United States of America
OCCUPATIONAL SAFETY AND HEALTH REVIEW COMMISSION
1120 20th Street, N.W., Ninth Floor
Washington, DC 20036-3419

SECRETARY OF LABOR, Complainant, v. ALDRIDGE ELECTRIC, INC., Respondent.	OSHRC Docket No. 13-2119

Appearances: M. Patricia Smith, Solicitor of Labor
Christine Z. Heri, Regional Solicitor
Margaret A. Sewell, Trial Attorney
Rachel L. Graeber, Trial Attorney
U.S. Department of Labor, Office of the Solicitor, Chicago, Illinois

For the Complainant

Mark A. Lies II, Esquire
Patrick D. Joyce, Esquire
Seyfarth Shaw LLP, Chicago, Illinois

Kerry M. Mohan, Esquire
Quarles & Brady LLP, Madison, Wisconsin

For the Respondent

Before: Covette Rooney
Chief Administrative Law Judge

DECISION AND ORDER

On June 24, 2013, a worker for Aldridge Electric, Inc. (Aldridge Electric, Aldridge, or Respondent) suffered from heat stroke on Respondent's worksite in Chicago, Illinois. The worker died the next day. After an investigation, the Occupational Safety and Health

Administration (OSHA) issued Respondent a citation alleging it violated the general duty clause[1] of the Occupational Safety and Health Act of 1970, 29 U.S.C. §§ 651-678 (the OSH Act) by exposing its workers to "excessive heat during the performance of their duties" and proposing a $7,000 penalty. (Ex. C-1 at 5, 7.) Respondent filed a timely notice of contest, bringing this matter before the Occupational Safety and Health Review Commission ("Commission").

The hearing in this matter stretched over 18 days, occurring on the following dates: February 3-6, 11-13; March 3-6; and April 7-10, 28-30, 2015. The following witnesses testified:

> OSHA Industrial Hygienist/Health and Safety Compliance Officer (CO) Louise Carr, Aldridge duct bank crew Journeyman/Leader Solomon Redmond, Aldridge precast foundations Foreman Brandon Mahl, Aldridge Safety Engineer Todd Lowry, Aldridge Superintendent Daniel Horrell, Aldridge duct bank crew Foreman John "Sean" Russell, OSHA Industrial Hygienist Mark Knezovich; Dr. Jeffrey L. Levin, M.D., M.S.P.H.; OSHA Industrial Hygienist/Health and Safety Compliance Officer (CO) Brad Becker,

for the Secretary; and,

> Aldridge Safety Engineer Edward Sandner, Aldridge Director of Safety O'Brien Mills, Aldridge DOT Compliance Officer Amanda Rossman, Aldridge duct bank crew Foreman John "Sean" Russell, Aldridge Corporate Risk Manager Jeffrey Arnold, Aldridge precast foundations Foreman Brandon Mahl, Aldridge Superintendent Daniel Horrell, Aldridge duct bank crew Groundman Mark Kruk, Aldridge duct bank crew Groundman Calvin Burnside, Aldridge duct bank crew Groundman Michael Dammer, Aldridge precast foundations Groundman Richard "Richie" Rossman, Aldridge duct bank crew Journeyman/Leader Solomon Redmond; Dr. Shirley A. Conibear, M.D., M.P.H; John M. Dobby, CIH, CSP,

for the Respondent. Deposition testimony of another witness, Aldridge duct bank Groundman Edward Williams, is also in the record. (Ex. R-113.) Both parties filed post hearing briefs and post hearing reply briefs.

The dispositive issues in this case are the following:

(1) Did the Secretary establish by the preponderance of the evidence that a hazard, as defined by the OSH Act and case law, existed in this case?

(2) Assuming the Secretary established such a hazard, did the Secretary establish by the preponderance of the evidence that Respondent knew or should have known about the hazard?

[1] Section 5(a)(1) of the OSH Act, the general duty clause, requires 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).

For the Secretary to prove his case, both of these questions must be answered in the affirmative. Neither is. Accordingly, for the reasons set forth below, this citation must be vacated.[2]

Jurisdiction and Coverage

The record establishes that Aldridge Electric filed a timely notice of contest and that, as of the date of the alleged violation, it was an employer engaged in business affecting commerce within the meaning of section 3(3) and 3(5) of the Act. (Answer at ¶¶ V.a & V.b; Joint Pre-

[2] The transcript reflects episodes of bickering and incivility, which began at the commencement of the hearing and permeated throughout the entire proceeding. *See*, *ex.*, Tr. at 171, 178, 709-736, 935-948, 1377-1384, 2075, 2794, 3197-3203, 3472, 3546, 3999-4004, 4082-4083. Many of these episodes revolved around what eventually amounted to hair-splitting nuances of non-dispositive issues. As a result, the hearing for this matter went on for 18 days providing massive evidence that the undersigned hoped would be helpful to the resolution of this matter. Much of the evidence, however, was not helpful and only served to temporarily shield these episodes of bickering and incivility.

This unhelpful evidence included testimony by impeachment of Aldridge workers, so much so that, to the undersigned, this hearing seemed to be a "trial by impeachment." The impeachment evidence was unhelpful because, by its nature, it was not substantive. Therefore, this evidence did not further the Secretary's task of establishing the elements of proof of a violation by the preponderance of the evidence.

The Secretary also attempted to use unclear, unsigned, transcribed and potentially paraphrased interview statements as a way to introduce substantive evidence. Other than the portions of these interview statements that were corroborated by testimony, as discussed herein, the remaining portions of these interview statements are given no weight as they are deemed unreliable. The parties spent much time at the hearing and in briefs disputing those portions that were not corroborated by testimony, thus increasing the size of this case file unnecessarily.

Additionally, the only certified weather data in this case does not include a heat index value on the day of the incident. *See* Ex. C-5. The heat index, therefore, must be calculated; and then, according to the Secretary, it must be adjusted. But the Secretary did not establish, by the preponderance of the evidence, the facts necessary to determine the adjustment values. Furthermore, the experts for each party testified to the calculation of heat for this case, but their testimony was unhelpful because it was either in equipoise or related to non-binding, non-authoritative limits for heat related illness monitoring.

Finally, the Secretary has disavowed, in no uncertain terms, any feasible means of abatement related to physiological monitoring of an employee's metabolic heat on the part of the employer. However, the Secretary has stipulated that a physiological condition contributed to the employee's death in this case. (Jt. Pre-Hr'g Submission at 22-23, ¶ 33.) Given this stipulation and Commission precedent, the Secretary's disavowal, when balanced against Aldridge's means of abatement already in place, crucially undermines his case.

Consequently, the Secretary fell short of his burden in establishing a violation of the general duty clause by the preponderance of the evidence.

Hearing Submission at 23 ¶¶ 1-4.) Based upon the record, the undersigned concludes that the Commission has jurisdiction over the parties and subject matter in this case, and Respondent is covered under the Act.

Stipulated Facts

The parties filed a Joint Pre-Hearing Submission (Jt. Pre-Hr'g Submission) that includes several stipulated facts. (Jt. Pre-Hr'g Submission at 20-23 ¶¶ 1-34.) The stipulated facts are listed here in their entirety:

1. Respondent Aldridge Electric, Inc. is a corporation with an office and place of business at 844 East Rockland Road, Libertyville, Illinois 60048 and at all times herein mentioned was engaged in electrical and related construction, including electrical construction for the transportation industry.

2. Respondent maintained a worksite on or about the location of 15 W. 87th Street, Chicago, Illinois 60620, where it was engaged as an electrical subcontractor for Kiewit Infrastructure Co.

3. Employees at the worksite are permitted to take as many rest breaks as they want.

4. The Dan Ryan Red Line Project for which Aldridge Electric, Inc. was performing work as an electrical subcontractor began on May 19, 2013.

5. A tool box talk on heat illness was given by representatives of Aldridge Electric Inc. on June 5, 2013.

6. On June 24 2013, [the decedent] was an employee of Aldridge Electric, Inc.[3]

7. On June 24, 2013, John "Sean" Russell, an employee of Suarez Electric Co., Inc., was the direct supervisor of [the decedent] and was responsible for supervising the work that [the decedent] was performing on the jobsite. Mr. Russell was delegated authority from Aldridge Electric, Inc. to supervise [the decedent] on June 24, 2013.

8. At all times relevant to the Citation, John "Sean" Russell was acting in the capacity as an Aldridge Electric, Inc. foreman.

9. Dan Horrell of Aldridge Electric, Inc. was Mr. Russell's direct supervisor.
10. On June 24, 2013, [the decedent] was 36 years of age.

11. [The decedent] reported to work at 7:00 a.m. on June 24, 2013.

[3] For personal privacy reasons, the name of the decedent has been omitted throughout this decision.

12. On June 15, 2012, [the decedent] received a Department of Transportation Medical Examiner's Certificate that expired June 15, 2014.

13. [The decedent] was an International Brotherhood of Electrical Workers, Local No. 9 union member.

14. [The decedent] attended a new hire orientation and safety training given by representatives of Aldridge Electric, Inc. from approximately 8:00 a.m. to approximately 9:30 a.m. on June 24, 2013.

15. Heat illness prevention and acclimatization of workers were topics discussed during the safety orientation on the morning of June 24, 2013.

16. Before June 24, 2013, Aldridge developed a Heat Illness Prevention Plan and trained the employees working on the Dan Ryan Red Line Project on the contents of the Heat Illness Prevention Plan.

17. Before June 24, 2014, Aldridge's Heat Illness Prevention Plan stated that "Employees working in high heat conditions may be at risk of heat stress. Heat stress can result in heat rash, heat cramps, heat exhaustion and heat stroke."

18. Before June 24, 2013, Aldridge's Heat Illness Prevention Plan discussed acclimatization.

19. Before June 24, 2013, Aldridge's Heat Illness Prevention Plan stated that "Hot weather conditions of the summer are likely to affect the worker who is not acclimatized to heat. Likewise, workers who return to work after a leisurely vacation or an extended illness may be affected by the heat in the work environment."

20. Aldridge's Heat Illness Prevention Plan stated that "Keep in mind that acclimatization can occur naturally for outdoor workers in a hot climate as the weather changes. However, implementing acclimatization activities is essential for new workers, workers who have been out sick or on vacation, and all workers during a heat wave."

21. Before June 24, 2013, Aldridge had a PowerPoint presentation that mentioned acclimatization.

22. Before June 24, 2013, Aldridge's Heat Illness Prevention Plan discussed a "workrest regimen."

23. Before June 24, 2013, Aldridge trained employees and supervisors on the hazards of heat illness using Aldridge's Heat Illness Prevention Plan.

24. The area where [the decedent] worked on June 24, 2013, was approximately 20-30 feet from the lanes of traffic on the Dan Ryan Expressway.

25. The work [the decedent] performed on the morning of June 24, 2013, included lifting and carrying two 20-foot long polyvinyl chloride (PVC) pipes which were each 4 inches in diameter, with a partner.

26. The pipes that [the decedent] was carrying on June 24, 2013 with a partner weighed 2.09 pounds per foot, or approximately 42 pounds per 20-foot pipe for a collective weight of 84 pounds.

27. [The decedent] took a lunch break from 12:10 p.m. to 12:40 p.m. on June 24, 2013.

28. [The decedent] resumed work for Aldridge Electric after the lunch break at approximately 12:40 p.m.

29. The work of gluing PVC pipes together involves one individual putting primer and glue at the end of a pipe and another individual sliding or hitting the end of the pipe with a sledgehammer to ensure it is in place.

30. In the afternoon of June 24, 2013, John "Sean" Russell obtained the assistance of two other employees to transport [the decedent] to the street level.

31. In the afternoon of June 24, 2013, [the decedent] was admitted to the Little Company of Mary Hospital.

32. On June 25, 2013, [the decedent] was pronounced dead.

33. The coroner determined that [the decedent] died as a result of heat stroke with a contributing factor to the death being obesity.

34. Aldridge reported on its OSHA 301 log that [the decedent] "started showing signs and symptoms of confusion and disorientation."

(Jt. Pre-Hr'g Submission at 20-23 ¶¶ 1-34.)

Background & Findings of Fact

The Dan Ryan Red Line Project

Aldridge Electric is an electric contractor for transportation construction projects. (Jt. Pre-Hr'g Submission at 20 ¶ 1.) On June 24, 2013, one of Aldridge Electric's worksites was on the Dan Ryan Red Line Project, which hosted multiple contractors and entailed the complete "removal and replacement of the [Chicago Transit Authority's] Red Line [train] tracks from 95th

street [on the south end] up to the portal at 18th street [on the north end]." (Jt. Pre-Hr'g Submission at 20 ¶ 4; Tr. at 2151.) This ten-mile long worksite was abutted on one side by the north-bound lanes of the Dan Ryan Expressway, and on the other side by the south-bound lanes of the Dan Ryan Expressway, both of which remained active with flowing traffic during the project. (Tr. at 59, 2187-2188.); *see generally* Ex. R-38. The Dan Ryan Red Line Project began on May 19, 2013. (Jt. Pre-Hr'g Submission at 20 ¶ 4.)

The Aldridge Duct Bank Crew

On June 24, 2013, Aldridge Electric's duct bank crew was located near 15 W. 87th street on the Dan Ryan worksite. (Jt. Pre-Hr'g Submission at 20 ¶ 2.) The workers on that crew included the decedent, Edward Williams, Michael Monahan, Keith Crumpler, Calvin Burnside, Michael Dammer, Mark Kruk, and Keenan Kelley. (Exs. C-77, C-78, C-81-C-85.) For the decedent, Williams and Monahan, it was their first day on the job. (Exs. C-77 at 1, C-81 at 1-2, R-113 at 18-19.) Crew leaders for the duct bank crew included Soloman Redmond and Tyrone Long. (Exs. C-76, C-86.) The crew's direct supervisor was general foreman John "Sean" Russell, who worked for Suarez Electric, but acted in the capacity of an Aldridge foreman. (Jt. Pre-Hr'g Submission at 21 ¶ 7; Tr. at 1492, 1523; Ex. C-57.) Near the duct bank crew was another crew, the precast foundations crew, led by Brandon Mahl. (Tr. at 650.) Mahl and one of his crew members, Richard "Richie" Rossman, wound up replacing the decedent and others on the duct bank crew later in the day when the incident occurred. (Exs. C-61, C-92.)

The Aldridge work day began around 6 a.m. (Tr. at 757.) Workers showed up at the yard and attended the morning show-up meeting, which covered, among other topics, the weather for the day.[4] (Tr. at 79, 757, 2269.) The workers were then assigned their duties, and the duct bank crew was transported by van from the yard to their worksite for the day. (Tr. at 1521-1522.) The decedent reported for work at 7 a.m. and submitted paperwork, including the Medical Examiner's Certificate (not expired until June 15, 2014) that accompanied his

[4] The yard was an acre and a half staging area located near 46th-47th Street, where workers for Aldridge, and other contractors such as Kiewit and Terrell, met in the morning, and where the companies had material delivered for the 10-mile long worksite. (Tr. at 2596, 3272.) The yard was about a two-three minute ride from where the duct bank crew was working on June 24, 2013. (Tr. at 3275.)

commercial driver's license (CDL).[5] (Jt. Pre-Hr'g Submission at 21 ¶ 12; Tr. at 2725, 2740-2741; Exs. C-42, J-6 at 5-27.) As this was their first day on the job, instead of being transported to the worksite after the "show up" meeting, the decedent, Williams and Monahan attended an orientation from 8 a.m. – 9:30 a.m. (Jt. Pre-Hr'g Submission at 21 ¶ 14.) The orientation covered safety topics, including heat illness. (Jt. Pre-Hr'g Submission at 21 ¶ 15; *see generally* Tr. at 2272-2329; Ex. J-2.) At 7:51 a.m. (daylight savings time), the weather conditions were the following: 73° F, 76% humidity, few clouds at 7,500 feet/broken clouds at 20,000 feet/overcast at 25,000 feet, and 13 mile per hour (MPH) wind.[6] (Tr. at 313-314; Ex. C-6).[7]

---

[5] In addition to this Medical Examiner's Certificate, the decedent also signed or submitted the following documents: a copy of his CDL, a New Employee form indicating he was hired out of Local 9, an Employment Eligibility Verification (Form I-9) form, an IRS W-4 form, an Illinois Tax Withholding Worksheet, a signed Confidentiality agreement, a Code of Ethical Conduct Acknowledgment, a Driver Policy, a computer use policy agreement, a Zero Tolerance Policy Agreement regarding safety in the workplace, a Form of Authorization for Drug and/or Alcohol Test, a Drug and Alcohol Policy Acknowledgment, a Sexual Harassment Policy Agreement, a Certificate of Compliance with Driver License Requirements, a Division of Motor Vehicle Release authorization, a Safety Equipment Distribution agreement, an Orientation Checklist, and a Driver Application Form. (Exs. C-42, J-6 at 5-27.)

