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.	OSHRC Docket Nos. 16-1713, 16-1872, 17-0023, 17-0279

ON BRIEFS:

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For the Complainant

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For the Respondent

DECISION

Before: ATTWOOD, Chairman; LAIHOW, Commissioner.

BY THE COMMISSION:

Between September 2016 and January 2017, the Occupational Safety and Health Administration issued five citations to the United States Postal Service, each alleging that it committed a repeat[1] violation of the Occupational Safety and Health Act's general duty clause, 29

[1] Two of the citations (Docket Nos. 16-1713, 16-1872) were initially characterized as serious but later amended to repeat.

U.S.C. § 654(a)(1), by exposing employees to an "excessive heat" hazard.[2] These citations relate to medical incidents involving a total of seven letter carriers working in five different cities during the summer of 2016. In each incident, the letter carrier began feeling ill while delivering mail and subsequently was treated at a hospital or urgent care clinic. With one exception, the Secretary alleges that each carrier became ill due to excessive heat. The Postal Service contested each citation, resulting in five separate cases, each involving the occurrence of an alleged violation in the following cities[3]—San Antonio, Texas (Docket No. 16-1713); Des Moines, Iowa (Docket No. 16-1813); Benton, Arkansas (Docket No. 16-1872); Houston, Texas (Docket No. 17-0023); and Martinsburg, West Virginia (Docket No. 17-0279).[4]

All five cases were assigned to Administrative Law Judge Sharon D. Calhoun, who held separate hearings for each case, as well as an additional "National Hearing" to hear evidence common to all five cases. The judge did not consolidate the cases for disposition and issued five separate decisions vacating each citation. The Secretary filed a Petition for Discretionary Review applicable to all five cases, and the Postal Service filed a conditional Cross-Petition for Discretionary Review. After the cases were directed for review, the Commission instructed the parties to address the issues raised in their petitions in a single set of briefs.

We hereby consolidate the San Antonio, Benton, Houston, and Martinsburg cases (Docket Nos. 16-1713, 16-1872, 17-0023, 17-0279) because they involve the same parties and overlapping legal and factual issues, and our decision in each case rests on the same rationale with the same

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[2] Although the citations do not uniformly use the term "excessive heat," both on review and in the proceedings below, the Secretary claims that the basis for each citation is exposure to an "excessive heat" hazard, which he states is "also referred to as heat stress."

[3] In amended complaints filed in each case, the Secretary alleges that Postal Service employees have also been affected by excessive heat "nationwide," and he requests "an order of enterprise-wide abatement against Respondent compelling its compliance with Section 5(a)(1) of the Act at all of Respondent's facilities . . . ." The Secretary's request is moot given our decision to vacate the citations. In response to this request, the Postal Service has asked the Commission to issue a declaratory order stating that a mandate of this sort is impermissible, which it contends is warranted regardless of whether the citations are vacated because such an order could potentially save the Postal Service litigation resources in the future. The Postal Service's request is denied. *See, e.g.*, *Ohio Forestry Ass'n, Inc. v. Sierra Club*, 523 U.S. 726, 734-35 (1998) (litigation cost saving does not justify deciding unripe issues).

[4] According to the citations, the violations occurred on these dates in 2016: June 13 and 15 (San Antonio); June 9 and July 21 (Des Moines); June 10 (Benton); June 17 (Houston); and August 13 (Martinsburg).

outcome.[5] *See* Commission Rule 9, 29 C.F.R. § 2200.9 ("Cases may be consolidated . . . on the Commission's own motion, where there exist common parties, common questions of law or fact or in such other circumstances as justice or the administration of the Act require."); *Cody-Zeigler, Inc.*, 19 BNA OSHC 1410, 1410 n.1 (No. 99-0912, 2001) (consolidated) (consolidating cases pursuant to Commission Rule 9). For the reasons discussed below, we vacate all four citations.

DISCUSSION

The Act's general duty clause provides that "[e]ach employer . . . shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees." 29 U.S.C. § 654(a)(1). To establish a violation of this provision, the Secretary must show: (1) "that a condition or activity in the workplace presented a hazard," (2) "that the employer or its industry recognized this hazard," (3) "that the hazard was likely to cause death or serious physical harm," and (4) "that a feasible and effective means existed to eliminate or materially reduce the hazard." *Arcadian Corp.*, 20 BNA OSHC 2001, 2007 (No. 93-0628, 2004). 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).

Here, the judge vacated the four citations at issue on the same grounds—the Secretary failed to prove (1) that the workplace conditions posed a hazard, and (2) that feasible and effective means were available to abate the hazard. We conclude that the Secretary has proven the existence of a hazard but failed to establish a feasible and effective means of abatement.[6]

I. Hazard

To establish that workplace conditions posed a hazard, the Secretary must prove there was a "significant risk" or "meaningful possibility" that they would harm employees. *A.H. Sturgill Roofing, Inc.*, 27 BNA OSHC 1809, 1811 (No. 13-0224, 2019) (citations omitted); *Quick Transport of Ark.,* 27 BNA OSHC 1947, 1949 (No. 14-0844, 2019). Determining whether conditions pose a significant risk of harm requires consideration of both the "severity of the

[5] Since we reach a different outcome in the Des Moines case (16-1813), that citation is addressed in a separate decision also issued today.

[6] We note that the judge did not address the other elements of the Secretary's burden of proving a general duty clause violation and given our conclusion that abatement has not been established, we need not reach these elements.

potential harm" and the "likelihood of its occurrence," and there is an "inverse relationship between these two elements," meaning that as the severity of potential harm increases, its "likelihood of occurrence need not be as great." *Weirton Steel Corp.*, 20 BNA OSHC 1255, 1259 (No. 98-0701, 2003).

As stated above, the Secretary alleges that Postal Service carriers were exposed to the hazard of "excessive heat," which he says is "also referred to as heat stress." The workplace conditions that posed this hazard, the Secretary contends, were the environmental and metabolic heat conditions that existed at the time these carriers worked their mail routes on the dates identified in the citations. The Secretary explains that the environmental heat conditions included the temperature and humidity levels, while the metabolic heat conditions included the distances the carriers walked and the weight of the mail loads they carried ("metabolic heat" refers to heat produced by the human body). Thus, to prove that an "excessive heat" hazard was present as alleged, the Secretary must show that the environmental and metabolic heat conditions that existed during the incidents involving the carriers subjected them to a significant risk of experiencing a heat-related illness or injury.[7]

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[7] The Postal Service suggests on review that the Secretary's use of the term "excessive heat" fails to provide notice of the conditions at issue and that the term "violates Commission precedent," citing *Sturgill*, 27 BNA OSHC at 1818 n.16. We reject any claim by the Postal Service that it lacked adequate notice of the nature of the hazard or workplace conditions at issue. The Secretary has made clear throughout these proceedings that he is alleging that the environmental and metabolic heat conditions present on specific dates when specific carriers worked put them at risk of experiencing a heat-related illness. In each case, the Secretary described those conditions in detail—emphasizing the temperature and humidity levels in particular—and in all but one case argued that they caused the carrier to experience heat exhaustion or another heat-related illness. The Postal Service obviously understood the Secretary's allegation, as it called two heat stress experts as witnesses and elicited testimony from both relating to the potential for environmental and metabolic heat conditions to cause heat-related illnesses. In fact, the Postal Service repeatedly asked one of its experts to specifically evaluate whether the particular heat conditions present during the cited incidents caused the carriers' illnesses. The Postal Service similarly questioned the Secretary's heat stress experts. Moreover, the Postal Service does not claim that its ability to litigate these cases was prejudiced because it did not understand the nature of the hazard or conditions at issue, nor does it point to any support for such a claim.

Its other assertion—that the term "excessive heat" "violates" *Sturgill*—is also groundless. In the *Sturgill* footnote it cites in support, the Commission did not discuss the Secretary's use of that term or say that using it in a citation would be fatal. 27 BNA OSHC at 1818 n.16. The Commission simply noted that industry documents referencing the potential for "heat" to pose a hazard did not show that the industry recognized that the cited climatological conditions were hazardous. *Id.* We note that in each case at issue here, the judge addressed the concerns raised by then Chairman

The judge explained her conclusion that the Secretary failed to establish the existence of an excessive heat hazard in a similar manner in each case, emphasizing that the Secretary did not prove that any of the incidents at issue were caused by excessive heat.[8] Specifically, the judge

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MacDougall in her *Sturgill* concurring opinion, as well as those of Commissioner Sullivan, namely that "excessive heat" is too vague a description to provide notice to an employer of the "specific, concrete environmental conditions" alleged to have put employees at risk of harm. *Id.* at 1815 n.14, 1822-23. But neither expressed that a lack of notice from a citation's use of that term could not be cured by more precisely setting forth the nature of the conditions alleged to have been hazardous in other filings or at a hearing, or that the use of that term is fatal to the Secretary's case regardless of whether the employer has an actual understanding of the conditions at issue or whether the employer's ability to defend itself was prejudiced. Here, the Secretary provided sufficient notice of the specific workplace conditions alleged to be hazardous and the Postal Service's ability to challenge that allegation was not prejudiced.

Although Commissioner Laihow agrees that the Secretary has provided sufficient notice to the Postal Service of the specific workplace conditions at issue in these cases, and as discussed below also agrees that those conditions were shown to be hazardous, she is mindful of the concerns raised by former Chairman MacDougall and former Commissioner Sullivan in *Sturgill* regarding the Secretary's use of the term "excessive heat." In her view, "excessive heat" is a vague term (one yet to be defined by regulation), making it difficult for employers to predict what workplace heat conditions the Secretary will treat as "excessive" under the general duty clause. A myriad of factors, such as the geographical area where the work is being performed and the nature of the tasks involved, can impact the meaning of this term. What might be considered "excessive heat" in Maine may not be considered such in Texas. In short, this term leaves employers guessing.

Therefore, Commissioner Laihow emphasizes that her conclusion in this case is limited by the instant record, which only supports a finding that the specific heat conditions that existed at the time of the specific incidents at issue in these citations were proven to pose a hazard. It does not mean she would necessarily reach the same conclusion in a future case involving similar environmental or metabolic conditions. *Cf. Sturgill*, 27 BNA OSHC at 1814-15 (expert's opinion that alleged heat conditions could have caused heat-related illness was premised on unexplained assumptions that were inconsistent with other evidence in the record). In other words, Commissioner Laihow does not view today's decision as establishing any sort of criteria for determining when "excessive heat" may be present. That will presumably be accomplished by the Secretary once an OSHA standard prescribing such requirements is promulgated. 29 U.S.C. § 655(b) (procedures for promulgating most new standards); *see also Kastalon, Inc.*, 12 BNA OSHC 1928, 1928-29 (No. 79-5543, 1986) (consolidated) ("Congress intended that the Secretary would primarily rely on specific standards, rather than the broad mandate of the general duty clause, to seek the correction of workplace hazards."); *Reich v. Arcadian Corp.*, 110 F.3d 1192, 1196 (5th Cir. 1997) ("Courts have held that enforcement through the application of standards is preferred because standards provide employers notice of what is required under the OSH Act."). *Cf.* Cal. Code Regs. Tit. 8, § 3395 (Cal/OSHA standard regarding "Heat Illness Prevention in Outdoor Places of Employment").

[8] In the Benton case, the judge went further and found that heat did not cause the carrier's illness.

found that one of the Secretary's expert witnesses, Dr. Aaron Tustin, who opined that all but one of the carriers suffered an illness that was caused at least in part by the heat, and one of the Postal Service's expert witnesses, Dr. Shirly Conibear, who opined that none of them experienced a heat-related illness, were equally credible.[9] At the same time, the judge found that the "certitude" each expert expressed was at odds with their mutually consistent testimony that the symptoms of heat-related illness often mimic those of other conditions, and she accorded "no weight" to either's opinion regarding the causes of the incidents.[10] The judge acknowledged that it was not "essential" for the Secretary to prove the cause of the incidents, but nevertheless found this lack of proof weighed against the Secretary's case. Finally, she found Tustin's testimony that the heat conditions during each incident were hazardous unconvincing, noting that his opinion was based on a National Weather Service (NWS) chart that she found the Secretary did not prove has a scientific basis.[11] The judge also noted that Tustin was unable to quantify the likelihood of a heat-related illness under any particular heat conditions. Although another expert witness for the Secretary, Thomas Bernard,[12] likewise opined that the heat conditions during each incident were hazardous, the judge did not explain why his testimony did not support the existence of a hazard.

