCLUDE, BUT IS NOT LIMITED TO:
> 1. ACCLIMATIZING EMPLOYEES BEGINNING WORK IN HOT ENVIRONMENT OR THOSE RETURNING FROM ABSENT PERIODS OF THREE OR MORE DAYS,
> 2. DEVELOPING A WORK/REST REGIMENT [SIC],
> 3. PROVIDING COOL WATER AND ENCOURAGING EMPLOYEES TO DRINK 5 TO 7 OUNCES OF FLUID EVERY 15 TO 20 MINUTES—RATHER THAN RELYING ON THIRST,
> 4. PROVIDING FOR A COOL REST AREA,
> 5. PROVIDING TRAINING FOR EMPLOYEES REGARDING THE HEALTH EFFECTS ASSOCIATED WITH HEAT STRESS, SYMPTOMS OF HEAT INDUCED ILLNESSES AND THE METHODS OF PREVENTING SUCH ILLNESSES AND,
> 6. ESTABLISH A SCREENING PROGRAM TO IDENTIFY HEALTH CONDITIONS AGGRAVATED BY EXPOSURE TO HEAT STRESS.

Complainant, in essence, argues that the Respondent failed to provide its employees a safe work place free of recognized hazards because it failed to have an adequate heat stress program.

Discussion

I. Whether a Condition or Activity in the Workplace Presented a Hazard

The Court finds, based upon the following additional findings of fact, that the heat in which PBSJ's employees were working on August 9, 2010, presented a hazard. Arlene Lamont-Cubitt, who was involved in the inspection, is an industrial hygienist ("IH") with a Master of

Science degree in industrial technology. She has almost ten years of IH work experience, some of which included heat stress and illness prevention. (Tr. 298-311, 318). During her inspection, Ms. Cubitt obtained weather data from the National Weather Service website that showed hourly temperatures on August 9, 2010 for Pleasanton, Texas, which was within 20 miles of the Worksite. (*See* Ex. J-2). On August 9, 2010 at 10:05 a.m. the temperature was 84.4º F, with 63% humidity. At 11:05 a.m., it was 88.7º F with 52% humidity, and at 12:05 p.m., it was 91.8º F with 45% humidity. By 3:05 p.m., it was 97.3º F with 31% humidity. The high for that day, at 4:45 p.m., was 99º F with 29% humidity. (Tr. 318-21, 361-62; Ex. J-2). These temperatures, combined with the corresponding humidity, were in the ranges where an individual could suffer serious physical harm or death.

Ms. Cubitt relied on a 1992 CDC/NIOSH document entitled "Working in Hot Environments" ("NIOSH Document" or "Exhibit J-1")[7] to support her determination that the temperature on the day of the incident constituted a hazard. (Tr. 317, 327-28). Ms. Cubitt noted at trial that the NIOSH Document contained the following language:

> A heat stroke victim's skin is hot, usually dry, red or spotted. Body temperature is usually 105 degrees F or higher, and the victim is mentally confused, delirious, perhaps in convulsions, or unconscious. Unless the victim receives quick and appropriate treatment, death can occur.

(Tr. 328). (*See also* Ex. J-1 at.2). The autopsy report for C.L. showed that his initial core body temperature was 107.8 degrees F. (Tr. 328-30; Ex. C-1). Ms. Hopwood testified that when she found C.L., his skin was "very flushed and hot" and he was unconscious. (Tr. 139).

[7] At the beginning of the hearing, the court admitted Exhibits J-1 through J-12, as the parties agreed on the admissibility of these exhibits. (Tr. 27-28). Exhibit J-1, the 1992 CDC/NIOSH document, and Exhibit J-3, the 1986 CDC/NIOSH document, appear to be identical in text, except for the first six pages of J-3. Those six pages are a separate CDC/NIOSH document entitled "Heat Stress." In this decision, "the NIOSH Document" will refer to Exhibit J-1 and is the one the court relies on because it was the most current version of the NIOSH Document.

In addition to the documented hot temperatures, the following factors, while technically symptoms of an individual having a heat stroke, support the court's conclusion that a "hazard" existed.[8] The Court concludes that even before C.L. was found unconscious, there were signs present which indicated C.L. was experiencing symptoms of a heat stroke. After completing his first shovel test, C.L. complained about not feeling well. C.L was also disoriented when driving the truck to move it to a new location as indicated by his inability to find the team's location. At 3:00 p.m., Ms. Hopwood observed C.L. standing about twenty (20) yards from his test area and holding grass in his hands. At that time C.L. admitted he was feeling "a bit disoriented." At 3:30 p.m., when Ms. Hopwood was talking to C.L., his speech was not intelligible. Finally, Ms. Hopwood admitted that after her exchange with C.L. at 3:30 p.m. she thought he was experiencing some confusion or disorientation.

The Court's conclusion is further supported by PBSJ's own safety manual, which states as follows in the section entitled "Effects of Heat":

> Heat stroke is characterized by high body temperature and unconsciousness. In hot surroundings, dry, flushed skin without sweat should serve as a warning. The victim may become delirious.

