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

Secretary of Labor,

Complainant

v.

United States Postal Service,

Respondent,

and

National Association of Letter Carriers (NALC),

Authorized Employee Representative,

And

National Rural Letter Carriers' Association (NRLCA)

Authorized Employee Representative.

OSHRC Docket No.: **17-0023**

Appearances:

Dolores Wolfe, Esq. and Mia Terrell, Esq.
Office of the Solicitor, U.S. Department of Labor, Dallas, Texas
For Complainant

Theresa Gegen, Esq., USPS, Dallas, Texas and Heather L. McDermott, Esq., USPS, Chicago, Illinois
For Respondent

Shawn Boyd
For NALC

BEFORE: Administrative Law Judge Sharon D. Calhoun

DECISION AND ORDER

I. INTRODUCTION

On the afternoon of June 17, 2016, a city letter carrier for the United States Postal Service began to experience muscle cramps as he delivered mail on foot on his route for the

Astrodome Post Office in Houston, Texas. The muscle cramps worsened as he neared the end of his route, but he managed to complete it. The carrier was unable to drive his van back to the post office so a Postal Service route examiner, who happened to be accompanying him that day to observe his route delivery, drove him there. When they arrived at the post office, a supervisor called 911. Emergency medical technicians responded to the call, administered IV fluids to the letter carrier, and transported him to the hospital, where he stayed for two nights. The carrier returned to work 9 days later.

The Astrodome Post Office notified the Occupational Safety and Health Administration of the hospitalization. OSHA opened an inspection of the post office on June 30, 2016. As a result of the inspection, the Secretary issued a one-item Citation and Notification of Penalty to the United States Postal Service (referred to in this proceeding as the Postal Service or USPS) on December 16, 2016. The Citation alleges a repeat violation of § 5(a)(1), the general duty clause (§ 654(a)(1)), of the Occupational Safety and Health Act of 1970, 29 U.S.C. §§ 651-678 (Act).

The Citation alleges the Postal Service exposed its employees "to excessive heat when delivering mail to residential and commercial facilities." The Secretary proposes a penalty of $124,709 for the alleged violation and seeks enterprise-wide implementation of specified abatement measures. This case is one of five pending before the Court in which the Secretary alleges the Postal Service exposed its employees to excessive heat or high heat levels as they delivered the mail. The National Association of Letter Carriers (NALC) and the National Rural Letter Carriers' Association (NRLCA), authorized employee representatives, elected party status in the proceedings. They did not present evidence, examine witnesses, or submit post-hearing briefs in this proceeding (Tr. 14-15). The five cases were consolidated early in the proceedings for settlement purposes, but the parties were unable to resolve the issues. On January 26, 2018, Judge Heather Joys, the settlement judge, severed the cases for hearing, and they were reassigned to the Court, who heard the five cases sequentially in October and November of 2018.[1]

The parties agreed the Court would hold a separate hearing (referred to as the national hearing) to present expert witnesses and witnesses addressing issues common to the five cases. The Court held the 12-day national hearing in Washington, D.C., from February 25 to March 12,

[1] The five cases arose from incidents in Benton, Arkansas (No. 16-1872); San Antonio, Texas (No. 16-1713); Houston, Texas (the present case) (No. 17-0023); Martinsburg, West Virginia (No. 17-0279); and Des Moines, Iowa (No. 16-1813).

2019. The testimony and exhibits in the national hearing are part of the records in the five cases, unless otherwise noted. The records of the individual cases were not admitted in the other actions, unless noted.[2]

This is the third of the five Postal Service cases heard by the Court. It was held from October 30 to November 2, 2018, in Houston, Texas. The parties submitted briefs for all five cases on September 17, 2019. For the reasons that follow, the Court finds the Secretary did not establish a condition or activity in the workplace presented an excessive heat hazard to Houston's carriers on June 17, 2016. The Court also finds the Secretary failed to show an economically feasible means existed to materially reduce the alleged hazard of excessive heat. The Citation is vacated.

II. JURISDICTION AND COVERAGE

The Postal Service timely contested the Citation on December 19, 2016. The parties stipulate the Commission has jurisdiction over this action, and the Postal Service is a covered employer under the Act (Exh. J-1, ¶¶ 1-3).[3] Based on the stipulations and the record evidence, the Court finds the Commission has jurisdiction over this proceeding under § 10(c) of the Act, and the Postal Service is a covered employer under § 3(5) of the Act.

III. EXECUTIVE ORDER NO. 13892

The parties filed post-hearing briefs on September 17, 2019, in the five Postal Service cases. On October 15, 2019, President Trump issued Executive Order No. 13892, *Promoting the Rule of Law Through Transparency and Fairness in Civil Administrative Enforcement and Adjudication*, 84 Fed. Reg. 55239 (October 15, 2019) (E.O. 13892). Section 4 of E.O. 13892 provides:

> Sec. 4. *Fairness and Notice in Administrative Enforcement Actions and Adjudications.* When an agency takes an administrative enforcement action, engages in adjudication, or otherwise makes a determination that has legal consequence for a person, it may apply only standards of conduct that have been publicly stated in a manner that would not cause unfair surprise. An agency must avoid unfair surprise not only when it imposes penalties but also whenever it adjudges past conduct to have violated the law.

[2] References in this decision to testimony and exhibits from the national hearing are indicated by *NH* followed by the transcript page(s) or exhibit number(s).

[3] Paragraph 3 of Exhibit J-1 provides: "By virtue of the Postal Employees Safety Enhancement Act of 1970, the OSH Act became applicable to Respondent in the same manner as any other employer. Pub. No. 105-241, 112 Stat. 1572-1575 (1998); see also 29 USC Section 652(5)."

On November 6, 2019, the Postal Service submitted a letter to the Court with a copy of E.O. 13892 attached "as supplemental authority." The Postal Service states:

> [E.O. 13892] is relevant to two primary arguments in the Postal Service's Post-Trial Briefs:
>
> 1. The Commission has already recognized that defining a hazard as "excessive heat," which the Secretary has done in this case, falls far short of due process. [E.O. 13892] makes it clear that OSHA is required to afford regulated parties safeguards "above and beyond" those required for due process. Vaguely defining a hazard as "excessive heat" does not meet [E.O. 13892's] requirements.
>
> 2. [E.O. 13892] makes it clear that OSHA's reliance on its heat chart and other guidance documents as the basis for establishing a heat hazard is impermissible. While agency guidance documents can be useful in enhancing the regulated community's understanding of a regulation, they are not intended to form the basis of a violation. Guidance documents do not have the benefit of undergoing notice and comment rulemaking, and thus do not provide the regulated community with fair notice.

(Letter, p. 2) (footnotes omitted)

The Secretary filed a response on December 4, 2019, stating the terms of E.O. 13892 do not create rights enforceable against the Secretary, and due process concerns are not implicated where the Postal Service has recognized or should have recognized the excessive heat hazard at issue. The Secretary notes the Postal Service has suffered no unfair surprise as that term is used in the Order.

By order dated January 30, 2020, the Court accepted the Letter and attached copy of E.O. 13892 as supplemental authority in this proceeding in accordance with FRCP 15(d), which provides:

> (d) SUPPLEMENTAL PLEADINGS. On motion and reasonable notice, the court may, on just terms, permit a party to serve a supplemental pleading setting out any transaction, occurrence, or event that happened after the date of the pleading to be supplemented. The court may permit supplementation even though the original pleading is defective in stating a claim or defense. The court may order that the opposing party plead to the supplemental pleading within a specified time.

Having considered the parties' arguments, the Court finds that in citing the Postal Service for a violation of § 5(a)(1) for excessive heat exposure, the Secretary did not overstep the terms of E.O. 13892. Section 11(c) of E.O. 13892 states, "This order is not intended to, and does not, create any right or benefit, substantive or procedural, enforceable at law or in equity by any party against the United States, its departments, agencies, or entities, its officers, employees, or agents,

or any other person." Section 11(c) of E.O. 13892 bars review in adjudicative proceedings of an agency's compliance with E.O. 13892.

Furthermore, § 9(c) of the Act grants the Secretary the authority to cite employers for violations of § 5(a)(1). 29 U.S.C. § 658(a). Section 11(a)(i) of E.O. 13892 provides, "Nothing in this order shall be construed to impair or otherwise affect: (i) the authority granted by law to an executive department or agency, or the head thereof." E.O. 13892 cannot be used to restrict the Secretary's congressional authority to implement § 5(a)(1).

Finally, E.O. 13892 states agencies "may apply only standards of conduct that have been publicly stated in a manner that would not cause unfair surprise." Section 5(a)(1) requires employers to "furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees." 29 U.S.C. § 654(a)(1). Hazards are recognized within the meaning of § 5(a)(1) if they are known to the cited employer or would be known to a reasonably prudent employer in the industry. *SeaWorld of Fla., LLC v. Perez,* 748 F.3d 1216 (D.C. Cir. 2014). The Secretary previously cited the Postal Service for the willful exposure of carriers to excessive heat hazards, and a Commission judge affirmed the violation. The decision and order became a final order of the Commission. *United States Postal Service,* No. 13-0217, 2014 WL 5528391 (OSHRC Oct. 24, 2014). The Postal Service cannot claim plausibly it was unfairly surprised by subsequent citations for repeat violations alleging exposure of carriers to excessive heat hazards.

IV. THE HOUSTON HEARING

Stipulations

The parties stipulate the following:[4]

> 4. [The Postal Service] is divided into seven Areas which are in turn divided into Districts.
>
> 5. The seven areas are: Northeast Area; Eastern Area; Western Area; Pacific Area; Southern Area; Great Lakes and Capitol Metro.
>
> 6. This case involves operations at a postal facility at 8205 Braesmain Dr., Houston, Texas (also known as Houston Astrodome Station) which is in the Southern Area.
>
> 7. On the following dates, the following were employees of Respondent at 8205 Braesmain Dr., Houston, Texas:

[4] Paragraphs 1, 2, and 3 of Exhibit J-1 stipulate the Commission has jurisdiction over this action and the Act covers the Postal Service.

June 17, 2016
Letter Carrier 1 (LC1) [5]

June 17, 2016
[CCA1], City Carrier Assistant

July 14, 2016
[LC2], City Letter Carrier

8. On June 17, 2016, the Astrodome Station employed 43 City letter carriers.

9. On June 17, 2016, the total number of City Routes at the Astrodome Station was 29.

10. On June 17, 2016, letter carrier (LC1) was assigned to Route 25036, which is also known as Route 2536, and Route 36.

11. On June 17, 2016, the total weight of the mail that LC1 was supposed to deliver was 142.80 pounds.

12. On June 17, 2016, the total number of pieces of mail that LC1 was supposed to deliver was 1,296.

13. On June 17, 2016, Route Examiner GJ accompanied LC1 on his route.

(Exh. J-1)

Background

LC1 was born and raised in Houston, Texas, and has been a city letter carrier there since 2004. He delivers mail on his assigned route, Route 2536, for the Astrodome Post Office. The route is primarily in a residential neighborhood of houses, apartment complexes, and townhouses, along with a few businesses (Tr. 45-47).

Route 2536 is a *park and loop* route, meaning a carrier will park at a designated *park point*, exit the vehicle with the mail for one side of the street (one street is a *loop* and each side of the street is a *split*) and deliver mail on that side, then loop back to grab mail for the other side of the street. A carrier for a park and loop route carries mail for one split at a time. There were approximately 360 addresses, or *delivery points*, to which the Route 2536 letter carrier delivered mail every workday.

After completing a loop, the carrier will then drive to the next park point and deliver mail for that loop. Route 2536 comprised eight park points and loops in June of 2016, requiring LC1 to walk approximately 11 to 13 miles each workday. For Route 2536, the letter carrier's pouch on a heavy mail day could weigh between 20 and 25 pounds at the start of a split but the mail

[5] Pseudonyms are used in this Decision and Order to preserve the privacy of the Astrodome Postal Service employees and former employees.

load was typically lighter in summer.[6] On June 16, 2016, the total weight of the mail to be delivered on Route 2536 was 142.8 pounds. Dividing that weight among 16 splits results in an average weight of approximately 9 pounds to be carried on each split (Exh. J-1, ¶ 11; Tr. 52-55, 58, 99, 115-17).

The Postal Service vehicle assigned for Route 2536 in June of 2016 was a Dodge minivan. It was equipped with air conditioning. Because of the short distances between park points, LC1 would drive the van only 15 to 18 minutes on a workday. City letter carriers are allowed two 10-minute breaks each day (one in the morning and one in the afternoon) and a 30-minute lunchbreak. LC1 usually took these breaks sitting in the van with the air conditioning running. Carriers could also take *comfort breaks*, usually to use a restroom at a business along their routes (Tr. 59-60, 63-64, 108, 121, 123, 625).

LC3 has been a letter carrier at the Astrodome Post Office since 2013. He has been a union steward within the Astrodome Post Office for 6 years (Tr. 607, 613, 620). He testified regarding the contractually guaranteed 10-minute breaks and additional comfort breaks.

> That's on record, [carriers are allowed] two 10-minute breaks, but on that note, if it's hot, additional breaks. If I need additional breaks, I would take additional breaks, because my body was tired. . . . I've talked to management on several occasions during the summertime when it gets real hot and carriers can get overheated. Temperature are a hundred-and-something degrees during that time practically every day for roughly two to three months it was. So we pretty much agreed, hey, they needed extra breaks, but they just don't want them to take, just overdo it so to speak, not to take advantage of it. And so if you needed extra breaks, you needed extra break and to document it. If it's something that would cause you to run over for some particular reason after the 8-hour time frame, to document it on the Form 3996.

(Tr. 624-626)

A carrier submits a Form 3996 if he or she believes that day's mail requires more than 8 hours to complete. The carrier can request more time (overtime) or help (auxiliary assistance). Before leaving the post office for delivery, the carrier completes the form, requesting a specific amount of time for overtime, and places it on the supervisor's standup desk in the middle of the

[6] A Postal Service plant manager who was the Area 5 customer service operations manager in Houston in June of 2016, stated, "June, July and August is historically the lowest mail volume period of the year. People are on vacation. Schools are closed. Business mailers know that, so they're not apt to start sending a lot of advertisements through the mail during those summer months. So that typically, every year, is the lowest period of time that we have volume for the employees." (Tr. 818)

workroom. The P.M. supervisor can approve overtime if a carrier calls and requests it later in the day (Exh. C-23; Tr. 47-50, 105, 451, 665).

Safety Training

The Astrodome Post Office has established the position of safety captain, who is responsible for presenting standup safety talks. The safety captain who held the position in June of 2016 is a carrier who has worked at the Astrodome Post Office since 2004. He became the safety captain around 2013 (Tr. 672, 687). His duties are to "[g]ive safety talks concerning anything to deal with your safety, inside the station as well as outside the station." (Tr. 667-68). He received safety talk information from management via email. "[U]sually we have a list in our safety toolkit of mandatory safety talks that [have] to be given on a . . . certain day." (Tr. 688) Some of the safety talks are accompanied by videos that are played for the postal employees (Tr. 693-94). The Astrodome Post Office keeps a safety talk log employees sign on days they attend safety talks (Exh. C-30; Tr. 689).

In May of 2016, the Astrodome Post Office received a copy of the *Southern Area Heat Stress Campaign*, which emphasized heat stress safety in the summer months (Exh. C-2; Tr. 695-96). The safety captain estimated he gives 20 to 30 talks on heat safety during the summer (Tr. 709). He tells letter carriers to take precautions in hot weather, including "drink plenty of water. Make sure their clothes are loose-fitting, . . . and get plenty of shade and rest when you can." (Tr. 700) "We give them the symptoms of heat stress and heat strokes. And . . to let them know if they start feeling sick or ill in any kind of way, to call 911 to let somebody know." (Tr. 709) A bulletin board in the post office workroom is used to display safety information. "Like some of the talks that we have. It'll have it up there. You know, things dealing with heat stress and heat stroke. It'll have the symptoms up there for carriers to see." (Tr. 705)

LC1 and the June 17, 2016, Incident

Carriers are supposed to complete their routes in 8 hours. In June of 2016, LC1 started his workday at 8:30 a.m., at which time he would *case* his route's mail for that day by using a shelving system to place the mail in delivery sequence. Casing mail for Route 2536 typically took about an hour and a half to complete. LC1 would then load his van and clock out to the street (Tr. 47-50, 105).

On the morning of June 17, 2016, LC1 arrived at the Astrodome Post Office, cased his mail, and submitted a Form 3996 requesting 30 minutes of overtime. The request was

disapproved (Tr. 49-50). LC1 was wearing his customary summer uniform of pants, long-sleeved UV shirt, and a mesh baseball cap. The Postal Service provides a yearly uniform allowance of approximately $400 for postal employees to buy their preferred style of shirts, pants/shorts, headwear, and shoes from an authorized selection (Exh. R-2; Tr. 61-63, 91-94, 100).

LC1 kept a personal cooler in the van containing ice, bottled water, Gatorade, orange juice, pickle juice, and other beverages, as well as his lunch and a snack (Tr. 66-67, 125-26, 130-31). He included orange juice specifically because it contains potassium, which he believed helped prevent muscle cramps (Tr. 146). He made a point to drink more fluids when it was hot outside because he had been delivering mail for 12 years and knew "it was needed." (Tr. 126). LC1 paced himself using the heart rate monitor on his watch. He tried to keep his heart rate under 120 beats per minute (Tr. 127). LC1 characterized himself as a "heavy sweater" when delivering the mail. "Like I've been in the rain. . . . I think I've always been like that." (Tr. 130)

Postal employee GJ is a city letter carrier and certified detailed assignment route examiner. Route examiners must complete a 40-hour course and pass an exam to become certified. In Houston, route examiners are assigned to accompany letter carriers once a year on routes for different post offices throughout the city of Houston. They ask the letter carriers to deliver mail on the routes "in a timely manner," meaning within 8 hours, and they keep time for the various stages of delivery on the routes. The route examiners observe the delivery and record data regarding the routes. They do not have supervisory authority over the letter carriers. Route examiners are not permitted to give instructions to letter carriers (Tr. 51, 189-91, 225, 230).

Route examiner GJ introduced herself to LC1 the morning of June 17, 2016, and informed him she would be accompanying him on his route that day. GJ walked with LC1 as he delivered his route but she stayed on the sidewalk when he walked up to houses, townhouses, and apartment complexes to deliver the mail (Tr. 50-52, 132). She was equipped with a DCD (data collection device) and a copy of Form 3999. Route examiner GJ explained the DCD is "a machine that we use, . . . and it gives me each address that we're supposed to be at. And then it lets me put in 'yes' or 'no' if there has been mail delivered to that particular address. And when we take breaks, when we take lunch, or if there's a personal need." (Tr. 193) Form 3999 "is a copy of all the addresses that we would be going to throughout the day from start to finish." (Tr. 194)

LC1 loaded his van, and he and GJ left the Astrodome Post Office at 9:52 a.m. LC1 drove to his first park point and grabbed the mail for the first split of the loop . He made his first delivery at 10:21 a.m. LC1 and GJ took their morning break in the van at 12:30 p.m. and their lunch break at 2:11 p.m. (Exh. C-20; Tr. 196). At 2:35 p.m., when LC1 and GJ were taking their lunch break, the temperature in Houston was 98.6°F and the relative humidity was 42%, resulting in a heat index of 107.7°F (Exhs. C-41 & C-42; Tr. 855). No heat advisory was issued for the Houston area (Tr. 884-85).

Route examiner GJ noticed LC1 was sweating a lot (Tr. 198-200). At some point she asked him if he wanted to stop and reschedule the route examination because he was sweating so much, and she knew that was a symptom of heat exhaustion. He responded he did not want to stop. LC1 did not appear confused or cognitively impaired, and he had no problem delivering the mail correctly (Tr. 203-04, 226-27).

LC1 drank water or some other beverage at the van every time he finished a split (Tr. 134, 199). LCI reported he felt "pretty good" that day until he started delivering mail after lunch. "That's when I started cramping, bad. . . . Fingers, forearms, thigh muscles, calves. Everything. Side." (Tr. 68-69) The cramping subsided after he finished delivering on a street, and LC1 decided he would persevere.[7] The remaining portion of his route normally would take approximately an hour and 10 to 15 minutes to complete (Tr. 70-73). He did not ask route examiner GJ to stop the route inspection or to call the Astrodome Post Office or 911. (Tr. 96, 147-49, 156-58, 233).

LC1 had experienced muscle cramps in the past when delivering mail and had never contacted his supervisor to report it. He had also experienced muscle cramps when running half-marathons, and he had indicated during a medical exam in 2004 that he had experienced leg cramps while serving in the Army in 1987 and 1988 (Exh. R-14; Tr. 160-61).

At 3:00 and 4:00 p.m., GJ asked LC1 if he was okay, and both times he told her he was fine (Tr. 200). She noticed he was "moving slowly and still sweating a lot." (Tr. 201) He did not appear to her to be in pain (Tr. 201). They took their afternoon break at 3:30 p.m. (Exh. C-20).

[7] LC1 and route examiner GJ gave slightly differing accounts of when she became aware LC1 was experiencing muscle cramps and whether she offered to stop the route examination (Tr. 69-70, 78, 200-01, 204). The discrepancies are minor and the Court attributes them to the differing perspectives of LC1, who was focused stoically on finishing his route despite the pain, and route examiner GJ, who was keeping time, checking addresses, and entering data as she walked with LC1. The discrepancies do not affect the credibility of LC1 and GJ, both of whom the Court found to be sincere and trustworthy in their testimony.