[9] According to the judge, both of these experts are highly credentialed and appeared "confident, knowledgeable, and trustworthy[.]" Tustin is a medical officer in OSHA's Office of Occupational Medicine and Nursing. The judge found him qualified as an expert in "occupational medicine," "heat stress exposure assessment and the epidemiology of heat-related illnesses." Conibear owns OMS, a company that provides various medical services to corporate clients, such as employee "fitness-for-duty" evaluations, where she also serves as a "senior physician." She is also the president and majority owner of Carnow Conibear and Associates, a company that conducts lead and asbestos inspections and designs remediation projects. The judge found Conibear qualified as an expert in "occupational medicine, with specialized expertise in heat stress and abatement measures that may materially reduce the hazard of excessive heat."

[10] In the Benton case, however, the judge appeared to credit Conibear's opinion that the incident was not caused by heat, which Tustin did not dispute.

[11] The NWS chart classifies heat index danger levels, assigning them to four categories—"Caution," "Extreme Caution," "Danger," and "Extreme Danger"—representing the "Likelihood of Heat Disorders with Prolonged Exposure or Strenuous Activity." The heat index is a measurement that combines temperature and humidity levels.

[12] Bernard has a Ph.D. in occupational health and is a professor at the University of South Florida College of Public Health, where he teaches courses on occupational safety and health. The judge found Bernard qualified as an expert in "industrial hygiene" and "industrial heat stress."

On review, the Secretary argues that the testimony of his two heat stress experts, Tustin and Bernard, establishes that the workplace conditions present during each incident posed a significant risk of harm. He contends that Tustin did not base his opinion on the NWS chart, but instead relied on his own epidemiological research. In addition, the Secretary maintains that the "sheer number" of heat-related illnesses that have been reported by Postal Service carriers in recent years shows that the risk is significant, citing Postal Service injury records he contends show that nearly 2,000 carriers reported "heat-related medical incidents" from 2015 to 2018. Finally, he claims the evidence shows that all but one of the citation incidents were caused by exposure to excessive heat.

In response, the Postal Service argues that the judge properly rejected Tustin's testimony given his reliance on the NWS chart, and that Bernard's opinion deserves no weight for the same reason. It further asserts that Tustin based his opinion on unreliable hearsay reports of heat-related incidents in Postal Service records, and that Bernard premised his opinion on an incorrect presumption that all the citation incidents were caused by "a heat hazard," rather than preexisting health conditions. Finally, the Postal Service relies on testimony from its expert econometrician, Joshua Gotkin, who stated that it is impossible to quantify a risk without accounting for all instances of exposure, which it contends Tustin did not do, and argues based on Gotkin's testimony that even if all the heat-related incidents reported by carriers in recent years were assumed to have actually been heat-related, they would reflect that the odds of any given carrier on any given workday experiencing a heat-related illness "are so small that . . . [they] are really near zero . . . ."[13]

We agree with the Secretary that the judge erred in concluding the workplace conditions present at the time of each cited incident were not shown to be hazardous. Indeed, neither of the Secretary's expert witnesses relied exclusively on the NWS chart as support for their opinions that the conditions posed a hazard to the carriers identified in the citations.[14] *Cf. Sturgill*, 27 BNA

[13] Gotkin supervises a team at Economic Research Services, a firm that provides consulting services "in the area of labor and employment." He described himself as a "labor economist" and "applied econometrician." The judge found Gotkin qualified as an expert in "the field of economics, with specific expertise in the field of statistical analysis and the application of statistics in sampling."

[14] As noted, Tustin and Conibear disagreed over whether the environmental and metabolic heat conditions played a "causal role" in the carriers' illnesses. Because we find that the Secretary has established the existence of a hazard regardless of the causes of these incidents, we need not resolve this dispute. We cannot ignore, however, that some of Conibear's testimony in this regard

OSHC at 1811-12 (Secretary's reliance on NWS chart failed to establish workplace conditions were hazardous because employees were not shown to have had "prolonged exposure" to the heat index values at which the chart advises cautions or been engaged in "strenuous activity" as contemplated by the chart). Tustin said that he examined the environmental and metabolic heat conditions present in each incident—primarily, the heat indexes and the carrier activity levels (e.g., distances walked and weight carried)—and believed that they were hazardous. When repeatedly asked what he based his opinion on, he consistently responded that it was the multiple studies on heat-related illnesses he had personally conducted, including a "systematic review" and "meta-analysis" of related published medical literature, as well as his general review of scientific papers on the topic from other authors. His mention of the NWS chart was merely to note that its heat index risk categories were "consistent" with his research.[15] Nor did Tustin say that he was relying on the heat-related incident reports the Postal Service argues are hearsay and unreliable; he said that the number of such reports rose as the temperatures rose in a manner that was "completely

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is quite dubious. When asked if heat "played a role" in one of the incidents, Conibear replied: "I don't know what 'played a role' means." But she did not express the same confusion when twice asked the same question at her deposition, where she herself stated that heat "may have played a role" in a carrier's illness. When asked at the hearing what she thought the phrase meant at the time of her deposition, she replied: "I really can't tell you." When asked if she understood what it meant when she used it herself at her deposition, she replied: "Probably not." Conibear also testified that heat exhaustion is "not considered to be serious," but on cross-examination admitted saying essentially the opposite at the hearing in a previous Commission case, in which she testified that it is "not usually a fatal illness" but "certainly should be considered a serious illness . . . ." These inconsistencies raise questions about the credibility of Conibear's medical opinions, such as that one of the San Antonio carriers' profuse sweating was "not related in any way" to his having walked five miles while carrying a thirty-pound satchel when the heat index was above 100°F, and her claim that he would have started profusely sweating that same afternoon even if he had been sitting at home in air conditioning.

[15] Tustin's response to a single question he was asked at the hearing about the NWS chart does not support rejecting his repeated testimony that his opinion was based on his own studies and those from other authors that he has reviewed. Tustin had just explained that the NWS chart and a similar OSHA chart "essentially come to the same conclusions [regarding the risk levels associated with different heat index ranges] I've come to," when he was asked: "So you did in fact rely on the NWS heat index chart . . . ?" His response ("Yes, that's one of the things I relied on.") aligns contextually with his testimony as a whole, which reflects that he primarily based his opinion on other sources and merely found that the NWS chart provided additional, corroborating support for his independent conclusions.

consistent" with his research, but did not say he was basing his opinion that the conditions were hazardous on those reports.

We find that the judge also erred in faulting Tustin for failing to quantify the percentage of employees that will experience a heat-related illness under any particular conditions, figures that Tustin noted he was unaware of any studies calculating. It is well-established that the Secretary is not required to determine the mathematical probability of a workplace condition causing harm to show that it poses a hazard. *See, e.g.*, *Roadsafe Traffic Sys., Inc.*, No. 18-0758, 2021 WL 5994023, at *3 (OSHRC, Dec. 10, 2021) (finding in general duty clause case that employee was at significant risk of falling from truck without discussing the mathematical probability he would fall); *Waldon Health Care Ctr.*, 16 BNA OSHC 1052, 1060 (No. 89-3097, 1993) (consolidated) ("There is no mathematical test to determine whether employees are exposed to a hazard under the general duty clause."); *Industr. Union Dep't, AFL-CIO v. Am. Petroleum Inst.*, 448 U.S. 607, 655 (1980) ("*Benzene*") (plurality opinion) ("[T]he requirement that a 'significant' risk be identified is not a mathematical straightjacket . . . . [T]he Agency has no duty to calculate the exact probability of harm . . . ."); *Nat'l Maritime Safety Ass'n v. OSHA*, 649 F.3d 743, 751 (D.C. Cir. 2011) ("Nor is OSHA required to quantify a risk before determining that it is significant.").[16]

As for Bernard, he similarly testified that he examined the heat conditions affecting the carriers involved in the cited incidents—like Tustin, he emphasized the heat indexes in particular—and believed that they were hazardous. Although Bernard referenced the heat index risk categories in an OSHA chart that is based on the NWS chart and agreed with the risk levels it assigns to heat index ranges, he never said that he believed the conditions were hazardous simply because of the OSHA chart. In the absence of any claim by Bernard to the contrary, we find that his opinion was based on his extensive expertise on heat stress, and not the risk categories in the OSHA chart.[17] Nor did Bernard say that he believed the conditions were hazardous because the

[16] In *Benzene*, the Supreme Court added that the Secretary is not required to support the presence of a significant risk "with anything approaching scientific certainty," does not need to "wait for deaths to occur before taking any action," and can make "conservative assumptions" that err "on the side of overprotection rather than underprotection." 448 U.S. at 655-56.

[17] As a college professor, Bernard has taught courses in occupational safety and health for almost thirty years and has published sixteen peer-reviewed articles, most of which concern heat stress including "several looking at the risk profiles associated with heat stress." He regularly gives presentations on heat stress to other professionals, is a consultant for private employers on their heat stress plans, and has been retained as an expert on heat stress in at least two other litigations.

carriers experienced heat-related illnesses, as the Postal Service claims. In short, both Tustin and Bernard—neither of whom the Postal Service disputes were qualified to testify as heat stress experts—provided direct testimony that the heat conditions affecting the carriers during the cited incidents were hazardous, and we find no valid grounds for discounting either expert's opinion.

The Postal Service presented two of its own heat stress experts, Conibear and Rodman Harvey,[18] but neither challenged the consistent opinions of the Secretary's experts that the cited conditions were hazardous.[19] In fact, Harvey essentially agreed that the heat conditions posed a hazard that an employer should take efforts to mitigate, stating in a report prepared for the Postal Service that: "[b]ecause of [the Postal Service's abatement] efforts, *the hazard presented by the ambient environmental conditions* would have been mitigated such that serious heat illness would

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Bernard is also a member of the Physical Agents Committee of the American Conference of Governmental Industrial Hygienists (ACGIH) and wrote portions of heat stress guidelines published by the organization.

[18] The judge found Harvey, who manages an industrial hygiene group at Conibear's environmental health and safety consulting firm, Carnow Conibear & Associates, qualified as an expert an "industrial hygiene, with specialized expertise in assessing the risk of exposure to excessive heat."

[19] The Postal Service implies that its experts testified that the conditions were not hazardous, but the testimony it relies on provides no support for any such claim. In the transcript pages it cites, Harvey was asked about heat "Threshold Limit Values" (TLVs) published by the ACGIH. Harvey said that the TLVs are intended to mark wet bulb globe temperature (WBGT) levels at which the human body will be able to maintain its core temperature below 38°C. At the Postal Service's prompting, Harvey read a passage from a non-admitted publication stating that "[the TLV] appears to have a margin of protection of about 3 degrees Celsius WBGT, but this margin of protection has not been sufficiently demonstrated to merit change [of the TLV] at this time." The Postal Service then asked Harvey to add 3°C to the TLVs listed for each carrier identified in the citations on a chart—also not admitted into evidence and referred to as a "demonstrative" exhibit—which in addition to the TLVs purports to display the WBGTs during the citation incidents as well as "WBGT-CAV[s]" (clothing-allowance values); the latter are 8°F lower than the purported actual WBGT for one of the incidents and 2°F lower for all of the remaining incidents. Harvey responded that adding 3°C to the TLVs shown on that chart would result in higher figures than the WBGT-CAVs displayed on the chart for three of the incidents (and equal or lower figures for the remaining). In other words, in this rather convoluted testimony relied on by the Postal Service, Harvey did not say that the WBGTs present when the carriers worked were below the ACGIH's TLVs or that the heat conditions were not hazardous. Moreover, Harvey said that the TLVs "are not designed to prevent heat illness," that "you certainly can have heat illnesses below the TLV level," and that he recommends employers take heat illness prevention steps even when the WBGT is below the TLV. He added that he "certainly" would expect some heat-related illnesses to occur when the WBGT is below the TLV plus the 3°C increase that the Postal Service's counsel instructed him to add.

no longer be likely or the risk of them significant."[20] (emphasis added). In other words, Harvey believed the conditions were hazardous but that the Postal Service was taking sufficient steps to prevent them from being likely to cause a serious heat illness. Whether an employer has taken sufficient measures to address the cited hazard, however, relates to the abatement element of an alleged general duty clause violation, which we address separately below. *See Arcadian Corp.*, 20 BNA OSHC at 2007 (Secretary must show there were feasible abatement measures that would have effectively reduced a hazard further than any measures already in use by the employer). Put simply, the issue here is only whether the Secretary has proven that the workplace conditions present at the time of the alleged violations posed a hazard, and Harvey's statement supports that showing.