(Ex. J-8 at 4-9, § 4.2.8). In addition, Robert Poll, PBSJ's Environment, Health and Safety ("EHS") Director, indicated that high heat is an obvious hazard during the summer months in Texas. (Tr. 575, 587). Therefore, Respondent recognized that working in hot temperatures is a hazard. Such recognition demonstrates that Respondent had knowledge of the hazardous condition. *Otis Elevator Co.*, 21 BNA OSHC 2204, 2007 CCH OSHD ¶ 32,920 (No. 03-1344, 2007).

[8] Recognition of the symptoms of a heat stroke combined with hot temperatures supports a conclusion that the hot temperatures that day constituted a hazard.

Finally, the NIOSH Document establishes industry recognition that working in hot temperatures constitutes a hazard. *See The Duriron Co., Inc*., 11 BNA 1405, 1407 n.2, 1983 CCH ¶ 26,527, pp. 33,798 n.2 (No.77-2847, 1983), *aff'd,* 750 F.2d 28 (6th Cir. 1984). The Court finds that Complainant has met the first element of her burden of proof in this matter.[9]

II. Whether PBSJ or Its Industry Recognized the Cited Hazard

The Court finds, based upon the following additional findings of fact, that PBSJ recognized the hazard of excessive levels of heat. First, Respondent does not dispute this element.[10] *See* Resp't Br. At 11. Second, Respondent's own safety manual contains a section entitled "Effects of Heat." That section, while brief, nonetheless explains that employees can protect themselves from the "harmful effects of heat" by wearing appropriate clothing and drinking "plenty of water." The safety manual also notes various effects of heat, including heat cramps, heat exhaustion, and heat stroke, and sets out first aid measures to be taken. *See* Ex. J-8 at 4-9, §4.2.8. Third, on July 14, 2010, about one month before the incident involving C.L., PBSJ had another heat stress incident. On that day, a team of archeologists was doing survey work for the same Project but at a different location. The heat index on July 14, 2010 was over

[9] Respondent disagrees, contending Complainant has not shown the heat at the site was a hazard. It notes that OSHA did not take any wet bulb globe temperature ("WBGT") readings during the inspection or perform full-shift sampling of employees, as dictated by the May 26, 2010 Regional Emphasis Program ("REP") for heat illness for Region VI. *See* Ex. J-14. Resp't Br. at 5-7, 12-18. As the Complainant points out, however, C.L. was in the hospital for several days before he died, and OSHA did not learn of the incident until after his death. OSHA also had to schedule the inspection with PBSJ, and the inspection date, August 26, was 17 days after the incident occurred. Therefore, WBGT readings could not have been obtained as to the conditions that existed on August 9, 2010. Complainant contends that the conditions on August 26, 2010 would not have provided reliable information about the temperature and humidity on August 9, 2010. (Tr. 321-23, 363). Compl't Br. at 11, n. 4. The Court agrees with Complainant. The Court also finds that the REP does not mandate the WBGT readings and full-shift sampling Respondent indicates are required. *See* Ex. J-14 at 12, ¶ 5. The REP document contains only guidelines for the execution of enforcement operations. Moreover, the guidelines provided by the REP are plainly for internal application to promote efficiency and not to create an administrative straight jacket. They do not have the force and effect of law nor do they accord important procedural or substantive rights to individuals. *See Brennan v. Ace Hardware Corp*., 495 F.2d 368, 376 (8th Cir. 1974); *McCullough v. Redevelopment Auth.*, 522 F.2d 858, 867-868 n. 27 (3d Cir. 1975) and *American Farm Lines v. Black Ball Freight Serv.*, 397 U.S. 532, 538-539. (1970). After considering all of Respondent's arguments in this regard, the court finds them unpersuasive. They are therefore rejected.

[10] Robert Poll, PBSJ's EHS Director, indicated that high heat is an obvious hazard during the summer months in Texas. (Tr. 575, 587).

104º F, and a team member, E.C.[11], became nauseated and had to be taken to the hospital for emergency medical attention. Other members of the team also had symptoms of heat stress that day, but E.C. was the only one who required medical attention. The incident was recorded and reported as an EHS Incident to the corporate safety department. (Tr. 147-50, 236-38, Ex. J-4). In response to this and other reports involving field employees, Mr. Poll, PBSJ's EHS Director, sent Edward Gruner, a PBSJ safety manager, to observe employees in the field and address a number of safety issues. On July 19 and 20, 2010, Mr. Gruner visited two field teams and discussed several topics, including insect bites and repellants, sun exposure and sunscreen, and heat stress. (Tr. 156-58, 508, 511-18, 530, 533; Ex. R-6).[12]

Finally, the NIOSH Document establishes industry recognition that working in hot temperatures constitutes a hazard. *See Duriron*, 11 BNA OSHC 1405, 1983 CCH OSHD ¶ 26,527. In view of the foregoing, the Court concludes that Complainant has met the second element of her burden of proof.

III. Whether the Hazard Was Likely to Cause Death or Serious Physical Harm

"Serious physical harm" is the type of injury that requires hospital/doctor treatment and could keep employees out of work for a few days or more. The determination as to what is considered serious physical harm is made on a case-by-case basis. In making such determination the court needs to look to the nature of the hazard against which the standard was intended to protect. *Anaconda Aluminum Co.*, 9 BNA OSHC 1460, 1981 CCH OSHD ¶ 25,300 (No. 13,102, 1981).