[6] The cloud conditions were explained in the following manner:

> **Few** clouds gives a fraction between zero-eighth and two-eighths of the sky is covered. So, basically one-quarter of the sky has clouds. **Scattered** means that three-eighths to four-eighths of the sky is covered. **Broken** means five-eighths to seven-eighths of the sky is covered. And **overcast** is the entire sky is covered.

(Tr. at 1174 (emphasis added)); *see also* Ex. C-5 at 15.

[7] With regard to the weather on the decedent's worksite on June 24, 2013, the record contains evidence from multiple sources, none of which are from any device or calculated from any device that was on the worksite on June 24, 2013. The Secretary introduced certified climatological data from the U.S. National Oceanic and Atmospheric Administration (NOAA) measured at Midway Airport, which is located 10 miles from the decedent's worksite. (Ex. C-5.) The Secretary distilled NOAA's certified data into a concise demonstrative chart. (Ex. C-6; Tr. at 277-305.) This chart includes temperature, humidity, OSHA calculated heat index (once the temperature was more than 80°F), cloud cover and wind speed. (Tr. at 304.) The data is provided in local standard time and daylight saving time (DST). (Tr. at 309.) The DST data is used in this case because Chicago, Illinois recognized DST on the day of the incident. (Tr. at 314-315; Ex. C-6.)

As with much of the evidence in this case, the source and content of the climatological data are disputed. In response to the certified NOAA data introduced by the Secretary, Respondent introduced similar climatological data taken from WeatherUnderground.com via Dr. Shirley Conibear's report. (Ex. R-93.) Respondent also introduced calculations done by Mr. John

After the orientation, the decedent, Williams and Monahan were then transported by van to the duct bank crew worksite around 9:30 a.m. – 10 a.m. (Tr. at 2209; Exs. C-57 at 1, C-76 at 1, R-113 at 24.) At 9:51 a.m., the weather conditions were the following: 73° F, 74% humidity, few clouds 1,500 feet/scattered clouds at 5,500 feet/broken clouds at 10,000 feet, and 10 MPH wind. (Tr. at 343; Ex. C-6.)

The Decedent's Worksite

The decedent's worksite on the Dan Ryan was near the intersection of 87th Street, which was the exit to street level from the worksite. (Tr. at 82.) The worksite itself was at mile marker 71 and "approximately 20-30 feet from the lanes of traffic on the Dan Ryan Expressway." (Jt. Pre-Hr'g Submission at 22 ¶ 24; Tr. at 127, 135; Exs. C-3 at 15, C-12 at 2.) The lanes of active traffic were on either side of the worksite, which was excavated such that it was submerged to what looks like approximately shoulder-level relative to street level. (Tr. at 133; Ex. C-12 at 1-2.) Five feet tall concrete jersey walls with chain link fencing on top protected the worksite from the active lanes of traffic on either side of the worksite. (Tr. at 2515; Ex. R-37 at 1-2.) Running down the center of the worksite was the trench, which was approximately 40 inches deep and appears to be three feet wide. (Tr. at 1526; Ex. C-12 at 2.) The workers on the duct bank crew

---

Dobby, who derived his calculations from both the Midway NOAA climatological data as well as "solar radiance" data taken from Argonne National Laboratory in Lemont, Illinois, which is 18 miles from the decedent's worksite. (Tr. at 4313-4315; Ex. R-53 at 7-14.)

However, the differences in the weather data with respect to the temperature, humidity, cloud cover and wind speed on June 24, 2013, are limited. Indeed, as Respondent argues, the WeatherUnderground.com data is not that different than the certified NOAA data and OSHA itself used the WeatherUnderground.com data as a basis to issue the citations. Because the NOAA data is certified, however, the undersigned finds that it is the most reliable data in the record for temperature, humidity, cloud cover and wind speed at the germane times, albeit 10 miles away from the worksite, on June 24, 2013. Fed. R. Evid. 201(b) (taking judicial notice of facts from a source that cannot reasonably be questioned).

With regard to heat index, the undersigned notes that the heat index notated on the Secretary's chart was not certified (despite what is written in the alleged violation description in the citation); it was calculated, using NOAA's certified data, by CO Carr using OSHA's mobile heat application (app). (Tr. at 284.) OSHA's mobile heat app is not able to calculate a heat index when the given temperature is less than 80° F, so the OSHA calculated heat index is not included in this demonstrative chart any earlier than 12:51 p.m. DST. (Tr. at 284-285; Ex. C-6.) Additionally, because the calculated heat index on this chart is not certified, the undersigned takes no judicial notice of it. However, this calculated heat index serves to demonstrate what OSHA relied on, in part, to issue this citation.

focused on that trench: bringing pipe over to the trench from pipe piles approximately 20 feet away (*i.e.*, spotting pipe) and then securing those pipes in four layers within the trench (*i.e.*, gluing or seating pipe). (Tr. at 1524-1525, 1530.) The duct bank crew had a "traveling" worksite, in that the worksite moved north as the crew finished spotting and gluing pipe at each location. (Tr. at 151-152.)

The Decedent's Morning Task

When the decedent arrived at his worksite around 10 a.m., Aldridge Safety Manager Edward Sandner and Sean Russell met him.[8] (Tr. at 1536, 2209-2210.) Sandner showed the decedent the daily task analysis (DTA) of his job for that day, which did not include the weather as a notable hazard that day, and the decedent signed the DTA as having read it. (Tr. at 1536-1537, 2220, 3363-3364; Ex. R-10.) The hazards that were included on the decedent's DTA were: "lifting, slips, falls, machinery, pinch points and egress of trench." (Ex. R-10.) Some of the "corrective action" instructions on the DTA included "watch where you step" and "watch out for each other." (Ex. R-10.) The weather was not included as a hazard on the DTA because Sandner thought "it was going to be a nice day that day, bearable."[9] (Tr. at 3364.)

[8] As CO Carr testified, the exact timeline of all of the actions on this day is difficult to pinpoint precisely. (Tr. at 149.) Most of the series of events here depend on the statements and testimony of Sean Russell and Edward Williams, as they were the two people who chiefly interacted with the decedent on this day and whose testimony is in the record. Williams was partnered with the decedent mainly in the morning, but was not partnered with him in the afternoon, although they worked nearby each other. Russell interacted with the decedent in the afternoon. With respect to the timeline, the statements and testimony of the other witnesses in this case are being used to corroborate the statements and testimony of Williams and Russell. Respondent objected to the admission of the employee statements at the hearing, as none of them were signed and were not in the employee's handwriting. However, as noted in footnote 25 *infra*, the portions of the statements, including those regarding the series of events and the timeline that are corroborated by testimony are given some weight.

[9] According to the statement recorded by CO Carr during her investigation, Russell stated that the decedent was wearing a t-shirt, jeans, work boots, safety vest, gloves, safety glasses and a hard hat that day. (Ex. C-57 at 5.) At the hearing CO Carr and OSHA official Mark Knezovich agreed that the workers on the worksite were not wearing heavy protective clothing, impermeable suits, layers of protective clothing, or anything that would retain heat. (Tr. at 1237, 1266, 1277, 1973.)

The decedent and Williams partnered up and began to spot pipe together around 10 a.m. – 10:15 a.m.[10] (Tr. at 1538-1540; Ex. C-77 at 1.) At 10:51 a.m., the weather conditions were the following: 73° F, 71% humidity, few clouds at 3,800 feet/broken clouds at 7,500 feet/broken clouds at 12,000 feet, and 13 MPH wind. (Tr. at 343; Ex. C-6.) On this jobsite, everyone would bring their water with them, or just a bottle because there was bottled water on the job. The workers would bring their water bottle with them to each spot and "sip on it" during the workday. (Tr. at 1551.) The decedent was observed carrying a personal jug of water from which he drank that day. (Tr. at 1060.) Russell noted that the decedent's jug of water was "the largest bottle that I remember of everybody." (Tr. at 1551.) At 11:51 a.m., the weather conditions were the following: 76°F, 64% humidity, few clouds at 5,500 feet/broken clouds at 10,000[11] feet/broken clouds at 17,000 feet, and 9 MPH wind. (Tr. at 344; Ex. C-6.)

At 12:10 p.m., the workers took their lunch break. (Jt. Pre-Hr'g Submission at 22 ¶ 27.) The decedent and Williams sat in a covered All Terrain Vehicle (ATV) while they ate their lunch together. (Exs. C-77 at 2, R-113 at 52-53.) The two of them talked, laughed and joked with each other, and talked on their phones during lunch. (Exs. C-77 at 2, R-113 at 52-53.) According to Williams, the decedent showed no signs of heat illness during lunch. (Ex. R-113 at 53.)

The Decedent's Afternoon Tasks

[10] Spotting pipe included "lifting and carrying two 20-foot long polyvinyl chloride (PVC) pipes which were each 4 inches in diameter, with a partner. The pipes that the decedent was carrying on June 24, 2013 with a partner weighed 2.09 pounds per foot, or approximately 42 pounds per 20-foot pipe for a collective weight of 84 pounds." (Jt. Pre-Hr'g Submission at 22 ¶¶ 25-26.)

[11] The Secretary's demonstrative chart seems to have a transcription error from the certified data, stating that the first broken cloud cover is at 1,000 feet. (Ex. C-6); *see also* Ex. C-5 (NOAA certified data). The certified data indicates that the cloud cover is listed "in ascending order" and in hundreds of feet. (Ex. C-5 at 15 (under Terminology for column 4).) The relevant entry in the NOAA certified data is:

"FEW055 BKN100 BKN170"

(Ex. C-5 at 2.) The undersigned notes that the number associated with the first broken cloud cover, the second number listed in the demonstrative chart, must be greater than 5,500 feet and less than 17,000 feet. Therefore, it is assumed that the first broken cloud cover is at 10,000 feet instead of 1,000 feet.

After lunch was over at 12:40 p.m., the decedent finished his task of spotting pipe and began the task of "gluing pipe."[12] (Jt. Pre-Hr'g Submission at 22 ¶ 28; Tr. at 244-245, 1544-1545; Ex. C-77 at 2.) This task also required a partner, but the record is unclear on who the decedent's partner was.[13] (Tr. at 1321.) Williams, the decedent's previous partner for spotting pipe, was gluing pipe with Chris Inman nearby the decedent. (Ex. R-113 at 44.) At 12:51 p.m., the weather conditions were the following: 83°F, 48% humidity, few clouds at 5,500 feet/scattered clouds at 15,000 feet/broken clouds at 20,000 feet, and 15 MPH wind. (Tr. at 344; Ex. C-6.) The OSHA calculated heat index at 12:51 p.m. was 83.5° F. (Ex. C-6.)

Around 1:45 p.m.-2 p.m., Williams noticed the decedent stumble. (Exs. C-77 at 2.) At the time, Williams did not think that the stumble indicated anything serious, blaming it "on the rocks" and he said we "kind of laughed about it[.]" (Exs. C-77 at 2, R-113 at 55, 106-107.) The record then indicates that either Russell noticed the decedent stumble, or another worker brought it to Russell's attention, as Russell walked up to the crew. (Ex. C-77 at 2, R-113 at 55, 74; Tr. at 1546, 3384.) At 1:51 p.m., the weather conditions were the following: 84° F, 49% humidity, few clouds at 6,500 feet/scattered clouds at 9,500 feet/scattered clouds at 17,000 feet, and 11 MPH wind. (Ex. C-6.) The OSHA calculated heat index was 84.9° F at 1:51 p.m. (Ex. C-6.)

Russell Directs the Decedent to Take a Break

At that time, which according to Russell was "around 2 or 2:30 p.m.," Russell asked the decedent to get out of the trench to take a break. (Tr. at 1546.) He told Richie Rossman to replace the decedent on the duct bank crew. (Tr. at 3776-3777; Ex. C-92 at 1.) Russell testified that the decedent objected and wanted to return to work and said that he was fine. (Tr. at 1548-1549.) According to Russell, the decedent did not need assistance to get out of trench, did not look like he struggled to get out of the trench, and did not appear confused, incoherent or disoriented at that time. (Tr. at 3385-3386.)

[12] "The work of gluing PVC pipes together involves one individual putting primer and glue at the end of a pipe and another individual sliding or hitting the end of the pipe with a sledgehammer to ensure it is in place." (Jt Pre-Hr'g Submission at 22 ¶ 29.)

[13] The record suggests that Keith Crumpler was the decedent's partner gluing pipe because Richie Rossman, who replaced the decedent in the trench later that afternoon, stated that he "continued on" with Crumpler. (Tr. at 3776-3777, 3780-3781; Ex. C-92 at 1.) CO Carr wrote that Crumpler stated that he paid no attention to the decedent that day. (Ex. C-84 at 1.)

When asked why the stumbling prompted Russell to ask the decedent to get out of the trench at that time, Russell testified, "I just did, because he stumbled. And I thought just take, you know, take a break. Have some water. Because I had plenty of people that day." (Tr. at 1546-1547.) In his statement during the investigation, CO Carr wrote: "I knew it was his first day back after being off for a couple of months[,] the pipe is kind of heavy, I thought he just needed a break." (Ex. C-57 at 2.) CO Carr also noted that Russell stated: "I honestly thought that he was going to sit there for 20-30 minutes and then come back to work. He seemed OK. He did not report any other symptoms other than sweating profusely."[14] (Ex. C-57 at 7.)

Russell led the decedent to the back of a Wells Cargo trailer, which functioned as a tool storage shed and was about 40 feet from where the decedent was working. (Tr. at 1548-1549; C-61 at 1.) The trailer was not air-conditioned, but it opened completely in the back and had openings on the side. *See, ex.*, Exs. C-16 at 4 of 6, 5 of 6; R-37 at 69 of 91 (pictures of the Wells Cargo trailer). The decedent sat on the back of the trailer edge, which was shaded at the time, with his legs dangling over the edge. (Tr. at 203, 1540.) Russell stated that he stayed with him for about "a minute or two," watched him sip water, and talked with him. (Tr. at 1551.) Russell left to check on the other workers. (Tr. at 1552.)

Mahl's Observations

Brandon Mahl recalled that he thought he saw Russell walk the decedent over to the Wells Cargo trailer, though he could not remember specifically. (Tr. at 702.) Mahl said he went over to the trailer to gather some material, and wound up talking with the decedent.[15] (Tr. at 703-704.) He said that he knew the decedent from a previous job and asked how he was doing. (Tr. at 704.) The decedent then went to sit down on the edge of the trailer and Mahl then realized that the decedent was taking a break. (Tr. at 704.) Mahl testified that he then told the

[14] The employee statements were a source of considerable disagreement at the hearing, but were received into evidence as the notes that CO Carr wrote on the day of the inspection interviews. (Tr. at 148, 398, 873, 1475, 2134.) The wording within each of these interview notes is the source of the discord, depending on which words are being used within the statement. However, the undersigned finds that Russell's statements here regarding his state of mind at this time is consistent with Russell's actions at this time, his other testimony at the hearing, and was given closest in time to the actual event. *See also* footnote 25 *infra*. Russell's statements regarding what he was thinking at the time he removed the decedent from the trench are thus accorded some factual weight.