Finally, we reject the Postal Service's claim that Gotkin's calculations rebut the consistent opinions of three heat stress experts (Tustin, Bernard, and Harvey) that the cited workplace conditions were hazardous. Gotkin claimed that the odds of a heat stress incident occurring on what he called a "letter carrier day" in a year or during the months of May to September were "extremely small" and not "statistically significant."[21] We are not persuaded that his testimony provides evidence that the cited conditions were not hazardous. First, Gotkin provided no opinion on the relevant question at issue—whether the particular environmental and metabolic heat conditions present on the specified dates posed a significant risk of harm. *Sturgill*, 27 BNA OSHC at 1811. Gotkin did not opine, for example, on the odds of a carrier experiencing a heat-related illness when exposed to similar heat indexes while engaged in similar physical activity levels. He admitted having the ability to use available data to calculate such odds, but he did not do so. Instead, Gotkin simply estimated the odds of a carrier experiencing a heat-related illness under *any* environmental and metabolic conditions, regardless of whether the carrier worked in Alaska or on a rural driving route spent entirely in an air-conditioned van. In short, even if we assume based on Gotkin's opaque testimony that the probability of any carrier in the nation experiencing a heat-

[20] The judge did not admit Harvey's report, but allowed him to read excerpts into the record.

[21] Gotkin appeared to calculate the number of "letter carrier days" in these periods by multiplying the total number of Postal Service carrier "workdays" in each period by the total number of carriers employed by the Postal Service in those periods. However, much of Gotkin's testimony, including his description of how he calculated a "letter carrier day," lacks context or background information that Gotkin apparently presumed would be understood. Gotkin repeatedly referenced—as did the Postal Service—his expert reports, despite those reports not being in evidence.

related illness over a twelve or five-month period was low, that does not mean that the probability of a carrier experiencing such an illness under the specific conditions at issue here was also low.

Second, Gotkin never claimed that the odds he calculated mean that the cited conditions were not hazardous, nor did he otherwise explain the import and relevance of those particular odds to this issue, and his characterization of those odds as "statistically insignificant" or "low" is not necessarily meaningful here because it is merely a relative characterization dependent on his selection of "letter carrier day" as the chosen denominator. Gotkin testified that odds in general are not "statistically significant" unless they reflect at least a one in twenty (five percent) chance of something happening. Thus, according to Gotkin, the odds of a heat stress incident occurring on a "letter carrier day" are not statistically significant unless at least one incident occurs for every twenty letter carrier days, which—since he appeared to count letter carrier days by simply multiplying the total number of employed carriers by the total number of workdays in a year—would amount to *every carrier in the nation* experiencing a heat stress incident once every twenty workdays, or put another way, five percent of all carriers in the nation experiencing an incident *every single workday*. This would equate to millions of heat stress incidents occurring every year, since the Postal Service employs around 300,000 carriers. But Gotkin himself essentially acknowledged that by simply choosing a different denominator, which he suggested could, for instance, be the total number of carriers employed in a year, far lower injury rates would then be necessary to reach what he deemed to be statistically significant. He did not say what denominator would be most sensible to use when evaluating whether a workplace condition poses a hazard, nor did he explain why he opted for "letter carrier days" over another option.

Moreover, the extreme injury rates that would be necessary for Gotkin's "letter carrier day" odds to be "statistically significant" are drastically higher than the injury rates necessary for a workplace condition to pose a hazard under the Act's general duty clause. *See, e.g.*, *Science Applications Int'l Corp.*, No. 14-1668, 2020 WL 1941193, at *5 (OSHRC, Aug. 16, 2020) (fact that only one employee drowned in fifty years did not show risk of drowning was insignificant); *Schaad Detective Agency, Inc.*, No. 16-1628, 2021 WL 261573, at *3-4 (OSHRC, Jan. 15, 2021) (fact that only one employee was shot in forty-five years did not show risk was insignificant); *Peacock Eng'g, Inc.*, 26 BNA OSHC 1588, 1590 (No. 11-2780, 2017) (finding crypt installation hazardous despite "thousands of accident-free crypt installations"); *see also Integra Health Mgmt.,*

Inc., 27 BNA OSHC 1838, 1843 (No. 13-1124, 2019) (the Act generally uses terms in their ordinary sense).

Accordingly, we conclude that the unrebutted testimony of three expert witnesses supports a finding that the environmental and metabolic heat conditions present during the alleged citation incidents were hazardous. *See, e.g.*, *Henkels & McCoy, Inc.*, No. 18-1864, 2022 WL 3012701, at *3 (OSHRC, July 12, 2022) (relying on expert's testimony to find that condition posed a hazard), *appeal docketed*, No. 22-13133 (11th Cir. Sept. 19, 2022); *Science Applications*, 2020 WL 1941193, at *5 (existence of hazard supported by opinions of company safety official and other witness with experience and knowledge relating to the cited activity); *Mid South Waffles*, 27 BNA OSHC 1783, 1784 (No. 13-1022, 2019) (fire hazard posed by full grease drawer was supported by fire inspector's unrebutted testimony that grease in the drawer caused a fire).

II. Feasible and Effective Means of Abatement

To establish the abatement element of a general duty clause violation, the Secretary must "specify the particular steps a cited employer should have taken to avoid citation, and demonstrate the feasibility and likely utility of those measures." *Beverly Enters., Inc.*, 19 BNA OSHC 1161, 1191 (No. 91-3144, 2000) (consolidated); *see also BHC Nw. Psychiatric Hosp., LLC*, 951 F.3d 558, 564-66 (D.C. Cir. 2020) (citations omitted) (Secretary must show that the employer failed to implement measures that "a reasonably prudent employer familiar with the circumstances of the industry" would have taken). "Feasible" means both "economically and technologically capable of being done." *Beverly Enters.*, 19 BNA OSHC at 1191. A measure is not economically feasible if it would "threaten the economic viability of the employer." *Id.* at 1192 (quoting *Nat'l Realty & Constr. Co. v. OSHRC,* 489 F.2d 1257, 1266 n.37 (D.C. Cir. 1973)). To establish a measure's utility, the Secretary must show that it would "eliminate or materially reduce the hazard." *Mo. Basin Well Serv., Inc.*, 26 BNA OSHC 2314, 2316 (No. 13-1817, 2018).

Here, the Secretary identified a number of abatement measures in the four citations at issue before us, as well as in his post-hearing briefs. In three of the cases (San Antonio, Benton, and Martinsburg), the judge determined that these measures were proposed as alternatives and concluded that the Secretary failed to establish the abatement element because the Postal Service had already implemented one of the proposed measures (training employees on the recognition and prevention of heat-related illnesses). *See Sturgill*, 27 BNA OSHC at 1818. In those three cases, the judge also found that the Secretary failed to prove that some of the other proposed

measures were economically feasible. In the remaining case (Houston), the judge did not address whether the measures were proposed as alternatives, concluding that the abatement element was not proven because some of the measures were not shown to be economically feasible, some were not shown to provide a material hazard reduction, one measure (training) had already been implemented, and two measures raised in the Secretary's post-hearing brief were not identified in the citation.

On review, the Secretary contends that he did not propose the abatement measures as alternatives in any of these cases, but rather proposed a "multi-element heat stress program" that would include different elements "such as work/rest cycles, an adequate emergency response program, analyzing existing data on employees' heat-related illnesses, employee monitoring, training, and reducing outdoor exposure time." Regarding economic feasibility, he claims the evidence shows that "paying for measures to abate the hazard" would not threaten the Postal Service's economic viability. The Secretary presents no arguments regarding the efficacy of these proposed measures in materially reducing or eliminating the cited hazard. In response, the Postal Service maintains that the Secretary proposed the abatement measures as alternatives in every case except Houston, and that the judge correctly found that one of the alternatives (training) had already been implemented in those three cases. In every case, the Postal Service also argues the Secretary failed to show that any of the proposed measures were feasible or effective, or that a reasonable employer would have done more than what it was already doing to protect employees.

A. How the Secretary Proposed the Abatement Measures

We agree with the Secretary that he did not allege that any of the proposed abatement measures would have been sufficient by themselves to abate the excessive heat hazard. *Cf. Sturgill*, 27 BNA OSHC at 1818 (when the Secretary proposes abatement measures as alternatives, proof of abatement element requires showing employer did not adequately implement any of the measures). Nowhere in his complaints, citations, or post-hearing briefs did the Secretary suggest that the abatement measures would each singlehandedly eliminate an excessive heat hazard. *See UHS of Westwood Pembroke, Inc.* ("*Westwood*"), No. 17-0737, 2022 WL 774272, at *4 (OSHRC, Mar. 3, 2022) (Secretary's filings did not propose alternative abatement options), *appeal docketed*, No. 22-1845 (3d Cir. May 2, 2022). To the contrary, his complaints all allege that the Postal Service violated the general duty clause by failing to implement a "comprehensive program" to address the cited hazard that includes "*all* feasible means of abatement . . . ." *See id.* at *8 (finding

Secretary's assertion in post-hearing brief that employer might need to implement "multiple abatement measures" showed alternatives were not proposed). And all but one of the citations at issue introduce the abatement measures by stating that "methods . . . include, but are not limited to, the following: [listing measures]."[22] The Secretary's post-hearing briefs all introduce the measures in a similar manner: "[T]he evidence shows that Respondent could have taken several steps to abate or materially reduce the hazard its employees faced. These steps include [list of proposed measures]."[23] These simple and generic introductions do not mean that any one of the measures listed would by itself resolve the hazard, which would contradict the Secretary's position in his complaints.[24]

Moreover, the testimony elicited at the National Hearing shows that both parties clearly understood the abatement measures were not proposed as alternatives. For example, the Secretary asked Tustin whether the Postal Service could use its data on reported heat-related incidents when adopting "an overall heat stress program." Tustin replied that such information would be useful when adopting such a "program." The Secretary also asked Tustin whether providing air-conditioned vehicles—one of the Secretary's proposed measures—would be as effective if the Postal Service did not also mandate rest breaks (a component of another proposed measure, work/rest cycles). Tustin replied that air-conditioned vehicles should be used *together* with mandatory rest breaks taken inside the vehicles. Similarly, Bernard testified that acclimatization—another proposed measure—was an "important component" of "a heat stress management program." He said that such a program should include various components, such as "training," "virtual buddy systems and work/rest cycles" (three of the measures listed by the Secretary in the citation), and other "things of that sort . . . ." The Postal Service also understood the measures could address the hazard in this combined manner. For example, the Postal Service asked Tustin

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[22] The Houston citation, which the Postal Service agrees *does not* propose alternatives, states: "Among other methods, one . . . method . . . is to follow the guidelines contained in [multiple OSHA and NIOSH publications]: [followed by list of measures]."

[23] The Martinsburg post-hearing brief uses "many steps" rather than "several steps."

[24] In *Sturgill*, the Commission mentioned in a footnote that a citation's use of "the plural word 'methods' " in the phrase "methods . . . include, but are not limited to," could "suggest" that each measure was intended as an alternative means of abatement. 27 BNA OSHC at 1818 n.17. But the Commission did not say that the mere use of the word "methods" means that the Secretary is proposing alternative methods. *Id*. *See Westwood*, 2022 WL 774272, at *8 (whether alternatives were proposed turns in part on parties' understanding reflected in record as a whole).

if he believed an acclimatization program "would be adequate as long as you had other measures in place, such as rest breaks or monitoring?"

Finally, the nature of these proposed measures shows that the potential benefit each could provide would be cumulative, making it implausible that the Secretary would have proposed them as alternatives or that the Postal Service would have so understood them. *See Westwood*, 2022 WL 774272, at *8 (noting that the parties' understanding that the measures were not alternatives aligned with "the nature" of the hazard at issue (workplace violence), which "arises in different contexts and conditions" and "necessitate[es] different abatement measures.") In sum, we find the Secretary did not propose his measures as alternatives nor did the parties litigate them as such.

B. Adequacy, Feasibility, and Efficacy

To establish the abatement element in a case in which the measures are not proposed as alternatives, the Secretary must show that at least one of the proposed measures (or some combination) was not adequately implemented and would have been feasible and effective in materially reducing (or eliminating) the hazard. *See id.*; *The Duriron Co.*, 11 BNA OSHC 1405, 1408 n.3 (No. 77-2847, 1983), *aff'd*, 750 F.3d 29 (6th Cir. 1984); *Kelly Springfield Tire*, 10 BNA OSHC 1970, 1975 n.5 (No. 78-4555, 1982), *aff'd*, 729 F.2d 317 (5th Cir. 1984). As part of this showing, the Secretary must establish that any steps the employer took to address the hazard at issue were inadequate. *Mo. Basin*, 26 BNA OSHC at 2319. As noted, a proposed abatement measure is feasible if it is "economically and technologically capable of being done." *Beverly Enters.*, 19 BNA OSHC at 1191. When evaluating economic feasibility, the Commission may consider "whether the cost of compliance would jeopardize a company's long-term profitability and competitiveness."[25] *Waldon Health,* 16 BNA OSHC at 1063.