Respondent does not dispute this element. *See* Resp't. Br. at 11. The Respondent's own safety manual recognizes the impact of heat and that exposure to hot temperatures, if untreated,

[11] The initials of this employee are being used to protect her privacy. See generally Commission Rule 8, 29 C.F.R. §2200.8 and Fed.R.Civ.P. 5.2(a).
[12] At this time, neither C.L. nor C.C. was present because their first day on the job was August 9, 2010.

results in a substantial probability that death or serious physical injury could occur. (*See* Ex. J-8 at 4-9, § 4.2.8). Complainant has met the third element of her burden of proof.

IV. Whether a Feasible and Effective Means Existed to Eliminate or Materially Reduce the Hazard

A. Regional Emphasis Program Guidelines.

Complainant contends that "PBSJ could have eliminated or reduced the high heat hazard at its worksite by implementing an effective heat stress program that incorporates guidelines provided by the ACGIH and the NIOSH." Compl't. Br. at 17. Respondent contends, in effect, that neither the ACGIH guidelines nor the NIOSH Document has the force and effect of law and cannot be used to establish the alleged violation. Resp't. Br. at 11-12.

The Citation at issue in this case states that "one feasible and acceptable abatement method to correct this hazard is to establish a heat stress management program which incorporates guidelines from the ACGIH's threshold limit values and biological exposure indices and/or the [NIOSH] document, "Working in Hot Environments." The Citation then describes six specific measures to include in a heat stress management program.

The language used in the Citation is almost the verbatim language recommended be used by compliance safety and health officers in issuing citations that involve work in hot environments. *See* REP. Ex. J-14. The REP is the source of Complainant's contention that an effective heat stress program incorporates guidelines from ACGIH and the NIOSH Document. The REP document contains only guidelines for the execution of enforcement operations. Moreover, the guidelines provided by the REP are plainly for internal application to promote efficiency. The REP does not have the force and effect of law since it was never adopted through regulatory rule making. *See Brennan v. Ace Hardware Corp.*, 495 F.2d 368, 376 (8th Cir. 1974);

McCullough v. Redevelopment Auth., 522 F.2d at 867-868 n. 27.

Complainant's argument that the REP is an interpretation of one of her regulations and entitled to deference under *Auer v. Robins*, 519 U.S. 452 (1997), must fail. It must fail because no regulation has been promulgated by Complainant that addresses working in hot environments. Thus, there is no regulation to interpret. The absence of a regulation is why the Complainant elected to proceed in this case by charging the Respondent with a violation of the general duty clause. Controlling case law clearly defines the burden the Complainant must carry to prove general duty clause violations. That burden will be discussed below. Therefore, based upon the above, any argument by Complainant that the ACGIH guidelines and the NIOSH Document must be followed because the REP states they must be followed is rejected.

B. Applicability of the ACGIH Standards

Complainant can rely on the ACGIH standards only if: (i) the ACGIH standards have been adopted by her as a regulation or a consensus standard; or (ii) the industry has recognized the ACGIH standards. The ACGIH standards are entitled "2007 TLVs and BEIs, Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices." (*See* Ex. J-13). The "Statement of Position" regarding TLVs and BEIs" contained in the ACGIH standards states: (i) the ACGIH is not a standards-setting body; (ii) the TLVs and BEIs are guidelines to be used by professional industrial hygienists and are not designed to be used as standards; and (iii) the ACGIH TLVs and BEIs are not consensus standards. (Ex. J-13 at v). Dr. Jeffrey Levin, Complainant's expert witness, testified the ACGIH TLVs are not consensus or industry standards. (Tr. 444-45). Ms. Cubitt testified that while she used the ACGIH tables in this matter, neither the ACGIH standards nor the tables were put in OSHA's investigative file because the ACGIH standards are copyrighted and cannot be

reproduced without ACGIH's permission. (Tr. 342-44). Ms. Cubitt further testified that the ACGIH standards are not publicly available and must be purchased. (Tr. 357). No evidence was presented that established Complainant has adopted the ACGIH standards as a regulation or a consensus standard except to reference them in the REF. Complainant has identified no case law which has recognized the ACGIH standards as being applicable to Respondent's industry. The Court finds, based upon: (i) the statements in the ACGIH standards; and (ii) the testimony of Dr. Levin and Ms. Cubitt, that the industry does not recognize or follow the ACGIH standards. The court concludes that the ACGIH standards may not be used in this case.

C. Applicability of the NIOSH Document.

The NIOSH standards are contained in the NIOSH Document. (*See* Ex. J-1). The NIOSH Document does not contain tables with TLVs and action limits, as do the ACGIH standards. Rather, the NIOSH Document contains general information about the hazards of working in heat. It discusses how the body handles heat, the health problems that can result from working in heat, and ways to prepare for such work and to reduce the potential for heat stress.