[15] In his statement, CO Carr wrote that Mahl stated that his crew and Russell's crew shared the Wells Cargo trailer for their tools. (Ex. C-61 at 1.)

decedent to go to the cab of a nearby "machine" because it was air-conditioned. (Tr. at 704.) When asked why Mahl recommended that the decedent go to the air-conditioned cab, Mahl responded "because it's cooler there." (Tr. at 705.) Mahl "briefly" watched the decedent walk toward the cab.[16] (Tr. at 3554-3555.) Fifteen minutes later, Mahl saw the decedent walk back past the Wells Cargo trailer from the direction of the cab – Mahl estimated that the decedent was in the air-conditioned cab for 10 minutes. (Tr. at 3555-3556; Ex. C-61 at 2.) Mahl met the decedent at that time "to talk to him. To see how he was doing." (Tr. at 3555.) To Mahl, at that time, the decedent did not seem disoriented, or confused, and he was not walking in a stumbling manner. (Tr. at 3556-3557.) The decedent continued on past Mahl, and Mahl testified that he assumed that the decedent was going back to work. (Tr. at 3558.)

Williams's Observations

Williams stated that, upon Russell's request, the decedent "ended up crawling up out the – getting up out the trench," but then clarified that the decedent was "…not really crawling, but like – he just – I don't even know how to explain it. Just put your foot up and hop up on out of there. Like I said, he's a taller guy; so it's easy to step up out of there when you're taller."[17] (Ex. R-113 at 75-76.) Williams testified that Russell told the decedent to go to the air-conditioned cab. (Exs. C-77 at 3, R-113 at 55-57.) He testified that 20-30 minutes later, around 2:20-2:30 p.m., Williams watched the decedent walk from the direction of the cab, which was about 200-300 feet from the Wells Cargo trailer, past Williams going north. (Ex. R-113 at 57-59; Tr. at 3552.) At that time, Williams asked the decedent, "Are you all right?" The decedent responded, "Yeah, I'm as good as it's going to get," and kept walking past Williams. (Exs. C-77 at 3; R-113 at 56.) According to Williams, at that point in time, the decedent looked "sluggish," but Williams "figured [the decedent] was alright." (R-113 at 57-58.)

---

[16] Mahl, Russell and Williams all testified that they assumed that the decedent went to the cab, however, none of them stated that they actually saw him go into the cab.

[17] The Secretary leans on the word "crawling" in an attempt to bolster his case that the decedent was exhibiting signs of heat illness at this time. (Sec'y Reply Br. at 26.) The undersigned notes that, while arguing that Respondent obfuscated facts, the Secretary at the same time quoted this "crawling" statement by Williams out of context. As a result, the Secretary's argument is based on an out-of-context statement as there is no evidence that the decedent crawled out of the trench in the sense that he needed assistance due to heat illness. Indeed, the only evidence in the record instructive at that point in time shows that the decedent did not need assistance in getting out of the trench or in walking over to the Wells Cargo trailer to take a break.

Kelley's Observations

Keenan Kelley stated that he watched Russell walk the decedent over to the Wells Cargo trailer. (Ex. C-85 at 3.) He stated that the decedent and Russell were "wisecracking" together as they walked, with Russell's hand on the decedent's back "like when wisecracking," and that when the decedent sat down, Kelley could tell that the decedent was tired. (Ex. C-85 at 3-4.) Kelley said that the decedent walked by him [Kelley] 20-30 minutes later.[18] (Ex. C-85 at 4.)

Russell Evacuates the Decedent

According to Russell, five to ten minutes after he left the decedent on the back of the Wells Cargo trailer, Russell came back to the trailer. (Tr. at 1552.) CO Carr wrote down that Russell stated during the subsequent OSHA investigation that he saw the decedent walking from the direction of the excavator cab, which he assumed that Mahl had suggested to the decedent due to Mahl's background in the Marines. (Ex. C-57 at 6.) Russell testified that he believes that in the 5-10 minutes he was gone, the decedent had gone to the air-conditioned cab. (Tr. at 1555.) Russell testified that the decedent was walking north next to the Wells Cargo trailer with his lunch box and other belongings as Russell was walking south toward him. (Tr. at 1553.)

As they approached each other, the decedent and Russell met next to an ATV. (Tr. at 1555.) The decedent then told Russell, "I can't bend anymore." (Tr. at 1555.) At that point, Russell called out to Soloman Redmond and Chris Inman to accompany them in the ATV to the 87th Street station, the exit from the worksite. (Tr. at 1556; *see also* Jt. Pre-Hr'g Submission at 22 ¶ 30.) Redmond testified that the decedent was "disorientated" when he assisted him into the ATV.[19] (Tr. at 640.) He testified that he meant that the decedent was "stumbling" and "woozy." (Tr. at 640.) Consistent with this testimony, CO Carr wrote in his statement during the investigation that Redmond described the decedent at the point of assisting him into the ATV as "discombobulated" and "dizzy," and that he "stumbled."[20] (Ex. C-76 at 3; Tr. at 640.) According to Redmond, the decedent was still making sense at this point in time. (Tr. at 633.)

---

[18] The other members of the duct bank crew that day, Burnside, Dammer, Crumpler, Kruk and Monahan, did not have any information about the timeline of events that afternoon.

[19] The record indicates that Redmond had limited interaction with the decedent that day until this specific point in time. (Tr. at 627-628; Ex. C-76 at 1-3.)

[20] Notably, CO Carr did not write the word "disorientated" in Redmond's statement. (Ex. C-76.) This is notable because the word "disorientate" is a source of dispute for another issue, Respondent's own incident report, discussed later in this decision.

The four of them, Russell, Redmond, Inman and the decedent, travelled approximately a minute to five minutes in the ATV to the 87th Street station. (Tr. at 634, 1557-1558.) When they arrived at the 87th Street station, Redmond and Inman helped the decedent up the 6 foot ladder to get to the first level platform. (Tr. at 129, 3399.) According to Redmond, the decedent could no longer walk on his own at that point, but he was still coherent. (Tr. at 634-635.) Russell followed them, after gathering the decedent's belongings from the ATV. (Tr. at 1558, 3399.)

Once they got up the ladder, the decedent, Redmond and Inman had two sets of stairs to ascend to make it to street level. (Tr. at 129.) Redmond and Inman helped the decedent up the first set of stairs, and the decedent was still coherent. (Tr. at 636.) However, while they were going up the second set of stairs, the decedent became incoherent. (Tr. at 636.) At that point, Redmond shouted out to Russell that the decedent was incoherent and to call 911. (Tr. at 638, 1559, 3399.) Russell called at that time, which was 3:03 p.m. (Tr. at 1559; Ex. C-33 at 2.) While Russell was on the phone, Redmond and Inman placed the decedent in a chair at the top of the stairs. (Tr. at 637-640, 1559-1560, Ex. C-57 at 3.) At that point, the decedent began to lose consciousness. (Tr. at 640.) The decedent slid out of the chair onto the floor. (Tr. at 637, 640.) Russell and Redmond testified that water was then poured on the decedent, wet towels and ice packs were placed on his chest, and he was fanned with 2 feet by 2 feet pieces of plywood. (Tr. at 637, 1561; Ex. C-57 at 3.) Last measured at 2:51 p.m., the weather conditions were the following: 84° F, 57% humidity, scattered clouds at 3,300 feet/scattered clouds at 9,500 feet/broken clouds at 25,000 feet, and 13 MPH wind. (Ex. C-6.) The OSHA calculated heat index was 86.7° F. (Ex. C-6.)

The emergency responders arrived at 3:16 p.m. (Ex. C-34.) The decedent was transported to the hospital and was admitted with a core temperature of 108.8°. (Ex. C-35 at 4.) He died the next evening on June 25, 2016. (Jt. Pre-Hr'g Submission at 22 ¶ 22; Ex. C-6 at 6.) The autopsy report states that the decedent's cause of death was heat stroke with a contributing factor of obesity. (Ex. C-35 at 5.)

OSHA Investigation

OSHA Compliance Officer Louise Carr, accompanied by Compliance Officer Brad Becker, was the lead investigator for this matter.[21] (Tr. at 58.) CO Carr and CO Becker arrived at the Aldridge yard on June 26, 2013 at about 10a.m. (Ex. C-3 at 14.) They showed their credentials and held an opening conference – the Aldridge officials present were Director of Safety O'Brien Mills, and Safety Engineers Edward Sandner and Todd Lowry. (Tr. at 87, 1327, 2144, 2231, 2291; Ex. C-3 at 2.) During the opening conference, CO Carr gathered facts associated with the events of the day in accordance with OSHA's enforcement guidance, also known as the Galassi memoranda, for heat related inspections.[22] (Tr. at 95-98, 139-140); *see generally* Exs. C-2 at 12-13; J-7, J-8, J-9 (CO Carr's Inspection Questionnaire and Galassi memoranda).

CO Carr and CO Becker then drove to the decedent's worksite at mile marker 71 along the Dan Ryan Expressway. (Tr. at 127.) The duct bank crew's current worksite had already "travelled" further north, and the pipes that the decedent had spotted and glued in the trench had been "filled in with cement precast." (Tr. at 127, 133; Exs. C-12, R-38.) As part of the investigation that day, CO Carr and CO Becker took pictures and a video of the conditions of the worksite, but did not take temperature measurements or distance measurements.[23] (Tr. at 127-129; Exs. C-12, R-38.) It had recently rained and the worksite had "notable mud and water" on it – no Aldridge workers were on the worksite that day. (Tr. at 127-128; Exs. C-12, R-38.) CO Carr stated on video that day that she would wait to take weather measurements of the worksite when the crew was there. (Tr. at 986-987; Ex. R-38.) Similarly, CO Carr did not take temperature measurements of the Wells Cargo trailer or of the air-conditioned cab on this day because they were both locked. (Tr. at 127.) CO Carr did not interview any other Aldridge

[21] Aldridge Director of Safety, O'Brien Mills, notified OSHA of the fatality approximately two hours after the decedent died. (Tr. at 83-83; Ex. C-3 at 6.) CO Becker responded to Mr. Mills's telephone call the next day and arranged for OSHA's investigation. (Tr. at 84.)

[22] These memoranda related to heat illness inspections were sent from Thomas Galassi, Director of OSHA's Directorate of Enforcement Programs, to OSHA's Regional Administrators in August 2011 (Ex. J-7), July 2012 (Ex. J-8), and April 2013 (Ex. J-9).

[23] CO Carr had brought along a wet bulb globe temperature device for the inspection, but left it in the car, and did not bring any measurement device to measure distance. (Tr. at 84, 128-129.)

workers that day. (Tr. at 128.) Additionally, no certified (or uncertified) weather data is in the record for this day (June 26).[24]

CO Carr returned to the worksite the next few days to conduct employee interviews. (Tr. at 141, 150.) According to CO Carr, she followed a procedure in which she conducted the employee interviews: she would verbally ask the employee what happened on that day and she would write down "the words that they are saying." (Tr. at 145-146.) She then gave them the statement and had the employee read each page and initial any changes "that are not correct or not in their words or perspective." (Tr. at 146.) Then, she would have them sign and date the statement. (Tr. at 146.) In this case, however, none of the employees signed the statements. CO Carr interviewed the following workers: Sean Russell (Ex. C-57), Daniel Horrell (Ex. C-58), Todd Lowry (Ex. C-60), Brandon Mahl (Ex. C-61), Solomon Redmond (Ex. C-76), Edward Williams (Ex. C-77), Calvin Burnside (Ex. C-78), Michael Monahan (Ex. C-81), Mike Dammer (Ex. C-82), Mark Kruk (Ex. C-83), Keith Crumpler (Ex. C-84), Keenan Kelley (Ex. C-85), Tyrone Long (Ex. C-86), and Richard Rossman (Ex. C-92).[25]

---

[24] After documenting the worksite with regard to Aldridge, CO Becker opened up another investigation of another employer involving a separate matter on the worksite. (Tr. at 128.) CO Carr accompanied CO Becker for that investigation. (*Id*.)

[25] Respondent objected to the admission of all of these statements on the bases that they were not in the employees' handwriting and that they are unsigned. (Tr. at 145-146, 225, 365-366, 393-394, 611-613, 872-873, 1474, 1655-1656, 3796-3797, 3841.) Both parties had the opportunity to brief the matter. *See* Respondent's Brief Requesting Exclusion of Hearsay Evidence filed Feb. 6, 2015; Secretary's Memorandum of Law on the Application of Rule 801(d)(2)(D) to Employee Statements filed Feb. 6, 2015. The statements were all admitted as the notes that CO Carr took during the interviews under Federal Rules of Evidence 801(d)(2) and 803(6). (Tr. at 148, 229, 371, 398, 873, 1474-1475, 1654-1655, 2134-2135, 3797, 3842; Fed. R. Evid. 801(d)(2)(*Statements that Are Not Hearsay: An Opposing Party's Statement*); 803(6)(*Exceptions to the Rule Against Hearsay – Regardless of Whether the Declarant is Available as a Witness: Records of a Regularly Conducted Activity*); *see also Beta Constr. Co.*, 16 BNA OSHC 1435, 1441-1442 (No. 91-102, 1993) (noting that out-of-court, contemporaneous statements made by the employee to the OSHA compliance officer during the OSHA investigation are admissible).

However, according to Respondent, these statements are unreliable and open to interpretation, and deserve no weight. (Resp't Br. at 131-133.) The undersigned agrees that the statements should be weighed after determining their reliability. *Beta Constr. Co.*, 16 BNA OSHC at 1442 (holding that while admissible, the out-of-court, contemporaneous statements made by the employee to the OSHA compliance officer during the OSHA investigation "should be given weight only to the extent they are reliable."). The source of unreliability of these statements lies in the words that are considered terms of art in this case. Some terms of art include: "sunny," "disoriented," "stumble," "hot," "strenuous," "moderate," and "acclimatization." The reason

CO Carr returned to the decedent's worksite on July 17 & 18 to conduct work site monitoring.[26] (Tr. at 150.) Although no certified weather data is in the record to verify the weather on July 17 or July 18, CO Carr agreed that the weather conditions on July 17 & 18 were "markedly hotter" and "markedly different" than on June 24. (Tr. at 211, 1187.) Indeed, CO Carr later learned that a heat advisory had been issued for those days, whereas no heat advisory had been issued for June 24.[27] (Tr. at 1187-1188, 1193.) CO Carr took wet bulb globe temperature (WBGT)[28] measurements on the Aldridge worksite at mile marker "in the 200s" –

---

why these words are terms of art for this case is the following: these words are used by the Secretary to establish an aspect of heat illness caused by excessive heat – the crux of this case – whether it be the development of heat illness, its symptoms, recognition, or the abatement of it.

For example, regarding the word "sunny," the Secretary would have the evidence support a finding of direct sunshine on the decedent's worksite on June 24, 2013 to show that the heat index should be adjusted such that Aldridge would be accountable for a higher level of awareness and precaution regarding heat illness. However, it is the Secretary's burden to correlate what someone's definition of "sunny" is to the certified weather data, which is the most reliable evidence in this record. Here, the word "sunny," as well as other terms of art, in a worker's unsigned, uncorroborated statement is subject to questions of vagueness, ambiguity, and incredibility. Indeed, Russell testified at the hearing that the words "strenuous" and "inclement weather" written in his statement are not in his vocabulary and therefore he could not have said them. (Tr. at 3402.) The undersigned is mindful of the potential situation in which the employee may have used a word differently, if he said it at all, when giving his statement to CO Carr than the term of art that the Secretary needs in order to establish an aspect of heat illness caused by excessive heat for this case.

Therefore, for instances like words that are subject to interpretation, the undersigned relies on testimony in the record to corroborate the use of the word in the unsigned statement, and disregards any wording that is not corroborated by testimony. Additionally, as already noted (*see* Russell's mindset at the time he removed the decedent from the trench), there are some instances in which a portion of the statement does not include a term of art, was not questioned at the hearing, or is corroborated by other evidence in the record. Those instances, as noted herein, are accorded some factual weight.

[26] CO Carr testified that she visited the Aldridge worksite a total of 8 times for this inspection. (Tr. at 1049.)

[27] When asked whether she checked before she went out to the decedent's worksite on July 17 and July 18 to see whether there was a heat advisory, CO Carr testified, "I don't particularly look for heat advisory, no." (Tr. at 1193, 1248-1249.)