At approximately 4:00 p.m., LC1 took a "personal needs" break for about 10 minutes at GJ's suggestion (Exh. C-20; Tr. 150-51, 201). At this point, according to LCI, route inspector GJ "was concerned. She was wondering if I was going to make it or not, and I told her that, 'Yes, I think I can make. . . . [L]et me finish this street because this is my last street and drop off these last parcels. Then I should be all right.' . . . What I was thinking, I was going to be all right." (Tr. 153-54) LC1 stated GJ did not pressure him to finish his route or to go faster (Tr. 154).

By the time he completed his route, LC1 was, in his words, "out of it, delirious, cramped up. . . . [M]y vision was blurry, and I was seeing spots and stuff. And my ears felt like they had water in them." (Tr. 71) He finished his last delivery at 4:19 p.m. and told route examiner GJ he was experiencing muscle cramps and wanted her to drive back to the Astrodome Post Office (Exh. R-22; Tr. 154-55).[8]

When they arrived at the Astrodome Post Office, GJ parked the van but left the air conditioning running. She told LC1 to stay in the van while she went in the building to get a supervisor. She returned with GW, the afternoon (P.M.) supervisor, who is in charge of the post office's operations after the morning (A.M.) supervisor leaves. Supervisor GW noted LC1's eyes looked "very different" and he was slurring his words. As GW attempted to help LC1 out of the car, LC1 vomited (Tr. 249). GW and GJ managed to help LC1 into the air-conditioned post office. Supervisor GW called 911 and emergency medical technicians arrived at the post office. They evaluated LC1 and transported him to Houston Methodist Hospital (NH Exh. C-180; Tr. 72-73, 201-02). He was admitted and diagnosed with orthostatic hypotension, acute renal failure, metabolic acidosis, and rhabdomyolysis. The hospital discharged him on June 19, 2016 (NH Exh. C-180). LC1 returned to work on June 27, 2016, with no medical restrictions (Exh. R-24).[9] As the P.M. supervisor, GW was responsible for investigating and reporting accidents that

[8] According to the Form 3999 that route examiner GJ completed on June 17, 2016, LC1 completed his last delivery at 4:26 p.m. (Exh. C-20; Tr. 198). The 7 minute discrepancy is not significant and has no bearing on the issues in this proceeding.

[9] It is LC1's understanding his diagnosis at the hospital was heat exhaustion although that diagnosis does not appear in his medical records for his stay at the hospital from June 17 to 19, 2016 (Exh. C-12; NH Exh. C-180; Tr. 180-81). LC1 went to Nova Medical Center on June 21, 2016 (NH Exh. C-178; Tr. 178). At the hearing, after LC1 stated he had not received a diagnosis from Nova Medical Center, Secretary's counsel asked him if it would refresh his memory to look at his medical records from Nova (Tr. 179-80). He responded, "No, because Nova pretty much wrote—when I went to my regular doctor, they just went along with what the regular doctor said and wrote that down. They didn't give me an exact diagnosis. It was from my doctor's diagnosis." (Tr. 180) When asked how he came to understand he had been diagnosed with heat exhaustion, LC1 replied, "From when I went to Methodist [Hospital]." (Tr. 181) The medical records from Houston Methodist Hospital do not reflect that diagnosis.

occurred on his shift. With respect to LC1, GW questioned him and route examiner GJ, as well as the emergency medical technicians who arrived and treated LC1 (Tr. 246).[10]

June 17, 2016, Incident Involving CCA1

Also on June 17, 2016, CCA1, a city carrier assistant, began to feel dizzy and nauseated as she delivered mail on Route 2553, a park and loop route.[11] CCA1 was driving a long life vehicle (LLV), the familiar boxy mail truck, which is not equipped with air conditioning (Tr. 830, 832, 838). CCA1 described the events of June 17:

> I called the postal station. . . . There was no answer at first, so I texted my supervisor and I let them know -- well, I let her know through the text message how I was feeling, and I didn't receive a response from her. . . . I sat there a while. I drank water and I continued to -- I tried to deliver my mail on the street that I was on. But as I delivered, I began to throw up. So I called one of my coworkers and asked if she would continue to try to call the station for me. And finally, the postal supervisor that was there that day, . . . [and] she texted me back first and she asked me how I was feeling, and I told her. So she called me and she said, "Well, just sit there for a while and when you begin feeling a little better, continue to deliver your mail. And if I have somebody to help you, then I'll send them."

(Tr. 839)

No help arrived so CCA1 continued delivering the mail. "It took much longer but I eventually got to the end. . . . [T]he last thing I remember was being at the Post Office." (Tr. 840)

At the Astrodome Post Office, P.M. supervisor GW asked CCA1 if she could drive and whether she wanted him to call 911. She asked him to call her adult children who lived nearby and they would take her to the emergency room (Tr. 848). CCA1 testified GW did so and her

[10] LC1, route examiner GJ, and CCA1 submitted handwritten statements recounting the events of June 17, 2016, at the direction of supervisor GW (Exhs. C-12, C-11, and C-10, respectively; Tr. 76, 252, 842). Counsel for the respective parties attempted to undermine the testimony of GJ and CCA1 by questioning them regarding details to which they testified but left out of their handwritten statements (Tr. 213-15, 235-37, 845-48). A review of the handwritten statements shows the employees took a minimalist approach to the assignment, each writing a bare-bones account of the day's events. The statements were written by laypersons to the legal profession and without an eye towards litigation. The Court draws no adverse inference from their statements' omissions of details elicited by extensive examination and cross-examination at the hearing.

[11]On July 14, 2016, letter carrier LC2, began to feel unwell as she delivered an Express package. LC2 did not have a regular route but was on limited duty due to health reasons (Tr. 264, 432). LC2 was sitting in her LLV when a woman working in a nearby office noticed her and came out to check on her. LC2 asked the woman to call a supervisor at the Astrodome Post Office. Supervisor GW drove to LC2's location, where she told him she was not feeling well and could not complete the delivery (Tr. 263, 433). CSHO Weatherall did not interview her and LC2 did not testify at the hearing (Tr. 901). No medical records relating to this incident were presented at the hearing.

children took her to an emergency room where she received a diagnosis of heat exhaustion and dehydration (Tr. 840-41).[12]

OSHA's Inspection

Compliance safety and health officer (CSHO) Brandi Weatherall was assigned to inspect the June 17 incidents. She went to the Astrodome Post Office and met with P.M. supervisor GW. She did not interview LC1 or CCA1 (Tr. 901). She obtained weather information for the Houston area for June 17, 2016. (Tr. 854-55). Exhibit C-42 is a document copied from Weather Underground's website. Weather Underground is a commercial weather service that maintains a network of private weather stations, including one at Dunn Helistop in Houston, near the Astrodome Post Office. On June 17, at 2:15 p.m., the temperature is recorded as 98.6°F (Exh. C-42; Tr. 854-56, NH Tr. 394, 398-99). Exhibit C-41 is a certified copy from the National Weather Service (NWS) showing weather data for June 17, 2016, in Houston. It showed a temperature of 99°F for that day at 2:15 p.m. (Exh. C-41; Tr. 857-58).

CSHO Weatherall testified, "Excessive heat is the level at which a hazard can exist, and it caused harm, injury or illness to an employee in the workplace. . . . It's not at a specific temperature. . . . The employer is supposed to assess the workplace to ensure that employees are not exposed to a hazard in the workplace." (Tr. 865-66)

V. TESTIMONY ADMITTED IN SOUTHERN AREA CASES

The Southern Area is one of the seven areas into which the Postal Service divides the United States for regional delivery (Exh. J-1, ¶¶ 4-5). Three of the five post offices in the cases before the Court are located in the Southern Area. The parties agreed the testimony of Daniel Penland, the Postal Service's manager for the Southern Area safety department, is relevant to the three Southern Area cases. The Court ruled Penland's testimony in the hearing in this case is also admitted as part of the record in the Benton, Arkansas, case (No. 16-1872) and the San Antonio, Texas, case (No. 16-1713).

The Southern Area comprises Arkansas, Texas, Louisiana, Oklahoma, Mississippi, Florida, and a portion of Georgia. Approximately 33,000 postal employees work in the Southern Area. Daniel Penland has worked for the Postal Service since 1986 and has been the manager for

[12] The record is silent on whether CCA1 was admitted to the hospital, how long she was at the emergency room, what treatment she received, or whether she missed any workdays due to this incident. CSHO Weatherall did not interview CCA1 regarding this incident. CCA1 did not release her medical records to OSHA. CSHO Weatherall stated she received "some" records, which she requested because she "wanted to know what the diagnosis was from the hospital visit." (Tr. 905-06) No medical records for CCA1 were presented at the hearing.

the Southern Area safety department since November of 2011 (Tr. 303-04, 313-14). Penland summarized his duties. "I work with all the districts in the Area Office and Headquarters to ensure all the safety programs and assist the districts in implementing those safety programs. We also help develop and help the districts analyze accident data to help reduce employee injury. We also work with OSHA compliance, inspections and monitoring, as well as working with the unions to ensure all the safety of the employees is met." (Tr. 310-11). Penland was aware that in 2015 at least 119 postal employees in the Southern Area reported sustaining heat-related illnesses while working. In 2018, there were at least 77 such incidents (Tr. 329, 334).

In April of 2016, Penland issued a letter to postal operations in the Southern Area with attached materials for the *Southern Area Heat Stress Campaign* (Exh. C-2; Tr. 329). He developed the campaign to "help improve the awareness of our employees about a climate condition that happens every year. . . . To heighten the employees' awareness and make them aware of things that they may be able to do and perform to improve their ability to work in that climate condition." (Tr. 330) Employee training in the *Heat Stress Campaign* was not mandatory (Tr. 331). Penland explained the difference between a Postal Service safety program and a safety campaign: "[W]hen I put out a program, it's usually related to a required element. A campaign is an awareness level. . . . The heat element was a campaign informational awareness." (Tr. 333)

> What the intent of the campaign was to provide a wealth of information in different media forms. As you can see when you look through the campaign, there were videos in there, there were PowerPoint presentations. There were links to other outside data sources. There were postings. There were just informational standup talks on a number of different elements that all can relate to a possible employee experiencing heat stroke or heat stress. All of these things could help that employee prepare themselves. . . . But none of it was mandatory.

(Tr. 374-75)

Penland stressed the importance of acclimatization for letter carriers, which he defines as preparation "for the heat level that you're going to be working in, whether it's proper hydration, proper clothing, being aware of the surroundings." (No. 17-0023 Tr. 341) Penland places the primary responsibility for protecting against heat-related illnesses or injuries on the letter carrier. He stated it is the policy of the Postal Service "to accommodate medical restrictions as best as possible." (No. 17-0023 Tr. 345)

Penland does not believe the temperature the day of any given reported incident is a relevant factor. "It's how each individual person identifies with that heat and the heat level itself

is not necessarily the concern. It's how that person can deal with that heat and how that heat level affects them. I can be affected by a heat level of 80° or somebody could be out there working in 100 and have no effect. So the temperature itself is not the issue, in my opinion." (Tr. 352-53) He listed factors he did believe are relevant to heat-related incidents:

> Had [the letter carriers] eaten properly that day? Had they provided hydration the night before? Had they had a high alcohol intake the night before? Were they on medication? Were they properly dressed? Were they wearing a hat or was the sun beating down on their head? There's lots of different elements that are part of an investigation where the heat temperature or the temperature outside itself to me is irrelevant because that's a climate condition.

(Tr. 353-54)

Penland was dismissive of the relevance of the heat index for the Postal Service. "I believe it would be valuable as information to the employee. As far as eliminating future injuries, I do not see it has a high value, no. Again, it's more of a condition of what's going on with that employee versus the temperature outside because temperatures are so much different. . . . Heat itself I do not believe is a hazard, no. I believe it is a climate condition." (Tr. 354-55)

Penland discounted the importance of heat in the reported heat-related incidents, estimating (without investigating the details of the incidents) that as many as 40 percent of the reported incidents were not, in fact, due to high temperatures on the day they occurred.

> Q.: Mr. Penland, I think you were testifying about the fact that some of the reported illnesses due to heat may have not been due to heat, correct?
>
> Penland: Possibly, yes.
>
> Q.: Okay. And have you investigated what percentage that is?
>
> Penland: The exact percentage, no. I just know that there are--when we look at cases, we want to look and see if the factors are present. And we always want to look at the root cause of the case. So sometimes during that root cause analysis, we will make determinations that the heat maybe is not--wasn't the root cause. . . . And maybe it's a diabetic reaction. We don't know.
>
> Q.: Okay. And have you gone back and done that analysis?
>
> Penland: The specific analysis, no, but we've done-- we've done the root cause. When you talk about analysis, I refer to that as the general -- all of the cases that we're dealing with versus just those specifics. We do go into the specifics on each individual case, especially the more severe ones.
>
> Q.: Okay. So have you gone back and made some determination that -- I mean, have you gone back and looked at the number that you set out in April of 2016 and determined what amount were reported as heat, extreme heat, when the root cause was something predominantly else?

Penland: I've looked at it, and I could estimate the percentage of about 40 percent.

Q.: Okay. And you have looked at all 119 injuries from 2016 and –

Penland: No, I haven't. That's why I estimated. No, ma'am, I have not delved into each one of these 119. But a cursory review gives -- leads to an estimate of about 20 percent [*sic*].

Q.: Okay. And what did you do in this cursory review?

Penland: I would review whether or not this case was reported with the employee was working indoors or outdoors, first. Then I would look at the occupation that the employee was working in. How much control did they have over their climate?

(Tr. 380-83)

Penland noted OSHA has not promulgated a specific standard addressing excessive heat and testified he did not consider hot weather an appropriate condition for safety regulation. "When you're dealing with the climate, . . . it literally changes from block to block, from city to city, and it's -- it's the natural climate. Also, the other thing that when you look at a hazard, I've been taught through my safety aspect is we work the processes to eliminate that hazard. Again, we can't control the climate. So we will make people aware because the – the climate affects each individual person differently." (Tr. 392)

VI. THE NATIONAL HEARING

Joint Stipulations

The national hearing was held from February 25 to March 12, 2019, Washington, D.C. At the beginning of the hearing, the Court admitted the parties' statement of joint stipulations into the record:

1. In the following Fiscal Years (FY), the Postal Service's total revenue was:

2016 $71.498 billion
2017 $69.636 billion
2018 $70.660 billion

2. In the following Fiscal Years, the Postal Service's total operating expenses were:

2016 $76.899 billion
2017 $72.210 billion
2018 $74.445 billion

3. In the following Fiscal Years, the Postal Service's net loss was:

2016 $5.591 billion
2017 $2.742 billion

2018 $3.913 billion

4. As of September 30, 2018, the Postal Service employed approximately 497,000 career employees and approximately 137,000 non-career employees.

5. In FY 2016, the Postal Service employed the following:

170,885 city delivery carriers
40,436 city carrier assistants
68,261 career rural delivery carriers
53,183 rural carrier associates

6. In FY 2018, the Postal Service employed the following:

168,199 city delivery carriers
42,115 city carrier assistants
70,852 career rural delivery carriers
59,183 rural carrier associates

7. In FY 2016, the Postal Service had approximately 144,571 city delivery routes and 74,724 rural delivery routes.

8. In FY 2018, the Postal Service had approximately 143,358 city delivery routes and 78,737 rural delivery routes.

9. In FY 2016, the Postal Service managed a combined total of approximately 31,585 post offices, stations, and branches.

10. In FY 2018, the Postal Service managed a combined total of approximately 31,324 post offices, stations, and branches.

(NH Exh. J-100; NH Tr. 11)

Overview of the Postal Service's Operations

David Williams Jr. has been the chief operating officer and executive vice president for the Postal Service since February of 2015. He is responsible for all operations required to process, transport, and deliver mail (NH Tr. 1728, 1746). He explained the Postal Service's operations are divided into three primary sectors: network operations, delivery operations, and retail and customer service operations (NH Tr. 1774-75).

Network operations cover mail processing plants where mail is sorted, processed, and distributed to some level of ZIP Code order (NH Tr. 1775-76). Network operations include the surface and air transportation that is coordinated with the distribution centers and post offices throughout the nation. The Postal Service coordinates surface transportation with the assistance of over 1,900 contractors and covers approximately 1.9 billion miles a year (NH Tr. 1774-76). It relies on "a vast air network," which includes 90 airplanes during the day and 140 at night provided by FedEx, as well as planes provided by UPS (NH Tr. 1760). The Postal Service also

uses commercial airlines (mainly Delta, United, and American) to transport mail (NH Tr. 1779). The extensive transportation network is necessary due to the Postal Service's unique mandate to deliver to every address in the United States.

> [A] lot of transportation is involved in moving product because of the complexity of our network, the fact that we go everywhere. We go everywhere because our mandate is to serve every American, no matter where they live, no matter what community they're in. And the connectivity that's required to make that happen involves a very complex, very sophisticated transportation network. We spent about $7.9 billion a year on transportation, so a significant spend. It's the second-largest spend, and 11 percent of our expenses are involved in transportation.

(NH Tr. 1780-81)

Nationwide, delivery operations require city and rural letter carriers to complete approximately 226,000 routes 6 days a week (NH Tr. 1783-84). The Postal Service uses the concept of "FirstMile" to identify the initial contact the customer has with the Postal Service during delivery operations. A customer wanting to send a letter puts a stamp on it, places it in the household mailbox, and raises the red flag. The raised red flag "is a signal to our carrier workforce that there is mail to be collected. . . We also have a FirstMile component at our post offices. . . [T]here's a slot where they can drop mail into any one of approximately 31,000 post offices." (NH Tr. 1785-86)

Retail and customer service operations also involve a FirstMile component when customers buy stamps or mail packages at a post office. Williams stated the Postal Service has the largest retail footprint in the United States, with more retail units than Starbucks, Walmart, and McDonald's combined. Service and sale associates (SSAs) work in the fronts of the post offices and interact with customers while postal clerks work in the backs sorting mail (NH Tr. 1787-89).

Williams expounded on the scope and complexity of its operations.

> I can't think of any network that is as complex as ours. You think about all the touch points that we have in our network, every 226,000 carriers, 31,000 post offices, 285 processing and distribution centers. Back through our network of transportation, whether it's air or surface, 2 billion miles. Airplanes that are flying all over the country, connecting that promise and that thing, that message of sympathy and love, transactions, educational material to anybody else in the United States or our territories, even the world. We deliver 47 percent of the world's mail.
>
> So significant, significant operational footprint that we have, supported by a tremendous amount of complexity to make sure that we're delivering the

> promise of when you put that stamp on that birthday card for one of your loved ones, they're going to get it.

(NH Tr. 1791-92)

In order to ensure its operations run smoothly and punctually, the Postal Service implements "the 24-hour clock" as an organizing principle. "[W]e have critical points on the clock, developed to make sure that we're hitting the mark, all to achieve on-time service to points. Our mission to provide prompt, reliable, efficient service is based on this 24-hour clock. And it's critical." (NH Tr. 1795)

The clock starts with letter carriers retrieving mail at the FirstMile. At the end of the day, the letter carriers return to their post offices and place the collected mail in containers that are loaded onto trucks to transport the mail to processing and distribution centers. The operational process starts with cancellations, during which the stamps on mail are marked to show they have been used. The Postal Service expects 80 percent of all collected mail to be canceled by 8:00 p.m. Aligning the cancellation process with the 24-hour clock is crucial for the Postal Service's overall operations (NH Tr. 1795-97). "[T]hat very first step is highly important because any variation in the very first processing step, it could be a slight variation, but that slight variation creates greater variation at the next step. It creates even larger variation on the third step. Fourth step, even larger. By the time you get to the last step, which is the delivery, we call it the bullwhip effect. A small variation at the front end creates this huge swing of variation at the back end." (NH Tr. 1797)

The next step is the outgoing primary processing, where mail is sorted to a destinating plant based on the first three digits of the ZIP Code.[13] This step needs to be completed by 11:00 p.m. to align with the 24-hour clock. A second sorting is completed by midnight (NH Tr. 1798-1800). "[A]t midnight, across the country, all this mail that's been collected, the mail that's received over a retail operation, mail that you have put in your mailbox to be collected by the carriers, mail that was inducted into our plant operations by any one of our mailers that have discounts, that so some level of sort, all of that has to take place by midnight." (NH Tr. 1800-01)

After the mail is sorted, it must be assigned to transportation by 2:00 a.m. "No wiggle-room on in that. Trucks have to leave. Our entire surface network has been designed by the transport time that it takes to go from point A to point B. Can't bend time; can't bend distance. . .

[13] "Destinating plant" is Postal Service nomenclature for the facility receiving mail that will be sorted and transported to local post offices and from there delivered to its intended address.