The NIOSH Document contains a section entitled "Sources of Additional Information", which an employer is referred to for additional information. That section references: (i) a prior version of the ACGIH standards discussed above,[13] and (ii) a 1986 NIOSH document entitled "Criteria for a recommended standard…occupational exposure to hot environments - revised criteria," Publication No. 86-113 ("Criteria Document"). Complainant concedes the Criteria

[13] Complainant made an argument at trial that because the ACGIH standards are referenced in the NIOSH Document as additional sources, it was implicit that the ACGIH standards were incorporated into the NIOSH Document and therefore enforceable. (Tr. 372-373, 394-395) The court rejects this argument. First, the ACGIH standards are listed as additional sources of information at the end of the NIOSH Document. Second, there is no statement in the NIOSH Document which indicates these additional sources were to be incorporated into the NIOSH Document. Third, the additional sources are listed as they provide support for what standards were adopted in the NIOSH Document. To the extent that information contained in the ACGIH standards were not set specifically forth in the NIOSH Document, absent evidence to the contrary, the Court concludes that such standards were not incorporated in the NIOSH Document by mere reference to them in the additional sources section of the NIOSH Document.

Document has not been adopted as a regulation or consensus standard. Compl't. Br. at 16. Complainant discusses the Criteria Document in her brief, but, as Respondent notes, it was not offered into evidence. Compl't. Br. at 16; Resp't. Br. at 12. Therefore, Complainant's discussion of the Criteria Document will be given no weight and her attempt to apply the Criteria Document in this case will not be accepted.[14]

Dr. Jeffrey Levin, Complainant's expert, is the Occupational Health Sciences Department Chair at the University of Texas Health Sciences Center ("University") in Tyler, Texas. He has been associated with the University in various capacities for twenty-three years. Dr. Levin's work experience includes teaching physician trainees in occupational medicine about heat stress and making heat stress presentations to workers and supervisors. (Tr. 385-91). Dr. Levin testified that the NIOSH Document covers any industry where there is heat exposure. Dr. Levin further testified that the NIOSH Document is utilized by companies to implement an adequate program to address the recognized hazard. (Tr. 392-99, 412-19, 484-86).

Unlike the ACGIH standards, the NIOSH Document is publicly available on the internet and has been publicly available since at least 1986. *See* Ex. J-3, dated April 1986. The evidence also shows that PBSJ has been aware of the NIOSH Standards since at least March 2009, when Mr. Poll, the EHS Director, joined the company. The record establishes that, among other documents, Mr. Poll reviewed the NIOSH standards to draft heat safety procedures in his position with a former employer. (Tr. 575-78).

In their briefs, the parties discussed the *Duriron* case, where the Commission noted the employer's argument that the complainant was trying to enforce a prior version of the Criteria

[14] In two cases the Commission has held that the Criteria Documents do not have the force and effect of law and thus cannot be used to prove a violation. *See Duriron*., 11 BNA OHHC at 1407 n. 2, 1983 CCH OSHD at pp. 33,798, n.2. (No. 77-2847, 1983); *Industrial Glass*, 15 BNA OSHC 1594, 1603, 1992 CCH OSHD ¶ 29,655, p. 40,176 (No. 88-348, 1992).

Document, a recommended standard that was never adopted as an OSHA standard. The Commission rejected the argument, stating that complainant used the recommended standard as "…general evidence of the hazard and industry recognition of the hazard," which was permissible. *Duriron*, 11 BNA OSHC at 1407 n. 2, 1983 CCH OSHD at p. 33,798 n.2 (No. 77-2847, 1983).

In *Industrial Glass*, the Commission rejected the complainant's allegation that the heat exposure limits set out in the recommended standard were exceeded and that employees were thus exposed to the hazard of heat stress. The Commission noted that its earlier decision in *Duriron* held only that the recommended standard established industry recognition of the hazard. It also noted that the recommended standard did not have the force and effect of law and that the complainant could not prove the alleged violation by showing the limits set out in the Criteria Document were exceeded. *Industrial Glass*, 15 BNA OSHC 1594, 1603, 1992 CCH OSHD ¶ 26,527 at 40,176 (No. 88-348, 1992).

The Court notes that both the *Duriron* and *Industrial Glass* cases involved the complainant's attempt to use the Criteria Document referenced in the "Additional Sources" section of the NIOSH Document to prove the existence of a violation. *Industrial Glass* made it clear that the complainant could not use the heat exposure limits set forth in the Criteria Document to prove the alleged violation by showing the limits set out in that document were exceeded. Based upon the Court's findings set forth in this Decision, Complainant will not be permitted to use either the ACGIH Standards or the Criteria Document to meet her burden of proof.

The Court finds, based on: (i) the *Duriron* and *Industrial Glass* cases; (ii) Dr. Levin's testimony; and (iii) Mr. Poll's use of the NIOSH Document when he developed heat safety

procedures in a prior position with another company, the industry and Respondent both recognize the hazard of working in hot temperatures and follow the NIOSH Document criteria in establishing an effective heat management program.

D. Evaluation of Respondent's Heat Management Program.

Complainant acknowledges that Respondent had adopted a provision in its safety manual addressing working in hot temperatures. *See* Ex. J-8. Complainant argues that, based upon the industry's and Respondent's recognition of the NIOSH Document and Dr. Levin's testimony, Respondent's heat stress management program was inadequate and therefore, exposed Respondent's employees to the hazard of working in hot temperatures, which could result in serious physical harm or death.