[28] According to the Secretary, "[t]he WBGT is an index that considers the dry bulb temperature, the wet bulb temperature (humidity) as well as the radiant heat." (Sec'y Br. at 32.) A direct WBGT must be measured using a specific device in a proper manner. As CO Carr explained, a WBGT reading requires a specialized piece of equipment that must first be calibrated for approximately 10 minutes before obtaining an accurate measurement. (Tr. at 4564.)

inside and outside the same Wells Cargo trailer on which the decedent sat on June 24. (Tr. at 151, 199-216; Exs. C-3 at 19-20, C-16 at 4-6.) Based on this testing on July 17 & 18, CO Carr testified that she believed that where the decedent sat in the Wells Cargo trailer on June 24 was hotter than the outside temperature on June 24, and therefore was an inappropriate cooling location for the decedent on June 24. (Tr. at 216-217.)

As a result of CO Carr's inspection, OSHA issued Aldridge a citation alleging that it violated the general duty clause. Mark Knezovich, the OSHA reviewing official who recommended to the regional enforcement programs supervision to issue this citation, testified that he relied on portions of a NIOSH publication, "Occupational Exposure to Hot Environments," Revised Criteria 1986 (1986 NIOSH Criteria) in his review. (Tr. at 1681, 1806-1815); *see also* Ex. C-48 at 12, 46-47, 66-67, 77-80, 116.

In the citation, OSHA alleged the following:

> On or about June 24, 2013, located at the Chicago Transit Authority (CTA) Dan Ryan Red Line Track Removal site in Chicago, Illinois, workers were exposed to the hazardous conditions of excessive heat during the performance of their duties, which included installing a 4 inch 1 cell underground mainline electrical duct package under non-shaded conditions. The maximum NOAA Heat Index was 87.8 degrees Fahrenheit between the hours of 11:51 a.m. and 3:51 p.m. Heat Index values are devised for shady, light wind conditions and it has been noted that exposure to full sunshine can increase Heat Index values by up to 15 degrees Fahrenheit. Such exposures may lead to the development of serious heat-related illnesses such as heat exhaustion and heat stroke, especially for un-acclimatized workers. The employer's heat-related illness prevention efforts lacked acclimatization procedures to ensure that new employees were gradually introduced to the full working conditions (workload and duration) at the job site. In addition, a formal work/rest schedule based on environmental measurements such as temperature and relative humidity was not implemented for the work site. On June 24, 2013, a newly rehired employee was engaged in work involving the

---

As Mr. John Dobby testified, the WBGT can also be calculated using a computer program created by "a group of people in Argonne National Laboratory" in Lemont, Illinois. (Tr. at 4299-4300; Ex. R-51.) The calculations in this case are based on not only NOAA's certified data (taken at Midway airport) but also on solar irradiance data taken by Argonne National Laboratory (which was 18 miles from the worksite and taken at a 9 minute difference from NOAA's measurement taken at Midway airport). (Tr. at 4360.) Mr. Dobby used the computer program, provided to him by Argonne National Laboratory, and the solar irradiance data that was posted on Argonne National Laboratory's website, to perform WBGT calculations for this case. (Tr. at 4301-4302, 4312-4315; Ex. R-53 at 7-14.) No one from Argonne National Laboratory testified to the computer program, Mr. Dobby's use of it, or the solar irradiance data Mr. Dobby used. There is also no evidence of certification of Argonne's solar irradiance data in the record.

> lifting, carrying and installation of 20 foot long, 3 inch diameter polyvinyl chloride (PVC) pipes. This employee began displaying symptoms of severe heat-related illness during the employee[']s first day on the project. The employee later collapsed and emergency medical services were summoned. The employee later died on June 25, 2013 as a result of heat stroke.[29]

(Ex. C-1 at 5.)

In the citation, the Secretary proposed the following measures as feasible and acceptable methods to abate this hazard:

> 1) Implement a heat acclimatization program for new employees or employees returning to work from absences of three or more days.
>
> 2) Implement a formalized work/rest regiment based on environmental working conditions.
>
> 3) Develop and implement detailed guidelines for removal of employees from hazardous conditions through worksite monitoring when employees are exhibiting signs and symptoms of heat-related illnesses.
>
> 4) Provide cool, climate-controlled areas where employees can recover when signs of heat-related illnesses are recognized.
>
> 5) Ensure employees and supervisors understand the signs, symptoms, and prevention of heat-related illnesses and disorders, such as, heat rash, heat cramps, heat syncope, dehydration, heat exhaustion, and heat stroke.
>
> 6) Provide employees with information on certain medical conditions and medications that may increase the risk of developing heat-related illness. Advise employees to consult with their doctors or pharmacist if they have questions about whether they are at increased risk of heat-related illnesses because of health conditions that have and/or medications they take.
>
> 7) Track weather conditions at the job site that may increase the risk of developing heat-related illness including parameters such as dry bulb temperature, wet bulb temperature, globe thermometer temperature, relative humidity, and wind speed.

(Ex. C-1 at 5-6.)

Respondent raised a multitude of affirmative defenses, including: (1) the proposed abatement measures would require Aldridge to unlawfully discriminate based on numerous protected characteristics including disability, age, and sex; (2) the Secretary has unlawfully

[29] The Secretary has since stipulated that, "[the decedent] died as a result of heat stroke with a contributing factor to the death being obesity." (Jt. Pre-Hr'g Submission at 22-23 ¶ 33.)

included a protected characteristic (disability) to determine the hazard in this case; (3) the proposed abatement measures would cause Aldridge to violate the National Labor Relations Act; (4) the Secretary's interpretation is arbitrary and capricious because (a) the Secretary relies on the ACGIH-TLV's and the 1986 NIOSH criteria instead of OSHA's own guidance and memoranda, (b) the Secretary has misread or misinterpreted or cherry-picked from the ACGIH-TLV's and the 1986 NIOSH criteria, and (c) the Secretary's interpretation directly conflicts with California's and Washington's state heat illness regulations; and (5) the Secretary's allegations that Aldridge had a deficient training program fall under specific training standards, not the general duty clause. (Resp't Br. at 107-123.) As this citation is vacated based on a failure of proof, for the reasons that follow, it is unnecessary for the undersigned to address these defenses.

Secretary's Request for Sanctions

Aldridge also conducted an internal investigation of the incident. Aldridge Director of Safety O'Brien Mills investigated the incident, and Safety Engineer Todd Lowry wrote up the initial incident report based on this investigation on June 25, the day after the decedent was taken to the hospital and *before* he passed away. (Tr. at 859-860, 864, 4483-4486; Ex. J-6.) Mills, who did not see the decedent on June 24, interviewed those who witnessed the incident. (Tr. at 4495-4496.) Mills then verbally reported their information to Lowry; the only written documentation was by Lowry. (Tr. at 4486-4487.) According to Mr. Lowry, the initial report was part of an Aldridge protocol for an incident: "within 24 hours of an incident, we have to fill out a report to notify, to send, it gets sent to the executive committee so everybody's aware of an incident or issue that we have." (Tr. at 864.) According to Mills, this initial report was altered by adding the additional administrative documentation he signed/submitted at the beginning of the workday. (Tr. at 2689-2690; Ex. J-6 at 5-27.)

According to Mills, the June 25 report was sent to Aldridge's risk manager, John Sewicke, who sent it to Travelers insurance. (Tr. at 4395.) Portions of the June 25 report were then changed by Aldridge based on further employee interviews "a few days later." (Tr. at 4392, 4397-4398, 4488.) This later report was provided to the Secretary during discovery; the June 25 report, provided to Travelers Insurance, was not provided to the Secretary during discovery. (Exs. C-93, R-105, R-111.) The Secretary discovered the different version of Aldridge's incident report during the March 20, 2015 deposition of Dr. Conibear, who relied on the initial

June 25 report for her own report.[30] (Tr. at 4146.) Because Respondent did not provide this earlier version of the report during discovery, the Secretary requests sanctions. (Sec'y Br. at 82-85; Sec'y Reply Br. at 57-59; Tr. at 4146-4147, 4387-4390, 4476-4479.) The Secretary claims that he was prejudiced because, had he received this initial report during discovery, he "could have conducted more informed depositions and better prepared for hearing." (Sec'y Br. at 83.)

The differences in Aldridge's two incident reports are: (1) in the report relied on by Dr. Conibear, the worksite had two 5-gallon water jugs on the worksite, rather than one 5-gallon water jug, (2) in the report relied on by Dr. Conibear, the narrative states that the "foreman of the signal crew" directed the decedent to go to the air-conditioned cab, rather than just the "foreman," and (3) in the report relied on by Dr. Conibear, the decedent is described as "disorientated" instead of "stumbling" before and at the time Russell removed him from the trench and made him take a break at the Wells Cargo trailer. (Tr. at 4145-4146, 4490, 4492; Exs. J-6, C-39, C-93, R-105, R-111.)

Respondent claims that the Court should not impose sanctions on this matter. (Resp't Reply Br. at 55-57.) Respondent claims that the document at issue was "a draft investigative document that was hastily prepared before Aldridge was able to interview all employees and obtain all relevant information." (Resp't Reply Br. at 55.) Respondent states that the differences between the two reports are due to preliminary assumptions made during an "incomplete" and hasty" initial investigation on the part of Mills, who did not witness the incident and had to rely on others to supply information, that were later corrected based on employee interviews. (Resp't Br. at 52 n.30; Resp't Reply Br. at 56; Tr. at 4480-4482.) Respondent also states that Respondent's counsel honestly did not know about the June 25 version of the Aldridge incident report until Dr. Conibear's March 20, 2015 deposition. (Tr. at 4148-4150.)

The undersigned finds that the differences between the reports are minimal and that the record supports Respondent's claim that the document at issue was a draft investigative document based on an incomplete and hasty investigation. With regard to the timeline, Mills

[30] This deposition, taken in the middle of this 18-day hearing, was agreed to by both parties as a way to cure any potential prejudice on the part of the Secretary for another matter, Dr. Conibear's two versions of reports. *See* Order on Secretary of Labor's Motion to Strike Respondent's Expert Report and Preclude Respondent's Expert From Testifying Regarding Facts Gathered After January 9, 2014 (April 23, 2015); Errata Order (April 24, 2015). Neither party chose to depose the experts before the hearing began.

explained that he was not on the worksite during the incident, that he used the term "disorientated" after initial interviews with those that were on the worksite, and that no other workers used that term when he interviewed them.[31] (Tr. at 4383, 4400.) Mills testified that he changed the word "disorientated" to "stumbled" upon further interviews after a few days passed: it was his belief that the guys might have been "shooken up" during the initial interviews because the decedent was in the hospital and they were "very close" with him. (Tr. at 4392.) Mills wanted to send the "preliminary report" out immediately, and then followed up with those "most likely to know the most" a few days later. (Tr. at 4392.)

Both parties agree that being disoriented or stumbling are potential signs of heat illness, therefore both reports put the Secretary on notice to explore this issue. Mills later explained that the earlier report was sent to an insurance company, which sent it to Dr. Conibear for insurance purposes, not for this subject litigation. (Tr. at 4385, 4395-4397.) The undersigned accepts this explanation. Furthermore, based on this explanation, the undersigned finds that the June 25 report was later edited, and accepts that Respondent's employees did not consider the previous version as another "document" to provide.

Additionally, the Secretary had the opportunity to cure any prejudice during the hearing – Lowry, Sandner, and Mills all testified during this 18-day hearing. However, the Secretary does not even acknowledge that he was given an opportunity during this hearing to question these witnesses, and Dr. Conibear, over this document. In fact, the Secretary did have the opportunity to question these witnesses after he became aware of the initial version of the report, curing any potential prejudice. (Tr. at 3270-3309 (Sandner), 4145-4177 (Conibear), 4390-4400 (Mills), 4491-4496 (Lowry).) The Secretary also had the opportunity to depose Dr. Conibear before the hearing began, but chose not to take advantage of that opportunity.

---

[31] As discussed above, Solomon Redmond testified at the hearing that the decedent was "disorientated" when he assisted him into the ATV. (Tr. at 640.) He testified that he meant that the decedent was "stumbling" and "woozy." (Tr. at 640.) Consistent with this testimony, CO Carr wrote in his statement during her investigation that Redmond described the decedent at the point of assisting him into the ATV as "discombobulated" and "dizzy," and that he "stumbled." (Ex. C-76 at 3; Tr. at 640.) Redmond, also, had limited interaction with the decedent that day until he assisted him into the ATV. (Tr. at 627-628; Ex. C-76 at 1-3.) As noted above, CO Carr did not write the word "disorientated" in Redmond's statement, and there is no evidence that Redmond used the word "disorientated" during Mills's investigation. (Ex. C-76.) The undersigned therefore finds that Redmond's testimony is not inconsistent with Mills's testimony here.

Accordingly, the undersigned denies the Secretary's request for sanctions for this issue.

Heat Documents

Several documents in the record are at play in this case, all of which provide guidance on working in the heat, but none of these documents is a mandatory document that Aldridge must follow akin to an OSHA regulation. Notable documents, among others in the record, include: OSHA's "Using the Heat Index: A Guide for Employers" (OSHA Guidance), the American Conference of Government Industrial Hygienists – Threshold Limit Values (ACGIH-TLV) screening chart, NOAA's National Weather Service Heat Index System, OSHA's "heat app" for mobile devices, "Occupational Exposure to Hot Environments," Revised Criteria 1986 (1986 NIOSH Criteria), OSHA's Galassi memoranda, California's state heat plan[32], and the heat portions of Aldridge's own Safety Management Plan. *See* Exs. J-1 (Aldridge Safety Management Plan), J-7 (Galassi Memo August 2011), J-8 (Galassi Memo July 2012), J-9 (Galassi Memo April 2013), J-10 (OSHA Guidance), C-45 (2011 ACGIH TLVs and BEIs), C-46 (2013 ACGIH TLVs and BEIs), C-47 (2014 ACGIH TLVs and BEIs), C-48 (NIOSH criteria), C-87 (California Heat Illness Prevention Plan), R-77 (OSHA heat app).

The OSHA Guidance explicitly sets forth the following disclaimer:

> This guidance is advisory in nature and informational in content. It is not a standard or regulation, and it neither creates new legal obligations nor alters existing obligations created by OSHA standards or the Occupational Safety and Health Act. Pursuant to the OSH Act, employers must comply with safety and health standards and regulations issued and enforced either by OSHA or by an OSHA-approved State Plan. In addition, the Act's General Duty Clause, Section 5(a)(1), requires employers to provide their employees with a workplace free from recognized hazards likely to cause death or serious physical harm.

(Ex. J-10 at 2.) Additionally, the Commission has hesitated using NIOSH and ACGIH documents as a basis for establishing a hazard in a heat case. *Indus. Glass*, 15 BNA OSHC 1594, 1603-1603 n.10 (No. 88-0348, 1992) (regarding publications by ACGIH, NIOSH and American Industrial Hygiene Association).

[32] Aldridge Electric developed a heat program for a drilling project in Calexico, California before the decedent died. (Tr. at 2682; Ex. C-88.) Aldridge adopted that program, changed the logo on the worker monitoring log, and with no other substantive changes, used it for the Dan Ryan Red Line Project in Chicago, Illinois. (Tr. at 2682-2683); *see* Ex. C-88 at 28 (Aldridge Construction logo) and Ex. J-1 at 148 (Aldridge logo).

Expert Witnesses

Dr. Jeffrey L. Levin, M.D., M.S.P.H., testified as an expert witness for the Secretary. *See generally* Ex. C-43. Dr. Levin received a Doctor of Medicine degree from The University of Texas Medical School San Antonio in 1983 and a Master of Public Health degree from The University of Kentucky Lexington in 1988. (Tr. 2752-2753; Ex. C-43 at 1.) He specializes in occupational medicine, which "looks at work place disease, injury, and illness, all along the continuum of prevention." (Tr. at 2754.) Dr. Levin is presently on the faculty of The University of Texas Health Science Center at Tyler. (Tr. at 2752-2753).