On review, the Secretary broadly argues that he established the feasibility and efficacy of the abatement measures he proposed below, briefly naming a few. While he does not describe those proposals in detail, the Secretary specifically argued before the judge in each case that feasible and effective measures to abate the heat hazard include: (1) work/rest cycles; (2)

[25] The Postal Service argues for the first time on review that the Secretary is also required to show that the "expected costs" of his proposed measures are "reasonably related to their expected benefits" to establish their feasibility. As this argument was not raised below, we decline to address it. Commission Rule 92(c), 29 C.F.R. § 2200.92(c) ("The Commission will ordinarily not review issues that the Judge did not have an opportunity to pass on.").

emergency response plans and employee monitoring;[26] (3) analyzing Postal Service data on employee heat-related illnesses; and (4) reducing employee time outdoors. In three of the cases (Benton, Houston, and Martinsburg), the Secretary additionally argued in support of the use of air-conditioned vehicles, and in two of the cases (Houston and Martinsburg), the Secretary additionally addressed training employees on heat-related illnesses. Finally, in one case (San Antonio), the Secretary also discussed acclimatization.[27]

Like the judge, we consider three of the Secretary's proposed measures together—work/rest cycles, reducing time outdoors, and acclimatization—because they all address abating the hazard by limiting employee exposure, and the judge found that all three of these "time-based" measures were not shown to be economically feasible.[28] We then discuss the remaining measures in turn.

Work/Rest Cycles, Reducing Time Outdoors, and Acclimatization

In his post-hearing briefs, the Secretary described two of the time-based abatement measures—work/rest cycles and reducing time outdoors—in a similar fashion in each case. He explained that work/rest cycles refers to increasing either the frequency or duration of rest breaks "as heat stress levels increase." Citing testimony from Tustin and Bernard, the Secretary argued that the Postal Service's existing policy of allowing carriers to take extra breaks in hot weather was inadequate because it did not include a "mechanism" for carriers to actually do so, and because in practice such breaks were discouraged. As for reducing time spent outdoors, the Secretary

[26] In the San Antonio and Benton cases, the Secretary referred to "Emergency Response and Employee Monitoring" as a single category of abatement measure. In the Houston and Martinsburg cases, the Secretary treated "Emergency Response" and "Employee Monitoring" as separate categories.

[27] The citations include a few other proposed measures that the Secretary did not discuss in his post-hearing briefs and therefore, we do not address them. *See Peacock Eng'g*, 26 BNA OSHC at 1593 (not addressing measures listed in citation that Secretary did not defend to judge); *Roberts Pipeline Constr., Inc.*, 16 BNA OSHC 2029, 2030 (No. 91-2051, 1994) (Commission not obligated to "develop arguments not articulated by the parties . . . ."), *aff'd*, 85 F.3d 632 (7th Cir. 1996) (unpublished).

[28] The judge specifically identified these time-based measures as "relating to acclimatization programs, additional paid breaks, work/recovery cycles, and earlier workday start times[.]" While the Secretary did not identify "additional paid breaks" as a separate abatement category, his work/rest cycles, reducing time outdoors, and acclimatization proposals all involve giving carriers additional paid rest time. The Secretary proposed earlier workday start times as one manner of accomplishing his reducing time outdoors proposal.

claimed that carrier schedules could be adjusted so that the carriers are outdoors as little as possible during the hottest part of the day. He also asserted that the Postal Service could "eliminate extra work during hotter weather." In the Houston and Martinsburg cases, the Secretary further claimed that a carrier's time outdoors could be reduced by having another carrier assist with the route.

In the San Antonio case only, the Secretary argued that acclimatization is an appropriate measure to use for new employees not previously exposed to high heat levels, as well as employees who have lost heat acclimatization following an at least two-week absence from work. Citing Bernard's testimony, the Secretary described two acclimatization methods: (1) reducing the daily duration of an employee's heat exposure and gradually increasing such exposure over several days; and (2) treating the heat index to which an employee is exposed as higher than it is, such as by adding ten degrees to it on the first day, and then implementing any heat-stress protections for the employee that would be triggered by that higher heat index, such as work/rest cycles.

Economic Feasibility

The judge found that the Secretary failed to establish that these time-based measures were economically feasible because he failed to "provide an estimate of compliance costs or demonstrate a reasonable likelihood that such costs would not threaten the existence or competitive structure of the Postal Service." Further, the judge concluded that paying for these measures would in fact threaten the Postal Service's economic viability. In doing so, she cited testimony from Postal Service economist, Do Yeun Sammi Park, who the judge found was qualified to testify as an expert in economics with "specialized expertise in cost modeling," in considering the costs associated with implementing these measures.[29] Park provided several estimates of the annual labor cost the Postal Service would have to incur to adopt an acclimatization program and give carriers an additional five-minute paid break, using different assumptions about the implementation of these measures. Her lowest estimate using an overtime rate, which she said was more "realistic" than using a "straight-time" rate, was that implementing these measures would cost about $100 million per year (about $50 million for each). Other evidence the judge relied on in concluding that the Postal Service could not afford this expense is the parties'

[29] At the hearing, Park said she had been employed as a "financial economist" at the Postal Service for one month, and prior to that had worked as a "labor economist" for the Postal Service. Her duties in the latter role included providing cost estimates for potential wage increases during union negotiations.

stipulation that the Postal Service experienced billions of dollars in net losses from 2016-2018. The judge also pointed to Postal Service Chief Financial Officer (CFO) Joseph Corbett's testimony that the organization lacked the money to pay for these measures: "We don't have sufficient funds to even pay our existing obligations. So, no, we do not have funds to pay [for those] additional obligations."

On review, the Secretary does not dispute that these time-based abatement measures would impose financial costs. But he maintains that such costs would not threaten the Postal Service's economic viability, for several reasons: (1) the Postal Service is unlikely to go out of business for financial reasons because it is a "quasi-governmental agency" and Congress will prevent that; (2) the losses it has experienced are only "paper losses" because they are the result of a statutory obligation to prefund retirement health benefits that the Postal Service has not complied with and that has not been enforced; (3) it can raise prices or borrow funds to pay for the measures; and (4) it plans to spend money on other projects in coming years, including measures to increase productivity, and could reallocate that money to pay for the proposed measures instead. The Secretary also argues that Park's estimated $100 million annual cost for an acclimatization program and an extra five-minute break is a small amount relative to the Postal Service's overall expenses and could be covered by its revenue if its retirement obligations are not considered.

In response, the Postal Service echoes the judge's analysis and argues that paying for these measures will prevent it from meeting its statutory obligation to provide the "essential public service" of universal mail delivery. The Postal Service relies on testimony from its Chief Operating Officer, David Williams Jr., who stated that the Postal Service is projected to run out of money in coming years (he predicted this would happen in 2024), and that the abatement costs would "accelerate" that result, at which point the organization's ability to provide universal postal services would be threatened. The Postal Service also maintains that it already gives carriers "rest, lunch, and unlimited comfort breaks" and acclimatizes new carriers through its on-the-job training program, and argues that the fact that thousands of other carriers delivered mail on the same dates at issue in the citations without incident shows that the Secretary's proposals are unnecessary. Regarding Park's estimate of the cost of a single five-minute break, the Postal Service contends that the Secretary did not show (or even claim) that providing such a break would materially abate the hazard, and it maintains that the actual cost of the Secretary's work/rest cycles proposal would be much higher.

We agree with the Postal Service that the Secretary has failed to establish that any of his time-based abatement proposals—work/rest cycles, reduced time outdoors, and acclimatization—are economically feasible. As the judge noted, the Secretary has provided no estimates of the costs for any of these measures.[30] *Cf. Am. Iron & Steel Inst. v. OSHA*, 939 F.2d 975, 980 (D.C. Cir. 1991) ("To prove economic feasibility [of a promulgated standard], OSHA must construct a reasonable estimate of compliance costs . . . .") (citation omitted). Instead, the Secretary simply relies on Park's testimony and claims that it would "cost as little as $100 million" to provide a five-minute daily break and to acclimate carriers who are off work for more than seven consecutive days, even though as the Postal Service points out, the Secretary has never claimed that abatement could be accomplished simply by giving carriers a single additional five-minute break, let alone shown that a single such break would be materially effective. In fact, the Secretary has never said how much rest time or reduced work hours would accomplish his "work/rest cycles" or "reducing time outdoors" proposals (he acknowledges on review that he does not suggest "any specific schedule"), but he elicited testimony from Tustin and Bernard that carriers might need to take fifteen to forty-five-minute rest breaks *every hour*. In short, Park's cost estimate does not even reflect the Secretary's actual proposal.

This is also true with regard to acclimatization. Before the judge, the Secretary argued that Park's estimate of the annual labor costs to acclimate carriers who have been away from work for at least one week during the months of June to August was an over-estimate because acclimatization is only needed for new carriers and carriers returning from a two-week absence, and is "generally only needed when the heat index is at least 91°F . . . ." But the Secretary provided no cost estimate for his narrower acclimatization proposal and cited no evidence to support his claim that it would necessarily be lower than Park's figure. For its part, the Postal Service contends that Park's figure is an *under*-estimate because it only reflects labor costs and does not take into account other business impacts. With no evidence to support the Secretary's claim, we have no basis for determining who is correct. In short, because the Secretary has never identified the specific costs associated with his time-based abatement measures or, as discussed below, pointed

[30] Nor did the Secretary provide estimates of the costs for any of his other proposed abatement measures, which we address below, though he does rely on the fact that the Postal Service is already planning to purchase air-conditioned vehicles to support the economic feasibility of that particular proposal.

to evidence that supports their economic feasibility irrespective of such costs, the record lacks sufficient information to evaluate whether these measures are economically feasible.

Even if we were to assume that two of these time-based measures could be accomplished by spending about $100 million annually, the Secretary has not shown that this cost would not threaten the Postal Service's economic viability. The Secretary has never disputed that, at least on paper, the Postal Service did not have this money as of the time of the hearing. As noted, COO Williams said his "best guess" is that the Postal Service will "run out of cash" in 2024, at which point it would no longer be able to pay employees and suppliers; he said that additional spending on a heat-related abatement measure would increase the Postal Service's losses and "accelerate[] the point in time in which the Postal Service could run out of operating cash flow to keep [the] organization going."[31] CFO Corbett similarly testified that the organization is projected to run out of "operating cash" in 2024, resulting in it not being able to fully pay employees and potentially beginning a "downward spiral." While he found it "unlikely" that the Postal Service would completely "close up shop" at that point, he believed it would "certainly have to cut back on services, which would require cutting back on employees and cutting back on facilities, . . . irreparably damaging the brand and putting in danger our ability to fulfill the universal service obligation." Like Williams, he said that paying for these abatement measures would "accelerate the day of reckoning . . . in terms of running out of cash."

[31] Williams further testified as follows:

> Q. In 2024 is it your prediction that the Post Office is going out of business?
>
> A. That's my best guess. That's just a guess. . . .
>
> Q. And the organization could literally die?
>
> A. It could.
>
> Q. And Congress will let that happen in your opinion?
>
> A. I don't know. I can't predict what Congress may or may not do. . . . My best guess is that we will get some kind of legislative relief before that happens. But I don't know. I can't predict that.

These claims are corroborated by a December 2018 report from the Task Force on the United States Postal System,[32] which describes the Postal Service's "financial burden" as a potential "existential threat" to its operations:

> The USPS has been losing money for more than a decade and is on an unsustainable financial path.
>
> . . .
>
> Both administrative and legislative actions are needed to ensure that the USPS does not face a liquidity crisis, which could disrupt mail service and require an emergency infusion of taxpayer dollars.
>
> . . .
>
> Without appropriate structural reform, the USPS's growing financial burden and its unstainable business model pose an existential threat to its operations.

A February 2017 report from the U.S. Government Accountability Office (GAO) regarding the Postal Service's "Fiscal Sustainability" makes similar findings, classifying the organization as "high-risk" and stating that its "deteriorating financial condition is unsustainable" and its "mission of providing prompt, reliable and efficient universal services to the public is at risk."