The Citation's abatement clause lists six measures that Complainant alleges are required in a heat management program. The Court will consider each measure to determine whether it is set out in the NIOSH Document and whether PBSJ's safety manual sufficiently addresses the measure.

Before proceeding to an evaluation of Respondent's safety manual, the Court will dispose of an argument Respondent raises which is applicable to the elements discussed below. The Court rejects PBSJ's suggestion that all elements of its program need not be in writing. Without written policies to facilitate training for supervisors and employees or to provide employees with the expectations of the Respondent, Respondent cannot have an effective heat safety program. As evident from the Statement of Facts, employees come and go during a project and the need for policies to be in writing is underscored so that these individuals can be provided the necessary training.

1. *Acclimatizing employees beginning work in hot environment or those returning from absent periods of three of more days.*

The NIOSH Document states the employer "should establish a program designed to acclimatize workers" but does not specify increments or percentages. *See* Ex. J-1 at 5. In a section entitled "Preparing for the Heat," it states: (i) adjusting to heat usually takes 5 to 7 days; (ii) body temperature, pulse rate and discomfort will be higher on the first day but will decrease with each succeeding day; and (iii) the sweat rate will increase. It notes that gradual exposure to heat gives the body time to adjust and that heat disorders are more likely to occur among workers who have not been given time to adjust to working in the heat or who have been away from hot environments. It further notes that for the worker who has not been acclimatized, or for one who has been away "after a leisurely vacation or extended illness," that these individuals should be acclimatized to the hot environment. (*See* Ex. J-1 at 3-4).

Section 4.2.8 of Respondent's safety manual is entitled the "Effects of Heat." That section, which will be referred to as PBSJ's heat safety program, states as follows:

> You can prevent harmful effects of heat by keeping your head and body covered when in the sun by wearing light, loose fitting clothes, and drinking plenty of water.
>
> Heat cramps occur when a person has been sweating a great deal and the body is not sufficiently hydrated. The victim may be seized with muscle cramps, especially of the intestines, abdominal wall, arms or legs. Frequently, weakness and vomiting will occur.
>
> Heat exhaustion results from excessive loss of water and salt by the body. This condition follows heavy sweating. Paleness, dizziness, and faintness are symptoms of heat exhaustion. Victims often faint but usually regain consciousness in a few minutes.
>
> Heat stroke is characterized by high body temperature and unconsciousness. In hot surroundings, dry, flushed skin without sweat should serve as a warning. The victim may become delirious.

> For first aid, move the victim to a cooler, shady spot and loosen clothing. Give the victim "sips" of cool water if he or she is conscious. If the victim passes out because of heat, take the following actions:
>
> - Carry him or her to a cool, shady place and loosen or remove pieces of clothing.
> - Immerse or sprinkle the victim with cool water.
> - Fan the victim with a shirt or cloth.
> - Give the victim cool water when he or she becomes conscious.
> - Obtain medical assistance.

(See Ex. J-8 at 4-9)

The NIOSH Document does not specify reacclimatizing workers who have been absent three days or more, as set out in the Citation's abatement clause. Therefore, the specific requirement of Complainant in this regard is not enforceable.

Respondent's heat safety program does not discuss acclimatizing employees. PBSJ's heat safety program is therefore deficient; it does not provide for employees becoming acclimated gradually to the heat, over a five to seven-day period.

Respondent maintains the actions taken on August 9, 2010 addressed acclimatization. (Resp't. Br. at 10, 20). Ms. Hopwood, the designated supervisor for that day, testified that she told the team they were not going to get much done that day because they started late and had new people, and that it "wasn't going to be a big deal" if they "didn't get very far." (Tr. 187-88). She told C.L. and C.C. because they were new and she was a new supervisor, they were going to take it "pretty slow and easy" and "just go at whatever pace we could." (Tr. 85). C.C. mentioned several times that it was hot and that "she [Ms. Hopwood] was amazed at how much work it was." C.C. kept working, giving it her full effort, and Ms. Hopwood told her to not exert herself. (Tr. 164-65). Ms. Hopwood also reminded C.L. and C.C. that day that it was "okay they weren't working as fast as everybody else." (Tr. 188). Ms. Hopwood said that in archeology work, team members want to feel they are "pulling their own weight" and "often try harder than they

probably should when they're not feeling well." (Tr. 150). She also said that while the rest of the team averaged about fifteen (15) holes that day, C.C. dug about eight holes and C.L. dug about two and a half holes. (Tr. 166).

Despite the foregoing, the Court concludes that PBSJ's heat safety program is deficient. First, there is nothing in writing about acclimatization. The Court rejects PBSJ's suggestion that all elements of its program need not be in writing. Second, while Ms. Hopwood's instructions to C.L. and C.C. that day were appropriate, she was a new supervisor and had had no additional training before being designated supervisor that day. (Tr. 162-63, 173). Third, Ms. Hopwood was a temporary employee with PBSJ, and while she attended the Initial Orientation and was on one of the teams Mr. Gruner visited in July, there was no evidence that either the Initial Orientation or Mr. Gruner's visit covered acclimatization. (Tr. 33-34, 44, 48-49, 54-61, 66, 76-77, 156-58, 162, 202). Finally, the record shows that many of PBSJ's archeological employees are temporary workers and that it is not unusual for new employees to start in the middle of a project. (Tr. 55, 199, 583-84, 629). With nothing in writing about acclimatization, and with no instructions to supervisors to address the topic with new employees, Respondent's heat safety program is inadequate.