In addition to teaching and speaking to outside groups about heat and heat related injuries and illnesses, he has clinical experience regarding the prevention of heat stroke in the occupational setting by seeing "clients or individuals who come through [his clinic] for various kinds of work related examinations." (Tr. at 2758-2760.) With regard to the prevention of heat stroke, for example, he described how he has incorporated that into his assessments:

> [W]hen I see, I'll refer to them as patients, but clients or individuals who come through for various kinds of work related examinations, I'm also considering what their potential risk factors might be in the work setting, in order to make certain that there's a good match between their physiologic makeup and their ability to carry out the work. And so that includes fairly quickly an analysis of what kinds of exposures they might have in [] those jobs. So very often I'll have the job description in front of me in order to do that.

(Tr. at 2758-2759.) Dr. Levin has spent his entire career at the University "except for the time [he was] getting [his] degrees." (Tr. at 2963.)

Dr. Levin was qualified at the hearing as an expert in the following: heat related injuries and illnesses in an occupational setting, particularly related to exposure to environmental and metabolic heat; identifying heat related hazards; and prevention of heat related injuries and illnesses for outdoor workers. (Tr. at 2792-2793.)

Dr. Levin testified that it was his opinion that the decedent suffered from the hazard of "extreme heat" based on a combination of (1) ambient heat, (2) the decedent's metabolic heat, and (3) the decedent's ability to dissipate heat, brought on by the weather and working conditions on the Aldridge worksite on June 24, 2013. (Tr. at 2795, 2821, 2873.) He also testified that Aldridge did not sufficiently mitigate this hazard on June 24, 2013. (Tr. at 2795,

2893-2895.) Dr. Levin relied on the ACGIH-TLV to develop his opinions.[33] (Tr. at 2823-2824.) Dr. Levin has never evaluated a worker to determine whether the worker "was or was not suffering from a heat related illness." (Tr. at 2963-2964.) Dr. Levin agreed that, in the area of heat illness, medicine is not an exact science. (Tr. at 2968.) He further agreed that physicians could reach different conclusions given the same facts and circumstances of a heat illness case. (Tr. at 2968.) He even further agreed that first responders evaluating an employee for heat illness could reach different conclusions based upon what they each saw in that particular employee. (Tr. at 2968.)

Dr. Shirley A. Conibear, M.D., M.P.H, testified as an expert witness for Respondent. *See generally* Ex. R-12 at 8-17. Dr. Conibear received a Doctor of Medicine degree from The University of Illinois College of Medicine Chicago in 1973, and a Master of Public Health degree from The University of Illinois School of Public Health Chicago in 1976. (Tr. at 3848, 3852-3853; Ex. R-12 at 8.) She specializes in occupational medicine, a "sub-specialty of preventative medicine." (Tr. at 3849-3850.)

Dr. Conibear is the president and senior physician for OMS (Occupational Medicine Specialist), Ltd., an organization that primarily provides "regulatory driven" exams like immigration exams, pilot exams, and DOT exams, and "fitness for duty exams." (Tr. at 3862-3863, 3866.) Examples of workers that Dr. Conibear evaluates with regard to heat illness include hazardous material workers who must wear impermeable suits in summer at a work site that is not air conditioned, and those workers who had previously suffered a heat illness and "the company wants to know if it's safe for them and whether they need any accommodation; if they need accommodations, what those are." (Tr. at 3865-3866.)

Dr. Conibear is also the president and senior scientist of Carnow Conibear Associates, Ltd., an environmental engineering and industrial hygiene firm, which "interacts closely with the OMS." (Tr. at 3863-3864.) For example, Dr. Conibear utilizes an industrial hygienist of Carnow Conibear Associates, Ltd., who provides data of a specific work environment for her to assess whether there is a particular hazard in a work environment for a worker. (Tr. at 3867.) Dr. Conibear's evaluations are "typically" for worker's compensation insurers, with some

[33] Multiple versions, ranging from 2009-2014, of the ACGIH-TLV are in the record. (Tr. at 2824; Exs. C-45, C-46, C-47, C-91.) Dr. Levin testified that, for purposes of his report and this hearing, the portions of the ACGIH documentation that he relied on remained the same through the years. (Tr. at 2824-2825.)

claimant's work including black lung claims, to amount to 90 percent defense work and 10 percent plaintiff work. (Tr. at 3913.)

Dr. Conibear was qualified at the hearing as an expert in the following: occupational medicine, heat illness and prevention, general METS analysis, and medical issues related to acclimatization. (Tr. at 3929-3930.) Dr. Conibear testified that the cause of the decedent's death related to both ambient conditions and his metabolic heat. (Tr. at 4008.) Dr. Conibear testified that distinguishing heat illness symptoms is difficult even in a clinical setting. (Tr. at 4006.) She also testified that Aldridge was acclimatizing the decedent on June 24. (Tr. at 3976.)

John M. Dobby, CIH, CSP, also testified as an expert witness for Respondent. *See generally* Ex. R-53 at 40. Mr. Dobby is currently the Director of Occupational Health and Safety Consulting Services at Carnow Conibear Associates, the organization led by Dr. Conibear. (Tr. at 4262.) Mr. Dobby has an undergraduate degree from Benedictine College in Atchison, Kansas, double majoring in physics and philosophy. (Tr. at 4245-4246; Ex. R-53 at 40.) He has been an industrial hygienist for over 30 years, 11 of which were at Carnow Conibear Associates (in two stints). (Tr. at 4244, 4249.) Mr. Dobby was qualified at the hearing as an expert in the following: occupational safety, industrial hygiene, and heat stress monitoring to include WBGT calculations.[34] (Tr. at 4275.) Mr. Dobby began working on this case initially as part of a workmen's compensation claim. (Tr. at 4299.)

Aldridge Heat Program and Acclimatization on the Decedent's Worksite

The parties stipulated to many facts, as noted above, regarding Aldridge's safety program in place before June 24 and on June 24. Notably, Aldridge had a Heat Illness Prevention Plan and trained the employees working on the Dan Ryan Red Line Project on the contents of the Heat Illness Prevention Plan. Aldridge had a PowerPoint presentation that referenced acclimatization. Aldridge's Heat Illness Prevention Plan contained a warning to employees that employees working in high heat conditions may be at risk for heat stress, which could result in heat rash, heat cramps, heat exhaustion and heat stroke. Aldridge's Heat Illness Prevention Plan also discussed acclimatization and warned workers of hot weather conditions who are not acclimatized, have been on a leisurely vacation or had an extended illness. Aldridge's Heat Illness Prevention Plan also stated acclimatization activities are essential for "new workers,

[34] Mr. Dobby was not qualified at the hearing as an expert in taking WBGT measurements outdoors. (Tr. at 4275.)

workers who have been out sick or on vacation, and all workers during a heat wave." Aldridge's Heat Illness Prevention Plan discussed a "workrest regimen." Additionally, employees at the worksite are permitted to take as many rest breaks as they want. (Jt. Pre-Hr'g Submission at 21-22 ¶¶ 3, 16-23.)

The parties also stipulated to the following that occurred on June 24: The decedent attended a new hire orientation and safety training given by representatives of Aldridge Electric, Inc. from approximately 8:00 a.m. to approximately 9:30 a.m. Heat illness prevention and acclimatization of workers were topics discussed during that safety orientation. (Jt. Pre-Hr'g Submission at 20-22 ¶¶ 14-15.)

Williams, who attended the orientation and training with the decedent and two others on the morning of June 24, corroborated all of the above stipulations. (Exs. C-77 at 1-3, R-113 at 14-38.) Williams also was not new to construction; he stated that he did not ask any questions at the training because "I knew what was going on. It was just – you know, I had been gone for a while, but I knew what my job was." (Ex. R-113 at 33-34.) He stated that the decedent also did not ask questions during the orientation because, "I think everybody there, they had been working before. It wasn't our first time, like, working. It might have been the first time working for Aldridge, but not the first time working in the construction field[.]" (Ex. R-113 at 34.) According to Williams, nobody asked him that day how long it had been since he last worked. (Ex. R-113 at 34.)

Aldridge's safety program included heat illness training and heat illness awareness on the worksite. The heat illness training was included in a slide-show safety presentation, covering many different safety topics, on the first day of the job. According to Lowry, who presented the training, the decedent paid attention to his presentation on the morning of June 24. (Tr. at 2328; Ex. J-2.) Periodically, heat illness was a topic during the morning "show up" meeting, "if there was a potential for high heat that day[.]" (Tr. at 2248-2249.) Additionally, supervisors were trained in Red Cross First Aid, which includes the topic of heat illness. (Tr. at 2150, 2235, 2599, 3341, 3348, 3532-3533; Ex. R-17 at 95.) The heat illness awareness on the worksite included a work/rest regimen once the global temperature reached 91° F. (Tr. at 657-680, 802-804.) On those days, Aldridge maintained a written work/rest log which recorded the breaks that workers took: during these breaks, workers drank water and rested in the shade. *See* Tr. at 248, 660, 2262-2263; Ex. J-1 at 148, C-20 (video from July 17 & 18 showing workers taking a break

during a heat advisory day- albeit post June 24.)[35] Additionally, Aldridge's safety program included a "buddy rule": workers were trained to be aware of safety issues including heat illness symptoms, either for themselves or of the other person, and to report anything amiss to a supervisor. (Tr. at 1054, 1537-1538, 2202-2204, 2268, 2470, 2541-2542, 3313, 3354-3355, 3530, 3632, 3730, 3759, 3771, 3819-3820.) Workers were not necessarily assigned to a specific buddy, due to the nature of the dynamics of a construction project, but they were all expected to look out for each other. (Tr. at 2484-2485, 3821.) Also, the Aldridge worksite had adequate drinking water onsite. (Tr. at 406.)

Aldridge's Heat Illness Prevention Program document is extensive, complicated, and taken from multiple sources including NIOSH, AIHA, and California, without reconciling the inherent inconsistencies, however minor, between the sources. (Ex. J-1 at 124-148.) The slideshow orientation contains 33 slides related to heat, with similar complicated information, and Lowry testified that when he presents the information to the new hires, Aldridge uses the technical information as a reference. (Ex. J-2 at 102-134; Tr. at 787, 2421-2422.) The record establishes that Aldridge considered the technicalities within the Heat Illness Prevention document for reference purposes, and not as a document it must follow to the letter. Indeed, Superintendent Horrell's testimony, as discussed below, supports a determination that Aldridge may have had the documentation in place, but in practice, he followed his own heat program.

Superintendent Daniel Horrell was in charge of acclimatizing new workers. (Tr. at 1437.) It is noted that Daniel Horrell's testimony reflects a less than enthusiastic attitude toward Aldridge's heat illness prevention program. He testified that he was trained in it but is "unfortunately" responsible for implementing it. (Tr. at 1434.) When asked, "Do you follow the program or do you follow your own program," he testified that "I wouldn't say follow my own program, but I follow my own program." (Tr. at 1412.) His role was to assign the work to non-acclimatized workers, but the foreman (*i.e.*, Russell) had the responsibility to authorize longer rest periods. (Tr. at 1464.) With regard to acclimatization, he called it "getting the butterflies out." (Tr. at 1435.) He explained that, "when you're first on the job you're a little bit nervous.

[35] The record indicates that the temperature did not reach 91 degrees before June 24th in 2013. Although the record shows that supervisors could have implemented a formal work/rest regimen even if the temperature did not reach 91 degrees due to humidity or workload, Russell testified that he had not filled out that form before June 24, 2013. (Tr. at 1634-1636, 2251-2252, 2264-2265, 2394-2395; Ex. J-1 at 148.)

You know, you want to do a good job. You want to show everybody you know what you're doing. And I put guys in positions where they can do that, to where they just get the butterflies out." (Tr. at 3624.) He staffs new workers on already heavy crews: the bigger the crew, the more camaraderie, the more joking. (Tr. at 3625.) He also stated that he puts the new workers "on the easier crews and they're extra guys." (Tr. at 1466.) This crew is typically the duct bank crew. (Tr. at 3625.) He likened working as an extra on this easier crew as "50 percent of the normal work load." (Tr. at 1466.) He stated that new hires get "five easy days" when they first start on the duct bank crew. (Tr. at 1467.) He stated that duct bank crew on June 24 was already fully staffed in the morning, because "I don't want a crew light for four or five hours waiting for [the new guys] to come out [of orientation.] So I just filter them into the show." (Tr. at 3625-3626.) He also stated that he staffs crews a week out at a time. (Tr. at 3636-3637.) He testified that he expected his trained workers to know when and how they needed to acclimatize after an extended absence. (Tr. at 1467-1468.)

Aldridge also implemented the "Green Hard Hat Program," which applied to all new employees and those who had been away for two years or more. (Ex. J-1 at 95.) The purpose of the program was to alert supervisors and fellow workers of the new people on the construction site, *i.e.*, those who were wearing a green hard hat, so that they could pay special attention to these "employees in training." (Ex. J-1 at 95.) Aldridge designed the program with safety in mind. (Ex. J-1 at 95.) Workers "graduated" from the program in eight weeks, after they had received the necessary training and after they had been evaluated three times by management. (Ex. J-1 at 95-96.) The goal of the program was to ensure that the new worker was trained to be a "safe and productive worker." (Ex. J-1 at 95.) Both Williams and the decedent were issued and wore green hard hats on June 24 and were considered part of the green hard hat program that day.

The record suggests that, although the Green Hard Hat Program and buddy program were well known among the Aldridge crew, Aldridge did not initially equate them as a specific form of acclimatization for heat, until later on in these proceedings. For example, CO Carr did not write down the Green Hard Hat Program as a response to any of her questions regarding acclimatization during her investigation. Even though she learned of the Green Hard Hat program during the investigation on the day Russell was interviewed, she testified, "in no way was it connected to heat or acclimatization at any point in time during the entire inspection."

(Tr. at 90-91, 427.) She testified that the first time she heard about the Green Hard Hat Program as a part of acclimatization was during "depositions." (Tr. at 1302.) She further testified that she had no evidence that the Green Hard Hat Program applied to those who had taken an extended absence, like a leisurely vacation. (Tr. at 433.) However, CO Carr agreed that she did not specifically ask during the interviews whether the Green Hard Hat Program was a form of acclimatization. (Tr. at 1061.) Furthermore, Aldridge's safety orientation presentation, which the decedent sat through, states: "Acclimatization: Employees working in a hot environment in which they have never been exposed will need to be acclimated slowly to the changing conditions. As such, new employees shall be closely monitored for the first two weeks of employment." (Ex. J-2 at 107.) The undersigned notes that this statement, while incorporated into a reference document, is consistent with Aldridge's Green Hard Hat Program.

At the hearing, Aldridge Safety Engineer Todd Lowry testified that he considered the Green Hard Hat Program as a form of acclimatization, although he agreed that there is no mention of acclimatization within the Green Hard Hat Program document. (Tr. at 825-826.) Aldridge Safety Engineer Edward Sandner also considered the assignment as an extra onto an already full crew a form of acclimatization. (Tr. at 2224-2225.) The Secretary disputes all of this and claims that these actions are post-hoc rationalizations for not having a formal acclimatization program. (Sec'y Br. at 48-55.) The Secretary argues that Mills told CO Carr that there was no acclimatization program. The Secretary further argues that, even if the Green Hard Hat Program was acclimatization, it did not apply to everyone who would need it, *i.e.*, those who had been away on a leisurely vacation.

The Secretary claims that Aldridge was not acclimatizing its workers nor was it implementing any kind of work/rest regimen. (Sec'y Br. at 48-58.) "Whether it be 50% of the normal workload or 20% for an acclimatization program, the fact of the matter is Aldridge was not doing either. Whether it be 8°F or 15°F added on to the heat index, Aldridge was not adding on any amount." (Sec'y Reply Br. at 39.) The undersigned disagrees. While the undersigned agrees with the Secretary that Aldridge, at the hearing, has attempted to shoe-horn their programs into the Secretary's definition of acclimatization, the undersigned finds that Aldridge is not bound by the Secretary's definition of acclimatization under the facts of this case. Aldridge's method of assigning work to new hires was a *de facto* acclimatization program for workers like the decedent. The undersigned accepts Horrell's method of staffing as giving new workers,

including the decedent, "50 percent of the normal work load" for the first five days. (Tr. at 1466-1467.) Aldridge also had a formalized work/rest regimen once the temperature reached 91 °F, and, as the parties stipulated, allowed unlimited rest breaks at all other times.