[T]his number is fixed in our operating window. By 2 o'clock we have to have that mail assigned. . . [P]lanes and trucks have to leave on time. That is the mark that has to be made." (NH Tr. 1801-02)

Once mail reaches its destinating plant, the incoming processing begins. Mail arrives throughout the day and night, but it must be processed by 3:00 a.m. because that is the time postal employees start delivery point sequencing (DPS). DPS must be completed by 6:00 a.m. Priority mail takes longer and is not sorted to DPS but is sorted to a specific post office. It must be finished by 4:00 a.m., when trucks leave the destinating plant to transport mail to the post offices. Once the day's mail has arrived at the local post office, it must be delivered to the intended address by 6:00 p.m. that day (NH Tr. 1803-06). "[W]e want to get our carriers off the street by 6:00 p.m. And that's important because the trucks have to come back from the post office, back to the originating processing plant so we can get cancellations done by 8:00 p.m., 80 percent of them." (NH Tr. 1806)

Finances of the Postal Service

The Postal Service originated in 1775 when the Second Continental Congress appointed Benjamin Franklin its first postmaster general. President George Washington signed the Postal Service Act in 1792, creating the Post Office Department. It became a cabinet-level department and transitioned to an independent agency in 1971 under the Postal Reorganization Act of 1970 (NH Tr. 1747-1750). In 2006 Congress passed the Postal Accountability and Enhancement Act (PAEA) which, Williams stated, "created some business model changes for the Postal Service, split our products into two product types, competitive products and market dominant products, [and] placed some restrictions on pricing for market dominant products so that we could no longer rise our rates beyond [the Consumer Price Index,] CPI." (NH Tr. 1751)

The PAEA requires the Postal Service to prefund the Retiree Health Benefits Fund (RHBF) annually. Williams stated this requirement "really is a millstone around the Postal Service's neck in terms of finances. The manner in which we're required to prefund that obligation is one that I don't think the vast majority of companies or any other government agency is required to do." (NH Tr. 1751-52)

Jim Sauber of NALC[14] agreed the prefunding obligation is "really the central driving force of Postal Service's finances. . . . Most companies just pay their retiree health premiums on a pay-as-you-go basis for their current retires. This law added an additional obligation to the Postal Service, not only to pay their existing retirees' health and premiums, but to pay in advance, decades in advance the cost of future retiree health benefits." (NH Tr. 894-95) The Postal Service operated at a loss in 2016, 2017, and 2018 (NH Tr. 890-93).[15]

This prefunding mandate cost the Postal Service $9.1 billion in 2016, $4.3 billion in 2017, and $4.5 billion in 2018. The year 2016 "was the last year in which the Postal Service was required to prefund their retirees' health, but also out of their own operating budget pay for current retirees' health benefits. Starting in 2017 and going forward, they can now use the fund that they've set aside for these prefunding payments, which . . . has nearly $50 billion in it." (NH Tr. 896-97)

Since 2010 the Postal Service has been unable to meet the RHBF payments. "They have to report it as an expense, but then it gets reported as an additional liability on their balance sheet." (NH Tr. 897) Because the Postal Service is a federal agency and not a private company, it cannot file for bankruptcy. "So this has become the center of all the discussions about postal reform legislation, is what to do, how to reduce or repeal this prefunding burden." (NH Tr. 898) If the unpaid amounts for the retiree health benefits were removed from the budget statements for 2013 to 2018, the combined operating income for those years would be $3.8 billion (NH Exh. C-135; NH Tr. 899-903).

Sauber explained the retiree health benefit is not a debt owed to a third party.

> [T]his is not like defaulting on your mortgage if you don't make these payments. It's like if you're in tough times and you stop putting money into your kid's college fund. It's a future obligation and a future liability that you're going to have, but nonetheless it's out there and just by law Congress has decided that the Postal Service and only the Postal Service -- no other private company has to do this, has to prefund retiree health.

[14] Jim Sauber is the chief of staff to the president of NALC since 2002, first for Bill Young (until he retired in 2009) and then for Fred Rolandro. He manages NALC's professional staff, which includes staff in the areas of politics, legislation, communications and media relations, and research. Sauber is familiar with all publicly available information about the Postal Service, the Postal Regulatory Commission, and the collective bargaining rights and benefits programs of letter carriers (NH Tr. 871-74).

[15] The parties stipulate, "In the following Fiscal Years, the Postal Service's net loss was: 2016: $5.591 billion; 2017: $2.742 billion; 2018: $3.913 billion." (NH Exh. J-100, ¶ 3)

(NH Tr. 903-04)

The Postal Service is an agency of the federal government and, as such, does not file taxes. It is required by the Securities and Exchange Commission to file annual 10-K reports (NH Exh. C-131; NH Tr. 874-75). The Postal Service is funded entirely by the sales of postage and stamps—it receives no revenue from federal taxes "with one small exception." (NH Tr. 876) Market dominant services (MDS), which include "letters, invoices, statements, [and] marketing mail," are items for which the Postal Service is the main provider (NH Tr. 877). The Postal Regulatory Commission (PRC) permits the Postal Service to raise rates once a year for MDS, indexed to the CPI (NH Tr. 878) The Postal Service increased rates in January of 2019 by 2.5 percent and estimated it would "generate approximately $891 million in annualized income." (NH. Tr. 881)

Congress also provides a "sort of safety valve" for circumstances where higher rate increases are deemed necessary, called "exigent rate increases" that are "above and beyond the CPI." (NH Tr. 881-82). In 2011 or 2012, in the aftermath of the Great Recession, the Postal Service experienced a severe drop in mail volume. It petitioned the PRC for a 4.3 percent exigent rate increase above the CPI, which the PRC granted in December of 2013. The exigent increase was temporary, staying in effect until the Postal Service recovered $4.6 billion. It expired in April of 2016 after meeting that goal (NH Tr. 882-83).

The Postal Service also raises revenue by offering competitive services in the categories of priority mail, priority mail express, first-class package service, and parcel select. It has more flexibility in setting the rates according to market conditions for competitive services (NH Tr. 883-85). Sauber stated competitive services have given an economic boost to the Postal Service. "There was a booming, booming growth in e-commerce, and so the demand was providing the ability for the Postal Service to raise their rates. The demand was also raising their costs too, so that's in part why they did these rate increases." (NH Tr. 890) The Postal Service raises about $21.5 billion of its annual $71 billion revenue from competitive services. In 2018, approximately 4 percent of the total number of pieces letter carriers delivered were categorized as competitive services (NH Tr. 886-67). In January 2019, the Postal Service implemented a 7.4 percent increase in its competitive rates (NH Exh. C-131; Tr. 887).

Another anomaly of the Postal Service's business model is its partnership with its direct competitors. Williams stated, "[W]e rely on FedEx and we rely on UPS, but we also compete

with them. So in the package market there is a lot of competition, as you might imagine, with two big package delivery companies like UPS and FedEx. So within the competitive product line, most of the products and services are around packages." (NH Tr. 1753) The Postal Service is committed to meeting service standards for mail delivery, meaning the transit time for different types of mail is predictable. First class mail has overnight, 2-day, 3-day, 4-day and 5-day service standards (NH Tr. 1756). The Postal Service recognizes its customers rely on its promise to meet its service standards for both business and personal reasons.

> [W]e have a 2-day service commitment for first class mail if you're mailing within a 6-hour drive time within the United States, 2-day service standard. You're expecting to have that mail delivered in 2 days. If you're mailing a bill or if you're synchronizing when you're mailing a birthday card to your mother, and you know she lives within six hours of you, you know you've got 2 days to get that mail piece delivered, the promise that we're making our customers through our service standards.
>
> And cataloguers plan their promotions around expected delivery times in the home. They staff up their call centers expecting when we're going to deliver a catalogue in somebody's home so that when you receive a catalogue, you're calling up the call center and making an order.
>
> So our customers are counting on us. Amazon is counting on us to make their 2-day promise. Cataloguers are staffing up and counting on us to deliver catalogues so that whatever product is being sold can be bought. And if you've got personal correspondence, business correspondence or paying your bills, we've got a promise that we're going to deliver on that promise. When those expectations aren't met, our customers can get quite agitated, right. If you make a payment to your mortgage and it's not received on time and you get hit with a late fee, that's a major issue for our customers. If you staff up your call center and expecting a lot of calls because you've entered product into one of our plants and we don't deliver that timely, number one, you're not getting the sales that you're expecting. You've paid for a lot of people to be in call centers that aren't taking calls.

(NH Tr. 1762-64)

For certain guaranteed types of mail, the Postal Service must refund the customer's postage if the mail is not delivered in the promised time, which, Williams stated, is a financial penalty. However,

> the bigger penalty for us is when customers use us and we don't deliver on the promise that we're making, they go to alternative places, right? We're competing in every single product line. It's not just the competitive products where people traditionally see us as competing with United States Parcel Service or FedEx.
>
> We're competing now with our own customers. We're competing with Amazon. Amazon is creating their own delivery network. We're competing with electronics. . . . If you go on any social media app, whether it's Facebook, whether it's Instagram, whether it's email, you're getting hit multiple, multiple times by an

> unlimited number of companies that are using electronic media to deliver their message, whether it's a business message, whether it's a transaction, whether it's a bill payment, bill presentment, advertising piece, if it's periodicals, online periodicals.
>
> So even within our market dominant products, we're competing in every product, and service -- it's very hard to compete when somebody can deliver an email to your account free and when they want. . . . But if we're not delivering on our standards and we're losing customers, we call that churn, so churn is a term that we use. Last year we lost $5.5 billion for customers that left us. About 1.8 billion of that was because of service-related issues.
>
> So when we're not delivering on service, promises that we're making when we ink deals with some of the major e-commerce companies, they leave us. Some of them left us this past Christmas season when we were having difficulties in certain pockets of the country. We lost business because some of these e-commerce companies diverted packages that we would normally have received and were expecting to receive, they diverted them to some of our competitors.

(NH Tr. 1765-67)

NALC and Heat Stress Awareness

Manuel Peralta works in Washington, D.C., as the national director of safety and health for the NALC. NALC, with approximately 295,000 active and retired members, is "the union that has exclusive jurisdiction to represent city letter carriers throughout the country." (NH Tr. 43)

In July of 2012, Peralta learned a letter carrier in Independence, Missouri, "had died, and it was believed to have been related to the heat." (NH Tr. 52) In December of 2012, the Secretary issued a willful citation to the Postal Service for a § 5(a)(1) violation for exposing employees to excessive heat. The Postal Service contested the citation and the case went to hearing in February of 2014.

Peralta attended the hearing presided over by Judge Peggy S. Ball. He observed the testimony of the Secretary's expert witness, Dr. Thomas Bernard (NH Tr. 52-54).[16] Dr. Bernard's testimony inspired Peralta to address the issue of excessive heat exposure for letter carriers.

> As a direct result of the testimony of the doctor and the Occupational Safety and Health expert . . . I was stunned over what they explained, how it -- the heat affects the body. . . . The steps that I personally took is, I started to speak with the Business Agent, speak with the other officers, and determined that we had to learn more about the heat, learn more about its effects, learn more about what do we

[16] Dr. Bernard testified in the national hearing of the Postal Service cases before the Court.

> have to do as a craft to prevent our brothers and sisters from getting hurt. A few months later, the judge issued her decision.[17] And in reading her decision, I decided to start writing articles where I specifically made reference to her findings and her opinion. And I started to read more and more and more, including documents that came out from NIOSH and recommendations, and started to put together information and sending it more and more to the field.

(NH Tr. 55-56)

In response to increased awareness of heat stress, the Postal Service and NALC negotiated a memorandum of understanding (MOU) in 2015 (NH Tr. 56, 59). Section 1 of the MOU addresses training and provides:

> New letter carrier employee orientation will include the heat stress training identified below. Training will also be provided annually (no later than April 15) to all employees, with regular reminders throughout the summer season by local management.
>
> LMS Course 10019802—Heat Stress Recognition and Prevention (Supervisors and Carriers)
>
> PowerPoint Presentation—Heat Stress Recognition and Prevention (Supervisors to present to carriers). This program is designed as alternative training for those employees without access to the online Learning Management System.
>
> Heat Stress SDOM Video: http://blue.usps.gov/hr/safety/video/heat-stress.htm
>
> Stand Up Talks and Info Pak Information (attached as an appendix).

(NH Exh. C-106, p. 3) Peralta testified the Postal Service did not make the heat stress training mandatory for supervisors until May of 2018 (NH. Tr. 61).

The MOU was signed on May 5, 2015, and applies to the post office in Independence, Missouri, but states, "While this Agreement applies solely to the Independence, Missouri, Post Office, including its stations and branches, the parties recognize that heat abatement is an essential element of on-the-job safety for city letter carriers in all locations where city letter carriers are exposed to excessive heat." (NH Exh. C-106)

The second section of the MOU addresses increased supervisory monitoring of letter carriers when the heat index rises to 103 °F:

> 2) Monitoring Employees
> . . .

[17] Judge Ball found the Postal Service committed a willful violation of § 5(a)(1) by exposing its employees "to recognized hazards related to working outside during periods of excessive heat" and assessed a penalty of $70,000. The Commission declined to direct the case for review, and the decision became a final order. *United States Postal Service*, No. 13-0217, 2014 WL 5528391 (OSHRC Oct. 24, 2014). The Postal Service appealed to the United States Court of Appeals for the Eighth Circuit, but voluntarily dismissed its appeal on May 28, 2015 (NH Exh. C-189).

> [T]o the extent practicable, management will increase contact with employees performing street duties for the purpose of monitoring employees' well-being on days when the National Weather Service predicts a heat index (air temperature and relative humidity combined into a single value) at or above 103°F. For purposes of this agreement, the combination of air temperature and relative humidity at or above 103°F is deemed an "excessive heat day." The chart below indicates the heat index system used by the National Weather Service. [The NWS's heat index chart is depicted.]

(NH Exh. C-106; NH Tr. 147-51)

The MOU includes a section on work/rest cycles, again finding the heat index of 103°F to be a triggering event for additional measures:

> 5) Work/Rest Regimen
>
> On days where the National Weather Service predicts a heat index at or above 103°F, in addition to their regular scheduled break(s) and lunch break, city letter carriers are encouraged to take additional breaks in designated climate-controlled or shaded areas . . . when necessary to mitigate the impact of excessive heat. Additionally, the parties understand and agree that it may be necessary for individual city letter carriers to take additional breaks when the heat index is under the threshold set above. Individual city letter carriers retuning from absence or illness may be especially vulnerable to the effects of excessive heat, and therefore, are especially encouraged to take necessary breaks pursuant to this paragraph. City letter carriers taking an extra break under this provision, using their assigned MDD, send a text message to their assigned facility at the MDD, send a text message to their assigned facility at the beginning of the break (indicating the break location) and another text message at the conclusion of the break. The parties understand and agree that there may be circumstances where a city letter carrier taking a break under this provision may not immediately report the breakthrough the MDD.

(NH Exh. C-106; NH Tr. 151-53)

In 2015, without input from NALC, the Postal Service implemented a heat stress awareness program that supervisors communicated to letter carriers during standup safety talks (NH Tr. 62-63). Peralta found the program to be "very shallow in the depth of information provided. . . . [I]t's the limitation of hydrate yourself, avoid certain things, but very little, and none that I remember on acclimatization." (NH Tr. 63) He also objected to the format of standup talks being used to communicate the information, based on the 5 years he had worked as a letter carrier in California.

> When I was a carrier in Anaheim, I remember being called together for standup talks where the supervisor would read in the most monotonous, boring, uninspiring tone what he was required to read. And it felt like they were making a little checkmark on a piece of paper, telling you to finish up, go back to your case.

> It was absolutely worthless. So I spoke up because I was very disappointed with the quality of training. And that's one of the reasons that my president later volunteered me for the safety committee.

(NH Tr. 63-64)

Peralta created a form entitled *Initial Heat Injury Report* and distributed copies to the local union branches and posted it on NALC's website (NH Exh. C-105; NH Tr. 65-67). The purposes of the form are to track heat injuries and to assist injured letter carriers with claims under the Federal Employee Compensation Act (NH Tr. 67). NALC developed yearly spread sheets to track the heat injury reports (NH Exhs. C-107 (2015), C-108 (2016), C-109 (2017), C-110 (2018); NH Tr. 79-88).

Peralta investigated many of the injury reports and found a pattern emerged.

> [I]t surprised me how much pressure the employees were under to keep working. It stunned me that it was a common denominator in most of the cases. Keep pushing and pushing and pushing. We have a heat wave. We know we're affected by the heat wave. . . . It was my understanding that the employees were suffering from pressure to keep pushing forward. When I read the statements, in some of them it was, "I called my supervisor. My supervisor told me to keep going in spite of a standup talk that told us to recognize the symptoms. When we did call, we were forced to keep going." And that happened a lot.

(NH Tr. 70-71) Eventually, Peralta became aware that letter carriers who suffered heat injuries were subject to disciplinary procedures (Tr. 89, 96).

Peralta attributed the death of a letter carrier in Medford, Massachusetts, in July of 2015 to excessive heat exposure (NH Tr. 102). He testified regarding the death of another letter carrier in Woodland Hills, California, in July 2018 on a day when the temperature was 117 °F. The letter carrier "had been off duty for approximately three months. She had suffered an on-the-job injury. I believe it was either a severely sprained or a broken ankle. She was on medication, off work for three months. That Friday was her first day back." (NH Tr. 104) Peralta discovered the Postal Service had certified the deceased letter carrier had undergone heat safety training during a period of time when she was not working.

> [D]uring my meeting on May the 15th of 2018 with management, they also told me every single letter carrier in the country will also undergo the LMS training for the heat safety program that we audited in 2015. They specifically put, to me, confirmation that 640,000 employees will undergo that training. Because I was very doubtful that they were going to have everybody go. I said, are you talking every single letter carrier? Well, we're not talking about individually, but in groups. Every single letter carrier and every single supervisor. So as the facts revealed themselves, I am provided with documents that indicated [the deceased

> letter carrier] was certified as having gone through that training when she wasn't ever at work yet. Her first day at work, she returns and dies, but they certified that she had gone through that training weeks earlier, which was absolutely untrue. They were embarrassed, and then they later, after the fact, corrected their records.

(NH Tr. 106)

Form 3996 and Time Pressure

Jennifer Thi Vo works as the Postal Service's director of city delivery (NH Tr. 2583). She has worked for the Postal Service for 25 years and has held a variety of positions, including post office supervisor (NH Tr. 2584). She oversees all work aspects of city letter carriers and the approximately 143,000 routes on which they deliver. The Postal Service employs approximately 161,000 full-time city letter carriers and 2,800 part-time employees, plus approximately 44,000 CCAs (NH Tr. 2587-88).

Vo has experience as a post office supervisor receiving Form 3996 requests from letter carriers due to predicted hot weather. She explained the process she used with the requesting letter carriers to determine whether she approved or disapproved the requests.

> I supervised in Memphis during the summer of 2014. . . . [I]t's hot, so on the 3996 they asked for overtime based on the heat. . . . What I looked at and what I try to teach is that each one of the 3996s are different because the employees are different and the routes are different. So the first one that I disapproved was for 30 minutes and it had heat. The conversation with the employee is that they leave their route at 10:00 o'clock and then usually are back by 4:00. But that day they were leaving at 9:30, so they're leaving an extra half an hour early. So the conversation that I would have is, "I'm disapproving your 3996. You asked for 30 minutes "O[vertime]" due to the heat. I do think that you might take the 30 minutes but you're leaving a half an hour earlier. I'm not going to give you any extra work." So I would disapprove that.
>
> The second one might be different. 30 minutes, and I remember this one. He asked for 30 minutes. He was leaving on time, so he's leaving at 10:00. He's supposed to leave at 10:00. He put heat, but his building, his route is 95 percent in the building. It's in the Civic Center, which is air conditioned, which the heat should not affect it. But usually what I did on that was I disapproved the 30 minutes. I gave him 15 minutes and told him that I would approve it. Use it if he needs it. If he needs more, let us know. But that's the conversation.
>
> The last two we approved because they were out on the street. They were leaving at the same time, so we went ahead and approved it.
>
> On those three cases, none of those employees worked overtime. It's really about the communication and talking to them. If they need it, they need it. If they don't -- 3996 is just a form to kind of determine if you need something.
>
> It's going to change once you get on the street. It might be that they used 35 minutes. It might be they used 15 minutes, but every single form is not the same, every route is not the same and every carrier is not the same.

> So that supervisor is really the key because they're the ones that are talking to employees every day. . . . [Form 3996 requests are] made at the beginning of the day, but all of the stations and branches usually have a requirement to call by a certain time. So if you know -- so at my stations, they're required to call at 3:00 o'clock. So they know -- it doesn't mean wait until 3:00 o'clock to call. It means that as soon as they find out that there's an issue there, give us a call.
>
> We have three options. The supervisors that pick up the phone have three options when they call. The first option is go ahead and use the overtime. Second option is I'll send you some help. And the third option is bring back the mail.
>
> Now, there's situations. Just like there's different carriers, there's different supervisors out there that's going to need training and stuff that will just say, "Continue going." If it's going to continue going, they have approved that overtime.

(NH Tr. 2597-2600)

When asked if it is proper procedure if a supervisor "just had their employees put a 3996 in a folder, doesn't look at them, disapproves them," Vo responded, "It would be. . . . A 3996 is—if it doesn't get approved or disapproved, it's automatically approved. So if you put in a request for overtime and the supervisor doesn't address it or any point, then the overtime's approved." (NH Tr. 2672)[18]

Vo testified a letter carrier's medical condition could affect the time needed to complete a route (NH Tr. 2636). When a letter carrier notifies the post office in the morning he or she is not feeling well, the supervisor can allow extra time for overtime or assign part of the route as a pivot. If a letter carrier is on the street and calls to say he or she is not feeling well and may require extra time to complete the route, Vo stated, "We usually won't have an issue with that." (NH Tr.2637)

On cross-examination, Vo was asked about testimony from letter carriers in the local cases indicating their supervisors consistently discouraged them from submitting Forms 3996 or taking lunch or breaks due to hot weather. She responded, "So what I heard from the testimony is that the employees felt they were pressured to be done on time. And I don't see that to be the case of my experience and what I see as in data. These looked like isolated incidents. But I don't see -- I haven't seen any factual, just what I've heard on it. But I don't think that that is representative of the Postal Service." (NH Tr. 2728)

[18] The carriers in the five Postal Service cases did not appear to be aware that Form 3996 overtime requests were automatically approved if a supervisor failed to address the requests.