2. *Developing a work/rest regiment [sic]*.

Respondent's heat safety program does not address having a work/rest regimen at its worksites. The NIOSH Document states that the employer should "provide necessary work-rest cycles" but permits the employer to establish the parameters. (Ex. J-1 at 5). The NIOSH Document also states that "one way of reducing the potential for heat stress is to make the job easier or lessen its duration by providing adequate rest time." (Ex. J-1 at 4 in section entitled "Lessening Stressful Conditions"). The NIOSH Document further states that:

> Rather than be exposed to heat for extended periods of time during the course of a job, workers should, wherever possible, be permitted to distribute the workload evenly over the day and incorporate work-rest cycles. Work-rest cycles give the body an opportunity to get rid of excess heat, slow down the production of internal body heat, and provide greater blood flow to the skin.

(Ex. J-1 at 4 in subsection captioned "Number and Duration of Exposures"). Finally, the NIOSH Document states that: "Individual work periods should not be lengthened in favor of prolonged rest periods. Shorter but frequent work-rest cycles are the greatest benefit to the worker. (Ex. J-1 at 4 in subsection captioned "Rest Areas").

Ms. Cubitt and Compliance Officer ("CO") Alejandro Porter, the second OSHA inspector involved in the inspection, both testified there was no work-rest regimen in place; rather, if an employee asked for a break, he or she would get one. (Tr. 211-16, 333, 245-46, 344-46). Ms. Cubitt described the break policy as "lenient." (Tr. 346, 365). The testimony of Ms. Hopwood shows that whenever C.L. told Ms. Hopwood he was not feeling well, she suggested he take a break and he did so. This policy is inadequate. Ms. Hopwood indicated that the team members want to feel they are "pulling their own weight" and may be reluctant to take breaks as often as they should. (Tr. 150). C.C. mentioned several times to Ms. Hopwood that it was hot and that "she was amazed at how much work it was." She kept working, giving it her full effort, and Ms. Hopwood told her to not exert herself. (Tr. 164-65). Mr. Poll testified that PBSJ's archeologists are professionals who make judgments as to when it is appropriate to take a break based on their work activities. (Tr. 616-17). Ms. Cubitt testified that a person starting to suffer from heat illness may not be able to determine if he or she needs a rest break. (Tr. 346).[15] The Court concludes that Respondent's heat safety program is deficient because (i) it does not address having a work-rest regimen; and (ii) it depends on employees asking for a break, or taking one when they think

[15] The IH's testimony is consistent with that of Dr. Levin. (Tr. 407). (*See also* Ex. J-1 at 2, ¶ 2 of section entitled "Safety Problems").

they need one, rather than having scheduled breaks.[16]

3. *Providing cool water and encouraging employees to drink 5 to 7 ounces of fluid every 15 to 20 minutes – rather than relying on thirst.*

Respondent's heat safety program states that harmful effects of heat can be prevented by wearing appropriate clothing and "drinking plenty of water." The NIOSH document states that the employer should provide water to minimize heat stress. (Ex. J-1 at 5). It also states:

> Most workers exposed to hot conditions drink less fluids than needed because of an insufficient thirst drive. A worker … should not depend on thirst to signal when and how much to drink. Instead, the worker should drink 5 to 7 ounces of fluids every 15 to 20 minutes to replenish the necessary fluids in the body.

(Ex. J-1 at 4 in subsection captioned "Drinking Water").

PBSJ provides water and ice to its teams to take to their work sites. (Tr. 203-04). Ms. Hopwood testified that, at the Initial Orientation, one of the instructions was to be sure to "drink lots of water." She indicated that this type of information was a "general mentality" for field work that was mentioned frequently. (Tr. 60-61, 166-67). CO Porter agreed PBSJ encouraged employees to drink water but said it had no policy about drinking 5 to 7 ounces every 15 to 20 minutes. (Tr. 247, 268). Based on the record, PBSJ's heat safety program is deficient in that it does not encourage employees drinking 5 to 7 ounces of water every 15 to 20 minutes.

4. *Providing for a cool rest area.*

Respondent's heat safety program does not address providing for cool rest areas. PBSJ does, however, provide company vehicles with AC to employees to use as cool rest areas. (Tr. 247-48, 348). The NIOSH Document states as follows:

> Providing cool rest areas in hot work environments considerably reduces the stress of working in those environments….[A] rest area with a temperature near

[16] Ms. Hopwood testified that when Mr. Gruner visited her work site in July, he discussed taking breaks more often. (Tr. 156, 202). Mr. Gruner himself indicated that while he recommended frequent breaks, he did not discuss taking breaks at specific intervals. (Tr. 559).

> 76 degrees F appears to be adequate…. The rest area should be as close to the workplace as possible….
>
> .