The Secretary argues that these programs were insufficient because it did not apply to workers that have taken an extended leave of absence. (Sec'y Br. at 51.) However, those facts are not before us here. The Secretary has conceded that he is "unaware of any worker falling into that category on June 24, 2013." (Sec'y Reply Br. at 30 n.6.) The Secretary has also agreed that this case is only about the facts available on June 24th. (Tr. at 171, 173, 192-193, 212-213, 801, 807, 828-829, 845, 1415-1417, 1430-1431, 1441-1443, 1448, 1454, 1459, 1469, 1476-1477, 1481, 1532, 1601-1603, 1611-1613, 1774-1776, 1790, 2242, 2343-2344, 2367-2370, 2372, 2395, 2465-2466, 2570-2571, 3281-3283, 3433, 4032-4033, 4035.)

OSHA itself has not defined acclimatization, although it addressed acclimatization in its OSHA Guidance. (Ex. J-10 at 33-34). The Secretary has attempted to demonstrate the terms of the OSHA Guidance regarding acclimatization through Dr. Levin's testimony. Dr. Levin testified that he did not believe Aldridge was acclimatizing the decedent based on worker statements that the decedent had been out of work recently and that the workers did not consider Aldridge to have an acclimatization program. (Tr. at 2830-2831.) He used "rules of thumb" to opine that a worker should begin working 20% of an 8 hour work day to become acclimatized, and that he did not believe Aldridge was taking that "structured approach."[36] (Tr. at 2896-2898.) He testified that the decedent was "adapting, his physiology was adapting to the circumstances of this work. But acclimatization is prescriptive, planned, continuous, gradual. And in my mind, there was no planning or process that he was following that would be acclimatizing him." (Tr. at 4405.)

It is notable that Dr. Levin predicated this opinion by stating it was "[p]erhaps as a semantics issue[.]" (Tr. at 4405.) Indeed, the undersigned agrees. In a showing of substance over semantics, Dr. Levin's opinion that the decedent was adapting to the work is consistent with Dr. Conibear's opinion that the decedent was in fact being acclimatized. (Tr. at 3976.) The difference between the two experts' opinions is the method by which Aldridge was acclimatizing

[36] Dr. Levin also testified on cross-examination that he did not know any construction employer who implemented an acclimatization program where a worker works 12 minutes per hour, and then does another task for the remainder of that hour. (Tr. at 3079.)

its workers. However, the method of acclimatization is not prescribed in the OSHA Guidance. The only specific guidance provided by OSHA is by example:

> For example, allow workers to get used to hot environments by gradually increasing exposure over at least a 5-day work period. Begin with 50% of the normal workload and time spent in the hot environments and then gradually build up to 100% by the fifth day.

(Ex. J-10 at 33.) The undersigned finds that Mr. Horrell's assignment of "5 easy days" to new workers and that the Green Hard Hat program, where new hires are monitored more closely for up to eight weeks for safety purposes, is consistent with the OSHA Guidance provided in this example. (Tr. at 1467; Ex. J-1 at 95-97.)

The Secretary also relies on Mark Knezovich's testimony regarding his opinion on acclimatization. Knezovich testified that Aldridge Green Hard Hat Program was not sufficient for acclimatization because it was not written down in the acclimatization section of Aldridge's heat plan and because Mr. Mills allegedly told Ms. Carr that there was no acclimatization. (Tr. at 1698-1699, 1911.) He also testified that, in reviewing Aldridge's approach to acclimatization, he was looking for something consistent with guidance from OSHA and NIOSH. (Tr. at 1699-1700.) He further testified that:

> OSHA believes that a formalized work/rest regimen is how you can acclimatize employees based on the recommendations that OSHA offers on its website and its guidance documents. Which are, ultimately, derived from the NIOSH 1986 criteria for recommended standard document. And in addition, they're discussed in OSHA's technical manual.

(Tr. at 1796.) The undersigned rejects Knezovich's reliance on a NIOSH document as it does not have the "force and effect of law." *See Indus. Glass*, 15 BNA OSHC at 1603-1603 n.10.

The undersigned instead looks to what OSHA has published as guidance in regard to acclimatization. The OSHA Guidance provides: "Gradually increase the workload or allow more frequent breaks to help new and returning workers build up a tolerance for hot conditions over time." (Ex. J-10 at 1, 13-14.) The OSHA Guidance further provides: "Develop a heat acclimatization program and plans that promote work at a steady moderate rate that can be sustained in the heat." (Ex. J-10 at 33-34.) There is no requirement for a prescriptive, formal acclimatization program in the OSHA Guidance. Moreover, Dr. Conibear's testimony regarding acclimatization is consistent with the OSHA Guidance. She testified that the pace and type of work the decedent was doing on June 24 was acclimatizing him because he was doing the work

that he was assigned in the ambient environment. (Tr. at 3976.) The undersigned finds that Aldridge's approach to acclimatization was consistent with OSHA Guidance.

Analysis

> To prove a violation of section 5(a)(1), the Secretary must establish that:
>
> (1) there was an activity or condition in the employer's workplace that constituted a hazard to employees; (2) either the cited employer or the employer's industry recognized that the activity or condition was hazardous; (3) the hazard was causing or likely to cause death or serious physical harm; and (4) there was a feasible means to eliminate the hazard or materially reduce it.

Indus. Glass, 15 BNA OSHC at 1597. "A hazard must be defined in a way that apprises the employer of its obligations, and identifies conditions or practices over which the employer can reasonably be expected to exercise control." *Arcadian Corp.*, 20 BNA OSHC 2001, 2007 (No. 93-0628, 2004). The hazard "is not defined in terms of the absence of appropriate abatement measures." *Wheeling-Pittsburgh Steel Corp.,* 10 BNA OSHC 1242, 1245 (No. 76-4807, 1981) (consolidated), *aff'd*, 688 F.2d 828 (3d Cir. 1982) (unpublished). The Secretary must also establish that the employer knew, or with the exercise of reasonable diligence, could have known, of the hazardous condition. *Burford's Tree, Inc.*, 22 BNA OSHC 1948, 1949 (No. 07-1899, 2010), *aff'd*, 413 F. App'x 222 (11th Cir. 2011) (unpublished)).

Did the Secretary establish by the preponderance of the evidence that a hazard, as defined by the OSH Act and case law, existed in this case?

In the citation, the Secretary alleged the hazard for this case as "excessive heat during the performance of their [the Aldridge workers'] duties." (Citation at 5.) At the hearing, Respondent had a standing objection to any reference of a hazard that was not termed "excessive heat," such as "heat." (Tr. at 55, 288, 523, 755, 808, 1683-1686, 2820, 3448.) In response to Respondent's motion for a directed verdict and dismissal of the citation, the Secretary again used the term "excessive heat" when alleging the hazard.[37] (Tr. at 3265-3269.)

[37] The Secretary referred to the hazard for this case in his post-hearing reply brief as "heat stress." (Sec'y Reply Br. at 28-30.) In this section of his reply brief, the Secretary answers Respondent's claim that the Secretary's position has been "speculative," "arbitrary and capricious" and "a moving target." (Sec'y Reply Br. at 28.) The undersigned appreciates Respondent's claims in this regard. It was difficult to determine the exact alleged hazard in this case due to the interchangeability of terms, such as "excessive heat" and "heat stress," and the complexity of heat illness, which even Dr. Levin conceded. (Tr. at 2966.) The Secretary does

In his post-hearing brief, the Secretary alleges that the hazard of "excessive heat" was on the Aldridge worksite on June 24th. (Sec'y Br. at 23.) The Secretary flushes out the term "excessive heat" through the testimony of his witnesses. The Secretary relies on testimony from Mark Knezovich to claim that the hazard "was both metabolic and environmental heat." (Sec'y Br. at 23.) The Secretary also relies on CO Carr, who testified that the hazard "resulted from two factors: (1) the environmental temperature; and (2) the physiological work being performed." (Sec'y Br. at 24.) The Secretary finally relies on the testimony of Dr. Jeffrey Levin, who "opined that the hazard of excessive heat [] is made up of two components: (1) the ambient temperature which includes humidity, radiant heat, and wind speed; and (2) the heat generated within the body, also known as metabolic heat." (Sec'y Br. at 24.) All three of these witnesses agreed that the hazard at issue in this case was made up of environmental heat and metabolic heat. Dr. Levin, however, further testified that the heat in this situation was "*a matter of heat balance* as it relates to the body: the combination of ambient heat, metabolic heat and the ability to dissipate heat.[38] The end result was extreme heat for [the decedent]." (Tr. at 2873) (emphasis added).

One further limitation that was made clear at the hearing regards when the alleged hazard occurred. At the hearing, the Secretary and Respondent agreed that the alleged hazard in this case was limited to occurring only June 24, 2013. (Tr. at 171, 173, 192-193, 212-213, 801, 807, 828-829, 845, 1415-1417, 1430-1431, 1441-1443, 1448, 1454, 1459, 1469, 1476-1477, 1481, 1532, 1601-1603, 1611-1613, 1774-1776, 1790, 2242, 2343-2344, 2367-2370, 2372, 2395, 2465-2466, 2570-2571, 3281-3283, 3433, 4032-4033, 4035.)

Therefore, given the above, the undersigned determines that the alleged hazard in this case can be characterized as a heat balance equation: the combination of environmental and metabolic heat, less the ability to dissipate heat, resulting in a level of individual excessive heat. The issue here therefore becomes whether the Secretary has put forth enough evidence to

---

not define what he means by "heat stress," as opposed to "excessive heat." Furthermore, the Secretary waited until his reply brief to use the term "heat stress" when discussing the nature of the alleged hazard in this case. The undersigned therefore relies on the initial term, "excessive heat," used in the citation and agreed to at the hearing for identifying the alleged hazard in this case.

[38] Each person's capacity to dissipate heat is different, and can change. For example, acclimatization is a method of increasing one's ability to dissipate heat. (Ex. J-10 at 36.)

establish each component of this hazard: (1) environmental heat, (2) metabolic heat, (3) dissipation of heat, and (4) an individual level of excessive heat. This alleged hazard is limited to a possible occurrence on the Aldridge worksite on June 24, 2013. For the following reasons, the Secretary has not established, by the preponderance of the evidence, any of these 4 components of this heat balance equation.

1) Environmental Heat

With regard to component (1), environmental heat, the Secretary relies on the OSHA Guidance to argue that the ambient heat on the Aldridge worksite on June 24, 2013 was in an "extreme caution zone," and therefore Aldridge was required to implement precautions such as acclimatization and a formal work/rest regimen on that day to address the hazard. (Sec'y Br. at 30.)

The OSHA Guidance is based on a modification of NOAA's National Weather Service Heat Index System. NOAA's system relates a given heat index to a "caution level." The heat index is calculated from two numbers: the dry bulb globe temperature and the relative humidity.[39] (Tr. at 1747-1748.) OSHA explains that the reason the heat index is used instead of just temperature is because "[s]weat does not evaporate from the skin when the air is moist as it does in a dry climate." (Ex. J-10 at 3.) "The higher the heat index, the hotter the weather feels, since sweat does not readily evaporate and cool the skin." (Ex. J-10 at 1.)

OSHA developed its own caution levels for a given heat index.[40] (Ex. J-10 at 3, 5.) The caution levels indicate what steps OSHA advises employers to take to address the risk of heat illness. For example, the lowest caution level, "Lower (Caution)," when the heat index is less than 91°F, indicates that OSHA recommends that the employer implement "Basic heat safety and planning." (Ex. J-10 at 5.) According to OSHA Guidance, the minimum steps employers

[39] As opposed to the dry bulb globe temperature, the WBGT is not so typically available in a standard weather forecast. Instead, as explained above, the WBGT must be measured using a specific device in a proper manner, or it could be calculated using a computer program from Argonne National Laboratory. The WBGT is used, as discussed herein, for another method to determine heat, the ACGIH-TLV screening chart. (Sec'y Br. at 32.)

[40] OSHA also encourages employers to download its "heat app" onto their mobile smart phone for easy access during the work day. (Ex. J-10 at 7.) The heat app calculates the heat index from temperature and humidity values, and then provides OSHA recommended employer actions based on the calculated heat index. (Tr. at 282-285, 1995; *see also* Exs. R-77, R-77a, R-77b.) Upon review, the heat app guidance provided by the app appears to be similar to that from the OSHA Guidance. (Exs. R-77a, R-77b.)

"have a duty" to implement at this "Lower (Caution)" level are (1) provide adequate amounts of drinking water, and (2) ensure adequate medical services are available. (Ex. J-10 at 11.)

Even when the heat index is less than 91°F, OSHA states that additional steps "are advisable" in the following situations: (1) implement the recommended precautions at the "Moderate" level if (a) heat index is close to 91°F, (b) work is being conducted in direct sunshine, or (c) work is being conducted without a light breeze; and (2) "acclimatize new employees performing strenuous work."[41] (Ex. J-10 at 11.) The recommended precautions at the "Moderate" level include scheduling frequent rest breaks, acclimatizing new and returning workers, and setting up a buddy system. (Ex. J-10 at 13-14.) The "High" and "Very High to Extreme" caution levels include additional precautions that employers "should" take to help prevent heat-related illness. (Ex. J-10 at 8-10.)

The Secretary asserts that while the dry bulb temperature and humidity, as measured and certified by NOAA, would indicate an unadjusted heat index in the less restrictive "caution" zone, the heat index should be adjusted to take into account direct sunlight, the decedent's workload, and the fact that he was not acclimatized. (Sec'y Br. at 26.) As a basis for this claim, the Secretary relies on the following statements within the 41 page OSHA Guidance:

> (1) "Additional risk factors are listed below. *These must be taken into consideration even when the heat index is lower.*
>
> - Work in direct sunlight
> - Perform prolonged or strenuous work." (Ex. J-10 at 2); *see* Sec'y Br. at 25.

[41] The Secretary notes that there are contradictions in the OSHA Guidance with regard to acclimatization at the Lower (Caution) level. (Sec'y Br. at 26 n. 9.) The OSHA guidance at first includes acclimatization as part of the plan that employers should develop at the Lower (Caution) level, but then states that employers "should consider" implementing precautions at the next highest level (presumably including acclimatization) as a protective measure only if there is direct sunlight or strenuous work. The OSHA Guidance does not specify at that point whether new and returning employees should be acclimatized at the Lower (Caution) level. (Ex. J-10 at 6, 8, 10 (where "*" is defined).) As cited above, the OSHA Guidance then goes on to include acclimatization as an "advisable" protective measure in the Caution (Lower) level for new and returning employees performing strenuous work. (Ex. J-10 at 11.) Indeed, the OSHA Guidance discusses acclimatization for new and returning employees multiple times in this document. (Ex. J-10 at 1, 11, 14 ("Moderate Risk" level), 17 ("High Risk" level), 21 ("Very High to Extreme Risk" level), 23 ("Planning Ahead for Hot Weather Checklist"), 29 ("Work/Rest Schedules"), 33 ("Acclimatizing Workers").

(2) "*IMPORTANT NOTE:* The heat index values were devised for shady, light wind conditions, and exposure to full sunshine can increase heat index values by up to 15° Fahrenheit. To account for solar load, added precautions are recommended. See Protective Measures to Take at Each Risk Level." (Ex. J-10 at 3); *see* Sec'y Br. at 25.

When reviewing the OSHA citation for sufficiency, Mark Knezovich concluded that the risk was "safely within [the] extreme caution" zone during the afternoon of June 24, 2013. (Tr. at 1756-1760). Using the 85°F unadjusted heat index at 1:51 p.m. (shortly before the time when Russell directed the decedent to take a break), Knezovich added 6 degrees to take into account the sun, which adjusts the heat index to 91° F. Then he bumped up the requirements into the next category, "extreme caution," because the decedent was not acclimatized.[42] (Tr. at 1757.)