Vo presents an idealized description of conversations between supervisors and city carriers regarding Form 3996 requests. The pleasant, civilized discussions she envisions, based on mutual respect between carriers and supervisors are not, however, the norm. Rather than being "isolated incidents" when "employees felt they were pressured to be done on time," the records in the five Postal Service cases, across five cities, demonstrate rural and city carriers experience near-constant pressure to complete their routes faster and to discourage them from taking breaks, reporting injuries or illnesses, or calling in sick.

Here, CCA1 felt dizzy and nauseated while delivering mail on June 17, 2016, and eventually vomited. Her call to the Astrodome Post Office work line and her text to her supervisor went unanswered. When she finally contacted her supervisor and described her condition, the supervisor instructed her to "just sit there for a while and when you begin feeling a little better, continue to deliver your mail." (Tr. 839) The supervisor told CCA1 she would try to send another carrier to assist her but no one arrived, and she finished her route alone (Tr. 840) The Court agrees with Peralta's opinion regarding the attitude of the Post Office to its carriers. "[I]t surprised me how much pressure the employees were under to keep working. It stunned me that it was a common denominator in most of the cases. Keep pushing and pushing and pushing." (NH Tr. 71)

Dr. Bernard testified letter carriers are influenced by the corporate culture of the Postal Service to prioritize productivity. "[T]here seems to be a dance where I ask for extra time with a form 3996 . . . and [the forms will] sit on a desk, and so it becomes an effective denial. . . . [T]here's pressure that comes down . . . to the senior supervisor in an office down to the first-line supervisors to the employees about the need to meet these goals. And I mention it from the dance point of view is there was no evidence that people were punished on taking more time, but there was certainly this culture of discouraging, you know, that was there." (NH Tr. 847-48) He stated letter carriers who in 2016 did report heat stress symptoms "were nonetheless encouraged to continue their routes." (NH Tr. 945) Even though supervisors received heat stress training, "they still had the emphasis on productivity versus trying to make sure that there was an early identification of signs and symptoms and early first aid." (NH Tr. 947)

VII. THE CITATION

The Secretary's Burden of Proof

> To establish a violation of the general duty clause, the Secretary must prove: "(1) a condition or activity in the workplace presented a hazard; (2) the employer or its industry recognized the hazard; (3) the hazard was causing or likely to cause death or serious physical harm; and (4) a feasible and effective means existed to eliminate or materially reduce the hazard." *S. J. Louis Constr. of Tex.*, 25 BNA OSHC 1892, 19 1894 (No. 12-1045, 2016).

Quick Transp. of Arkansas, LLC, No. 14-0844, 2019 WL 33717, at *2 (OSHRC March 27, 2019). "The Secretary also must prove that the employer 'knew, or with the exercise of reasonable diligence could have known, of the violative conditions.' *Tampa Shipyards Inc*., 15 BNA OSHC 1533, 1535 (No. 86-360, 1992) (consolidated)." *A.H. Sturgill Roofing, Inc.*, No. 13-0224, 2019 WL 1099857, at *2 (OSHRC Feb. 28, 2019).

Alleged Repeat Violation of § 5(a)(1)

The Citation alleges,

> OSH ACT of 1970 Section 5(a)(1): The employer did not furnish employment and a place of employment which were free from recognized hazards that were causing or likely to cause death or serious physical harm to employees in that employees were exposed to heat. On or about June 17, 2016, in Houston, Texas, City Letter carriers were exposed to excessive heat when delivering mail to residential and commercial facilities.

A. Existence of a Hazard

1. The Evidence Does Not Establish Exposure to Excessive Heat Caused the Illness of the LC1

The first element the Secretary must prove to establish a § 5(a)(1) violation is: "A condition or activity in the workplace presented a hazard." The alleged violation description (AVD) of the Citation does not identify the workplace, other than Houston, Texas. The Citation identifies the hazard presented as "excessive heat." The AVD does not identify the "condition or activity" that presented the hazard. The implication is the condition presenting the hazard of excessive heat is hot weather, but the AVD does not specify at what temperature weather is "hot," and it does not include the high temperature or heat index for June 17, 2016.

Heat Stress Hazards

The Secretary called Dr. Tustin to testify regarding excessive heat exposure.[19] The Court determined Dr. Tustin was qualified to provide expert testimony "regarding occupational medicine in general, heat stress exposure assessments, and the epidemiology of occupational heat-related illnesses." (NH Tr. 254)

Dr. Tustin explained heat stress results from a combination of a person's metabolic heat and environmental heat. Metabolic heat is generated by the human body and environmental heat results from sources outside the body. Sources of environmental heat include air temperature, relative humidity, radiant heat, and air movement. Humidity is the concentration of water vapor in the air. Radiant heat is generated by electromagnetic waves, such as direct sunlight (NH Tr. 255-57). Sunlight is "radiation that is striking the worker. So moving from the shade into the sunlight, even if the air temperature doesn't change, you'll be struck by the radiant heat so it can feel hotter." (NH Tr. 258) The National Weather Service uses the heat index to combine air temperature and relative humidity as a single metric. "What it's doing is accounting for two of the main environmental factors. . . . If the humidity rises, the heat index rises for a given temperature. So it's assessing how it feels to a worker." (NH Tr. 274)

The most serious illness caused by heat stress is heatstroke, which causes a dysfunction of the brain. Symptoms include slurred speech, disorientation, confusion, unconsciousness, or coma. Heatstroke causes an elevated body temperature, generally defined as 104 or 105°F (NH

[19] In 1998, Dr. Aaron W. Tustin received a Bachelor of Science degree in physics from the Massachusetts Institute of Technology. He received a Master of Science degree in astronomy from Harvard University in 2000 (NH Tr. 229). After working for a time in the private sector, Dr. Tustin attended Vanderbilt University Medical School and received a medical degree in 2012 (NH Tr. 230). After completing a year of residency at Johns Hopkins Hospital, he went to Peru for a year to conduct research in epidemiology and biostatistics for the University of Pennsylvania (NH Tr. 231). He then completed a two-year residency program in occupational and environmental medicine at Johns Hopkins Bloomberg School of Public Health and received a master's degree in public health in 2015 (NH Tr. 233-34). Dr. Tustin is board certified in occupational medicine and is a member of the American College of Occupational Environmental Medicine (ACOEM). He serves as an adjunct assistant professor at the Uniform Services University of Health Sciences (NH Tr. 236-38).

In August 2016, Dr. Tustin began working in Washington, D.C., as a medical officer for OSHA's Office of Occupational Medicine and Nursing (OOMN) (NH Tr. 226). He described OOMN's priorities as (1) "supporting OSHA field officers with their investigations" as expert consultants; (2) reviewing annual medical exams of CSHOs to assess their fitness for duty; and (3) "analyzing OSHA's internal data to try to improve [OOMN's] guidance that we give to workers and employers." (NH Tr. 226-27) Dr. Tustin has conducted research and written approximately a dozen peer-reviewed published articles relating to occupational health, including articles published in *The Journal of Occupational and Environmental Medicine*, *The Journal of Occupational and Environmental Hygiene*, and *Morbidity and Mortality Weekly Report* (*MMWR*), published by the Centers for Disease Control and Protection (CDC) (NH Tr. 240-47). He has lectured at medical conferences, including the American Occupational Health Conference (AOHC) and the National Occupational Injury Research Symposium (NOIRS) (NH Tr. 247-50).

Tr. 259). Heat exhaustion is a less severe result of heat stress. Its symptoms may include headache, nausea, vomiting, dizziness, and profuse sweating. Heat exhaustion does not result in an elevated body temperature or brain dysfunction (NH Tr. 260). Dr. Tustin stated symptoms of heat exhaustion, either separately or in combination, are also symptoms of other conditions and their presence may be unrelated to heat (NH Tr. 538-541). Less severe conditions caused by heat stress include heat cramps, heat rash, and heat syncope (fainting) (NH Tr. 261).

LC1and the June 17, 2016, Incident

Dr. Tustin reviewed weather data from the National Weather Service (NWS) for Houston, Texas, on June 17, 2016. The NWS data showed the high temperature in Houston that day occurred at 2:35 p.m. It was 99°F, and the relative humidity was 42 percent, resulting in a heat index of 109°F (NH Tr. 439-40). Dr. Tustin testified a heat index of 109°F is hazardous, based on epidemiological studies and cases he has reviewed. He stated his belief is "also consistent with other recommendations, for example, from the National Weather Service and OSHA, heat index charts and thresholds that they've published." (NH Tr. 418-19, 440)

Dr. Tustin reviewed LC1's hearing testimony and medical records. He stated LC1 had been diagnosed at the hospital with "acute renal failure and rhabdomyolysis." (NH Tr. 442). Dr. Tustin agreed with those diagnoses but testified he also would have diagnosed LC1 as having heat cramps and heat exhaustion (NH Tr. 442).

Rhabdomyolysis is "the breakdown of skeletal muscle. . . . [I]t can be caused by different things. But the research is pretty clear. There are review articles about rhabdomyolysis that state that exercise is a risk factor, so that's the metabolic heat and physical activity that's the component of heat stress. And also elevated environmental temperatures are a risk factor for rhabdomyolysis." (NH Tr. 442-43) Dr. Tustin considered the muscle cramps LC1 experienced to be heat cramps. "It seemed like it was heat cramps, based on the fact that he said that it happened -- for example, there was one occasion I remember where he said that he cramped during a half-marathon, which is a 13-mile race. So I didn't have a lot of information about the cramps, but it seemed like it was probably heat cramps." (Tr. 444)

It is Dr. Tustin's opinion that heat stress "played a causal role" in LC1's sustaining rhabdomyolysis and acute renal failure.

> I don't recall that he had any symptoms at the beginning of his route. It seemed like he was fine at the beginning of his route. And then during his mail route, he proceeded to develop all the symptoms that you listed, plus he had objective

> evidence of kidney failure based on the creatinine level, which was elevated more than twice the upper limit of normal. He had low blood pressure. . . .[H]he didn't have any chronic medical problems as far as I could tell, and he wasn't taking any prescription medications that could predispose him to a heat-related illness. So for all those reasons, I – I concluded that heat stress was a causal factor.

(NH Tr. 444-45)

Dr. Tustin considered LC's illness "serious" as the term is defined by OSHA (NH Tr. 445).

> I was asked to opine on whether these illnesses were serious, and since we don't really use that as a term of art, we understand the word "serious" just like any layperson does. I decided to adopt the specific definition when analyzing these cases. . . . I adopted the definition used by OSHA or determining whether an illness has to be recorded on an OSHA 300 log. That includes any fatalities, hospitalizations, medical treatment beyond first-aid or illnesses that require days away from work.

(NH Tr. 434)

Dr. Tustin stated, "[LC1] was admitted to the hospital for the acute kidney failure, and that was his primary medical problem, in my opinion, was the kidney failure. And so he was hospitalized and he required medical treatment, such as IV fluids. . . .[T]hey tested his creatinine level again and it was in the normal range afterwards. . . .[T]hat follow-up test indicates that it was not likely a chronic problem. The fact that he recovered after IV fluids means that it was likely a -- just an acute kidney problem that resolved when he was treated." (Tr. 445-46)

Dr. Shirly Conibear also reviewed LC1'a medical records and read his deposition transcript (NH Exh. R-37 & R-38; NH Tr. 3070).[20] The Court determined Dr. Conibear was qualified, based on her knowledge, skill, experience, training, and education, to testify as an expert "in occupational medicine, with specialized expertise in heat stress and abatement measures that may materially reduce the hazard of excessive heat." (NH Tr. 3013)

[20]Dr. Conibear is the president of Carnow Conibear & Associates. She received a medical degree in 1976 and a Master of Public Health degree. She is board-certified by the American Board of Preventive Medicine and Occupational Medicine (NH Tr. 2967-68). She is president and part owner of Carnow Conibear & Associates. She owns its sister company OMS, where she works as a senior physician, performing physical exams and fitness-for-duty evaluations in regulated entities (NH Tr. 2972-73). She also supervises "athletic trainers who are embedded in industry, using what's called the industrial athlete model." (NH Tr. 2974) Dr. Conibear is an adjunct professor at the University of Illinois and is on the Resident Advisory Committee there (NH Tr. 2982). For almost a decade, she was the director of programs and medicine in the educational resource center, "which NIOSH established to train nurses, safety professionals, industrial hygienists, and physicians in occupational health and safety." (NH Tr. 2984) She is a member of the National Advisory Committee for Occupational Safety and Health (NACOSH) (NH Tr. 2985).

Dr. Conibear concluded LC1 did not experience a heat-related illness on June 17, 2016 (NH Tr. 3067). LC1's diagnoses at the hospital were "unspecified acute renal failure" and rhabdomyolysis, and he was not diagnosed with heat exhaustion (NH Tr. 3073). In Dr. Conibear's opinion, LC1 was admitted to the hospital because the attending physician thought he was at risk for a heart attack. When LC1 arrived at the emergency room, his temperature was 97.9°F and his heart rate was normal. His creatinine phosphokinase (CPK) was elevated. CPK is an enzyme that "spills into the bloodstream when muscles are damaged." (NH Tr. 3071) CPK may be elevated when heart attacks occur, and LC1 had a family history of cardiac conditions. LC1 was given a troponin test and an EKG, which are not done for heat exhaustion but are done for suspected heart conditions (NH Tr. 3075-76).

LC1's lab results indicated metabolic acidosis, a condition where the pH of blood goes below its normal reading of 7.4. (NH Tr. 3072) It is caused by "things that disturb the electrolyte balance." (NH Tr. 3073) Dr. Conibear stated LC1's diagnosed condition of rhabdomyolysis "can be associated with heat in certain circumstances. People who develop hyperthermia get rhabdomyolysis. It's also associated with exercise. . . [A]bout 15 to 20 percent of runners have evidence of rhabdomyolysis in their blood at the end of a race, based on studies they have done." (NH Tr. 3072-73)

Dr. Conibear testified the term *exercise-associated muscle cramps* (EAMC) refers to "cramping that occurs in certain kinds of exercise, static postures, gripping or holding, and it's sometimes associated with exercising in the heat, but it's also associated with exercising in the cold." (NH Tr. 3076).

She reviewed a pre-placement exam for LC1 performed June 8, 1998, and a change-of-craft physical exam performed March 22, 2004. LC1 checked "No" to indicate he did not have a history of leg cramps in 1998 but checked "Yes" for that issue in 2004, "saying that he had a history of leg cramps from 1987 to 1988 when he was in the military." (NH Tr. 3069-70). Dr. Conibear testified regarding LC1's medical history.

> [W]hen he was in the emergency room, they took a history from him that he had similar cramping when he ran a marathon, and he -- he had a -- he had a similar sensation of whole-body cramps, as well as dizziness, but did not fall. He also had mentioned in his deposition he remembered cramping after a half marathon in 2014. It occurred in the last mile. And somewhere he talks about seeing colors when he had this happen.

(NH Tr. 3080-81)

Dr. Conibear concluded LC1 had a pre-existing condition of "exercise-associated heat cramps" based on "his long history of having cramps associated with when he was in the Army and when he ran marathons."[21] (NH Tr. 3157) She noted it is significant the cramps are recurring. "[S]tudies have shown that in people who have recurrent muscle cramps, there's generally a myopathy of some sort which has become increasingly sorted out now that we can do a lot of genetic testing."[22] (NH Tr. 3158) LC1's medical records show he saw his physician in October of 2017 and April of 2018 for muscle cramps. Dr. Conibear testified this reinforced her opinion "his symptoms were not related to heat" because he also experienced muscle cramps in the cooler months of October and April (NH Tr. 3224).

LC1 complained of cramping in his hands on June 17, 2016. Dr. Conibear stated this is consistent with exercise-associated muscle cramps "because of what he does. He grips all the time, so it's a static gripping posture, and the cramps tend to occur in muscle that's . . . kept and held in a position like that." (NH Tr. 3077) Dr. Conibear concluded LC1 experienced exercise-associated muscle cramps on June 17 based on "his long history of cramping, which is typical of EAMCs. And because it fits the description and the situation." (NH Tr. 3077) She conceded LC1 did not receive a diagnosis of EAMC at the hospital (NH Tr. 3077).

Dr. Conibear reviewed the medical records for LC1's visit to Nova Medical Center on June 21, 2016, 4 days after he experienced muscle cramps. "He was seen at Nova Medical Center, which is apparently a workers comp provider. And the doctor examined him and took a history, and ordered some laboratory results, laboratory tests." (NH Tr. 3079) For the first time, a diagnosis of heat exhaustion appears on a medical record for LC1, and it is based on LC1's self-diagnosis:

> Description of Injury: Patient states works as a City Carrier and had heat exhaustion.

[21] The Secretary argues Dr. Conibear contradicted herself in concluding LC1's pre-existing condition was "exercise-associated *heat* cramps" rather than muscle cramps (Secretary's brief, pp. 32-33). Heat is not, however, a product only of environmental factors. Dr. Tustin testified, "Metabolic heat is heat that the human body generates. We all generate heat all the time, even if we're at rest, and the word metabolic refers to the chemical reactions that sustain life and those chemical reactions generate heat. But when people do physical activity, their bodies generate even more heat[.]" (NH Tr. 255) There is no contradiction in Dr. Conibear's statement.

[22] Myopathy is "a defect in muscle metabolism." (NH Tr. 3158)

(NH Exh. C-178, p.5; NH Tr. 3080).[23]

Credibility Determination

Dr. Tustin testified unequivocally that heat stress was one of the causes of the illness that led to LC1's hospitalization June 17, 2016. Dr. Conibear was just as adamant the heat index of 109°F that day had nothing to do with his illness, which was caused by a pre-existing condition of EAMC. These two highly-credentialed experts reviewed the same medical reports and testimony and reached opposite conclusions. They both appeared confident, knowledgeable, and trustworthy as they testified. Their testimony, however, provided little clarity for the Court.

Dr. Tustin and Dr. Conibear reviewed the limited information presented in the medical records and appeared to conclusively diagnose the employees' maladies. They each appeared to be beyond doubt as to cause of the illnesses in the two employees whom they had never met or examined. Dr. Tustin concluded LC2 experienced heat cramps and heat exhaustion on June 1, even though the attending physician diagnosed him with acute renal failure and rhabdomyolysis (NH Tr. 442). Dr. Tustin had agreed earlier in his testimony that the symptoms of heat exhaustion, either separately or in combination, are also symptoms of other conditions and their presence may be unrelated to heat (NH Tr. 538-541).

Dr. Tustin's explanation for his conclusion that LC1 experienced heat cramps is circular and speculative. He concedes he is basing his opinion on little information, and he gives no rationale for his conclusion environmental heat caused LC1's cramping. "It seemed like it was heat cramps, based on the fact that he said that it happened -- for example, there was one occasion I remember where he said that he cramped during a half-marathon, which is a 13-mile race. So I didn't have a lot of information about the cramps, but it seemed like it was probably heat cramps." (NH Tr. 444)

Likewise, Dr. Conibear was unwavering in her opinion the hot weather on June 17, 2016, in Houston had no causal link to the illness LC1. On cross-examination, counsel for the Secretary referred to a position statement issued by the National Athletic Trainers Association (NATA) on exertional heat illness (NH Tr. 3191).

> Q.: [I]n that document, isn't EAMC included in a list of heat-related illnesses that also includes heat syncope, exertional heat exhaustion, and exertional heat stroke?

[23] Neither Dr. Tustin nor Dr. Conibear was questioned regarding the incidents involving CCA1 on June 17, 2016, or LC2 on July 14, 2016. No medical records were admitted for either employee. The Court determines testimony in the Houston hearing regarding the incidents has no probative value with regard to the issue of the existence of a workplace hazard.

Dr. Conibear: It is.

Q.: So according to that document, isn't EAMC an exertional heat illness?

Dr. Conibear: No, I don't think that that's correct.

Q.: That article also states: "Heat illness is more likely in hot, humid weather." Do you agree with that general statement?

Dr. Conibear: Yes.

Q.: In [LC1's] case, did you take the actual environmental heat conditions that existed on that day into account in reaching your opinions?

Dr. Conibear: I was aware of them, but they weren't influential in my opinion.

Q.: So does that mean that no matter how hot it had been on the day [LC1] suffered this illness, you would conclude that the environmental heat did not play a role?

Dr. Conibear: I don't think that the environment was causal. It did not cause his heat cramps.

. . .

Q.: Is it your opinion that no matter how hot it had been on that day, that the environmental heat did not play a role in his illness?

Dr. Conibear: I don't know what "play a role" means.

(NH Tr. 3201-02)

The unyielding stances of Dr. Tustin and Dr. Conibear as to whether heat stress caused the illness of LC1 on June 17, 2016, are not persuasive. Dr. Tustin stated humans have a range of tolerability for heat stress, depending on factors such as predisposing conditions and acclimatization (NH Tr. 546-47). The certitude of Dr. Tustin and Dr. Conibear, formed after reviewing the limited information available in the medical records, is at odds with their testimony that the symptoms of heat illness often mimic the symptoms of other conditions, and vice versa (NH Tr. 538-41, 3156).