We find that this evidence collectively shows that the Postal Service's financial condition is dire and it is already at risk of financial collapse, an outcome that would be expedited by additional expenses. The Secretary's various attempts to refute this compelling evidence are unsupported. According to the Secretary, spending $100 million would not be "the tipping point" for the Postal Service because it is a small amount relative to its overall budget, but he cites no evidence to support such a claim. The Secretary also contends that additional expenses would not threaten the Postal Service's economic viability because Congress would never allow the Postal Service to cease to exist. This claim is highly speculative. The only evidentiary support the Secretary cites for this theory is Williams' testimony that his "best guess" is that the Postal Service would "get some kind of legislative relief" before going out of business and Corbett's testimony that he believed it "unlikely" the organization would completely close. But Williams expressly said he did not know and could not predict what would happen, and Corbett said he believed the Postal Service would at least have to cut back on services, employees, and facilities, damaging its brand and threatening its ability to fulfill its universal service obligation.

[32] On April 12, 2018, President Trump signed an executive order that established this Task Force and charged it with evaluating the Postal Service's operations and finances, and issuing recommendations for the organization to achieve a sustainable business model.

The Secretary also points out that the Postal Service has to date continued to function despite yearly losses. But he has presented no evidence to rebut Williams and Corbett's projection that the Postal Service will run out of money and be unable to pay its financial obligations in 2024, a claim corroborated by the Task Force's assertion that the organization is facing an "existential threat" from its financial condition, as well as the 2017 GAO report's finding that it is at "high-risk" and financially unsustainable. Given this evidence, it would be unreasonable to presume from the fact that the Postal Service has continued to operate to date that its viability is not at risk in the future.

The Secretary's contention that budget shortfalls can be alleviated by simply raising prices or borrowing money to pay for additional expenses suffers from the same lack of evidentiary support. Although the Postal Service has the *ability* to take these steps, the Secretary has not shown that either would be economically advisable or ultimately result in additional funding.[33] A June 2018 GAO report regarding the Postal Service's projected capital spending, for example, states: "[E]ven if USPS raises rates, it may not see an increase in revenues . . . . [A] rate increase could lead to a decrease in volume that might offset additional revenue from the rate increase." In its 2018 Annual Report to the SEC (Form 10-K), the Postal Service stated that it already attempts to set its prices for its "Competitive Services" at levels that will "maximize revenue."

Finally, the Secretary points out that the Postal Service plans to spend money on various other projects going forward and contends that it could reallocate those funds to pay for the proposed abatement measures instead. But this simplistic claim is unsupported by evidence that doing so would be economically viable or even the best use of the Postal Service's resources to promote employee safety. The Secretary cites the 2018 GAO report, which states that "USPS projects average annual capital cash outlays of $2.4 billion from fiscal years 2018-2028," an amount "largely driven" by its "plans to acquire a new fleet of delivery vehicles," but that also includes "facilities, information technology, and mail-processing equipment." The report immediately adds: "However, USPS faces a serious financial situation with insufficient revenues to cover expenses. This uncertainty may result in USPS's making capital spending tradeoffs . . . ."

[33] The Postal Service's 2018 Annual Report to the SEC (Form 10-K) states that the organization can raise rates on services with approval from the Postal Regulatory Commission, though its "market-dominant" services are subject to a price cap based on the consumer price index. The report also states that the Postal Service can borrow money as long as its debt does not exceed $15 billion (a maximum imposed by statute), and that its total existing debt in 2018 was $13.2 billion.

Future spending, the report explains, will depend on future revenues, "will likely involve prioritization decisions," and the "uncertain outlook may result in USPS changing its current capital spending plans . . . ."

Given the spending tradeoff decisions that will likely already be necessary, the GAO report shows that diverting future projected spending could be counterproductive to the objective of maximizing employee safety while maintaining economic viability. The GAO report states that most of the Postal Service's projected additional spending is to replace its aging delivery fleet and projected spending on facilities is mostly for the "rehabilitation and repair of existing facilities," such as fixing "roofs or heating, ventilation, and air-conditioning."[34] Other projected spending includes the purchase of new information technology equipment, including "video conferencing systems intended to increase productivity and encourage collaboration," as well as spending on cybersecurity and hardware. The record does not show that shifting any of these expenditures to the proposed abatement measures would better advance employee safety and the organization's economic viability. For all of these reasons, we find that the Secretary has not proven that his proposed time-based abatement measures are economically feasible.

Technical Feasibility

In addition to finding the time-based measures economically infeasible, the judge found that they would likely be technically infeasible as well due to their impact on carrier work schedules. Citing COO Williams's testimony, the judge observed that delivering the mail requires the nationwide coordination of a complex network of employees, facilities, and vehicles in a "24-hour clock" schedule, and "one snag could create a bullwhip effect." In addition, the judge found that the Postal Service's collective bargaining agreements (CBAs) with the carrier unions would pose "obstacles" to these time-based measures, such as their limitation on the number of employees who can work part-time and prohibition on the Postal Service making unilateral changes to hours or working conditions.[35]

[34] According to Corbett, an investment review committee decides what projects to prioritize—for example, if a roof were leaking or at risk of collapsing, replacing it would be made a priority. At the same time, he said that the Postal Service has imposed a general moratorium on purchasing furniture.

[35] The Postal Service has a CBA with the National Association of Letter Carriers (NALC), a union that represents all "city letter carriers." It has a separate CBA with the National Rural Letter Carriers Association, which represents all "rural letter carriers."

On review, the Secretary does not address the technical feasibility of his time-related measures at all (apart from opining in a footnote that the 24-hour clock schedule should not be "sacrosanct"). Before the judge, he cited only to Bernard's opinion that it would be feasible for the Postal Service to implement the work/rest cycles and acclimatization measures because part-time carriers or "temporary workers" could be "brought in." But as the Postal Service points out, Bernard subsequently admitted that he offered that opinion without knowing or considering what is in the CBAs, what the "mail cycle" is, or what the Postal Service's delivery obligations are. Because the Secretary neither addresses these concerns nor points to any other evidence to support the technical feasibility of the time-based measures, we find that he failed to meet his burden on that issue.

In any event, we agree with the judge—whose findings the Postal Service echoes on review—that implementing any of these measures would create serious challenges for the Postal Service in coordinating its nationwide delivery network and complying with certain CBA provisions. To reduce carrier workloads and time spent outdoors during hot days as proposed, the record shows that the Postal Service would have to either slow or alter delivery schedules or make extra employees available to assist.[36] Williams testified that slowing or altering delivery schedules in response to hot weather would prevent the Postal Service from delivering the mail on time and cause cascading backups in its complex transportation network: "Every step depends on the previous step. And if we change one, we change another. The one thing we can't change is the transportation." According to Williams, it takes months to adjust truck and plane schedules, and there is no "agile" way to shift those schedules in response to hot weather.

Changes to carrier schedules would also need to be negotiated with the unions, because the CBAs do not allow the Postal Service to make unilateral changes. If the Postal Service were to have additional carriers assist on hot weather days rather than slow delivery schedules, the CBAs also could pose technical challenges. The National Association of Letter Carriers' (NALC) CBA requires that full-time carriers be given eight paid hours per shift, including on non-scheduled workdays, and it limits the percentage of carriers who can work part-time.

[36] If reducing time outdoors were accomplished by structuring carrier schedules to avoid the hottest part of the day (e.g., having carriers begin their routes earlier), rather than through additional break time, it might not slow down delivery schedules. But it would require ad hoc schedule alterations with similar technical challenges.

We also question whether the Secretary has established the feasibility of adjusting carrier work schedules to avoid the hottest hours given his failure to address the Postal Service's claim that doing so would require carriers to deliver in low or no light conditions, which might pose other safety concerns such as an increased risk of falls and vehicle accidents, both of which the Postal Service contends are far more common among carriers than heat-related illnesses.

In sum, we find that the Secretary has failed to establish that work/rest cycles, acclimatization, and reducing time outdoors are feasible abatement measures, economically and technically.[37]

Emergency Response Plans and Monitoring

The Secretary described his "emergency response plans" and "employee monitoring" measures similarly in each case below. He alleged that the Postal Service's procedures for discovering and responding to an employee experiencing symptoms of a heat-related illness were inadequate. Specifically, the Postal Service trains carriers to call a supervisor if they experience symptoms of a heat-related illness, and to call 911 if their symptoms are severe.[38] The Secretary argued for two specific changes to these procedures: (1) a "virtual buddy system" that would allow carriers to "keep in contact with a designated individual to gauge how [they each] are feeling" and allow them to "actively discuss[] how they feel" instead of waiting until their symptoms become "overwhelming;"[39] and (2) instructing carriers to contact the Postal Service's "occupational health

[37] Regarding work/rest cycles, we find that the Secretary also failed to establish this method would be materially effective because he does not explain what this measure would specifically entail. He claims that the Postal Service, which already provides carriers with rest breaks, should give more breaks when heat conditions are hazardous, but does not say how many more or under what particular heat conditions such breaks should be given. *See Mid South Waffles*, 27 BNA OSHC at 1786 (Secretary's proposal that employer clean grease drawer without saying how often to do so proposed a result to be achieved, not a specific abatement method); *Nat'l Realty*, 489 F.2d at 1268 ("[T]he Secretary must be constrained to specify the particular steps a cited employer should have taken to avoid citation . . . ."). Bernard testified that he included a chart with work/rest guidelines in his expert report, but the Secretary did not propose that the Postal Service adopt those guidelines and Bernard's report was not admitted into the record.

[38] In the San Antonio, Houston, and Martinsburg cases, the Postal Service stated that it also monitors carriers by having supervisors sometimes go out on routes to check on them. And in the Benton case, it said that carriers are "adequately monitored to ensure adequate hydration and rest," but did not say how they are monitored.

[39] In a footnote in his San Antonio Post-Hearing Brief, the Secretary stated that supervisors could also use a GPS tracking system to identify carriers who are moving slowly and call to check on them. In response, the Postal Service argued that this proposal is too vague and cited testimony

services program," which is staffed by physicians and nurses, if they experience symptoms of a heat-related illness.

Although the judge did not discuss these proposals in the San Antonio, Benton, and Martinsburg decisions, she found in the Houston decision that the Secretary failed to prove they would be materially effective beyond the procedures the Postal Service already had in place. We find that the Secretary has not shown in any of the cases that either measure would be feasible or materially effective. Regarding the buddy system, the Secretary never explained what this system would specifically require of carriers, such as whether they would be required to contact each other at specified intervals, and if so, what the feasible but also effective intervals would be. *See Mid South Waffles*, 27 BNA OSHC at 1789-90 (Secretary must explain what the abatement measure would require with specificity); *Nat'l Realty*, 489 F.2d at 1268 ("[T]he Secretary must be constrained to specify the particular steps a cited employer should have taken to avoid citation . . . ."). When asked if a virtual buddy system would have "significantly reduced the hazard," Bernard replied that he thought it would because it would offer "the potential to address the signs and symptoms much earlier . . . ." But he did not say how often carriers would need to contact their buddy to achieve this benefit or discuss the feasibility of any specific schedule. It is also unclear from Bernard's testimony whether this measure would offer a material improvement beyond the Postal Service's current procedures. In fact, Bernard agreed that if carriers "call 9-1-1 [when] they experience signs or symptoms" they will be "no less safe than if they called their virtual buddy or called their supervisor."

As for requiring carriers to contact the Postal Service's occupational health services program, Tustin opined that if carriers could quickly speak to a nurse or physician in that program, it would eliminate "any delays" and any "potential conflicts of interest talking to a supervisor," as well as avoid "having someone who is not really medically knowledgeable triaging illnesses." At the same time, Tustin acknowledged that the Postal Service's current practice of instructing carriers to "simply call 911" if their symptoms are severe was just as effective as calling someone from the occupational health program. And the Secretary points to no evidence that implementing

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that it would be infeasible for supervisors to watch a monitor throughout the day to determine whether any of the many carriers delivering mail had stopping moving. The judge did not address these arguments. In any event, we agree that the Secretary did not show this measure was feasible or that it would have been materially effective.

this measure would have been feasible. He did not explain, for example, how many occupational health professionals are available at any given time, whether they are available to take such calls, or whether additional staff would need to be hired. Thus, we find the Secretary has not shown that his emergency response and monitoring proposals are either feasible or effective.

Analyzing Data

The Secretary claimed in each of his post-hearing briefs that the Postal Service could materially reduce the excessive heat hazard by evaluating its own heat-related illness data "to understand the causal factors, and use that information to create an effective heat stress program." In support, the Secretary cited Tustin's testimony that analyzing such data would allow the Postal Service to determine what "environmental conditions are associated with heat-related illnesses in their workforce," and pointed out that Tustin himself analyzed the data in this manner and created a chart showing how the number of incidents correlates with temperature levels.