Knezovich's conclusion is consistent with the OSHA Guidance, however, the OSHA Guidance does not contain mandatory language as the Secretary claims. The Secretary argues that the "OSHA Guidance states that it is necessary to implement the precautions at the next risk level" when the work conditions entail direct sunlight and strenuous work. (Sec'y Br. at 26 citing Ex. J-10 (formerly Ex. C-75)[43] at 8-10.) That is incorrect. OSHA Guidance states that the

---

[42] Mr. Knezovich testimony indicates that his approach to adjusting the heat index for direct sunshine is not based upon any scientific measure or experience. Mr. Knezovich testified:

> In addition, adjusting for heat index; I knew through employee testimony that there was information that the sun had come out that day, and there was sunshine. I looked at the category, we're at 85 in the caution zone. If I'm adjusting for sun, the maximum I would ever adjust for sun under this guidance is 15 degrees. So the maximum that it could get me is 85 plus 15 would be 100. That would put me in the extreme caution category. But I also understood that there could be certain times, because I was not at the site, where a cloud have moved passed the sun and clouded the sun for a portion of that time within that hour. And I thought that my maximum could be 100 degrees. But that likely could be reduced, based on information at the time on the site, if it's relevant, that adding just six degrees would get me into that extreme caution category, and would take me to 91 degrees. So I felt like we had the information from the employee testimony that the sun was, in fact, out. And information such as that, an un-acclimatized worker had actually suffered heat stroke, to say that it would have been advisable to consider the conditions as, under this table, as being under extreme caution, approaching danger. But safely within extreme caution. That was my thought process.

(Tr. at 1756-1757.)

[43] The Secretary cites to exhibit C-75, which was also named exhibit J-10 at the hearing. (Tr. at 1198-1199, 4621.)

next level precautions are "recommended" and that employers should "consider" taking the next level precautions when working in direct sun or for physical exertion. (Ex. J-10 at 8, 10.)

Additionally, the Secretary has not proven how and by how much the index value should be adjusted. Regarding the direct sunlight issue, the Secretary has not established how to adjust the heat index value and by how much. OSHA Guidance states that the heat index could be adjusted by up to 15°F to take into account direct sunlight. However, the evidence regarding the sun in this case is not determinative of this issue The certified weather (exhibit C-5) indicates that the cloud cover was "overcast," meaning the entire sky was covered with clouds (and therefore, it is presumed there was no direct sun) at 7:51a.m. Afterwards, the certified weather indicates that there was varying amounts of cloud cover at different elevations throughout the rest of the day.[44] (Ex. C-5.) The evidence presented is unclear how the different elevations of varying amount of cloud cover affect the direct sunlight experienced by each worker. (Tr. at 1174-1177.) While the record suggests that "the sun came out" that afternoon, it is unclear when, how much, and for how long. The Secretary introduced stills, taken every 15 minutes, from a video that was filmed by a camera located an unknown distance north along the Dan Ryan from the decedent's worksite. (Tr. at 483, 509-522, 1245; Ex. C-73.) The Secretary states that the evidence of direct sun can be gleaned from the reflections of the car windshields and shadows beneath the cars starting at 11:30a.m. (Sec'y Br. at 27; Tr. at 512.) The undersigned accepts that the photographs indicate direct sun at that point in time at those locations. But, as Respondent asked CO Carr on cross-examination, this evidence does not indicate how much sunlight and for how long the sun was out on the decedent's worksite during that afternoon.[45] (Tr. at 1245-1247.)

---

[44] At 8:51 a.m., the cloud cover was: few clouds at 1,000 feet/broken clouds at 7,500 feet/broken clouds at 9,500 feet. At 9:51 a.m., the cloud cover was: few clouds at 1,500 feet/scattered clouds at 5,500 feet/broken clouds at 10,000 feet. At 10:51 a.m., the cloud cover was: few clouds at 3,800 feet/broken clouds at 7,500 feet/broken clouds at 12,000 feet. At 11:51 a.m., the cloud conditions were: few clouds at 5,500 feet/broken clouds at 10,000 feet/broken clouds at 17,000 feet. At 12:51 p.m., the cloud conditions were: few clouds at 5,500 feet/scattered clouds at 15,000 feet/broken clouds at 20,000 feet. At 1:51 p.m., the cloud conditions were: few clouds at 6,500 feet/scattered clouds at 9,500 feet/scattered clouds at 17,000 feet. At 2:51 p.m., the cloud conditions were: scattered clouds at 3,300 feet/scattered clouds at 9,500 feet/broken clouds at 25,000 feet. (Exs. C-5, C-6.)

[45] Excerpt from CO Carr's testimony:

Q Okay. We'll try again. You have photographs from the work site, is that correct?

A Yes, sir.

Q On what time sequence are those photographs taken? How frequently are they taken?

A 15-minute intervals.

Q Every 15 minutes. So, you have a picture every 15 minutes, but we don't know what was happening in the other 14 minutes, do we?

A As you propose, yes.

Q As I state. Do you have any evidence about what was happening at that work site between the 15-minute intervals, whether the clouds moved in, whether there were shadows, you don't have any objective evidence for that other 15 minutes, do you? Oh, it's actually, the pictures are taken on a one second for one second interval?

MR. MOHAN: It's instantaneous. I don't know, where is the time?

MR. LIES: Excuse me, Your Honor.

JUDGE ROONEY: Why don't we go off the record for a second?

MR. LIES: Let's go, I want to make sure. I'm not trying to, I want to make sure.

JUDGE ROONEY: All right.

MR. LIES: I thought I understood this.

(Off the record.)

BY MR. LIES:
Q Was it your understanding that the photographs that were taken purports to be a one-second shot, the shutter opens for one second and it takes a shot for that particular point in time?

A I don't know the shutter time but a photo is a photo.

Q Okay. So, you don't know then whether or not the time that is represented on each one of those photos is one second or more, is that correct? You don't know?

Second, the record indicates that the number of degrees for the adjustment of the heat index is subjective: no two witnesses agreed on how many degrees to add. Knezovich used 6 degrees recognizing that clouds could pass over the sun, and because using only 6 degrees would bump the caution level into the next category anyway. *See* footnote 42 *supra*. CO Carr used 15 degrees because of her conclusion that the sun came out the afternoon of June 24.[46] (Tr. at 347-

---

A It's a photo. I don't know that, no.

Q Okay. The condition that is in that photograph, you don't know whether that condition existed for one minute, excuse me, one second or not, do you?

A No.

Q Okay. And you have no other photographs between the time that the photograph was taken and the next photograph was taken to see whether or not there were changes in the weather conditions, do you?

A Correct.

(Tr. at 1245-1247.)

[46] CO Carr testified:

A Based on my investigation, I understand through photographic evidence the sun came out at approximately 11:15 a.m.

Q Okay, so now if one was to adhere to their note that's in their own program, and I'm just asking you as a compliance officer, in your investigation, did you account for adding on 15 degrees at that point?

[Objections omitted]

Q Okay, Ms. Carr, I think we were talking about, we were talking about a time of 12:51. And you mentioned that temperature was 83 degrees, and the heat index was 83.5, and we were in the caution zone.

A Correct.

Q Okay, now if you were to heed the warning, as I said, that was on this document, and add the, first of all, did you add 15 degrees on when you were analyzing this case?

A It was presented to me during, from multiple aspects. The occupational medicine report discussed, because the occupational –

350.) Dr. Levin used 8 degrees because he understood that the sun came out, but that it was partly cloudy, so he took the "midpoint" between 0 and 15 degrees.[47] (Tr. at 3004, 3261.) Mr. Dobby used 0 degrees because "he could not substantiate the source of the information" and did not know how much to add.[48] (Tr. at 4319, 4357-4358.)[49]

JUDGE ROONEY: Just answer her question. She asked you a question. You can give her a yes or no answer, and then if you need –

THE WITNESS: Yes I did.

(Tr. at 347-350.)

[47] Excerpt from Dr. Levin's testimony:

Q Okay. But you told us earlier today that you added 8 degrees; did you not?

A That's correct.

Q Okay. Do you have your calculations for that? Where you did your calculations to determine that it was 8 degrees and what -- what went into that calculation?

A The only thing that went into that calculation is it's a midpoint calculation in terms of the allowable correction.

Q Okay. So you selected a midpoint, but you didn't actually do any calculation yourself to determine whether or not there was a solar load that would have added 1 degree, let alone 15 degrees; is that correct? You never did a solar load measurement?

A I never did a solar load measurement. Or calculation.

(Tr. at 3004.)

[48] Excerpt from Mr. Dobby's testimony:

Q We previously discussed adding 15 degrees. Did you –

A No.

Q Why did you not do that?

A Because as I explained earlier, the notation to add up to 15 degrees to the heat index value based upon solar conditions could not be -- I could not substantiate the source of that information. Again, it implies that there is a range. It might range from 0 up to 15, and I don't know what the conditions are to apply 15 versus some other number. And, finally, the ACGIH indicates in their

Moreover, the certified weather indicates that there was wind on June 24.[50] (Tr. at 1171; Ex. C-5.) This wind is in addition to the airflow caused by the flowing lanes of traffic on either side of the worksite; airflow that was heavy enough for Aldridge to be concerned about the public safety hazard of debris from its worksite blowing into the lanes of traffic. (Tr. at 2528-2530.) The OSHA Guidance pairs direct sunlight with the presence of a "breeze" when addressing the issue of adjusting the heat index, but the Secretary has not discussed the impact of the breeze on the Aldridge worksite on the adjusted heat index value. (Ex. J-10 at 5, 7, 11, 25.)

Finally, the OSHA Guidance uses the term "excessive heat" in the context of a NOAA heat advisory. (Ex. J-10 at 4.) The OSHA Guidance indicates "excessive heat" is when the heat index reaches of 105-110° F. (Ex. J-10 at 4.) In the context of environmental heat, the Secretary has established an unadjusted heat index of 84.9°F at 1:51 p.m. and 86.7°F at 2:51 p.m. (the two heat index values provided at the warmest points of the day on June 24th), and has not established by the preponderance of the evidence how and by how much to adjust it.[51] The Secretary has therefore not established that the environmental heat is anywhere outside of the "caution" zone.[52]

---

documentation of the TLV that the heat index is a poor indicator for the risk of occupational heat illness.

(Tr. at 4319.)

[49] Other than a maximum of 15° F, the OSHA Guidance also does not definitively describe a precise method to determine the number of degrees to add to the heat index to account for direct sunlight. (Ex. J-10 at 3, 5, 10.)

[50] The wind speed at the following times was: at 7:51 a.m., 13 MPH; at 8:51 a.m., 10 MPH; at 9:51 a.m., 10 MPH; at 10:51 a.m., 13 MPH; at 11:51 a.m., 9 MPH; at 12:51 p.m., 15 MPH; at 1:51 p.m., 11 MPH; at 2:51 p.m., 13 MPH (Exs. C-5, C-6.)

[51] In this circumstance, Aldridge's program of implementing a mandatory work/rest regimen at 91° F was not yet triggered.

[52] The Secretary also seems to rely on the ACGIH-TLV screening chart to argue that the ambient conditions presented a hazard on the Aldridge worksite on June 24. (Sec'y Br. at 25.) However, the Secretary's argument regarding the ACGIH-TLV screening chart for ambient heat is incomplete because the Secretary failed to show how to use the ACGIH-TLV screening chart with regard to establishing an ambient heat hazard in this case. Instead, the Secretary makes much ado on how Aldridge failed to use the ACGIH-TLV screening chart even though it was included in its own heat program. (Sec'y Br. at 32-33.) The undersigned accepts the Secretary's argument that Aldridge did not utilize the ACGIH-TLV screening chart because its instrumentation (*i.e.*, the Kestrel meter) onsite was not capable of measuring the WBGT needed for the ACGIH-TLV screening chart. (Sec'y Br. at 33.) But even so, the undersigned is left with nothing on which to base a holding that the ambient heat constituted excessive heat on this

2) Metabolic Heat

The issues surrounding component (2), metabolic heat, are relevant because the Secretary has included metabolic heat in his definition of the alleged hazard in this case. The Secretary claims that the decedent's metabolic heat combined with the environmental temperature (less the decedent's dissipation) resulted in excessive heat for the decedent. Here, the record contains metabolic evidence at the micro-level: experts quantifying the decedent's energy expenditure based on a video they watched of someone else performing the decedent's tasks. Both Dr. Levin and Dr. Conibear deconstructed the movements of the decedent's tasks and opined on the decedent's resulting metabolic heat. (Tr. at 2839-2840, 3961-3971.) Dr. Levin, using his "own powers of observation," testified that anyone performing these tasks, including the decedent, would have a metabolic heat expenditure of "moderate to heavy." (Tr. at 2823, 2833, 2836.) Dr. Conibear, consulting the *Compendium of Physical Activities* for the tasks she deconstructed, testified that the decedent's metabolic heat expenditure was "medium." (Tr. at 3961-3971; Ex. R-96.)

This micro-level evidence between the experts is in equipoise because the experts came to two different conclusions using two different methods, and the record does not indicate which method is more appropriate in this situation. Both Dr. Levin and Dr. Conibear have similar credentials and similar backgrounds, and so the undersigned can make no finding based on eminence of either expert. *Indus. Glass*, 15 BNA OSHC at 1601 (finding for employer based in part on eminence of its experts). Additionally, both experts testified to their own methodology and dismissed each other's. Dr. Levin testified that Dr. Conibear's methodology was not "state of the art" and not "proper," but then clarified to say that her methodology was "not standard procedure. So there may be many occupational doctors out there using it, but I don't know who they are or how many of them that there are. But that's not what the literature prescribes." (Tr. at 3190-3191, 4420, 4466.) Dr. Conibear testified that she considers the 1986 NIOSH Criteria, upon which Dr. Levin and Mark Knezovich relied, out of date and "dangerous" because it

---

worksite based on ACGIV-TLV screening charts because the Secretary failed to explain in the record how to do it. The undersigned notes that, according to OSHA's Technical Manual, the ACGIH method also incorporates metabolic workload in addition to the WBGT. (Ex. C-7 at 8) ("Once the WBGT has been estimated, employers can estimate workers' metabolic heat load [see screening charts] and use the ACGIH method to determine the appropriate work/rest regimen, clothing, and equipment to use to control the heat exposures of workers in their facilities.").

contained information that may no longer be considered correct.[53] (Tr. at 1810-1811, 2828-2829, 2876-2877, 4206-4207.) Under these circumstances, the undersigned has nothing on which to base a decision of which expert more appropriately quantified the decedent's energy expenditure.

Furthermore, the Secretary's attempt to use Dr. Levin's expert testimony as a way to establish a hazard here goes against Commission precedent. The Secretary devotes significant effort to attempt to establish a combined environmental and metabolic heat hazard, based on the ACGIH-TLV screening charts, and testimony thereon, in the record. (Sec'y Br. at 33-42.) However, the Commission has "hesitated" and "had reservations" about holding that a breach of levels published by a third party organization would constitute a hazard of "excessive heat stress," in part because these levels do "not have the force and effect of law; failure to comply with it is not, in and of itself, illegal." *Indus. Glass*, 15 BNA OSHC at 1603-1603 n.10 (regarding publications by ACGIH, NIOSH and American Industrial Hygiene Association). The Secretary recognizes this but argues that this case is distinguishable from *Industrial Glass* because Aldridge includes the ACGIH-TLV in its own heat plan. (Sec'y Br. at 41-42; Sec'y Reply Br. at 34.) The undersigned views this fact as relating to recognition of the hazard, not to whether a hazard existed in the first place, under the auspices of an alleged general duty clause violation analysis. *Indus. Glass*, 15 BNA OSHC at 1603 n.11 (stating that precedent allows relying on NIOSH document for industry recognition of heat stress). The issue of existence of a hazard is separate from the issue of recognition, and, in the undersigned's view, must be analyzed within the bounds of Commission precedent. The undersigned therefore does not rely on the ACGIH-TLV screening charts, and Dr. Levin's and Dr. Conibear's reliance thereon, in this case.

In addition to the micro-level metabolic analyses just discussed, the record also contains evidence at the macro-level: description of the work by CO Carr and Aldridge workers. But this evidence is also not determinative. CO Carr testified that she used her professional judgment to do a metabolic heat analysis during the investigation based on observing the task, and then opined that the work was "moderate to heavy." (Tr. at 1266, 1286.) CO Carr's testimony,

[53] The undersigned notes that, since this hearing ended, NIOSH has issued an updated "Criteria for a Recommended Standard: Occupational Exposure to Heat and Hot Environments" (February 2016).

however, reveals that she did not ask details about the decedent's tasks. She did not know how much pipe the decedent actually carried, did not measure the distance that the decedent walked with the pipes, and did not know how fast the decedent walked carrying the pipe. (Tr. at 1003-1010.)