> *See Riegel v. Medtronic, Inc.*, 451 F.3d 104, 127 (2d Cir. 2006), *aff'd*, 552 U.S. 312 (2008) (stating that "[a]n expert opinion requires some explanation as to how the expert came to his conclusion and what methodologies or evidence substantiate that conclusion[]," and dismissing negligent manufacturing claim where expert failed to explain the basis for his opinion that catheter burst radially, not longitudinally); *SkinMedica, Inc. v. Histogen Inc.*, 727 F.3d 1187, 1210 (Fed. Cir. 2013) (evidentiary value of conclusory expert testimony is "unhelpful"; such opinions "lack any substantive explanation tied to the intrinsic record" and "without a more detailed explanation" as to how the expert "formed his conclusions," they "deserve[] no weight"). . . . *See Mosser Constr., Inc.*, 23 BNA OSHC 1044, 1046-47 (No. 08-0631, 2010) (finding expert's opinion "unpersuasive" where the expert failed to explain factual details underlying it);

> *Peterson Bros. Steel Erection Co.*, 16 BNA OSHC 1196, 1203-04 (No. 90-2304, 1993) (discounting expert's testimony because he did "not include the factual basis and reasoning behind [his] opinion"), *aff'd*, 26 F.3d 573 (5th Cir 1994).

A.H. Sturgill Roofing, Inc., No. 13-0224, 2019 WL 1099857, at *5-6 (OSHRC Feb. 28, 2019).

On the issue of whether heat stress or some other physical condition caused the illness of LC1 on June 17, 2016, the Court accords no weight to the testimony of Dr. Tustin and Dr. Conibear. They testified previously in the national hearing that symptoms of heat illness can also be symptoms of other conditions. Neither doctor provided a substantive explanation for insisting on one diagnosis over the other.

It is the Secretary's burden to establish a condition or activity in the workplace presents a hazard to employees. Here, he did not prove the illness of LC1 was caused by exposure to excessive heat (the Postal Service did not prove it was not caused by excessive heat exposure, but it is not the respondent's burden). It is not essential to the Secretary's case, however, to prove a causal connection between the cited condition and the illnesses of the employees. The fact the incidents cited in the AVD may not have been caused by the cited condition or activity does not disprove the alleged violation.

> Proof that a cited activity actually caused harm or necessarily could have caused harm under the precise physical conditions that happened to be present at the time of the violation, or at any other specific time, is not required. *See Bomac Drilling*, 9 BNA OSHC 1682, 1691-92 (No. 76-450, 1981) (consolidated) ("Under section 5(a)(1) case law, the 'hazard' that must be "recognized' is not a particular set of circumstances at a specific location and specific point in time but rather the broader, more generic or general hazard."), *overruled on other grounds by United States Steel Corp.*, 10 BNA OSHC 1752 (No. 77-1796, 1982); *Brennan v. OSHRC*, 494 F.2d 460, 463 (8th Cir. 1974) (Secretary need not prove general hazard was cause of the accident that gave rise to the citation); *Beverly Enters.*, 19 BNA OSHC at 1171 (same).

Quick Transp. of Arkansas, 2019 WL 33717, at *3.

2. Judge Ball's 2014 Decision in *United States Postal Service*

Even though the Secretary is not required to establish excessive heat caused the illness of LC1 in June of 2016, it is still his burden to prove that high temperature or heat index on June 17, 2016, exposed Houston city letter carriers to the hazard of excessive heat. In support of his position, the Secretary cites Judge Ball's 2014 decision finding a willful violation of § 5(a)(1) in *United States Postal Service*, 2014 WL 5528391. The Secretary states, "On facts similar to those presented here, Judge Ball found that there was 'no real dispute' that letter carriers in

Independence, Missouri, were exposed to the hazard of excessive heat." (Secretary's brief, p. 21, n. 20)[24] In this case, however, the Postal Service vigorously disputes the temperature or heat index on June 16, 2016, presented a hazard to Houston's letter carriers, and consequently the record evidence differs markedly from the Independence case.

As an unreviewed ALJ decision, the Independence *United States Postal Service* case is not Commission precedent. "[R]eliance on an unreviewed administrative law judge decision involving a citation under § 5(a)(1) of the Occupational Safety and Health Act, 29 U.S.C. § 654(a)(1) [is] misplaced. *See Leone Constr. Co.*, 3 BNA OSHC 1979, 1981 (No. 4090, 1976) (unreviewed administrative law judge decision does not constitute binding precedent for the Commission)." *TNT Crane & Rigging, Inc.*, No. 16-1587, 2020 WL 1657789, at *7 (OSHRC March 27, 2020). A case decided by the Commission last year involving a citation under § 5(a)(1) for exposure to excessive heat is, however, binding precedent for this Court.

3. The Commission's Decision in *A.H. Sturgill Roofing, Inc*

On February 28, 2019, the Commission issued its decision in a case involving an employee who collapsed at a worksite and subsequently died from complications of heat stroke after working on a roofing project. *A.H. Sturgill Roofing, Inc*., No. 13-0224, 2019 WL 1099857 (OSHRC Feb. 28, 2019). Commissioner (now Chairman) Sullivan, with then-Chairman MacDougall concurring, vacated two items alleging serious violations that had been affirmed by the ALJ in the underlying case. Commissioner Atwood dissented. Of interest here is Item 1 of the citation, alleging a serious violation of § 5(a)(1) for exposing employees "to the hazard of excessive heat from working on a commercial roof in the direct sun." *Id.* at 2019 WL 1099857, at *1.

The roofing project Sturgill was working on involved tearing off the old roof of a flat-topped bank building in Ohio so a new roof could be installed. The crew included three temporary employees.

> One of the temporary employees was "MR," a 60-year-old man with various preexisting medical conditions, including hepatitis C and congestive heart failure. It was the first day that MR was assigned to work at Sturgill. He began work that day at 6:30 a.m. and was tasked with standing near the edge of the roof where other employees brought him a cart full of cut-up pieces of roofing material that

[24] The decision states, "For the most part, it appears Respondent does not contest the existence of a violation of the general duty clause—almost all of Respondent's brief is directed towards the willful characterization. . . . There is no real dispute that [Independence letter carriers] were exposed to extreme heat on July 23 and 24, and that such heat was a hazard." *United States Postal Service*, 2014 WL 5528391, at *14.

> he then pushed off the roof into a dumpster below. The assignment of this work was intentionally made by Foreman Leonard Brown because it was MR's first day on the project. When MR began his work, the temperature was approximately 72°F with 84 percent relative humidity. There is no dispute that Brown encouraged all employees to utilize the immediate access to ice, water, rest, and shade, without fear of reprisal.
>
> At around 11:40 a.m., after other employees reported being concerned about MR to Brown and Brown himself observed him "walking like clumsy," MR collapsed and began shaking. The temperature at that point was approximately 82°F with 51 percent relative humidity. Emergency medical personnel were summoned, and they took MR to the hospital where his core body temperature was determined to be 105.4°F. MR was diagnosed with heat stroke and died three weeks later. According to the coroner, his death was caused by "complications" from heat stroke.

Id. at 2019 WL 1099857, at *1-2. The Commission found the Secretary failed to establish "the existence of a hazard likely to cause death or serious physical harm." *Id.* at 2019 WL 1099857, at *3.

4. Is "Excessive Heat" a Cognizable Hazard Under § 5(a)(1)?

The Postal Service argues that in *A.H. Sturgill*, the Commission found "excessive heat" is not a cognizable hazard under the general duty clause. In her concurring opinion, Chairman MacDougall questioned the meaning of the cited hazard:

> In this case, what is meant by "excessive heat?" Is it the heat index the judge formulated by adding degrees to the ambient temperature, or the heat index that would result from adding 10 degrees to the ambient temperature since the foreman said it felt about that much hotter on the roof, or some combination of factors perhaps set forth in OSHA's website publication regarding "Occupational Heat Exposure"? To pose the question is to answer it. By defining the hazard merely as "excessive heat," the Secretary has failed to point to any specific, concrete environmental conditions, and has instead effectively defined the hazard as a sliding scale of possibilities. This open-ended, moving target is not a cognizable hazard under the general duty clause as it provides insufficient notice to the employer of exactly what it is required to free its workplace from to protect its employees.

Id. at 2019 WL 1099857, at *15.

In a footnote to the lead opinion, Commissioner Sullivan (now Chairman) agreed "with the concerns expressed by Chairman MacDougall in her concurring opinion in connection with defining the hazard in this case as 'excessive heat.'" *Id.* at 2019 WL 1099857, at *7, n. 14. Contrary to the Postal Service's argument, this agreement does not establish that a majority of the Commission conclusively found "excessive heat" is not a cognizable hazard under the

general duty clause. This reference to defining the hazard is the only one in a lengthy footnote on foreseeability, and its vague reference to "the concerns expressed by Chairman MacDougall" is insufficient to constitute a dispositive conclusion that a citation under § 5(a)(1) alleging exposure to "excessive heat" will always fail due to fair notice to the employer.[25] If Commissioner Sullivan's agreement with Chairman MacDougall's "concerns" constituted a majority opinion that "excessive heat" is not a cognizable hazard, there would be no need for a concurring opinion or for most of the analysis in the lead opinion. The Court determines the Commission has not held absolutely that "excessive heat" is not a cognizable hazard under the general duty clause. The cited hazard is, however, difficult to establish under *A.H. Sturgill*.

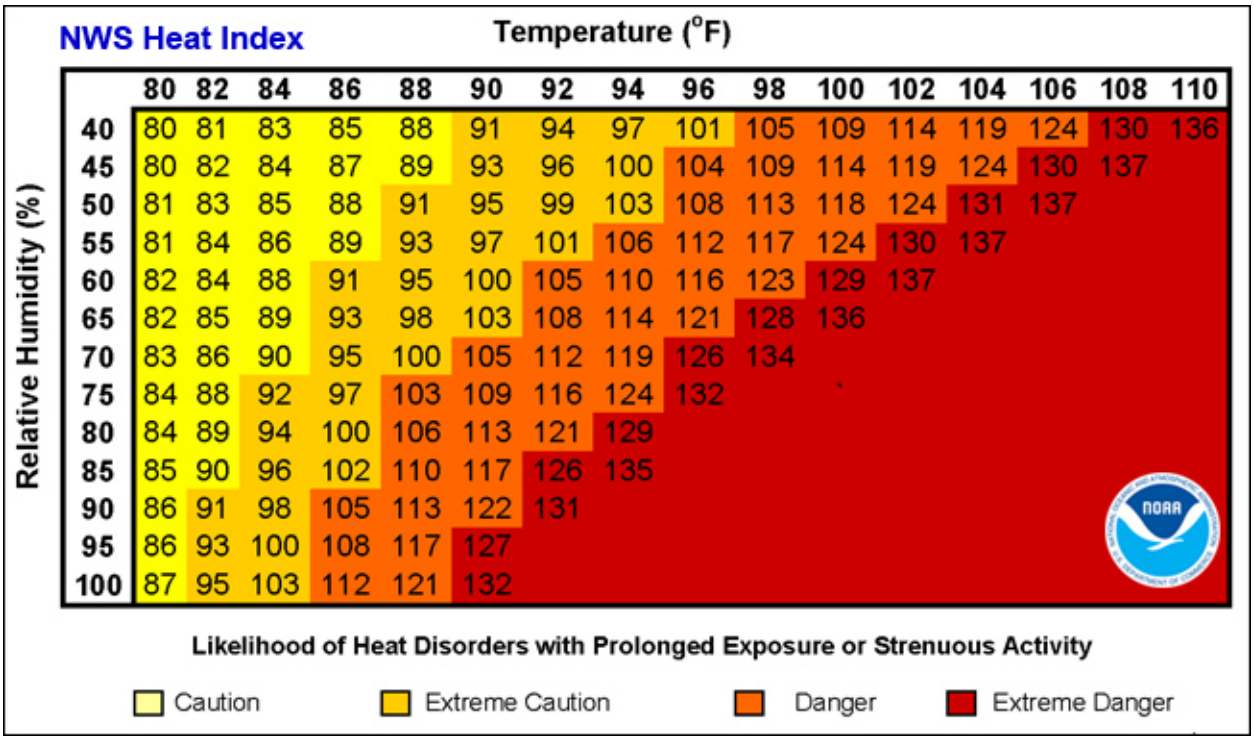
[25] In its entirety, footnote 14 in *A.H. Sturgill* states:

> While the Commission has never held that certainty as to the threshold level for injury is a prerequisite to a general duty clause violation, *see Beverly Enters., Inc*., 19 BNA OSHC at 1172, knowledge of the "significant risk of harm" cannot be based on the hidden characteristics of an "eggshell" employee; the risks resulting from such characteristics do not fit within the confines of a realistic possibility or the consideration of the best available evidence. *See Pratt & Whitney*, 649 F.2d at 104 (the Act "is intended only to guard against significant risks, not ephemeral possibilities").
>
> Commissioner Sullivan agrees with the concerns expressed by Chairman MacDougall in her concurring opinion in connection with defining the hazard in this case as "excessive heat." He also finds, however, that the Secretary must prove that Sturgill could have reasonably foreseen the incident occurring given all of the facts available to it prior to the incident and not simply that there was a "risk of harm" based on an expert's later opinion as to what constitutes a "heat-related exposure risk."
>
> In Commissioner Sullivan's view, the Commission should return to an interpretation put forth in *Pratt & Whitney*, 8 BNA OSHC 1329 (No. 13591, 1980), *aff'd in part, rev'd in part, remanded*, 649 F.2d 96, 101 (2d. Cir. 1981), and Bomac Drilling, 9 BNA OSHC 1681 (No. 76-0450, 1981) (consolidated), overruled *by U.S. Steel Corp*., 10 BNA OSHC 1752 (No. 77-1796, 1982). In those cases, the Commission held that the Secretary must prove that an incident is "reasonably foreseeable" when citing under the general duty clause. *Pratt & Whitney*, 8 BNA OSHC at 1334. The reasoning underlying this test was a concern that general duty clause cases were wrongly focusing on the particular incident causing the injury in the case, rather than the hazard in general. Commissioner Sullivan views the focus of the current case to be the same as it was in *Pratt & Whitney*—what happened specifically to the employee (MR), rather than whether the employer (Sturgill) could have reasonably foreseen the incident occurring given all the other conditions at the time of the incident. As such, in his view, the Commission should again embrace the "reasonably foreseeable" test as set forth by the Commission in those cases, an interpretation which the Commission pointed out is consistent with the definition of a "serious" violation under section 17(k) of the Act. *See Pratt & Whitney*, 8 BNA OSHC at 1335; 29 U.S.C. § 666(k). When evaluating the general duty clause, the Secretary must establish that a truly "meaningful" and "significant" possibility of harm existed, and that "employers receive adequate notice of their legal responsibilities under the general duty clause." See 5 BERKELEY J. EMP. & LAB. L. at 305. Since the Secretary failed to make this showing here, Commissioner Sullivan finds that the Secretary failed to establish the existence of a hazard.

Id. at 2019 WL 1099857, at *7, n. 14.

5. Scientific Basis of the NWS Heat Index Chart

Dr. Tustin testified he relied on the NWS and OSHA heat index charts in concluding there was a heat stress hazard in each of the five Postal Service cases (NH Tr. 583-84). The NWS heat index chart is reproduced here:[26]



Dr. Tustin testified he was curious regarding the origins of the color-coded risk levels on the chart. "I contacted somebody at the National Weather Service to find out where these caution levels came from, and that's the article that they provided to me. . . . I was interested. I'd seen these caution levels, and I wanted to find out . . . why the National Weather Service put these out there." (NH Tr. 590) The article to which he refers is by a Dr. Steadman, who originally created a chart to show how hot it feels (the heat index) when a specific air temperature is paired with a specific relative humidity. The chart was included in an article written by Quayle and Doehring, a climatologist and meteorologist, respectively, from the National Climactic Center in Asheville, North Carolina, and published in the magazine *Weatherwise* in 1981 (NH Tr. 587-94).

The Postal Service hired Rodman Harvey as a consultant in the five cases before the Court.[27] The Court qualified Harvey to testify as an expert "in industrial hygiene, with

[26]Exhibit C-13 is a copy of the NWS heat index chart. Reproduced here is the chart from the NWS website at https://www.weather.gov/safety/heat-index.

specialized expertise in assessing the risk of exposure to excessive heat, based on his knowledge, skill, experience, training, and education." (NH Tr. 2766)

Harvey was asked about the phrase "Likelihood of Heat Disorders with Prolonged Exposure or Strenuous Activity" that appears on the NWS's heat index chart.

> Q.: Based on your work with heat stress, what does prolonged exposure mean?
>
> Harvey: I'm not sure what's meant by that, exactly, by the National Weather Service.
>
> Q.: And what is meant by strenuous activity?
>
> Harvey: Again, I have not found a definition of that for the National Weather Service.
>
> Q.: Are those terms explained in the OSHA compliance guidance?
>
> Harvey: No, not that I was able to find.

(NH Tr. 2775)

Harvey testified there are two different layers of information on the heat index chart: (1) "Along one axis are temperatures. Numbers along the other . . . side of the chart are relative humidity. And where they intersect is the corresponding heat index value for those different temperatures and relative humidities"; and (2) "The color coding that goes on top, the four different colors, and the likelihood of heat disorders with prolonged exposure or strenuous activity, and the definitions . . . for the four different colors: caution, extreme caution, danger, and extreme danger." (NH Tr. 2776) Harvey stated the chart came from "the Steadman article," which does not address "potential health effects associated with different heat index ranges" or "the likelihood of heat disorders with prolonged exposure or strenuous activity." (NH Tr. 2777-78) In the article, Dr. Steadman was attempting to create a chart "that would provide the real feel temperature or the apparent temperature based on the combination of the actual air temperature and the relative humidity." (NH Tr. 2778)

Harvey testified he researched the issue to determine the historical or scientific basis for the second layer of information found in the heat index chart. "I was able to find a paper; it's the

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[27] Rodman Harvey is the director of client services for Carnow Conibear & Associates, an environmental health and safety consulting firm in Chicago. He manages the company's industrial hygiene group (NH Tr. 2750-51). Harvey received a bachelor's degree in biology from Lawrence University in 1983, and a master's in environmental engineering in 1986 from the Illinois Institute of Technology (NH Tr. 2745). He is a certified industrial hygienist (NH Tr. 2747-49).

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oldest reference I can find that has . . . that language of dividing the heat index values up into different categories." (NH Tr. 2782) It was the paper published in the journal *Weatherwise*, written by climatologist Robert Quayle and meteorologist Fred Doehring (NH Tr. 2782-83). Harvey could not determine from reading the article the scientific basis for correlating temperature ranges with specific heat syndromes. He stated, "[T]he authors don't make any reference at all to this particular chart in general or specifically with the heat syndrome and they came to those conclusions." (NH Tr. 2783-84) It is Harvey's opinion that OSHA based its heat index chart on the chart found in the Steadman article and the paper published in *Weatherwise* (NH Tr. 2786).

Harvey stated he believes the first layer of the heat index chart ("where they list the heat index values") is scientifically based. "But layer two with the four different categories and the terms at the bottom of the graph, no, I don't think that it is." (NH Tr. 2786) He does not believe there is a scientific basis for OSHA's conclusion that the risk level is high when the heat index is 103 to 115 °F (NH Tr. 2786-87).

The Postal Service is correct that, based on the testimony of Dr. Tustin and Rodman Harvey, a gap exists in the historical record that would explain the origin of the risk categories (caution, extreme caution, danger, extreme danger) that evolved from the Steadman article and were later included in the *Weatherwise* article. Neither Dr. Tustin nor Harvey could find a scientific basis for how the assigned values of caution, extreme caution, danger, and extreme dangers were determined. No supporting data is provided for why the levels of risk are attributed to their respective temperatures (NH Tr. 584-94, 2782-87). That is not to say there is no scientific basis for the risk levels, but none was presented at the national hearing or the local hearings. Despite the emphasis placed on this issue at the national hearing, the Secretary does not address it in his brief. The Court finds, based on the record, no evidence was adduced to establish the scientific basis for the risk categories depicted on the NWS heat index chart. This conclusion affects the weight given to the heat index chart exhibit but does not affect its admissibility. The reliability of the heat index calculations based on the temperatures and relative humidity is not disputed.

In *A.H. Sturgill,* the Commission focused on the phrase "Likelihood of Heat Disorder with Prolonged Exposure or Strenuous Activity," and found the Secretary failed

> to show that any of the chart's warnings applied to the conditions present that morning. . . . [F]or any of the warnings [(caution, extreme caution, danger, and extreme danger)] to have been applicable at the time of the alleged violation, the Secretary must show either that there was "prolonged exposure" to heat index values that fall within the chart or that the work involved "strenuous activity." The record fails to establish either of these prerequisites.

Id. at 2019 WL 1099857, at *3-4.

6. Prolonged Exposure

The Commission in *A.H. Sturgill* cited the failure to define "prolonged exposure" as a major flaw in the Secretary's case.

> As to the extent of exposure, the evidence shows that the heat index values were at most in the caution range for two of the five hours the crew worked on the day in question. Yet, we cannot determine if two hours in those conditions constitutes "prolonged exposure" because the Secretary does not establish what the NWS means by "prolonged exposure"—in fact, there is no record evidence on this issue.

Id. at 2019 WL 1099857, at *3-4.

LC1 drove an air-conditioned van on June 17, 2016. He was delivering on a route that was primarily park and loop, so he spent only 15 to 18 minutes or so driving during the day (Tr. 60). LC1 began work at 8:30 a.m. that day. After casing his mail, he began delivering mail on Route 2536 at 9:50 a.m. (Exh. R-19; Tr. 89). He delivered his first piece of mail at 10:21 a.m. and his last piece of mail at 4:28 p.m. Route inspector GJ then drove him back to the post office and informed the supervisor LC1 was ill. (Tr. 200-01). LC1 and route inspector GJ took two 10-minute breaks and a 30-minute lunch break in the van with the air conditioning running (Tr. 63-64, 139-145). He was walking outdoors, delivering the mail, for approximately 5 hours and 10 minutes.