The Secretary, however, did not include this proposed measure in any of the citations before us, and the Postal Service did not address it in its post-hearing briefs (nor does it on review). Likewise, the judge did not address this measure at all in the San Antonio, Benton, and Martinsburg decisions and in the Houston decision, she expressly declined to address the measure because the citation did not list it. On review, the Secretary does not address the judge's rejection of this measure due to its absence from the citations. At the same time, the Postal Service does not argue that the measure should not be considered on that (or any other) ground.

Putting aside whether the judge correctly declined to consider this measure given its absence from the citations at issue, we find that the Secretary has failed to adequately explain how "analyzing data" would have enabled the Postal Service to materially reduce the hazard or pointed to evidence that it would have in fact done so. The Secretary vaguely asserted that the information the Postal Service could acquire from such an analysis could be used to create an effective heat stress program, but he provided no details or examples. *See Beverly Enters.*, 19 BNA OSHC at 1191 (requiring the Secretary to "specify the particular steps a cited employer should have taken" to address cited hazard); *Nat'l Realty*, 489 F.2d at 1268 (same). In the transcript pages the Secretary cited in support of this measure, Tustin stated that data analysis would allow the Postal Service to "figure out the environmental conditions [that] are associated with heat-related illness in [its] workforce." But he did not say what the Postal Service could do with that information to materially reduce the hazard, other than that the data could be used to "start developing plans."

Tustin did create a chart from the Postal Service's data to show that the number of heat-related incidents rose as the temperature rose, but he never identified any specific actions that the Postal Service could take based on the chart or discuss the feasibility and efficacy of any such measures.[40] For these reasons, we find that the Secretary has not shown that the Postal Service can materially reduce the excessive heat hazard by analyzing its heat-related illness data.

Air-Conditioned Vehicles

In every case except San Antonio, the Secretary argued that the Postal Service could have abated the hazard by replacing its fleet of non-air-conditioned "Long-Life Vehicles" (LLVs) (the "familiar boxy mail truck[s]") with air-conditioned vehicles.[41] On review, the Secretary states only that the LLVs many carriers drive can become very hot inside. Below, the Secretary argued that the use of air-conditioned vehicles would materially reduce the hazard by providing carriers with a cool location to take rest breaks, as well as a cool place to go if they are experiencing symptoms of a heat-related illness. The Secretary maintained that the economic and technical feasibility of this measure is demonstrated by the fact that the Postal Service is already planning to replace all of its LLVs with air-conditioned vehicles, and began taking steps to do so in 2014. He also noted that Bernard said he believed using air-conditioned vehicles is technically feasible.

The Postal Service does not specifically address this abatement proposal on review, but below it argued that carriers already have access to air-conditioned or shaded locations where they can rest. In the Martinsburg case, for example, it pointed out that the carrier involved in the citation incident testified that she took a fifteen-minute rest break in an air-conditioned 7-Eleven that day, and said she could go there or to several other air-conditioned businesses at any time. The judge did not discuss the Secretary's proposed measure in the Benton and Martinsburg decisions. In the

[40] In *Pepperidge Farm*, the Commission held that the Secretary may propose that an employer engage in a "process" to determine whether particular actions will abate a hazard. 17 BNA OSHC 1993, 2034 (No. 89-265, 1997). But it made clear that the Secretary still must at least show that the underlying actions that are the subject of such a process have "some . . . efficacy": "We prefer the term 'process' . . . because experimentation may be read to imply the application of abatement methods the efficacy of which have not been established . . . . [W]e would not require employers to adopt abatement methods without some showing of their efficacy." *Id.* at 2033 n.112. In any event, the Secretary did not allege that the Postal Service should have analyzed its data in order to engage in a "process" to find the best abatement approach.

[41] Both San Antonio carriers had air-conditioned vans, as did the Houston carrier. The other carriers involved in the citation incidents all drove LLVs without air-conditioning.

Houston decision, she stated only that she would not address it because it was not included in that citation.

We note that this proposed measure appears only in the Martinsburg citation. But again, putting aside whether that omission is of any consequence here, we find that the Secretary has failed to show it would have been feasible for the Postal Service to have made air-conditioned vehicles available to all carriers prior to the summer of 2016. *See Nat'l Realty*, 489 F.2d at 1266 ("[T]he Secretary must be constrained to specify the particular steps a cited employer should have taken to avoid citation . . . ."); *Cormier Well Serv.*, 4 BNA OSHC 1085, 1086 (No. 8123, 1976) ("[The Secretary] must . . . show the existence of feasible steps the employer could have taken to abate the hazard and, therefore, avoid citation."). The Postal Service began taking steps to replace its aging fleet in 2014, and when the National Hearing took place in early 2019, was in the process of testing and evaluating prototypes created by different potential suppliers. Han Dinh, the Postal Service's manager for vehicle engineering, projected that the actual production of new vehicles would not begin until at least December 2021.

At no point has the Secretary explained why he believes it would have been feasible for the Postal Service to have completed this project before the citations were issued. As for Bernard's testimony, he merely opined that using air-conditioned vehicles is "technically feasible," but agreed that he "didn't say it was economically feasible." He was not asked to (nor did he) provide an opinion on whether it would have been feasible for the Postal Service to have made such vehicles available to all carriers by 2016. As a result, we find that the Secretary has not proven the feasibility of this proposed measure.

Training

Although the Secretary does not dispute that the Postal Service provided heat safety training to employees at the stations at issue, he argued in only the Houston and Martinsburg cases that the excessive heat hazard could be materially reduced if the Postal Service provided better training to the employees in those stations. On review, the Secretary fails to identify what the Postal Service could have done to improve its training in either of those cases, citing only Bernard's testimony that "there seemed to be a disconnect between what was included in the [training] materials and what was actually being absorbed by [employees]." Below, the Secretary critiqued the training for being "focused primarily on hydration." In the Houston case, the Secretary also vaguely asserted that the Postal Service could have included "a wider variety of

topics, different methods for conveying said topics, and follow-up from upper management to ensure" that the training was provided and "absorbed by both supervisors and carriers." In that case, he also alleged that two Houston carriers had received no heat safety training in the six months prior to the date of the citation incident. And in the Martinsburg case, the Secretary suggested that a computer-based heat safety training the Postal Service provided employees could have been made mandatory.

The Postal Service contends that it adequately trains employees on heat safety through several means. It cites testimony from Manuel Peralta, the NALC's national director of safety and health, who agreed that the Postal Service trains its employees, including management, on heat safety in a variety of ways, including stand-up talks, "Learning Management Systems" (computer-based) courses, posters, videos, bulletins, messages on computer screen savers, laminated cards listing the signs and symptoms of heat-related illnesses, stickers placed in vehicles with the same information, and mobile delivery device texts regarding heat safety. As for Bernard's testimony, the Postal Service points out that he characterized its "Southern Area Heat Stress Campaign," a compilation of heat safety information the Postal Service distributed in April 2016 to all post offices in the "Southern Area,"[42] as "adequate" and "a good program" that "clearly a lot of effort had been put into." Finally, the Postal Service argues that the Secretary failed to specify what additional training methods it should have used.

In both cases, the judge agreed that the Secretary failed to show the Postal Service provided inadequate heat safety training, noting that the Secretary failed to articulate what additional training methods the Postal Service should have used. In the Houston case, the judge pointed out that carriers at the Astrodome Station (where the carrier at issue worked) were given heat safety talks in both early May and late June 2016 as part of the Southern Campaign and that these talks covered the symptoms of heat-related illnesses, precautions to take, and instructions to call 911 when experiencing symptoms. In the Martinsburg case, the judge similarly found that carriers had been trained on the recognition, prevention, treatment, and reporting of heat-related illnesses.

[42] The "Southern Area" is one of seven areas in which the Postal Service divides its operations. Houston is in the Southern Area, though Martinsburg is not. The Southern Area consists of Arkansas, Texas, Louisiana, Oklahoma, Mississippi, Florida, and a portion of Georgia. The other six areas are: Northeast Area, Eastern Area, Western Area, Pacific Area, Great Lakes, and Capital Metro.

We agree with the judge that the Secretary has failed to show that the Postal Service's heat safety training was inadequate in both cases. *USPS*, 21 BNA OSHC 1767, 1773-74 (No. 04-0316, 2006) (to establish abatement element, Secretary must prove "that the methods undertaken by the employer . . . were inadequate"). As she found, the Secretary identified no specific ways that the training provided at either station could have been improved. Regarding his claim of a misplaced emphasis on hydration, the Secretary relied on testimony from Bernard that "even though the training [provided as part of the Southern Campaign] was broad" in the information it covered, "what [the employees] seemed to recall was the message about drinking . . . ." When asked if too much emphasis was put on hydration, Bernard simply replied that the "training materials covered a lot of topics," and "while it was there on paper, the execution of that lent to . . . [when] you query people about what do they know to deal with heat stress they would report drink water." When asked if the training would have materially reduced the hazard if it "had, you know, a better focus to it," he replied, "I think so, yes."

Bernard made no attempt to explain what "a better focus" would entail. In fact, as the Postal Service points out, Bernard praised the Southern Campaign.[43] Moreover, his vague criticisms focused on the results of the training in terms of what employees recalled rather than identifying any specific improvements the Postal Service should have made. Indeed, Bernard did not say that the training was too focused on hydration; he merely said that hydration was what

[43] As Bernard acknowledged, the record shows that the Postal Service provided an "extensive" amount of heat safety training at the Astrodome Station as part of its Southern Campaign. On April 26, 2016, the Southern Area safety manager informed all Southern Area Districts about the "Heat Stress Campaign" in a letter and required them to certify that all employees had viewed a video on heat safety by May 13, to certify that supervisors also completed a "Heat Stress Prevention Program training for Supervisors and Managers," and to provide safety talks on heat stress "throughout the summer months" that are tracked. The Astrodome Station "safety captain" testified that he was responsible for conducting many of the station's safety talks and over his five years with the station, had given typically twenty or thirty each summer, with the main topic covered being heat safety. In addition to these talks, he said that all carriers were required to watch a video about heat safety, and that he had posted some heat-related safety information on a bulletin board. Screen savers on monitors located where carriers sort mail also display heat-related safety messages. An Astrodome Station supervisor testified that he had worked at Houston stations since 1984 and that employees were always given heat safety talks every summer. And a safety specialist for stations in the Houston area (including the Astrodome Station) testified that he provides an orientation for all new hires that includes training on heat safety.

employees seemed to best remember. In short, he did not clearly identify any specific inadequacies in the training given or explain what the Postal Service should have been doing that it was not.

As for the Secretary's allegation that two Houston carriers did not receive heat safety training in the six months prior to the June 17, 2016 citation incident, the record does not support that claim. The only evidence the Secretary cited is the sign-in sheets for heat safety training sessions given on various dates during the summer of 2016, several of which show that the two carriers were in fact present at those sessions. The earliest sign-in sheet is dated a week after the June 17 incident, but the Secretary does not claim that was the first training session provided that year, or point to any evidence that it was.[44] In fact, other documents provided by the Postal Service show that at least two other heat safety training sessions were given in late May and early June. There is nothing in the record to establish that the two carriers were not trained on these dates.

Finally, regarding the Secretary's claim that the training provided in Martinsburg was inadequate because the Postal Service's computer-based training was not mandatory—the only other specific deficiency he alleged—he presented no evidence that this training would have materially reduced the hazard and, in fact, acknowledged that employees in Martinsburg were being trained on heat safety in several ways, including through stand-up talks given in the mornings before carriers start their routes. The Secretary also does not explain why mandating this particular training would have materially improved upon any other type of training.

In sum, the Secretary has not met his burden to identify specific measures that the Postal Service could have feasibly taken that would have materially and effectively reduced the excessive heat hazard that existed in these cases. Accordingly, we vacate all four citations.

SO ORDERED.

/s/
Cynthia L. Attwood
Chairman

/s/
Amanda Wood Laihow
Commissioner

Dated: February 17, 2023

[44] The sign-in sheets show that carriers at the Astrodome station were given the following heat safety trainings in the summer of 2016: "Heat Stress Symptoms" (June 24), "Tips for Working In the Heat" (July 5), "Heat Stress and Hydration (July 6), "Stay Healthy in the Heat" (July 9), "Heat Related Illnesses" (July 11), "Heat Stress – Do's and Don'ts" (August 4), "Beat the Heat" (August 9), and "Heat Related Illness and Medication" (September 20).