(Ex. J-1 at 4 in subsection captioned "Rest Areas").

CO Porter and Ms. Cubitt both testified that the practice of using vehicles as cool rest areas was adequate. (Tr. 247-48, 351-52). They stated however, that the mesquite trees and high brush at the site where employees were working on August 9, 2010 gave little shade. They also stated it was about a quarter of a mile to the vehicles from the site, which could take up to fifteen (15) minutes to walk. (Tr. 224, 235-36, 347-52). Ms. Cubitt testified she was not sure a person with heat symptoms could safely travel that far. (Tr. 352). Ms. Hopwood testified that there was some shade at the site but not the type large trees would provide. She further testified that C.L. took two breaks in the shade at the site.[17] (Tr. 95-98, 93-95, 123-24).

Complainant asserts that access to the vehicles was a problem at the site, given how far away they were. She also asserts that without a planned schedule for cool breaks, an employee needing a cool break would have to walk a quarter of a mile, and there was no monitoring system to ensure the employee made it to the vehicle. Complainant notes that due to the lack of adequate shade at the site, having planned cool rest areas was even more important. Compl't. Br. at 19-20. The Court agrees. Despite the location of the vehicles, the other deficiencies in PBSJ's heat safety program made the provision of those vehicles as cool rest areas less effective than it could have been. The Court finds that, because its heat safety program does not address having cool rest areas, and because the practice for taking breaks at its sites is inadequate, Respondent's heat safety program is deficient.

[17] The Court notes that, in light of what happened after those two breaks, they apparently were not very effective. The morning and lunchtime breaks C.L. took in the truck, on the other hand, seemed more effective.

5. *Providing training for employees regarding the health effects associated with heat stress, symptoms of heat induced illnesses and the methods of preventing such illnesses.*

The NIOSH Document states that "[t]he key to preventing excessive heat stress is educating the employer and worker on the hazards of working in heat and the benefits of implementing proper controls and work practices." (Ex. J-1 at 5 in section entitled "Awareness Is Important"). PBSJ's heat safety program contains brief descriptions of some of the effects of heat and some first aid measures to take. PBSJ's heat safety policy does not address employees receiving training.

Ms. Hopwood testified that the Initial Orientation was the basic informal field training that is given for any archeology project. A PBSJ field director gave the training. The Project and conditions were discussed, i.e., it would be hot, the location was remote, and the site had thorny brush. Other topics included the clothing to wear and using sunscreen and insect repellent. Drinking plenty of water was addressed, including PBSJ's providing water. Paperwork such as tax forms and contact information was completed. The Initial Orientation took one to two hours. Ms. Hopwood likened the presentation to a new hire orientation. She did not recall seeing the Respondent's heat safety program or hearing anything about heat illness.[18] (Tr. 54-61, 71-74, 76-77).

Ms. Hopwood and Mr. Gruner both testified that the training Mr. Gruner gave the archeology teams included symptoms of overexposure to heat; specifically, Mr. Gruner said he discussed fatigue, headaches, weakness in the knees and legs, and dizziness. (Tr. 162, 533). CO Porter and Ms. Cubitt determined that employee training in heat-related illness was insufficient. Some employees like Ms. Hopwood had had some training, but PBSJ provided no training to

[18] Mr. Gruner testified that employees were not given the safety manual at the orientation. (Tr. 562).

C.L. and C.C., who were new employees before they were permitted to perform work at the Worksite. The CO and Ms. Cubitt learned that PBSJ relied on the field training the employees had received in college. (Tr. 248-49, 334-35). Mr. Poll agreed that, in his deposition, he had stated that PBSJ considered the field training to be part of the employees' knowledge; he conceded, however, that no assessment was made of the field training. (Tr. 637).

The Court finds that PBSJ's training of employees in heat-related illness was deficient. First, while PBSJ's heat safety program has some information about the effects of heat, the information is very brief and insufficiently detailed. The record establishes that PBSJ's heat safety program was not even provided to employees at the orientation. Second, although PBSJ's new-hire orientation was evidently shown at Ms. Hopwood's orientation, it contains nothing about heat stress or other heat-related illness issues. (*See* Ex. J-7). Third, although Ms. Hopwood's orientation did cover some heat-related topics, such as the clothing to wear and drinking plenty of water, it did not address the health effects of heat-related illnesses, or how to prevent those illnesses. (Tr. 61-61). Even if it did, new employees who start work mid-project do not go to an orientation; any information they receive is from their field supervisor on their first day of work. (Tr. 55). There is no evidence that C.L. and C.C., the two new employees at the site on August 9, 2010, received any training that day about the symptoms of heat-related illnesses and ways to prevent such illnesses.

The Court also finds that the field training Mr. Gruner provided was deficient. His training covered only the effects of certain symptoms of heat exposure. (Tr. 533). Further, there were no written records of his training to specify what was covered and who was present.[19] The

[19] Exhibit R-6 is an e-mail Mr. Gruner sent to a superior right after his visits to the field. Exhibit R-6 provides no more detail about his visits than his testimony. Exhibit R-4 is a letter Mr. Gruner sent to a superior about a week after C.L.'s incident. It contains a few more details about his July visits. It does not, however, state that he provided specific training in heat-related illnesses and how to prevent them.