From this schedule, the exposure of LC1 to temperatures at specific times of the day can be extrapolated. Dr. Tustin created a chart based on data from the National Weather Service (NWS) for June 17, 2016, in Houston, Texas (NH Exhs. C-303; NH Tr. 439-40).

June 17, 2016

Local Standard Time	Central Daylight Time (CDT)	Temperature	Relative Humidity	Heat Index
0735	8:35 a.m.	84°F	74%	92°F
0935	10:35 a.m.	91°F	56%	100°F

1135	12:35 p.m.	93°F	49%	100°F
1335	2:35 p.m.	99°F	42%	109°F
1535	4:35 p.m.	95°F	44%	101°F

(NH Exh. C-302)

On June 17, the heat index was 100°F at 10:35 a.m. and 12:35 p.m., which is in the extreme caution section of the chart. At 2:35 p.m., after LC1 had been delivering mail for approximately 5 hours and 15 minutes (starting from 10:21 a.m.), the heat index was 109°F, which is in the danger section. The next heat index recorded is 101°F, in the extreme caution section of the chart, at 4:35 p.m., which is approximately the time route examiner GJ was driving LC1 back to the Astrodome Post Office.

Over the course of approximately 5 hours and 15 minutes, LC1 worked outdoors in heat index values ranging from 100°F to 109°F, which the heat index chart places in the extreme caution and danger sections. Nothing presented by the Secretary in the Houston and national hearings assists in making the determination whether this exposure was *prolonged*. One definition of *prolonged* is "continuing for a long time or longer than usual; lengthy." *The New Oxford American Dictionary*, 1356 (2nd ed. 2005). "Long time," "longer than usual," and "lengthy" are relative terms that provide no guidance for ascertaining what standard of measurement an employer should use to calculate at what point exposure becomes prolonged. City letter carriers are contractually guaranteed 8 hours of work each workday, most of which is performed outdoors. For them, 8 hours of exposure to hot weather in the summer months is not "longer than usual."

In *A.H. Sturgill*, the Commission held that if the Secretary relies on the heat index chart to prove an employee was exposed to the hazard of excessive heat, he must show either "prolonged exposure" to specified heat index values on the chart or "strenuous activity" on the part of the employee at those heat indexes. Dr. Tustin, the Secretary's expert, testified he relied on the NWS and OSHA heat index charts in concluding there was a heat stress hazard in each of the five Postal Service cases (Tr. 583-84). The Court determines the Secretary has failed to establish prolonged exposure.

7. Strenuous Activity

"Strenuous activity" is the second phrase from the heat index chart that lacks clear meaning. "Strenuous" means "requiring or using great exertion." *The New Oxford American Dictionary*, 1676 (2nd ed. 2005). Again, no criteria values are provided by the heat index chart to

help determine when activity becomes strenuous. Some guidance is found, however, in Dr. Tustin's testimony regarding the metabolic heat generated by letter carriers as they deliver the mail.

> I read the descriptions of the activities that [the letter carriers] were doing, specifically their physical activities in terms of whether they were walking or whether they were seated driving a vehicle, for example. I compared their physical activities to tables found in ACGIH heat stress documents. They give a table where they categorize workload as either light, moderate, heavy or very heavy, and they give examples of different activities within the category.

(NH Tr. 302)

Dr. Tustin testified the metabolic workload of LC1 and on June 17, 2016, was moderate (Tr. 440). A workload characterized as "moderate" ("average in amount, intensity, quality or degree." *The New Oxford American Dictionary*, 1089 (2nd ed. 2005)) does not equate to strenuous activity.

The chart states the color-coded categories are used specifically to denote the "Likelihood of Heat Disorders *with* Prolonged Exposure or Strenuous Activity." (emphasis added) The Secretary failed to establish either of the two metrics the chart identifies as correlatives of the likelihood of heat disorders at the given heat index values. The Court determines the Secretary failed to establish LC1 was engaged in strenuous activity while working on June 17, 2016. As in *A.H. Sturgill*, the Secretary has not met his burden of establishing the worker identified in the Citation's AVD engaged in either prolonged exposure or strenuous activity at specific heat indexes listed on the chart.

8. Significant Risk of Harm

To establish a cited condition or activity presents a hazard in the workplace, the Secretary must prove the condition or activity

> exposed employees to a "significant risk" of harm. *See Beverly Enters., Inc.*, 19 BNA OSHC 1161, 1170-1172 (No. 91-3144, 2000) (consolidated); *see also Pratt & Whitney Aircraft v. Donovan*, 715 F.2d 57, 63 (2d Cir. 1983) (holding that a "significant risk" of harm can be established by showing a "meaningful possibility" of injury); *Titanium Metals Corp. v. Usery*, 579 F.2d 536, 541 (9th Cir. 1978) (the possibility of harm resulting must be "upon other than a freakish or utterly implausible concurrence of circumstances"); *Nat'l Realty & Constr. Co. v. OSHRC*, 489 F.2d 1257, 1265 n.33 (D.C. Cir. 1973).

Quick Transp. of Arkansas, 2019 WL 33717, at *3.[28]

> It is the Agency's responsibility to determine, in the first instance, what it considers to be a "significant" risk. Some risks are plainly acceptable and others are plainly unacceptable. If, for example, the odds are one in a billion that a person will die from cancer by taking a drink of chlorinated water, the risk clearly could not be considered significant. On the other hand, if the odds are one in a thousand that regular inhalation of gasoline vapors that are 2% benzene will be fatal, a reasonable person might well consider the risk significant and take appropriate steps to decrease or eliminate it. Although the Agency has no duty to calculate the exact probability of harm, it does have an obligation to find that a significant risk is present before it can characterize a place of employment as "unsafe."

Indus. Union Dep't, AFL-CIO v. Am. Petroleum Inst., 448 U.S. 607, 655 (1980) (*Benzene).*

The Secretary argues he has established excessive heat exposure presents a significant risk of harm to letter carriers generally. He points to the testimony of Dr. Tustin and Dr. Bernard regarding the statistical correlation between the number of heat-related fatalities and illnesses and higher temperatures.

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[28]This case arose in the Fifth Circuit. Under the Act, an employer may seek review in the court of appeals in the circuit in which the violation occurred, the circuit in which the employer's principal office is located, or the District of Columbia Circuit. 29 U.S.C. § 660(a). The Secretary may seek review in the circuit in which the violation occurred or in which the employer has its principal office. 29 U.S.C. § 660(b). "[I]n general, '[w]here it is highly probable that a Commission decision would be appealed to a particular circuit, the Commission has ... applied the precedent of that circuit in deciding the case—even though it may differ from the Commission's precedent.'" *Dana Container, Inc.,* No. 09- 1184, 2015 WL 749426, at *3, n. 10 (OSHRC Nov. 19, 2015), *aff'd*, 847 F.3d 495 (7th Cir. 2017) (citation omitted).

The Court of Appeals for the Fifth Circuit declined to extend the significant risk test to the general duty clause in *Kelly Springfield Tire Co. v. Donovan,* 729 F.2d 317 (5th Cir.1984) The Commission disagreed with that conclusion in *Kastalon, Inc.:*

> We note that the United States Court of Appeals for the Fifth Circuit has held that the significant risk test should not be applied in enforcing the general duty clause. *Kelly Springfield Tire Co. v. Donovan,* 729 F.2d 317, 323–24 (5th Cir.1984). We respectfully disagree with that court's conclusion. The Fifth Circuit reasoned that the *Benzene Case* dealt with the promulgation of standards and was therefore of limited relevance in the different context of the general duty clause. We believe, however, that the Supreme Court's conclusion that the Act was not intended to create risk-free workplaces applies equally to the enforcement of the general duty clause as to the promulgation of standards. As we have stated, Congress did not intend for the general duty clause to provide broader protection than could be achieved through the promulgation of standards. Thus, a limitation on the Secretary's authority to issue standards necessarily also limits the scope of the general duty clause.

Kastalon, Inc., Nos. 79-5543 & 79-3561, 1986 WL 53514, at *5, n.7 (OSHRC July 23, 1986).

Because *Kastalon* raises doubt as to whether the Commission would apply the precedent of the Fifth Circuit should it direct this case for review, the Court will analyze the issue of significant risk.

Screening Levels

The Bureau of Labor Statistics (BLS) tracks the number of annual occupational heat-related deaths and nonfatal heat-related illnesses in the Census of Fatal Occupational Injuries (CFOI). From 2011 to 2016, the CFOI reported an annual average of 36 heat-related fatalities and 3,500 nonfatal heat-related illnesses (NH Tr. 267-68). Dr. Tustin reviewed employer reports to OSHA of heat-related hospitalizations over a three-year period. The employers reporting the most hospitalizations were the United Parcel Service (UPS) (63 hospitalizations) and the Postal Service (49 hospitalizations). Nationwide, UPS and the Postal Service accounted for 14 percent of all reported occupational heat-related hospitalizations over a 3-year period (NH Tr. 270).

The American Conference of Governmental Industrial Hygienists (ACGIH) publishes threshold limit values (TLVs) for hazards to which a worker can be exposed on a daily basis without adverse effects. Dr. Tustin testified the ACGIH and the National Institute for Occupational Safety and Health (NIOSH) implement "screening levels." "If the environmental heat is above the screening level, then there's a hazard and the employer should take additional steps to try to reduce the hazard to protect workers." (NH Tr. 280)[29]

Based on his research, Dr. Tustin concluded, "[A] screening threshold of about 80°F seemed appropriate for using the heat index to screen for hazardous conditions." (NH Tr. 285)[30] He conceded some workers may experience heat-related illnesses even if the TLV for outdoor temperature is not exceeded, perhaps due to predisposing conditions. "Predisposing conditions

[29]The Commission has been reluctant to hold that exceeding levels published by a third-party organization constitute a hazard:

> We must note that we would be hesitant to hold that exceeding those levels is, in and of itself, proof of exposure to a hazard. The Secretary asserts that they are the dominant guidelines on heat stress and are followed by all professional industrial hygienists. . . . While it would be very appropriate for the Secretary to include a safety margin in an OSHA standard, the presence of a safety margin in the documents [he] relied on to prove a hazard here gives us reservations as to whether evidence that the limits in the NIOSH document were exceeded would, in fact, prove that there was a hazard. . . . We therefore have considerable reservations about basing a violation of section 5(a)(1) on those guidelines. Because we are deciding this case based on the insufficiency of the Secretary's evidence, however, we need not decide whether a violation of section 5(a)(1) would have been established *if* the Secretary had proved that the limits in the documents had been exceeded.

Industrial Glass, No. 88-348, 1992 WL 88787, at *14, n. 11 (OSHRC Apr. 21, 1992).

[30] Denoting temperatures of 80°F or higher as hazardous is Dr. Tustin's benchmark. The Secretary has declined to "explicitly enumerate[] a range of temperatures at which heat becomes hazardous." (Secretary's brief, p. 29)

are medical conditions or medications that could increase the risk of heat-related illness." (NH Tr. 577-78)

A dose-response relationship is the relationship between the amount of exposure (dose) to a substance or condition and the resulting changes (response) in body function. He believes there is dose-response relationship between heat indexes above 80°F and heat stress—the higher the heat index, the greater the heat stress hazard. He conducted a meta-analysis of 570 heat-related deaths dating back to 1947 (NH Tr. 287). He calculated the heat index for each case. A heat index of less than 80°F did not appear to present a heat stress hazard. A higher heat index increased the risk of heat stress (NH Tr. 291-92).

> A heat index between 80 -- when the heat index was between 80 and 90, there definitely seemed to be more risk. I think about 10 to 20 percent of all the fatalities happened when the heat index was between 80 and 90. Then when the heat index was over 90, there seemed to be higher risk in the sense that I think about 80 percent of the fatalities occurred when the heat index was over 90. So we concluded that a heat index of about 80 °F seemed to be a reasonable screening threshold for figuring out whether there was a heat stress hazard present.

(NH Tr. 292) He concluded, "[T]here's a hazard when the heat index is over 80 for the type of work that city carriers are doing." (NH Tr. 581)

Dr. Thomas Bernard also testified regarding the effects of heat stress on outdoor workers.[31] The Court found Dr. Bernard qualified, "based on his knowledge, skill, experience, training, and education," to testify as an expert "in the areas of industrial hygiene and

[31] Dr. Thomas Bernard is a professor in the College of Public Health at the University of South Florida. He has taught there for 30 years. He is the director of the university's NIOSH- supported education research center (NH Tr. 793-94). He earned a Bachelor of Science degree and a Master of Science degree in mechanical engineering from Carnegie Mellon University and a PhD in occupational health from the University of Pittsburgh Graduate School of Public Health (NH Tr. 795-98). He worked for a time for the United States Bureau of Mines in the post-disaster survival and rescue section. Dr. Bernard worked for 11 years as a senior engineer at the Westinghouse Electric Research and Development Center, focusing on heat stress management in the power industry (NH Tr. 795-96). At the University of South Florida, he teaches master's degree level students in, he stated, "classes related, broadly speaking, to occupational health and safety, specifically a class in ergonomics, one in physical agents and controls. I teach a class in occupational health and safety management systems and other administrative kinds of topics. . . . I've done a few guest lectures in the intro to industrial hygiene, a couple of laboratory lectures, and I also have a few lectures in service class for the college." (NH Tr. 794)

Dr. Bernard is certified as an industrial hygienist and as a safety professional (NH Tr. 797). He is a fellow of the American Industrial Hygiene Association (AIHA) and is on the Physical Agents Committee for ACGIH. He was a Fulbright Scholar at the Loughborough University in London. He has published approximately 16 peer-reviewed papers in the past decade, most of them on some aspect of heat stress, and has also contributed chapters to scientific handbooks. Dr. Bernard presents talks and webinars to occupational health researchers and professionals on the topic of heat stress. He has worked with private employers to develop heat stress programs for their employees (NH Tr. 799-802).

specifically regarding industrial heat stress." (NH Tr. 808) Dr. Bernard testified LC1 was above the occupational exposure limit for heat stress (NH Tr. 993).

Number of Heat-Related Incidents Among Carriers

The Secretary contends the significant risk of harm from excessive heat to which carriers are exposed is made manifest if the Court expands the scope of reported heat-related illnesses beyond the date and location of the Citation's AVD in this case.

If consideration of heat-related illnesses is expanded nationwide, the Secretary believes the significant risk to carriers of excessive heat exposure is evident.

> According to USPS's records ([NH] Ex. C-127), the number of heat-related incidents per year (since 2015), classified on its official accident reports (PS Form 1769/301) as caused by "GEN-EXPOSURE EXTREME TEMP-HOT" are: 378 for 2015; 564 for 2016; 399 for 2017; and 631 for 2018 ([NH] 1670:9-1671:5). In total, the number of heat-related incidents over the four years was 1,972. ([NH] 1668:13-1669:16).1 When broken down, the 1,972 heat-related incidents came from 1,258 different USPS facilities across the country and resulted in carriers missing a total of 8,757 days away from work. ([NH] Ex. C-127).

(Secretary's brief, p. 18)

The Postal Service counters that the number of carriers reporting heat-related illnesses is miniscule when compared to the number who did not report heat-related illnesses. Rodman Harvey stated, "'On June 17, 2016, there were approximately 1,806 city carriers working in the postal district that includes Houston, Texas, and there was only one alleged heat-related illness reported." (NH Tr. 2887)

The Postal Service retained Dr. Joshua Gotkin to analyze its data on heat-related accidents.[32] The Court qualified Dr. Gotkin as an expert "in the field of economics, with specific expertise in the field of statistical analysis and the application of statistics in sampling." (NH Tr. 1631-32) Dr. Gotkin reviewed data on the number of heat-related incidents involving letter carriers that had occurred from fiscal year 2015 to fiscal year 2019 (NH Tr. 1632-33). For that 4-year period, he found 1,023 reported heat-related injuries to letter carriers and compared those to the total number of letter carrier workdays. "[Y]ou really just divide the number of events into the total number of carrier days, and that gives you a 1 in 308,000 workdays in terms of the odds

[32] Dr. Joshua Gotkin is the director of ERS Group, a consulting firm specializing in labor and employment economics (NH Tr. 1623). Dr. Gotkin received an undergraduate degree in economics and mathematics and a graduate degree in economics in applied econometrics, economic history, and labor economics. He received a PhD in economics from the University of Arizona in 1995 (NH Tr. 1619-20). ERS Group hired Dr. Gotkin in 1996. He became its director in 2011 (NH Tr. 1622-23). He uses applied econometrics to develop models for analyzing statistics (NH Tr. 1622-26).

of having a heat-related stress incident. . . . I also restricted it to the warmer summer months, and the odds are then reduced to 1 in 142,000 workdays." (NH Tr. 1651) Dr. Gotkin stated, "[T]hese odds are so small that the probability associated with those are nearly zero." (NH Tr. 1652-53)

Linda DeCarlo is the manager of safety and OSHA compliance programs for the Postal Service. She is its highest ranking safety officer (Tr. 1245). DeCarlo tracks trends of hazards as part of her duties. DeCarlo estimated that, since 2015, approximately 500 to 600 Postal Service employees (including letter carriers) annually have reported heat-related occupational injuries (NH Tr. 1257-59). The number of heat-related injuries does not cause her concern. "We have close to 120,000 accidents, incidents, near misses and customer events that take place in any given year. Thirty thousand of those are related to motor vehicle. Maybe 20,000 slip, trips, and falls. Seven thousand dog bites. So 500 heat-related claims, only which of half are recordable, is not a major concern when there are other opportunities that we have in front of us." (NH Tr. 1261)

The Secretary argues the small percentage of letter carriers affected with heat-related illnesses does not disprove excessive heat hazards existed on the days they were affected. In *Pepperidge Farm, Ind.*, the employer argued different employees were affected differently by the ergonomic activity cited as a hazard. The Commission held susceptibility to illness or injury alone is not a basis for finding no hazard exists.

> Pepperidge further points out, however, and the Secretary's experts agree, non-workplace factors may cause or contribute to the illnesses at issue, and that individuals differ in their susceptibility to potential causal factors. However, such characteristics (and the inability to determine threshold of harm) are not unique to putative ergonomic hazards but inhere in other workplace hazards as well. For example, some or all of these characteristics obtain for many chemical, toxic and other workplace hazards. Thus, to preclude the application of section 5(a)(1) to a hazard with the characteristics cited by Pepperidge would be to preclude the use of Section 5(a)(1) for many occupational ills. To be clear, characteristics such as those identified by Pepperidge may (as discussed later) bear on questions of causation or feasibility of abatement. They do not, however, *ipso facto* preclude the possibility of regulation under Section 5(a)(1).

Pepperidge Farm, Inc., No. 89-265, 1997 WL 212599, at *23 (OSHRC Apr. 26, 1997). The Secretary also contends he is not required to state the temperature or heat index at which heat becomes excessive. "While knowledge of the threshold for injury may be essential in some cases, however, the Commission has never held that certainty as to the threshold level for injury is a prerequisite to regulation under the general duty clause." *Id.* at 1997 WL 212599, at *22.

It is not the Secretary's burden to prove it is likely a heat-related illness will occur at certain temperatures, only that if such an illness occurs the letter carrier would be exposed to a significant risk of harm. "[T]here is no requirement that there be a 'significant risk' of the hazard coming to fruition, only that if the hazardous event occurs, it would create a 'significant risk' to employees. *See Kelly Springfield Tire Co. v. Donovan*, 729 F.2d 317, 322–25 (5th Cir.1984)." *Waldon Health Care Ctr.*, No. 89-2804, 1993 WL 119662, at *11 (OSHRC April 2, 1993). The Secretary must prove, therefore, that if "excessive heat" occurs, it would create a significant risk to letter carriers delivering mail that day. "[I]n order to prove the existence of a hazard within the meaning of the general duty clause, the Secretary cannot merely show that there may be some degree of risk to employees. He must show, at a minimum, that employees are exposed to a significant risk of harm." *Kastalon, Inc.*, Nos. 79-5543 & 79-3561, 1986 WL 5351412, at * 5(OSHRC July 23, 1986).

Magnitude of the Risk

Dr. Tustin was unable to quantify the degree of risk to which outdoor workers would be exposed in 100°F weather. Counsel for the Postal Service cross-examined Dr. Tustin regarding a scenario in which 1000 letter carriers are working on a day when the temperature is 100°F:

> Q.: Can you tell me in that scenario how many employees -- what percentage of employees working in that 100-degree day would experience a heat-related illness?
>
> Dr. Tustin: No.
>
> Q.: You can't tell me how likely it is?
>
> Dr. Tustin: I can't give you an exact number as far as a number of employees who will have an illness, no.
>
> Q.: When you say you can't give me an exact number; can you give me any number?
>
> Dr. Tustin: I can tell you, like I said before, that there's a dose-response relationship, and it's --from the data that I've seen, it's more likely that employees will become sick on a 100-degree day compared to an 80-degree day. But I can't give you an exact number.
>
> Q.: Can you tell me, on a 100-degree day with 1,000 employees working outside under identical conditions, what percentage will sustain a heat-related illness that is "serious" by your definition?
>
> Dr. Tustin: No.
>
> Q.: Do you recall during your deposition giving testimony about the likelihood that a cohort of workers would experience heat-related illness? . . . [Reading from

deposition]: QUESTION: "The employees that would develop an illness, what sort of characteristics would you expect to see in those employees, if any?" ANSWER: "Like I said, I can't predict. If you gave me a cohort of workers at the beginning of the day, and so predict which workers are going to develop a heat-related illness, I don't think I can do that -- I could do that." Do you recall giving that testimony?

Dr. Tustin: Yes.

Q.: Do you agree with it?

Dr. Tustin: Yes.