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.: **16-1713**

Appearances:

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For Respondent

Shawn Boyd
For NALC

BEFORE: Administrative Law Judge Sharon D. Calhoun

DECISION AND ORDER

I. INTRODUCTION

On June 13, 2016, a letter carrier for the United States Postal Service began to feel ill as he delivered mail on a route in San Antonio, Texas. He called a supervisor at Beacon Hill

Station, the postal facility to which he was assigned, and told him he was too sick to continue his route. The supervisor instructed him to call 911, which the carrier did. Emergency medical technicians responded to his call and provided medical treatment. Beacon Hill Station supervisors also arrived at the site. The emergency medical technicians left, and a supervisor drove the employee back to the post office. The carrier completed paperwork related to the incident and left for the day. Later that evening, he went to an urgent care center, where he was treated with IV fluids and medication for his headache.

Two days later, on June 15, 2016, a city letter carrier for Beacon Hill Station began to feel ill as she delivered mail on her regular route. She called a supervisor who told her to call 911. Emergency medical technicians responded to her call, provided medical treatment, and transported her to a hospital. The hospital administered IV fluids to the carrier and discharged her later that day.

Beacon Hill Station notified the Occupational Safety and Health Administration of the two incidents. OSHA opened an inspection at Beacon Hill Station on June 16, 2016. As a result of the inspection, the Secretary issued a two-item Citation and Notification of Penalty to the United States Postal Service (referred to in this proceeding as the Postal Service or USPS) on September 7, 2016. Item 1 of the Citation alleges a repeat violation of § 5(a)(1), the general duty clause (29 U.S.C. § 654(a)(1)), of the Occupational Safety and Health Act of 1970, 29 U.S.C. §§651-678 (Act).[1] The Secretary withdrew Item 2 of the Citation at the national hearing (National Hearing (NH) Tr. 1453-55).[2]

Item 1 alleges two instances where the Postal Service exposed its employees "to the hazard of excessive heat while walking and hand-delivering mail in an outdoor environment."

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[1]The Secretary initially characterized the alleged violation as serious. The Secretary subsequently amended the Citation and complaint to characterize the alleged violation as repeat (Tr. 7-8; National Hearing (NH) Tr. 1149-61, 1337-41).

[2] Item 2 of the Citation alleged a serious violation of § 1910.141(b)(1)(i), which provides:

> Potable water shall be provided in all places of employment, for drinking, washing of the person, cooking, washing of foods, washing of cooking or eating utensils, washing of food preparation or processing premises, and personal service rooms.

At the San Antonio hearing, the Secretary's counsel stated, "[I]t's our position that providing water should be bottled water, especially in these cases where the letter carriers require a significant volume of water." (Tr. 578) Because the Secretary did not withdraw Item 2 until after the close of the San Antonio hearing, much of the testimony in this proceeding relates to the issue of providing bottled water to carriers. The Secretary's withdrawal of Item 2 renders this issue moot.

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. 12-13). 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.[3]

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, 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.[4]

This is the second of the five Postal Service cases heard by the Court. The hearing was held from October 22 to October 24, 2018, in San Antonio, Texas.[5] 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 San Antonio's carriers on June 13 and 15, 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.

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

[4] 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).

[5] One additional witness relevant to this proceeding testified during the hearing for Docket No. 17-0023 in Houston, Texas. His testimony is admitted as part of the record in the present case, the Houston case, and the Benton, Arkansas, case (No. 16-1713) (Tr. 297-98, 574-75).

II. JURISDICTION AND COVERAGE

The Postal Service timely contested the Citation on September 30, 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, ¶¶ 1-2; Tr. 28).[6] 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.

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.

[6] Paragraph 2 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)."

(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 SAN ANTONIO HEARING

Stipulations

The parties stipulate the following:[7]

. . .

3. [The Postal Service] is divided into seven Areas which are in turn divided into Districts.

4. The seven areas are: Northeast Area; Eastern Area; Western Area; Pacific Area; Southern Area; Great Lakes and Capitol Metro.

5. This hearing involves operations at a postal facility at 1064 Vance Jackson Road, San Antonio, Texas (Beacon Hill Station) which is located in the Southern Area.

6. On June 13, 2016, the total number of letter carriers who were employed by the Beacon Hill postal facility was 45 city carriers, 17 city carrier assistants and 0 rural carriers.

7. On June 13, 2016, there was a total of approximately 54 city routes.

8. CCA1's enter on duty date for the Postal Service was May 14, 2016.[8]

9. On June 13, 2016, CCA1 was assigned to Route 1013.

10. On June 13, 2016, the total weight of the mail that CCA1 was supposed to deliver was 152.94 pounds.

11. On June 13, 2016, the total number of pieces that CCA1 was supposed to deliver was 2,046.

12. On June 15, letter carrier LC2 was an employee of [the Postal Service] who worked at the Beacon Hill facility delivering mail.

13. LC2 transferred from Ohio to the Beacon Hill Station where she worked as a city carrier beginning in January 2015.

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

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

14. She continued working as a City Carrier at the Beacon Hill Station until May 2017, when she transferred to the Mockingbird Station in Austin, Texas.

15. LC2 has an assigned route which was route 1030 (Route 30).
16. On June 15, 2016, LC2's total weight of the mail that LC2 was supposed to deliver was 122.57 pounds.

17. On June 15, 2016, the total number of pieces of mail that LC2 was supposed to deliver was 1,923.

(Exh. J-1)

Background

Overview of the Beacon Hill Station

In June of 2016, the Beacon Hill Station in San Antonio, Texas, employed 45 city letter carriers and 17 city carrier assistants (CCAs) to deliver mail on 54 city routes.[9] CCAs are contract carriers who receive different compensation and benefits from city carriers. The collective bargaining agreement (CBA) negotiated by NALC and the Postal Service guarantees minimums of 8 hours daily for city carriers and 4 hours daily for CCAs. City carriers deliver mail on their regular routes. The post office assigns CCAs to different routes on a weekly basis, depending on mail volume and which city carriers are absent due to scheduled time off or illness (Exh. J-1, ¶¶ 6-7; Tr. 58-59, 598, 603-05).

If a city carrier comes in under 8 hours, the post office gives them *undertime* and assigns a piece of another route, called a *kickoff.* In postal nomenclature, a *kickoff* or *pivot* is the portion of a route assigned to a carrier in addition to his or her regular route.[10] Kickoffs include auxiliary routes as well as regular routes whose assigned city carriers are not working that day (Tr. 154-55, 601).

City carriers are guaranteed 40 hours of work per week by the CBA but may volunteer for the *work assignment list*, meaning they are willing to work overtime during their regularly scheduled days on their own routes. They can also volunteer for the *overtime-desired list*, indicating their willingness to deliver on other routes and to work on their scheduled days off

[9] In this decision and order, the Court refers to respondent as "the Postal Service" or "USPS." The Court uses "post office" to refer to the supervisory personnel at the Beacon Hill Station or the physical building, depending on context.

[10] Brian Renfroe, executive vice president of NALC, stated carriers call the extra route portion by various names in the different areas. "Some call it a piece, a pivot. I've heard a loop. That's what it's called where I'm from. A drag. Pigtail. I've heard some words that are not appropriate for this Court to describe, you know. But they all mean the same thing: It's a portion of another assignment that I'm going to do in addition to the other work that I have for that day." (NH Tr. 168)

(Tr. 154-55, 330, 601). If the post office has exhausted all resources and no overtime carriers are available, supervisors may assign, or *mandate*, overtime to city carriers who are not on the work assignment or overtime lists (Tr. 155-56).

Trucks hauling the day's mail for Beacon Hill Station arrive at the facility at midnight, 3:00 or 3:30 a.m., and 5:00 or 5:30 a.m. (Tr. 781). The incoming mail comprises different classes (Priority Mail Express, Priority Mail, First-Class Mail, periodicals, etc.) with different delivery schedules. The delivery schedule is determined by the delivery time to which the Postal Service has committed. If the post office does not meet the delivery schedule for Priority Mail Express, it refunds the service fee to the customer (Tr. 777-80).

The Beacon Hill Station staffs a morning (A.M.) supervisor, who works from 5:00 a.m. to 2:00 p.m., and an afternoon (P.M.) supervisor, who works from 11:00 a.m. to 7:00 p.m. They supervise carriers only. A different supervisor has authority over the clerks, who unload and sort the mail (Tr.595-96, 739). City carriers start work at 7:00 a.m., by which time clerks are expected to have processed 80 percent of the incoming mail (Tr. 782). The goal of the A.M. supervisor is to have city carriers on the street delivering mail by 8:00 or 8:15 a.m. (Tr. 597).

During the day, carriers collect mail on their routes which must be brought back to the post office before the dispatch truck leaves at 6:30 p.m. for the Postal Service's processing and distribution center. If carriers do not bring the collected mail to the post office in time for dispatch, a Postal Service employee must drive to the processing and distribution center to deliver the late mail (Tr. 778).

In the spring and summer of 2016, Beacon Hill Station supervisors gave a number of standup safety talks focused on delivering mail in hot weather conditions as part of the Postal Service's *Southern Area Heat Stress Campaign* (Exh. C-3; Tr. 413). The campaign stressed the importance of proper hydration, weather-appropriate clothing, taking breaks in shaded areas, and recognizing symptoms of heat stress (Exh. C-3, pp. 29-40) City carriers are contractually entitled to a 30-minute lunch break and two 10-minute breaks (one before and one after lunch) (Tr. 156, 163). In the summer of 2016, the Beacon Hill Station informed carriers they could take *comfort breaks* as needed to cool off. A comfort break is usually a bathroom break or an opportunity to refill or purchase beverages. The post office does not limit comfort breaks in hot weather (Tr. 363-64).

If city carriers believe they will not be able to complete the route in 8 hours, they submit a form (Form 3996) requesting more time (overtime) or help (auxiliary assistance) to complete delivery. The carrier estimates on the form how much additional time is needed to complete the route and submits it before leaving the post office in the morning (Tr. 607-610).

CCA1 and the June 13, 2016, Incident

CCA1 began working for the Postal Service on May 14, 2016, in a CCA position (Exh. J-1, ¶ 8). He received classroom orientation training for a week, followed by 3 days of on-the-job training (Tr. 54-56). CCA1 received his on-the-job training from CT, a Beacon Hill Station city carrier and certified trainer. CT explained his training schedule for CCA1. "On the first day he pretty much just observed. On the second day, we kind of split it. He made some deliveries; I made some deliveries. On the third day, he would come in and case up the route or separate the mail, sort the mail.[11] And he would go out there and do the majority of the route." (Tr. 303-04) The first non-training day on which CCA1 delivered mail was June 3, 2016 (Tr.439). He worked every day from June 3 to June 9, totaling 55 hours of delivery time in his first 7 days. He did not work on June 10, 11, or 12 (Exh. R-13, pp. 1412-16).

Regular routes are designed with the intention carriers will complete daily mail delivery in 8 hours. The Postal Service configures routes for *mounted delivery* (for which the carrier delivers mail from the vehicle to the curbside mailbox); *dismount delivery* (for which the carrier parks and delivers mail to one or two houses at a time and then returns to the vehicle and drives to the next *park point* (a designated parking spot)); and *park and loop* delivery (for which the carrier parks the vehicle at a park point and walks down one side of the street, delivering mail to each address, and then crosses to the other side to deliver mail, looping back to the vehicle (Tr. 145-47).

On Monday, June 13, 2016, CCA1 was assigned Route 13, which is a park and loop route. Delivering mail on that route requires 10 to 12 miles of walking (Exh. J-1, ¶ 9; Tr. 337, 372). Route 13 had ten loops in 2016. CCA1 would need to carry the mail for one loop, then return to his vehicle, drive to the next park point, and carry the mail for next loop. On June 13, CCA1 was to deliver 2,046 pieces of mail, weighing a total of 152.94 pounds. Dividing the weight by the number of loops results in a calculation of approximately 15.3 pounds per loop

[11] *Casing* is using a shelving system to sort mail for one route into delivery sequence by placing mail for each address into designated slots, or cells, on the shelves (Tr. 346-47).

(Exh. J-1, ¶¶ 10-11; Tr. 631-32) There are approximately 600 addresses on Route 13 (Tr. 347). It is primarily a residential area with flat terrain. Approximately 80 percent of the loop is shaded. There are five business addresses and a school on the route where a carrier could take breaks in air-conditioned buildings (Tr. 372-73). CCA1 was not required to case his mail that morning (Tr. 661).