Court rejects Respondent's suggestion that undocumented training is acceptable as evidence. Even if the Court found it acceptable, it is clear the new employees did not receive the training.

Finally, the Court finds that Ms. Hopwood's actions at the site on August 9, 2010 show that she was insufficiently trained as a supervisor and employee in recognizing the symptoms of heat-related illnesses and the methods of preventing them. As Complainant notes, Dr. Levin emphasized the importance of employee training in heat-related illnesses, symptoms and response. He explained that PBSJ's training inadequacy goes not to the supervisor's ability to diagnose heat stress illness, but rather to recognize it as a continuum of illness where certain sentinel symptoms should be recognized as very serious and, as such, require a more emergent action or response from a supervisor. Disorientation and confusion are the harbinger signs of heat stroke which, on the scale of heat-related illness, is the worst case scenario because it can be fatal. Dr. Levin testified that an appropriate heat management program would train employees to recognize heat stress symptoms and would require employees to monitor persons that began to exhibit symptoms of heat stress, because the illness and injury can present quickly. He further testified that PBSJ's heat training program, consisting of the materials as noted above, failed to provide any guidance for employees as to the significance of high temperatures, failed to adequately describe when to implement a heat alert and monitoring program, and failed to educate employees on the symptoms of heat stress and the appropriate medical response. (Tr. 398-402, 405-07, 421-25, 487-88). *See also* Compl't. Br. at 20.

For all of the foregoing reasons, PBSJ's training of supervisors and employees was deficient.

6. *Establish a screening program to identify health conditions aggravated by exposure to heat stress.*

Respondent's heat safety program does not address screening employees to identify health conditions that may be aggravated by exposure to heat stress. The NIOSH Document does not recommend a screening program. Therefore, Complainant cannot meet her burden of proof that the NIOSH Document, which is recognized by the industry and the Respondent, requires such a written provision for a heat safety program to be effective.

The above evidence of record establishes that Respondent's heat safety program is deficient in five areas under the NISOH Document.[20] Deficiencies in the areas noted supports the contention of Complainant that Respondent failed to provide to its employees a safe work place free of recognized hazards by its failure to have in place a written and adequate heat stress program. Complainant has met her burden of proving the final element of a section 5(a)(1) violation.

Classification of Citation

The Court, from the Statement of Facts and other Findings of Fact and Conclusions of Law, finds there existed a substantial probability that death or serious physical harm could have resulted from the hazardous condition. Respondent's own safety manual recognizes the impact of heat and that exposure to hot temperatures, if untreated, results in a substantial probability that death or serious physical injury could occur. (*See* Ex. J-8 at 4-9, § 4.2.8). Therefore, Citation 1, Item 1 was properly classified as a serious violation. Citation 1, Item 1 will be AFFIRMED as a serious violation under section 5(a)(1) of the Act, 29 U.S.C. § 654(a)(1).

Penalty

In calculating the appropriate penalty for affirmed violations, section 17(j) of the Act requires the Commission to give "due consideration" to four criteria: (1) the size of the

[20] This conclusion is supported by Dr. Levin's testimony regarding why he believed PBSJ's heat safety program was inadequate. (Tr. 398-412, 421-25).

employer's business, (2) the gravity of the violation, (3) the good faith of the employer, and (4) the employer's prior history of violations. 29 U.S.C. § 666(j). Gravity is the primary consideration and is determined by the number of employees exposed, the duration of the exposure, the precautions taken against injury, and the likelihood of an actual injury. *J.A. Jones Constr. Co.*, 15 BNA OSHC 2201, 1993 CCH OSHD ¶ 29,964 (No. 87-2059, 1993).

Complainant has proposed a penalty of $6,300.00 for the section 5(a)(1) violation. CO Porter testified that the entire crew was exposed to the hazard of excessive heat on August 9, 2010. In establishing the proposed penalty, he considered: (i) the violation to have high severity and greater probability in that the excessive heat made it more likely that a heat-related illness could occur and that such an illness could have serious or fatal consequences; (ii) what the work the crew was doing; (iii) the inadequate shade at the site; (iv) the fact that C.L. was allowed to go to the truck by himself that afternoon; (v) the providing of water and a truck with AC; (vi) the taking of breaks; and (vii) the wearing of appropriate clothing. No reduction in penalty was given for size, due to the employer's number of employees, and no reduction was given for good faith because of the high gravity of the violation. A ten percent reduction for history was given in view of the fact that the company had no history of prior serious violations. (Tr. 151-60). The Court considers the proposed penalty appropriate, in light of all of the factors considered in arriving at that penalty. The court will therefore assess a penalty of $6,300.00 for the violation.

ORDER

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

1. Citation 1, Item 1 alleging a violation of section 5(a)(1) of the Act, 29 U.S.C. § 654(a)(1), is AFFIRMED as a SERIOUS violation and a penalty of $6,300.00 is ASSESSED.

2. Citation 1, Item 2 is DISMISSED.

3. Citation 2, Item 1 is DISMISSED.

/s/

Date: March 15, 2012
Denver, Colorado

PATRICK B. AUGUSTINE
Judge, OSHRC