(NH Tr. 546-47)

Dr. Tustin's testimony establishes incidents of heat-related illness are likely to increase as the heat index rises above 80°F, but it does not establish the magnitude of the risks or their significance. Dr. Tustin stated the severity of heat-related illnesses varies. Some, such as heat stroke, can be deadly, but others (such as heat rash and dehydration) can be minor (NH Tr. 261). Dr. Tustin reviewed spreadsheets compiled by the Postal Service when he was preparing his expert report. They listed heat-related incidents reported by Eastern Area Postal Service employees in the summers of 2017 and 2018 (NH Exh. C-162 & C-163).

Q. So you testified earlier that there are incidents in the data that clearly weren't reportable; is that correct, just from your review?

. . .

Dr. Tustin: I mean, just looking at the spreadsheet there are some that say the person felt dizzy and remained working, so yes. I mean, that doesn't seem to be a reportable incident.

Q.: And is it your understanding that these reports could include situations like an employee calling their supervisor and saying, "I feel really hot, I'm going to sit down for a while," and drinking a bottle of water and then continuing working?

Dr. Tustin: Yes, it appears that there are some like that.

Q.: I mean, there's one in there that just says, "I feel hot," right?

Dr. Tustin: I don't know. There might be.

. . .

Q.: Well, if that employee sits down and drinks a lot of water and says, "Hey, I feel great, I'm going to go back to work," do they have a heat illness?

Dr. Tustin: They may have -- they might have had symptoms that would cause them to stop working, so that could be a mild heat illness, yes.

Q.: Would you characterize that as serious?

Dr. Tustin: No

(NH Tr. 628-29)

Determination of causation is also an issue. In recording injuries from vehicular accidents, falls, or dog bites, there is little doubt of the actual cause of the injury. Not all conditions diagnosed as heat-related are, however, heat-related. Dr. Tustin conceded the symptoms of heat exhaustion, either separately or in combination, are also symptoms of other conditions and their presence may be unrelated to heat (NH Tr. 538-541).

Tolerability of Heat Stress

At one point, Dr. Bernard compared ACGIH's TLV levels for heat to OSHA's occupational noise exposure standard. Section 1910.95 sets the permissible exposure limit (PEL) for noise exposure during an 8-hour day to 90 dBA for all workers.

> The PEL for noise is 90 dBA. And you might argue a little bit about what the number is, but [there] generally are between 20 and 25 percent of the population will suffer an occupational hearing loss at 90 dBA. So that's the reason for the hearing conservation amendment where you have audiograms. That's your way of catching somebody who will be less tolerant of the noise. Even with the ACGIH TLV at 85 dBA, there's a small percentage of people who will still have an occupational hearing loss. So again, the audiograms are a way of catching that.

(NH TR. 994-95)

> Counsel for the Postal Service returned to the subject on cross-examination.
>
> Q.: If we think about people being exposed to noise levels of 90 dBA or higher, you or somebody like you could tell us at those ranges this percentage of workers would lose hearing; is that fair?
>
> Dr. Bernard: Yes.
>
> Q.: With these TLVs would you agree that even at levels below the TLV there will be certain workers who will have heat-related illness?
>
> Dr. Bernard: Yes.
>
> Q.: And you would agree with me that at levels above the TLV, perhaps significantly above the TLV, there will be workers that will not have heat- related illness?
>
> Dr. Bernard: Yes.
>
> . . .
>
> Q.: [W]e know that above 90 dBA there's a certain percentage who are pretty likely to lose hearing; do we not? That's why OSHA set the limit at 90?
>
> Dr. Bernard: Yes.
>
> . . .

Q.: Would you agree with me that the TLVs are designed -- currently designed such that 99 percent of workers exposed at levels below the TLVs will keep their core body temperatures at 38.3°C or below?

Dr. Bernard: Yes.

Q.: The final question on ACGIH, the ACGIH guidelines are set not to prevent heat illness. They're set to -- the goal of them, if you will, is to keep the core body temperature at 38.3°C or below?

Dr. Bernard: Well, and more importantly -- or more specifically so that you can maintain thermal equilibrium.

Q.: So again, those are unlike, for example, the noise standard which is set to prevent hearing loss? This is set to maintain thermal equilibrium.

Dr. Bernard: Yes.

Q.: So it's not set to prevent an illness?

Dr. Bernard: Not directly.

Q.: Well, I mean, you already agreed that certainly you will have some unspecified percentage of workers who will experience a heat illness even when working at levels below the TLV?

Dr. Bernard: Yes.

(NH Tr. 1056-59)

As with heat exposure, noise exposure affects different people differently. A certain percentage of workers will suffer some hearing loss at a level below the PEL, and a certain percentage may not register hearing loss at certain levels above the PEL. The difference is employers know at what level OSHA, for the purpose of compliance, has determined noise presents a hazard. Section 1910.95 establishes a regulatory baseline that provides notice to employers of the PEL for noise exposure and the requirements for hearing monitoring and testing.

Quantification of "Excessive" Heat

The Secretary must show a condition or activity in the workplace presents a hazard. Here, the condition and the alleged hazard are identical. The condition of excessive heat presents an alleged hazard of excessive heat. The precise temperature at which regular heat becomes excessive heat is, however, unclear. OSHA has been urged to promulgate a heat stress standard since shortly after the Act went into effect. *See Industrial Glass,* No. 88-348, 1992 WL 88787, at *12 (OSHRC Apr. 21, 1992) ("In 1972, NIOSH recommended that OSHA adopt a standard

governing exposure to heat, and a panel appointed by OSHA endorsed that recommendation in 1974. Nevertheless, OSHA has not adopted a heat stress regulation[.]").

The local and national hearings in the Postal Service cases establish people tolerate environmental heat at different levels, and other factors, such as underlying medical conditions or medication use, can affect their usual tolerability. Dr. Tustin and Dr. Bernard agree that some people may sustain a heat-related illness at temperatures below 80°F, their recommended screening level. The statistical evidence from the national hearing establishes the vast majority of letter carriers completed their routes without incident on the dates the heat-related illnesses cited by Secretary occurred. Without a temperature- or heat index-specific standard, it is difficult for employers to know when heat is "excessive." Chairman Sullivan commented on the lack of a uniform measurement in *A.H. Sturgill*. "The Secretary's failure to establish the existence of an excessive heat hazard here illustrates the difficulty in addressing this issue in the absence of an OSHA standard." *Id.* at 2019 WL 1099857, at *5, n.8.

In her concurring opinion in *A.H. Sturgill,* former Chairman MacDougall addresses the nebulous phrase "excessive heat."

> "Excessive heat" is a condition that is inherent in the performance of outdoor work and one that only presents the possibility for harm, not an employment condition that by itself necessarily carries a significant risk of harm. *See Mo. Basin Well Serv., Inc*., 26 BNA OSHC at 2316 n. 5 (MacDougall, Chairman) ("As the Commission observed in *Pelron,* an employer cannot reasonably be expected to free its workplace of inherent risks that are incident to its normal operation."). This vague definition also neither identifies a condition or practice over which an employer can reasonably be expected to exercise control nor provides an employer with fair notice of what it is required to do to protect its employees.

Id. at 2019 WL 1099857, at *15.

"Whether there exists a significant risk depends on both the severity of the potential harm and the likelihood of its occurrence, but there is an inverse relationship between these two elements. As the severity of the potential harm increases in a particular situation, its apparent likelihood of occurrence need not be as great." *Weirton Steel Corp*, No. 98-0701, 1999 WL 34813785, at *5 (OSHRC July 31, 2003). The record demonstrates the difficulty of accurately determining the etiology of illnesses presumed to be heat-related. The Secretary has not shown the incidence of carriers' self-reported heat-related illnesses establishes a "significant" risk of harm, either in the statistical likelihood of occurrence or in the severity of potential harm.

Conclusion

The Court concludes the Secretary did not establish the cited weather conditions exposed Houston's letter carriers to a significant risk of harm from excessive heat on June 17, 2016.[33] The Secretary has not met his burden to establish a condition or activity presented a hazard. The Citation is vacated.

B. Feasible and Effective Means to Eliminate or Materially Reduce the Hazard

Assuming the Secretary had established the heat index on June 17, 2016, presented an excessive heat hazard, as well as the elements of industry or employer recognition, likelihood of death or serious physical injury, and knowledge, the Court finds he failed to establish the element relating to feasible and effective means of abatement. **"**To establish the feasibility of a proposed abatement measure, the Secretary must 'demonstrate both that the measure[] [is] capable of being put into effect and that [it] would be effective in materially reducing the incidence of the hazard.' *Arcadian,* 20 BNA OSHC at 2011 (*citing Beverly Enters. Inc*., 19 BNA OSHC at 1190). Where an employer has undertaken measures to address a hazard alleged under the general duty clause, the Secretary must show that such measures were inadequate. *U.S. Postal Serv*., 21 BNA OSHC 1767, 1773-74 (No. 04-0316, 2006)." *A.H. Sturgill,* 2019 WL 1099857, at *8. "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 Secretary must specify the particular steps the employer should have taken to avoid citation, and he must demonstrate the feasibility and likely utility of those measures." *Champlin Petroleum Co. v. Occupational Safety & Health Review Comm'n,* 593 F.2d 637, 640 (5th Cir. 1979).

1. Proposed Method of Abatement

The Citation states:

> Among other methods, one feasible and acceptable abatement method to correct this hazard is to follow the guidelines contained in the OSHA-NIOSH Infosheet "Protecting Workers from Heat Illness," the OSHA document "Using the Heat

[33] This conclusion is not intended to minimize the general physical discomfort of letter carriers delivering mail in hot weather (Tr. 137-38, 522-23). As the Commission noted in *International Glass,* heat is an unavoidable feature of some workplaces (such as the open air in summer). "While the employee testimony regarding the difficulties they experienced because of the hot working conditions troubles us because it clearly shows that this is an uncomfortable working environment and that employees do suffer from the effects of the heat, the citation's identification of the hazard as excessive heat stress suggests that the Secretary recognizes that some degree of discomfort is inherent in the job." *Id.*, No. 88-348, 1992 WL 88787, at *12 (OSHRC Apr. 21, 1992).

Index: A Guide for Employers," the NIOSH document "Criteria for a Recommended Standard Occupational Exposure to Heat and Hot Environments," and OSHAs Safety and Health Topics Page on Occupational Heat Exposure:

1. Establish and implement a comprehensive, written heat related illness prevention program.

2. Designate and train a knowledgeable person onsite who is well informed about heat related illnesses and authorized to modify work activities and the work/rest schedule.

3. Train all employees regarding the service's Heat Stress Program, the health effects associated with heat stress and recognizing the signs, symptoms and methods of the prevention of heat-induced illnesses.

4. Develop specific procedures to be followed for emergency situations and procedures for first aid to be administered immediately to employees displaying symptoms of a heat related illness.

5. Verify that adequate medical services are available. Train employees, such as Route Examiners, to administer first aid for heat related illnesses. Supply adequate medical supplies and equipment such as cool towels and a thermometer.

6. Develop a written schedule for acclimatizing employees beginning work in a hot environment or those returning from an absence of a week or more.

7. Establish or designate air-conditioned areas along the delivery route where heat-affected employees may take their breaks and/or recover.

8. Physiologically monitor workers by establishing a routine to periodically check workers for physical signs such as body temperature, heart rate and body water loss. Use dermal patches for monitoring employee body temperatures to better identify when workers need to be removed from the work area.

9. Establish specific break schedules during high-temperature conditions that differ from regular break schedules. Ensure that these break schedules are followed.

In his brief, the Secretary focuses on seven methods of abatement, two of which (equipping vehicles with air conditioning and analyzing existing data on heat-related illnesses) are not proposed in the Citation for this proceeding, and which the Court will not address in this decision.[34] The seven methods the Secretary recommends for implementation in his brief are a work/rest cycle; air-conditioned vehicles; emergency response procedure; analysis of existing

[34] The only reference to air conditioning in the Citation is paragraph 7, which states: "Establish or designate air-conditioned areas along the delivery route where heat-affected employees may take their breaks and/or recover." It is undisputed there were air-conditioned businesses on Route 36 where LC1 could stop and take a break, including an office building where he took his comfort breaks. He regularly took his 10-minute breaks and 30-minute lunch break in his van with the engine on and the air conditioning running (Tr. 121-23). There is no issue in this proceeding regarding LC1's access to air conditioning.

data on heat-related illnesses; employee monitoring; reduction in time spent outdoors; and training. Work/rest cycles and reduction in time spent outdoors are discussed below in the section addressing economic feasibility. The Court will address the remaining recommended methods that are both listed in the Citation and argued in the Secretary's brief.

a**. Emergency Response**

Paragraphs 4 and 5 of the proposed abatement methods in the Citation provide:

> 4. Develop specific procedures to be followed for emergency situations and procedures for first aid to be administered immediately to employees displaying symptoms of a heat related illness.
>
> 5. Verify that adequate medical services are available. Train employees, such as Route Examiners, to administer first aid for heat related illnesses. Supply adequate medical supplies and equipment such as cool towels and a thermometer.

The Secretary contends an effective first aid program would materially reduce the likelihood of a letter carrier's heat-related illness becoming more serious, and he cites Dr. Tustin and Dr. Bernard as supporting this position. A review of their testimony shows their opinions on this topic are equivocal with regard to the Houston case.

> Q.: Let's talk about category of abatement measures and that is first aid or emergency care. Are there abatement measures that can be taken once a letter carrier starts to experience symptoms of heat stress to keep it from becoming more serious?
>
> Dr. Tustin: There are. First aid, like you mentioned, is something that can be done. Now, you're starting to get into things that I consider to be less effective in the sense that first aid does not reduce the heat stress at all. First aid is more reactive rather than proactive. But yes, if there is a proper first aid program that kicks in quickly when symptoms happen then, yes, that can reduce the hazard that the illness will become worse.
>
> Q.: And based on all the testimony that you reviewed, did you reach an opinion about whether the Postal Service's existing emergency care procedures are adequate?
>
> Dr. Tustin: Yes, I reached an opinion and my opinion is that they're not adequate.
>
> Q.: Why do you say that?
>
> Dr. Tustin: There were several incidents out of the seven where I thought that the first-aid response and treatment that the worker received was inadequate.

(NH Tr. 518-19)

Dr. Tustin proceeds to discuss the incidents that gave rise to the citations in the Benton, San Antonio, Martinsburg, and Des Moines cases, specifically skipping over the Houston

incident (NH Tr. 520-24). The Court infers from this omission that Dr. Tustin did not think the Postal Service's emergency response was inadequate in the Houston case.

Dr. Tustin also qualified his opinion regarding first aid and treatment, stating that calling 911 (as happened here) is the best approach. "[M]y opinion is that the supervisor should not be triaging these illnesses based on all the evidence that I've seen. So another thing they could do would be to simply call 911." (NH Tr. 526)

Dr. Bernard also condoned calling 911 as an alternative to administering first aid.

> Q.: For Postal Service workers who work alone, are you suggesting or recommending that supervisors or co-workers go to where that carrier is and where that carrier is experiencing symptoms and provide first aid to them?
>
> Dr. Bernard: That's an option that the Postal Service can consider.
>
> Q.: Do you believe that would be safer than having that employee who is experiencing symptoms call 911?
>
> Dr. Bernard: No.

(NH Tr. 1085)

The safety officer for the Astrodome Post Office testified letter carriers are trained in standup safety talks to call 911. "We give them the symptoms of heat stress and heat strokes. And, you know, to let them know if they start feeling sick or ill in any kind of way, to call 911 to let somebody know." (Tr. 709)

As for Dr. Bernard's suggestion co-workers could be trained to administer first aid to letter carriers, his testimony shows problems arise when the practicalities of that situation are considered.

> Q.: With regard to first aid training, your testimony was that co-workers and supervisors should go to that carrier that's in distress and provide first aid; correct?
>
> Dr. Bernard: Correct.
>
> Q.: And you believe, I'm assuming, that that sort of system is technically feasible; . . . correct?
>
> Dr. Bernard: Yes.
>
> . . .
>
> Q.: In making that determination, did you consider any limitations in the collective bargaining agreement about the types of work various crafts can perform?
>
> Dr. Bernard: No.

> Q.: Did you consider how quickly supervisors or mail carriers, given their job responsibilities, could actually get to the carrier in distress to provide that first aid?
>
> Dr. Bernard: No.
>
> . . .
>
> Q.: Did you consider the amount of time it would take the supervisor or the co-worker to get to the employee who is experiencing potential signs and symptoms of heat exhaustion?
>
> Dr. Bernard: No.
>
> Q.: Did you consider any distances, for example, the supervisor may have to travel to get to that carrier in order to provide that first aid?
>
> Dr. Bernard: No.

(NH Tr. 1118-19)

Paragraph 5 of the Citation recommends supplying "adequate medical supplies and equipment such as cool towels and a thermometer." Dr. Bernard testified cooling towels and similar products "provide a sense of comfort but they're not going to materially control heat stress." (NH Tr. 1114)

The Court determines the Secretary has not established the recommend abatement methods regarding first aid and medical supplies would have materially reduced an excessive heat hazard in this case.

b. Employee Monitoring

Paragraph 8 of the proposed abatement methods listed in the Citation provides:

> Physiologically monitor workers by establishing a routine to periodically check workers for physical signs such as body temperature, heart rate and body water loss. Use dermal patches for monitoring employee body temperatures to better identify when workers need to be removed from the work area.

The Secretary's argument in support of the Postal Service's implementation of physiological monitoring of letter carriers is vaguely worded and lacks a basis for establishing this method would materially reduce the incidence of an excessive heat hazard:

> In the summer of 2016, supervisors in the [Houston] office did nothing different on particularly hot days during the summer, such as increase employee monitoring. There was no evidence for example that on extremely hot days, supervisors checked on letter carriers working on the street. Increased monitoring of employees during particularly hot weather would be beneficial and is clearly feasible. . . . Dr. Bernard testified employee monitoring is beneficial because it allows for observations of heat-related disorders, and it provides an "active decision-making process" of evaluating how an employee is feeling rather than

> allowing for a "passive decision" and waiting until symptoms are overwhelming. ([NH 838-840]) Making increased monitoring mandatory rather than optional, is therefore a feasible means of abatement that would significantly reduce the hazard.

(Secretary's brief, pp. 50-51)

> Dr. Bernard favors a "virtual buddy system" to provide monitoring.
>
> The idea is in a traditional heat stress exposure, that there's a buddy system. We definitely encourage the idea that you're never out of sight of somebody else. And this is so that you can observe any signs of heat-related disorders. You can query them about any symptoms, and that plays both ways. I do appreciate the fact that the . . . Post Office, you know, really – we can't put two people on a route. I kind of get that. And so it's looking for an alternative way of doing this. And I think I mentioned -- but not sure that I said it here that they stay -- that you pair carriers off so that they stay in contact with each other. What's important there is that there's an active decision-making process about how I feel and what my symptoms are. My experience has been if you leave that as a passive decision, that generally people will go beyond their limits.

(NH Tr. 838-39)

The one letter carrier for whom medical testimony exists in this proceeding is LC1, who was accompanied by an actual "buddy," route examiner GJ, during his entire delivery on June 17, 2016. GJ noted LC1 was perspiring heavily and repeatedly asked him if he was okay, to which he responded he was. Towards the end of the delivery, when it was clear LC1 was not well, she drove him to the Astrodome Post Office, and the P.M. supervisor called 911. "[A]n employer may defend against a general duty clause citation by demonstrating that it was using an abatement method that is as effective as the one suggested by the Secretary. *Brown & Root, Inc.,* 8 BNA OSHC 2140, 2144, 1980 CCH OSHD ¶ 24,853, p. 30,656 (No. 76–1296, 1980)." *Waldon Health Care Ctr.,* 1993 WL 119662, at *14. Here, route examiner GJ's accompanying LC1 on his route was as effective as the virtual buddy system proposed by Dr. Bernard.

The Secretary also recommends the use of dermal patches to physiologically monitor letter carriers on their routes. "Use dermal patches for monitoring employee body temperatures to better identify when workers need to be removed from the work area." He makes no mention of dermal patches in his brief. Dr. Conibear testified dermal patches provide no useful information regarding core body temperature. "Skin patches are not a valid way of assessing core body temperature." (NH Tr. 3058)

The Court concludes the Secretary has not demonstrated physiologically monitoring letter carriers would have materially reduced an excessive heat hazard in this case.

c. Training

The Secretary contends the heat stress training provided to the Astrodome Post Office letter carriers prior to June 17, 2016, was inadequate. On May 28 and June 1, 2016, the safety captain at the Astrodome Post Office gave standup safety talks focused on delivering mail in hot weather conditions as part of the Postal Service's *Southern Area Heat Stress Campaign* (Exhs. C-2, C-29, C-30; Tr. 513, 581-82).

The safety captain told letter carriers to take precautions in hot weather, including "drink plenty of water. Make sure their clothes are loose-fitting, . . . and get plenty of shade and rest when you can." (Tr. 700) "We give them the symptoms of heat stress and heat strokes. And . . to let them know if they start feeling sick or ill in any kind of way, to call 911 to let somebody know." (Tr. 709)

The record establishes LC1 drank large amounts of water and beverages on June 17, 2016, and he took his breaks in the van with the air conditioner running. He was dressed appropriately for the weather, and he paced himself by using the heart rate monitor on his watch to keep his heart rate below 120 beats a minute. He routinely walked 11 to 13 miles each workday on his route. He generally perspired heavily when delivering mail, so that would not alert him as a symptom of heat-related illness. He also had a history of muscle cramps (Tr. 98, 125-30). The Secretary has not established LC1's training in heat safety was inadequate or articulated what specific additional method of training would have materially reduced an excessive heat hazard.