The descriptions of the workload by the Aldridge workers are also not determinative. The Aldridge worker descriptions of the tasks were either transcribed by CO Carr or testified to at the hearing. As noted above, the transcribed worker statements are accorded conditional weight and so they are not given weight unless corroborated by testimony. *Beta Constr. Co.*, 16 BNA OSHC at 1442. The testimony of the workers presents another problem: the description of the work, whether it is light, moderate, heavy or strenuous, is subjective. For example, the task itself could be easy to one person, and not to the next. *Compare* Ex. R-113 at 45 (Williams testifying that "it was all easy to me") with Tr. at 3704 (Kruk describing the work as "eight hours of aerobicise") with Tr. at 3726 (Burnside describing work as "medium") with Tr. at 3757 (Dammer describing work as not "difficult at all."). Moreover, the OSHA Guidance does not define physical exertion and how much physical exertion it would take to bump up the employer's recommended precautions to the next level as listed in the OSHA Guidance.

In view of the above, I find that the Secretary has also not established by the preponderance of the evidence the decedent's metabolic heat load in this case.

3) Dissipation of Heat

With respect to the component (3), dissipation of heat, the record is also not determinative. The undersigned views this component as related to the evidence of acclimatization and sweating. As found above, Aldridge implemented an acceptable *de facto* acclimatization program with the way it assigned tasks to new employees and with the Green Hard Hat program. Both Russell and Mahl followed the Green Hard Hat Program and directed the decedent to take a rest break when they thought he needed one. Dr. Levin testified that he believed that the decedent's lunch break was not enough to dissipate his heat back to a resting state, but Dr. Levin also agreed that he had "no information to verify that belief." (Tr. at 4444.) The Secretary asked Knezovich why he did not think Russell's action of removing the decedent from the trench was a form of acclimatization. (Tr. at 1717-1721.) Knezovich viewed Russell's actions as a form of "medical treatment," because, in his opinion, acclimatization is done to prevent non-acclimatized workers "from developing heat exhaustion or heat stroke in the first

place." (Tr. at 1717.) The undersigned disagrees that Russell's action of removing the decedent from the trench was a form of medical treatment. Looking through the eyes of Russell at the time, the undersigned finds that Russell removing the decedent from the trench and directing him to take a break was a form of acclimatization. His action was consistent with Aldridge's Green Hard Hat Program[54] and, for that matter, OSHA Guidance.[55]

The undersigned empathizes with the fact that the actions that Russell took did not save the decedent from heat stroke, but the evidence at the time of the decedent's incident establishes that Russell's actions were reasonable. The only evidence that indicates that the decedent would suffer heat stroke was the decedent's sweating. However, Dr. Conibear testified that sweating was a necessary form of dissipation, and both Russell and Mahl testified that the decedent was sweating while he was working in the trench and while he was at the Wells Cargo trailer. (Tr. at 704, 1589, 3385, 3948-3949.) The record also indicates that the decedent was known from his prior days working for his sweating. (Tr. at 1589-1590, 3374, 3545, 3552.) The Secretary has eschewed any form of physiological monitoring, so it was impossible for Aldridge to determine whether the decedent's sweating was an indicator for heat stroke or a sufficient dissipation of heat. *Arcadian Corp.*, 20 BNA OSHC 2001, 2007 (No. 93-0628, 2004) (hazard must be defined in a way that apprises the employer of its obligations, and identifies conditions or practices over which the employer *can reasonably be expected to exercise control.*)

The preponderance of the evidence in this case, therefore, does not establish that the decedent, at the time of the incident, was not dissipating enough heat to prevent an individual level of excessive heat.

4) Individual Excessive Heat

---

[54] The Green Hard Hat program requires supervisors to look out for those in a green hard hat for safety purposes:

> Enrollment in the Green Hardhat Program is mandatory for any employee who has never worked for Aldridge or has not worked for Aldridge in the last two years and wearing the green hardhat will designate the new employee as an employee in training. Enrollment in the Green Hardhat Program will ensure that the new employee receives the necessary training and develops the necessary skills to be safe and productive worker.

Ex. J-1 at 95.

[55] OSHA Guidance encourages, but does not require, employers to "allow more frequent breaks." (Ex. J-10 at 1, 6, 14, 17, 21.)

"As part of [his] burden, 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 2204, 2206 (No. 03-1344, 2007). Aldridge already implemented many of the abatement measures that the Secretary wants. Aldridge implemented a *de facto* acclimatization program (as discussed above) for new workers, implemented a formalized work/rest regimen when the temperature exceeded 91°F, trained its employees and supervisors in the prevention of heat illness, and tracked weather conditions on the job site.[56] *Indus. Glass*, 15 BNA OSHC at 1603-1604 (balancing existing abatement measures against evidence of heat stress to determine whether Secretary established the hazard of excessive heat stress).

The record establishes, and the Secretary concedes, that the decedent's death was caused by heat stroke with a contributing factor of obesity. Obesity is a physical condition that places a worker at a higher risk for heat illness. (Tr. at 2813, 3135, 3941; Ex. J-10 at 25-26, 36.) As it is a physical condition, obesity relates to either, or both, the metabolic heat that an individual generates and/or the individual's capacity to dissipate heat. (Tr. at 3173.) Yet the record does not establish how much of the decedent's death was caused by the physiological condition. Furthermore, as noted above, the Secretary has repudiated any form of physiological monitoring as a way to abate the hazard that he has defined. (Tr. at 475, 477, 1225-1230, 2060- 2063, 2080-2081, 2085, 3135-3144, 3205-3209, 3252-3253, 3484-3491, 3999-4004; Sec'y Br. at 73; Sec'y Reply Br. at 42.) In other words, the Secretary is attempting to define a hazard in this case that has components that an employer has no power to control. The undersigned rejects this attempt as it goes against Commission precedent. *Arcadian Corp.*, 20 BNA OSHC 2001, 2007 (No. 93-0628, 2004) (hazard must be defined in a way that apprises the employer of its obligations, and identifies conditions or practices over which the employer can reasonably be expected to exercise control.).[57]

---

[56] The Secretary claims that the WBGT should be tracked on the worksite, however, based on the information above, the undersigned finds that tracking the WBGT is not practicable on a construction worksite. Moreover, the OSHA Guidance does not require a WBGT measurement, the ACGIH-TLV screening charts do. As discussed above, the undersigned does not rely on the ACGIH-TLV screening charts for this case.

[57] In rejecting any form of physiological monitoring, the Secretary is essentially claiming that a formal acclimatization program and a mandatory formal work/rest regimen, beyond that which

The undersigned therefore finds that the Secretary has not established by the preponderance of the evidence that there was a hazard, as defined by the OSH Act and Commission precedent, of excessive heat on the Aldridge worksite on June 24, 2013.

Assuming the Secretary established the hazard, did the Secretary establish by the preponderance of the evidence that Respondent knew or should have known about the hazard?

Even if the Secretary had established a hazard in accordance with Commission case law, the undersigned finds that the Secretary did not establish that Aldridge knew or should have known about the hazard in this case – combined environmental and ambient heat, less dissipation, that would cause excessive heat to the decedent. *Burford's Tree, Inc.*, 22 BNA OSHC at 1950 (Secretary has burden to prove that the employer had knowledge of the hazardous condition for a general duty clause violation). The Secretary claims that because

---

Aldridge was already implementing, would have materially reduced the hazard of excessive heat for any non-acclimatized worker working at a moderate level. (Sec'y Reply Br. at 40 ("Hypothetically, if Aldridge had done a 50% acclimatization schedule over a series of 5 days and added on some degrees to the heat index to account for the sun, this would be a very different case").) However, the Secretary has produced no evidence supporting this claim with respect to the decedent, whose death the Secretary stipulated to was caused in part by a physiological condition. *Champlin Petroleum Co. v. OSHRC*, 593 F.2d 637, 640 (5th Cir. 1979) ("It is the Secretary's burden to show that demonstrably feasible measures would materially reduce the likelihood that such injury as that which resulted from the cited hazard would have occurred.").

The experts did not definitively state whether a formal acclimatization program or a formal work/rest regimen, beyond that which Aldridge was already implementing, would have materially reduced the hazard of excessive heat to the decedent. Dr. Levin did not testify to how a formal acclimatization program and a mandatory formal work/rest regimen would have prevented the decedent's death on June 24. Instead, regarding whether the decedent's death was preventable, Dr. Levin testified that "[w]hat I think really would be required is early recognition and immediate early response when he was first getting into trouble. That really goes to the core of my opinion." (Tr. at 2949.) As found above, the Aldridge supervisors reacted appropriately, and in accordance with OSHA's Guidance, to the decedent's signs of heat illness.

Dr. Conibear testified that she would not have expected the ambient conditions to have caused the decedent's heat stroke and, based on the information provided to her, would not have recommended work restrictions for the decedent. (Tr. at 4007-4009.) Dr. Conibear also testified that it was not feasible for employers to conduct physiological monitoring and testing in the field. (Tr. at 4005.)

For these reasons, the undersigned also finds that, even if the Secretary had established a hazard in accordance with Commission case law here, the Secretary has not established by the preponderance of the evidence a feasible means of abating it.

Aldridge knew of the "conditions existing on the worksite," that the Respondent therefore had knowledge of "a heat hazard" on June 24, 2013. (Sec'y Br. at 71-73.) The Secretary goes on to explain that because the decedent was not acclimatized and Aldridge knew it, that therefore Aldridge knew, or reasonably could have known, that its workers "were exposed to a heat hazard on June 24, 2013, particularly the decedent and the other new employees who were not acclimatized." (Sec'y Br. at 73.) In this way, the Secretary claims that Aldridge knew, or could have known with the exercise of reasonable diligence, that the environmental heat, plus the metabolic heat, less dissipation, constituted excessive heat to the decedent on June 24, 2013. The undersigned disagrees.

First, the record establishes that Aldridge had a heat program in place, and on June 24, took steps in accordance with its heat program. The record shows that supervisors addressed the heat that day – a discussion of what the weather was that day was consistent with Aldridge protocol and there was no reason to anticipate a day with a high heat index. Management had checked the weather that day, and there was no evidence of a heat advisory.

Second, there is no evidence establishing that Aldridge had actual knowledge that it was unsafe for the decedent to work "spotting pipe" and "gluing pipe" on June 24th. The decedent himself presented a medical certificate to Aldridge indicating that he was qualified, medically, to perform a certain amount of work in extreme temperatures. (Ex. J-6 at 5.) Both experts have performed this medical examination on other workers and testified to what the certificate means. (Tr. at 3120, 3857-3858.) Dr. Levin agreed that the medical examination report for a commercial driver's license certifies medically that an employee could work in extremes of temperature, including direct sunlight. (Tr. at 3128.) He also agreed that the worker is certified to work in that environment loading and unloading trailers, lifting as much as 50,000 pounds. (Tr. at 3128-3129.) Dr. Conibear testified that, given his certificate, the decedent was medically certified to work in extremes of temperature and perform loading and unloading of up to 50,000 pounds of freight. (Tr. at 3995.) The findings of the medical certificate are good for two-years, and it is stipulated that the decedent's certificate was valid on June 24th.

There is therefore no basis to find that Aldridge had actual knowledge of excessive heat to the decedent on June 24, 2013.

There is also insufficient evidence to establish that Aldridge had constructive knowledge that it was unsafe for the decedent to work "spotting pipe" and "gluing pipe" on June 24th.

When assessing constructive knowledge, the Commission considers the employer's obligations to have adequate work rules and training programs, adequately supervise employees, anticipate hazards to which employees may be exposed, and take measures to prevent the occurrence of violations. *S.J. Louis Constr. of Tex.*, 25 BNA OSHC 1892, 1894 (No. 12-1045, 2016). Aldridge's heat program and actions on June 24th were in accordance with OSHA Guidance regarding monitoring, training, anticipating and preventing signs of heat illness, such that Aldridge could not have known that the decedent was at a higher risk for heat illness that exceeded its heat plan. *N. Y. State Elec. & Gas, Corp*., 19 BNA OSHC 1227, 1231 (No. 91-2897, 2000) (Commission finding no constructive knowledge where there were no circumstances alerting the employer to a need for more intensive monitoring).

All workers were trained in heat hazards, and the supervisors were trained in Red Cross First Aid, which included heat illness awareness. Additionally, as found above, Aldridge's effort at acclimatization was consistent with OSHA Guidance, and both experts found that the decedent was "adapting" or "being acclimatized" on June 24th. (Tr. at 3976, 4405.) The actions of both Russell and Mahl on June 24th illustrate how they were trained appropriately in both Aldridge's program and in Red Cross First Aid. Russell told the decedent to take a break when he noticed the decedent stumble in the trench. In this manner, Russell acted consistently with Aldridge's heat plan: he looked after the worker in the green hard hat and made him take an extra break. He talked with the decedent to further assess him, ensured that he drank some water, and believed the decedent was going to return to work after 30 minutes. Russell testified that, at that time, he "just thought he was just, needed some water or needed a break, because it was his first day back." (Tr. at 1546.)

Shortly after, when Mahl walked over to the Wells Cargo trailer and recognized that the decedent was taking a break, he recommended that the decedent go to the air-conditioning. By checking on the decedent, Mahl also acted in accordance with Aldridge's heat plan: looking after the worker in the green hard hat. He testified that when the decedent passed by him later, Mahl noted that the decedent did not exhibit signs of heat illness, assumed that the decedent had been in the air-conditioning, and actually believed that the decedent was returning to work. (Tr. at 3558.)

When Russell returned to the Wells Cargo trailer to check on the decedent, and the decedent told him, "I can't bend anymore," Russell testified that he thought the decedent was

having heat cramps and evacuated him from the worksite. (Tr. at 1555.) The Secretary argues that Russell should have called 911 at that point in time. (Sec'y Br. at 67-68.) However, OSHA's recommendations for heat cramps include having the worker rest and "wait a few hours before allowing worker to return to strenuous work," not calling 911. (Ex. J-10 at 28.) The undersigned finds that Russell's thought process and actions were entirely consistent with OSHA's own recommendations. The Secretary argues that Aldridge should have been able to recognize the decedent's signs of heat illness earlier. But both experts in this case testified that heat illness was complex, difficult to diagnose, and that even first responders could reasonably interpret heat illness signs differently. (Tr. at 2968, 4006.)

The only situation the OSHA Guidance suggests for the employer to call 911 is for heat stroke. (Ex. J-10 at 27-28.) And Aldridge called 911 the moment the decedent became incoherent. The only evidence in the record that shows another symptom of heat stroke was that the decedent was sweating. However, as noted above, sweating is also a normal sign that the body is dissipating heat. (Tr. at 3948-3949.) Also, Russell stated that the decedent was known to "always sweat," and that "he would sweat in the middle of winter." (Tr. at 1589-1590, 3374.) Mahl also testified that the decedent sweated a lot. (Tr. at 3545, 3552.) The undersigned finds that the preponderance of the evidence here shows that Aldridge reasonably thought that the decedent's sweating did not warrant calling 911 earlier in the day.

Under these circumstances, the undersigned cannot find that Aldridge had actual or constructive knowledge of a hazard of excessive heat to the decedent in this case.

I therefore conclude that the Secretary has not carried his burden by the preponderance of the evidence in this case. The undersigned recognizes the tragic nature of this case. However, the Secretary has not met his burden of proof to show that the hazard on the worksite was as the Secretary has defined it, or that Aldridge knew or could have known about it. Citation 1, Item 1, is **VACATED**.

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 made above. *See* Fed. R. Civ. 52(a). All proposed findings of fact and conclusions of law inconsistent with this Decision and Order are denied.

ORDER

Based upon the foregoing findings of fact and conclusions of law, it is **ORDERED** that:

1. Item 1 of Citation 1, alleging a serious violation of section 5(a)(1) of the OSH Act, is **VACATED**.

SO ORDERED.

/s/ Covette Rooney
Covette Rooney
Chief Judge, OSHRC

Dated: December 2, 2016
Washington, D.C.