The Court concludes the Secretary has not met his burden of showing a feasible and effective means existed to eliminate or materially reduce a hazard of excessive heat.

2. Economic Infeasibility

Finally, the Secretary failed to establish its proposed abatement methods regarding work/rest cycles, acclimatization programs, and additional paid breaks are economically feasible. It is the Secretary's burden to show his "proposed abatement measures are economically feasible. . . . In cases involving the general duty clause, the Commission has generally held that an abatement method is not economically feasible if it 'would clearly threaten the economic viability of the employer.' *National Realty,* 489 F.2d at 1266 n.37. " *Beverly Enterprises, Inc.,*

Nos. 91-3144, 92-238, 92-1257, 93-724, 2000 WL 34012177, at *34-35 (OSHRC Oct. 27, 2000).[35]

The Secretary's brief addresses the abatement methods of implementation of work/rest cycles and reduction of time spent outdoors. Two of the guidelines in the Secretary's proposed abatement method listed in the Houston Citation are:

> 6. Develop a written schedule for acclimatizing employees beginning work in a hot environment or those returning from an absence of a week or more.
>
> . . .
>
> 9. Establish specific break schedules during high-temperature conditions that differ from regular break schedules. Ensure that these break schedules are followed.

It is the Secretary's burden to show his "proposed abatement measures are economically feasible. . . . In cases involving the general duty clause, the Commission has generally held that an abatement method is not economically feasible if it 'would clearly threaten the economic viability of the employer.' *National Realty*, 489 F.2d at 1266 n.37. " *Beverly Enterprises, Inc.*, Nos. 91-3144, 92-238, 92-1257, 93-724, 2000 WL 34012177, at *34-35 (OSHRC Oct. 27, 2000). The proposals related to reducing the amount of time carriers spend working outdoors would require the Postal Service to pay them for the time during which they are not working or pay additional carriers at regular or overtime rates.

Dr. Tustin testified regarding abatement measures that he recommends the Postal Service implement to reduce its employees' exposure to excessive heat. Safety organizations used the concept of hierarchy of controls to prioritize measures to reduce hazardous exposure. The first and most effective measure is elimination of the hazard, followed by substitution, engineering controls, administrative controls, and personal protective equipment (PPE) (NH Tr. 498-500). Dr. Tustin stated elimination of the hazard (hot weather) is not an option for the Postal Service, nor is substitution.

Work/Rest Cycles

Dr. Tustin discussed, as an administrative control, work/rest cycles to lower the postal worker's metabolic heat. "[T]he employer would give workers rest breaks . . . and they would increase in either frequency or duration as the temperature increases." (NH Tr. 508) He

[35] The Secretary acknowledges he has the burden of proving economic feasibility of proposed abatement methods in § 5(a)(1) cases but argues an exception should be made here since the Postal Service "is unique among employers subject to OSHA's enforcement jurisdiction, because its existence is subject to Congressional oversight." (Secretary's brief, p. 54) The Court disagrees. The burden of proof remains with the Secretary.

advocated for a "protocol for giving more frequent breaks" such as "when the temperature reaches a certain level, workers might break for 15 minutes out of every hour and rest in a cooler location. As the temperature increases even more, there might be another threshold where they have to rest even more than 15 minutes per hour—maybe 30 minutes per hour." (NH Tr. 509)

Dr. Tustin believes the most effective use of the work/rest cycle is to require mandatory breaks. "[F]or heat-related illnesses in particular, . . . if it's progressing to heat stroke that can cause disorientation and confusion, mental status changes. So somebody who is progressing to heat stroke might not realize that they need a rest break. So relying on the worker to take a rest break could be dangerous in that situation." (NH Tr. 513) He does not think the Postal Service's policy of allowing comfort stops to be an effective administrative control. "To be honest it didn't even really appear sincere to me. The testimony that I reviewed indicated that sometimes supervisors said that workers were allowed to take extra rest breaks but then when workers either reported symptoms or said they wanted extra rest breaks; they were . . . either disciplined or supervisors became angry." (NH Tr. 514) It is Dr. Tustin's opinion, to a reasonable degree of medical certainty, that exposure to excessive heat "would have been significantly reduced in all seven incidents [cited in the five Postal Service cases before the Court] if a work/rest cycle program had been implemented." (NH Tr. 514)

Acclimatization

Dr. Tustin discussed three types of acclimatization in the context of abatement measures. First, a worker may not be acclimatized if he or she is newly hired and has not been exposed to the work environment. "In that case allowing the person to become acclimatized to heat stress is thought to be helpful." (NH Tr. 515) Second, a worker who has taken time off work, either due to vacation or illness, "might lose acclimatization or when the worker comes back the heat stress might be higher when the worker left. So allowing that worker to gradually acclimatize, . . . if the absence has been more than about two weeks, is helpful." (NH Tr. 515-16) The third case involves "situations where essentially the entire workforce is unacclimatized if it's, . . . for example, a heat wave. Protecting the entire workforce somehow during a heat wave can materially reduce the hazard." (NH Tr. 516)

Dr. Bernard recommended newly hired letter carriers and letter carriers returning after a work break follow an acclimatization schedule that builds up daily to increased heat exposure (NH Exh. C-312). He believes his recommended acclimatization is technically feasible for the

Postal Service. "[I]t's with the preplanning that goes into things. And they do plan their routes. They do have unexcused absences and others. So there's a capability of managing how you can assign routes and a workload, so I think this fits into that possibility." (NH Tr. 837)

Dr. Bernard acknowledged on cross-examination he did not know realistically how the Postal Service could implement his recommended acclimatization plan.

> Q.: In those scenarios where, you know, you're going to have in your opinion workers who cannot be on the street working outside because they returned from that 3-week vacation, you said they can be productive in other ways. Given what you know about the Postal Service operation, what are they going to do during that time?
>
> Dr. Bernard: Well, I don't know.
>
> Q.: Okay. So you don't know if they can be productive or not?
>
> Dr. Bernard: Yeah, I mean, I can create scenarios and the Post Office will laugh at me. You know, so this isn't my business, but the Post Office knows their business. . . . But the goal is, you know, is some sort of progressive increase. The classic one is 50 percent on day one. 60, 80, 100. . . . And that is the outdoor portion, the casing doesn't count.

(NH Tr. 1080-81)

Reducing Time Outdoors

Dr. Tustin also advocated for earlier start times. Noting temperatures typically are highest between 2:00 p.m. and 4:00 p.m., Dr. Tustin recommended the Postal Service could adjust its delivery schedule, so letter carriers are not working during the hottest hours in the afternoon. "[I]f you shifted the work hours that they finish by 1:00 p.m. then [the letter carriers] would be exposed to both lower levels of environmental heat overall. So the level of heat would be lower and the amount of time that they were exposed to a hazardous level of environmental heat would be shorter." (NH Tr. 518)

Funding the Proposed Abatement Methods

The Secretary presented no witnesses, expert or otherwise, to show funding the proposed additional rest/recovery/acclimatization/break time is economically feasible. Instead, the Secretary argues the Postal Service could simply raise prices for competitive products, such as packages, or borrow $4 billion from the U.S. Treasury (Secretary's brief, p. 62). These suggestions are speculative and presented without evidence of their efficacy. The Secretary also claims the Postal Service is not actually operating at a deficit because it has defaulted on its financial obligations for several years.

> The 2018 Presidential task force report provides a clear snapshot demonstrating six consecutive years of postal profits totaling $3.8 billion in revenue. (DC Ex. C-135 at p.19) All of USPS's claimed losses are merely paper losses. After nine years of not paying into the Retiree Health Benefits Fund (RHBF), it is clear the prefunding mandate of the Postal Accountability and Enhancement Act is not a true expense because the act has no mechanism to enforce payment, USPS suffers no penalty from default, and it intentionally chooses to spend its revenue elsewhere.

(Secretary's brief, p. 61)

The Postal Service, in contrast, presented a detailed analysis explaining why the Secretary's proposed time-related abatements are unworkable. David Williams Jr., chief operating officer and executive vice president for the Postal Service, testified at length regarding its precarious financial condition resulting from increased competition and the obligation to prefund the RHBF (NH Tr. 1751-52). He described how the complex network of employees, contractors, facilities, airplanes, trucks, and other vehicles coordinate nationwide to meet the timetable imposed by 24-hour clock, and how one snag could create a bullwhip effect (NH Tr. 1760, 1780-81, 1783-84, 1791-92, 1795-97). Williams stated, "Every step depends on the previous step. And if we change one thing, we change another." (NH Tr. 1814)

Williams testified the Secretary's recommendations for work/rest cycles and unlimited paid breaks were economically (as well as technically) infeasible.

> If you think about the 24 hour clock that I talked about the need for our carriers to get back by 6:00 p.m. so that we could meet the dispatch schedules and start that whole process around our operating plan to insure that we achieve the service expectations of our customers, when an employee can take an unlimited break for work 75 percent of the time that means that for -- at least for the one where the [temperature requires] 45 minutes work 15 minutes break for every hour, that's significant.
>
> That impacts our ability to deliver mail on time to make the 24 hour clock. If you think about 50 percent of the time where a carrier is working 30 minutes out of every hour, totally infeasible in terms of our ability to provide prompt, reliable and efficient service.
>
> And then if you think of 15 minutes of work and 45 minutes of break, totally infeasible. Then the unlimited breaks, I don't know of any business, any business that provides unlimited breaks whenever anybody would want to take a break.
>
> . . . [W]e're hemorrhaging money every day. And the costing that was performed on this analysis is in the hundreds of millions of dollars. We can't afford it.

(NH Tr. 1911-13)

The parties stipulated that the Postal Service's net losses were in the billions for 2016, 2017, and 2018:

> 1. In the following Fiscal Years (FY), the Postal Service's total revenue was:
>
> 2016 $71.498 billion
> 2017 $69.636 billion
> 2018 $70.660 billion
>
> 2. In the following Fiscal Years, the Postal Service's total operating expenses were:
>
> 2016 $76.899 billion
> 2017 $72.210 billion
> 2018 $74.445 billion
>
> 3. In the following Fiscal Years, the Postal Service's net loss was:
>
> 2016 $5.591 billion
> 2017 $2.742 billion
> 2018 $3.913 billion

(NH Exh. J-100)

Dr. Do Yeun Sammi Park, financial economist for the Postal Service, testified regarding the financial impact of implementing the abatement methods proposed by the Secretary related to paid worktime.[36] The Court determined Dr. Park was qualified "in terms of her knowledge, skill, experience, training, and education" as an expert in economics with a "specialized expertise in cost modeling." (Tr. 1559-60)

She explained her process for developing a costing model to determine how much proposed changes in CBAs would cost the Postal Service. CBAs usually expire after 3 or 5 years, and then the terms have to be renegotiated.

> [W]henever we do the negotiation, the major portion is an economic proposal, which is determining the wage increase, the general wage increase or COLA increase or step increase. Those are the three main parts of the wage increase.
>
> So whenever we do the negotiation, there's a lot of proposals going on, and we – my task was to cost each economic proposal, how much it's going to cost to the USPS. . . . So I developed a fairly complicated model, the costing model. And so I polish up the model, develop it and prove it and update it before the negotiations start. And whenever the negotiation is actually going on, the main

[36] Dr. Park works as a financial economist for the Postal Service. She received undergraduate and graduate degrees in economics from the University of Missouri Columbia. In 2009, she received a PhD in economics from Purdue University. Dr. Park taught as a graduate instructor at both universities and was an adjunct professor at Hofstra University, teaching principles of micro- and macroeconomics. She also taught as a visiting professor at Sungshin University in Seoul, South Korea, teaching world economics and industrial organization (NH Tr. 1550-54).

> spokesperson talks to the union's head, and then they discuss – they bounce each other the proposals, and they let me -- tell me I need to cost what it's going to cost USPS 1.3 percent of general increase next year or throughout the 3-year contract. And I have to cost -- for example, it's going to cost $800 million to the USPS. . . . So a costing model consists of basically wages and benefit part. . . . So the general increases on . . . the salaries, so that comes into it.
>
> The benefit part, we also have to -- so whenever we increase a salary, that also affects the benefit, and we have to cost that part out. Mainly, the cost part of the benefit is -- we look at the proportion of how much, if we increase salary -- the basic salary goes up, then what's the proportion of benefit goes up with it. So those are the main big components of the costing model.

(NH Tr. 1556-58)

In August of 2018, the Postal Service asked Dr. Park to determine the cost of two proposed changes designed to reduce the exposure of letter carriers to excessive heat: an acclimatization program and an additional paid 5-minute break. For the acclimatization program, Dr. Park assumed the targeted letter carriers are returning to work after a 3-day layoff and after a 7-day layoff. For both layoff periods, Dr. Park assumed the letter carriers' return schedule would start the first day with restricting them to working only 2 hours outdoors, then 4 hours the second day, and then 6 hours the third day. On the fourth day, the letter carriers can return to their regular schedules. Dr. Park relied on the acclimatization analyses developed by Robert Mullin, a data analyst in field staffing and support for the Postal Service, to perform her cost modeling the proposed changes (NH Tr. 1473, 1560-63).

Dr. Park used a "consolidated rate" to calculate the cost. The consolidated rate is determined by combining the various wage rates for full-time, part-time, and non-career postal employees into one wage rate. She also reviewed the CBAs for city and rural letter carriers for details relating to guaranteed hours the Postal Service is contractually obligated to pay (NH Tr. 1564-68). Based on her analyses of six hypothetical situations, Dr. Park determined the total costs of the acclimatization program and the paid 5-minute break:

> (1) Cost of 3 Day Acclimatization and Paid Break, 4/1/2017—10/1/2017, for All Carriers:
> Straight Time--$333,877,519 Overtime--$487,864,332
>
> (2) Cost of 3 Day Acclimatization and Paid Break, 6/1/2017—10/1/2017, for All Carriers:
> Straight Time--$209,293,069 Overtime--$312,124,391
>
> (3) Cost of 3 Day Acclimatization and Paid Break, 6/1/2017—9/1/2017, for All Carriers:
> Straight Time--$179,628,724 Overtime--$263,267,664

(4) Cost of 7 Day Acclimatization and Paid Break, 4/1/2017—10/1/2017, for All Carriers:
Straight Time--$126,620,282 Overtime--$188,428,747

(5) Cost of 7 Day Acclimatization and Paid Break, 6/1/2017—10/1/2017, for All Carriers:
Straight Time--$87,849,671 Overtime--$130,815,782

(6) Cost of 7 Day Acclimatization and Paid Break, 6/1/2017—9/1/2017, for All Carriers:
Straight Time--$67,536,663 Overtime--$100,540,277

(NH Exh. R-202, pp. 6-8; NH Tr. 1599-1602)

The Secretary argues these figures are inflated.[37]

> The calculation is a gross over-estimation of costs as acclimatization is not needed after a mere three or seven days off; rather, it is necessary for new workers and workers returning from a two- to three-week absence. Therefore the group selected for costing was over-inclusive. Further, acclimatization is generally only needed when the heat index is at least 91°F, so calculating for every single day inside a three-month time period is also grossly over inclusive.

(Secretary's brief, p. 48, n. 33)

It is not the Postal Service's burden to establish the Secretary's proposed abatement methods are economically feasible. The Postal Service has adduced the analysis of a cost modeling specialist who projected the cost of implementing specified extra break and acclimatization schedules. The Secretary had the opportunity to rebut the projected costs with his own expert or to cross-examine Dr. Park more extensively on the accuracy of her projections.

> "OSHA is not required to prove economic feasibility with certainty but is required to use the best available evidence and to support its conclusions with substantial evidence." [*American Iron & Steel Institute v. OSHA* 939 F.2d 975, 980–81 (D.C. Cir. 1991) (*Lead II)*]. OSHA must also provide "a reasonable estimate of compliance costs and demonstrate a reasonable likelihood that these costs will not threaten the existence or competitive structure of an industry, even if it does portend disaster for some marginal firms." [*United Steelworkers of America, AFC-CIO-CLC*, 647 F.2d 1189, 1272 (D.C. Cir. 1960), (*Lead I*)].

[37] The Secretary takes issue with the projected acclimatization costs but does not address other proposed time-based abatement costs not covered in Dr. Park's analysis. Dr. Bernard proposed a work/rest recovery cycle which would require letter carriers to rest for 15, 30, or 45 minutes per hour, depending on the temperature. Dr. Bernard testified he did not consider the Postal Service's 24-hour clock model, the CBA provisions, or the number of replacement workers required to complete timely mail delivery when proposing this abatement method (NH Tr. 1117-18). The Secretary did not provide an estimate of compliance costs or the effects of the costs on the existence or competitive structure of the Postal Service for Dr. Bernard's proposal.

N. Am.'s Bldg. Trades Unions v. Occupational Safety & Health Admin., 878 F.3d 271, 296 (D.C. Cir. 2017).

It is the Secretary's burden to prove the economic feasibility of his proposed abatements. The Secretary did not provide an estimate of compliance costs or demonstrate a reasonable likelihood compliance costs would not threaten the existence or competitive structure of the Postal Service.

Joseph Corbett, chief financial officer and executive vice president for the Postal Service, was asked about financing the proposed acclimatization and paid break programs. He stated, "We don't have sufficient funds to even pay our existing obligations. So, no, we do not have funds to pay additional obligations. . . . We just don't have sufficient cash. We—we can't." (NH Tr. 2383-84)

Restrictions Imposed by the CBA

Alan Moore has been the Postal Service's manager of labor relations since 2007(NH Tr. 2211). He is responsible for contract administration for the NALC and for managing the labor relations process when rules are created or changed (NH Tr. 2214-15). His testimony illustrates how the CBA creates further obstacles to feasibly implementing the Secretary's proposed time-based methods of abatement.

The Postal Reorganization Act requires the Postal Service to bargain with its employees' labor unions. The parties bargain over wages, hours, benefits, and working conditions (NH Tr. 2216). Generally, when a contract is set to expire, the parties have an approximately 90-day window to bargain. They jointly establish the ground rules, including what discussions will be off the record. They set up bargaining teams who work on proposals (NH Tr. 2218). The Postal Service looks at the total cost of any proposed contract. "[G]enerally there's a *quid pro quo* process. So if the union . . . wants something, then we get something in return." (NH Tr. 2219) During the term of the CBA, the Postal Service cannot unilaterally change wages, hours, benefits, or working conditions of the contract (MH Tr. 2225-26).

NALC is the exclusive bargaining representative of city letter carriers. Not all city letter carriers are members of NALC but the CBA for NALC applies to all of them. City letter carriers include career employees, who are either full-time (with 40-hour assignments) or part-time. Part time employees are divided into part-time regulars and part-time flexibles. The CBA limits the number of part-time regular employees to 682. The part-time flexible position is being sunsetted

and replaced by city carrier assistants (CCAs). CCAs are non-career employees who are on a path to become career employees when a regular position opens up. The CBA limits the number of CCAs to 15 percent of the full-time employees per district, and no more than 8,000 CCAs nationwide. The Postal Service is prohibited from unilaterally exceeding any position caps set out in the CBA (NH Exh. R-117; NH Tr. 2228-34).

The CBA does not permit the Postal Service to divide a city letter carrier's assignment so part of it is worked in the morning and part in the late afternoon. "[T]here's a requirement that full-time assignments are either 8 or 9 hours within 10 hours.[38] [T]he 8 hours within 9 hours . . . is in offices with a hundred employees or something. There's a baseline there. . . . So the biggest gap you can have in a regular assignment is 2 hours." (NH Tr. 2234-35)

The CBA guarantees full-time city letter carriers 8 hours of work or 8 hours' worth of pay daily. If a full-time city letter carrier works only 2 hours during a day's assignment, the Postal Service still owes the city letter carrier for 8 hours' pay (NH Tr. 2235-36). The Postal Service must assign overtime work first to full-time employees who have signed up for the overtime-desired list. If the Postal Service assigns an employee who is not on the list to work overtime, it must also pay the employee on the overtime-desired list for the same work (NH Tr. 2237-38).

The Postal Service has demonstrated the Secretary's proposed time-based abatement methods threaten its economic viability. The Court concludes the Secretary has failed to establish his proposed abatements relating to acclimatization programs, additional paid breaks, work/recovery cycles, and earlier workday start times are economically feasible.

VII. CONCLUSION

The Secretary has not met his burden of proving the cited conditions presented a hazard of excessive heat exposure to Houston letter carriers on June 17, 2016. He has not established his recommended methods of abatement for emergency response, employee monitoring, and training would have materially reduced the alleged hazard. He also failed to establish the economic feasibility of his proposed abatement methods related to acclimatization programs, additional paid breaks, and work/recovery cycles.

[38] The 9- or 10-hour block of time includes the 30-minute lunch break and the 10-minute morning and afternoon breaks, as well as any comfort stops (NH Tr. 2236).

Because the Court finds the Secretary did not prove a violation of the general duty clause, it is not necessary to address the Secretary's request for enterprise-wide abatement of excessive heat exposure for letter carriers.

The Citation is vacated.

VIII. FINDINGS OF FACT AND CONCLUSIONS OF LAW

The foregoing decision constitutes the findings of fact and conclusions of law in accordance with Fed. R. Civ. P. 52(a).

IX. ORDER

Based on the foregoing decision, it is hereby **ORDERED**:

Item 1 of the Citation, alleging a serious violation of § 5(a)(1), is **VACATED**, and no penalty is assessed.

SO ORDERED.

/s/_____
Sharon D. Calhoun
Administrative Law Judge, OSHRC

Dated: July 29, 2020
Washington, DC