CCA1 began work at 8:30 a.m. on June 13, 2016 (Exh. R-13, p. 1416). He was driving an air-conditioned van (Tr. 555-56). CCA1 called Supervisor JL at some point and told him he was falling behind in delivering mail on Route 13 (Tr. 513, 553). He called a second time at approximately 4:00 and informed Supervisor JL he was feeling ill (Tr. 554).[12] He had a headache, was sweating profusely, and felt faint and feverish (Tr. 88). Supervisor JL told CCA1 that if he was feeling ill, he should call 911. When asked why he did not call 911 for him, Supervisor JL stated, "I felt that if for any reason he did need medical assistance, that 911 would be better there able to support him or walk him through in case it was an emergency." (Tr. 514)

CCA1 called 911. At the hearing, he had only a vague recall of the events of that day. He stated, "The most I remember now, is that after the phone call—I just remember that the San Antonio Fire Department had show[n] up to the scene, had assessed me and that I was driven back to the post office after my assessment by another gentleman who was a supervisor there." (Tr. 84)

Supervisor JL and two other supervisors arrived at CCA1's location (Tr. 555). CCA1 said he had a fever and had been sick over the previous weekend (Tr. 551). Once CCA1 returned to the post office, he completed a form stating he was not seeking Workers' Compensation for the medical care he received (Tr. 89-90). Later that evening, he went to an urgent care center where, he stated, "I recall receiving IV fluids, as well as—I believe I received medication for my headache." (Tr. 91)

[12] CCA1 testified he told the Beacon Hill Station manager before he left the post office that morning he was not feeling well. He stated, "She told me to deliver the route as best as possible and to call later in the day if I needed help and I would speak to the supervisors." (Tr. 76-77) The station manager denied this conversation took place, stating she was not working at the Beacon Hill Station that week, but was working on a project at another post office (Tr. 783-84). The Court credits the station manager's testimony on this point. CCA1 displayed a spotty, selective memory and contradicted his deposition testimony several times. He stated that in his short tenure at the Beacon Hill Station (he transferred to another station after 3 months), he once worked 11 days in a row, even though his time records indicate otherwise (Exh. R-13; Tr. 68, 117). His gave confusing testimony regarding the number of miles he walked on average a week (Tr. 64, 85-87). He could not recall the year the Postal Service hired him, the month he started, the position he started in, or the date he resigned (Tr. 97-98). His demeanor was defensive and combative at times, while the station manager was calm and matter-of-fact.

CCA1 attributed his illness to the hot weather that day.

Q.: [S]ince you don't remember the date, wouldn't it be fair say that you don't recall the temperature on that day?

CCA1: I don't remember the exact, specific date, but I do remember the temperature, specifically because of the fact that it was because of how hot it was that that's what caused me to have my incident.

Q.: So you don't actually independently remember the date of your injury, and the fact that it was hot, are you just assuming that because you suffered your injury?

CCA1: No, sir. I'm going off of the basis that not only was it during the summer, but that also on top of what I was going through physically during that day, I do recall that the weather was hot because of the illness I suffered as well as when the San Antonio Fire Department showed up even they had told me that it was a pretty hot day.

(Tr. 102-03)

Despite the heat, CCA1 refrained from using the air conditioning in his van. "I had access to AC but I tried mostly to not take the breaks in the air conditioning to not put my body into shock. . . . When going from extreme heats, just from my knowledge, to very cool temperatures very quickly can actually cause shock." (Tr. 112)

CCA1's medical records indicate he had a predisposing medical condition. Exhibit R-17 is a copy of his medical records related to the June 13 incident, as well as incidents in April and May of 2016. On June 13, 2016, (the day of the incident) the urgent care facility record states, "[Patient] reports Upper Respiratory infection symptoms for 3 days. While working today, he felt feverish and lightheaded but continued working in the heat. He then had a syncopal episode. He recovered in less than a minute but continues to feel somewhat lightheaded." The "Clinical Impression" is "Acute Dehydration, Acute Cough."[13] (Exh. R-17, p. 1740)

CCA1 had sought medical attention at the urgent care center on April 19 and May 21, 2016, with symptoms similar to the ones he experienced on June 13. On April 19 (before he was hired by the Postal Service) he reported, "Cough, Fever, Headache, Sore Chest x 7 days, Runny Nose, Plugged Left Ear/Left Ear Pain, Back Pain, Tightness in Chest." (Exh. R-17, p. 1691) He was treated for "Acute sinusitis" and "Cough." (Exh. R-17, p. 1696) On May 21, he reported, "Sore Throat, Terrible Cough, Chest hurts when I cough and back as well." (Exh. R-17, p. 1697)

[13] In an email sent June 14 to the union steward for Beacon Hill Station, CCA1 recounted the incident the day before and stated, "Around 5pm I had to call the supervisors back because I wouldn't stop throwing up and I almost fainted. I had to call an ambulance." (Exh. R-15) CCA1 did not list vomiting among the symptoms he experienced when he arrived at the urgent care facility.

He was provided with a treatment plan for "Gastro-esophageal reflux disease with esophagitis" and referred to a gastroenterologist (Exh. R-17, p. 1697).

LC2 and the June 15, 2016, Incident

The Postal Service hired LC2 in 2011 as a city letter carrier in Ohio. In 2015, LC2 transferred to Beacon Hill Station in San Antonio, Texas. In June of 2016, her regular route was Route 30. It is located in a residential neighborhood with a few business addresses. It is mostly a park and loop route. LC2 spent approximately 20 minutes a day in her air-conditioned van, driving perhaps 2 minutes at a time between park points. She walked 12 to 15 miles daily on her route (Tr. 143-47).

Route 30 was considered "45 over base," meaning the post office expected the carrier to complete mail delivery on the route in 8 hours and 45 minutes. LC2 routinely submitted a 3996 form every morning for her route "to state that it was going to be 45 minutes over no matter what it was for the day." (Tr. 149) If a carrier determined later in the day that more time or assistance would be needed to complete the route, he or she was supposed to contact the post office by 2:00 p.m. (Tr. 150). LC2 preferred to text her supervisor rather than call "because I don't like the confrontation. Like, I didn't like my bosses getting mad at me if I was going to go over, because they would ask you five thousand questions. They'd make you feel like you did something wrong just because you went over. So it was too much confrontation. I just like texting and being set." (Tr. 151-52)

LC2 had been on vacation with her family in northwest Ohio the 2 weeks prior to her incident. She did not spend much time outside. "[I]t was beautiful weather there, but we just—you know, I'm a postal carrier. I spend most of my time outdoors as it is. I don't like to go outside." (Tr. 169-70).

LC2 was sick when she returned to San Antonio from her vacation. "I was congested. I had a fever." (Tr. 171) She was scheduled to return to work on Monday, June 13, but she called in sick and went to see her doctor. He diagnosed her with a sinus infection and prescribed amoxicillin to treat it and told her to buy Flonase. He did not instruct her to alter her work schedule (Tr. 214). The pharmacist who provided her with the amoxicillin told her to use caution when working in the sunlight because the amoxicillin could cause sun sensitivity (Tr. 170-71). She had little appetite due to the sinus infection, and she did not drink as much liquid as usual (Tr. 222-23).

Tuesday, June 14, was her scheduled day off. She returned to work on Wednesday, June 15 (Tr. 212). LC2 testified she told Supervisor SG "that I literally got prescribed the amoxicillin and that the doctor had recommended that I take it easy. And the pharmacist had said about the sunlight issue and that I should just -- if he could possibly be lighter on me that day, just to take it easy on me since I was a still a little bit under the weather." (Tr. 172) Supervisor SG stated LC2 did not tell him she was taking medication or that her pharmacist warned her to avoid sunlight (Tr. 635). Under the CBA, Beacon Hill Station is required to provide carriers with 8 hours of work each workday, and it cannot assign carriers tasks other than carrier work (Tr. 636-37).

LC2 did not bring as much water with her as usual that morning because she had just returned from vacation and had not had time to prepare. She had two or three 16-ounce bottles of water with her. Around noon, as the temperature rose, she started to feel "dizzy and off," but she tried to continue (Tr. 177). She did not drink as much water as she usually did when delivering on her route. "I was trying to conserve it as much as I could, because I knew I only had so much." (Tr. 178)

LC2 texted Supervisor SG for her 2:00 p.m. check-in and followed up with several more texts as she felt worse. He never responded (Tr. 180).[14] She called her husband at approximately 3:00 p.m. and told him she did not feel well. She did not know if her condition was because of the medication or the heat. Her husband contacted LC2's sister, a registered nurse, who said LC2 needed to drink more water because she was likely dehydrated. She also urged her to contact her supervisor and stop working. LC2 left her route and bought a bottle of Gatorade at a gas station. When she tried to drink it, she gagged and vomited. She "got very scared at that point" and called the Beacon Hill Station employee line at 4:27 p.m. and spoke with Supervisor JL (Tr. 183).

> I asked if I could possibly bring the mail back. And he proceeded to tell me that I was not bringing that mail back unless, you know, I was going in an ambulance or the hospital, whichever. And I remember just feeling kind of irritable on that one because he had an attitude. But I was more scared than anything, and I just pushed through, and I said, "[JL], like, I'm not kidding. I'm scared. . . . At first, he definitely wasn't [sympathetic]. And even after I said I was scared, he said: "Well,

[14] Supervisor SG testified he was the A.M. supervisor that day, and his shift was from 5:00 a.m. to 2:00 p.m. He was not on duty when LC2 texted him. He stated he did not receive LC2's texts (Tr. 642) He was asked, "When you heard that [LC2] had allegedly texted you the day of the incident, did you check your own cell phone records to see if you had a text from her?" He replied, "No." (Tr. 677)

> if you want to call the ambulance, you can. Go ahead." . . . I was still very off about it. Like, I didn't want to get in trouble. But I decided it was better that I did, because I just didn't know what to do.

(Tr. 184)

At 4:30 p.m., she called 911. Emergency medical technicians arrived 5 to 10 minutes later. They attended to LC2 and told her she had an elevated heart rate and suggested drinking fluids immediately. They administered IV fluids and told her it was her decision whether to go to the hospital. By then, Assistant Supervisor EM had arrived to retrieve her vehicle, and another carrier started delivering her route. She opted to go to the hospital, and she was taken there in the ambulance. She received more IV fluids at the hospital and was discharged 30 minutes later. Her diagnosis was dehydration. LC2 missed 3 days of work due to her illness (Exh. R-11; Tr. 186-88).

LC2 had predisposing medical conditions. She took Levothyroxine every morning for hypothyroidism (Tr. 228). Her gallbladder was removed in 2011, and she developed irritable bowel syndrome (IBS) after that. One of the symptoms of IBS is diarrhea (Tr. 223). LC2 avoids certain foods and limits water when delivering her route to avoid triggering the onset of diarrhea (Tr. 229). She had diarrhea on June 15 before she left the post office (Tr. 224). LC2 stated diarrhea "does dehydrate you." (Tr. 226)

> It causes kind of a feeling of dizziness. It causes sometimes where I just feel like I'm weak and stuff like that. That's another reason why I was having a hard time distinguishing between the two, because I'm so used to having that feeling from that that it's hard to distinguish between heat ailments and IBS.

(Tr. 226)

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, ¶¶ 3-4). 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 for Docket No. 17-0023 in Houston, Texas, is also admitted as part of the record in the present case and in the Benton, Arkansas, case (No. 16-1872) (Tr. 590-91, 802, 805-06).[15]

[15] References in this decision to testimony and exhibits from the Houston hearing are indicated by *No. 17-0023* followed by the transcript page(s) or exhibit number.

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 the Southern Area safety department since November of 2011 (No. 17-0023 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." (No. 17-0023 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 (No. 17-0023 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* (No. 17-0023 Exh. C-2; No. 17-0023 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." (No. 17-0023 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." (No. 17-0023 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.

(No. 17-0023 Tr. 374-75)

Penland stressed the importance of acclimatization for 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 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." (No. 17-0023 Tr. 352-53) He listed factors he did believe are relevant to heat-related incidents:

> Had [the 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.

(No. 17-0023 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." (No. 17-0023 Tr. 354-55)

Penland discounted the importance of heat in the reported heat-related incidents, estimating 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?

(No. 17-0023 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." (No. 17-0023 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 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 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 carriers retrieving mail at the FirstMile. At the end of the day, the 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.[16] 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

[16] "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.

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. . . [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[17] 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).[18]

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

[17] 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 carriers (NH Tr. 871-74).

[18] 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)

> 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.

(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 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 carriers throughout the country." (NH Tr. 43)

In July of 2012, Peralta learned a 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).[19] Dr. Bernard's testimony inspired Peralta to address the issue of excessive heat exposure for 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

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

> 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 have to do as a craft to prevent our brothers and sisters from getting hurt. A few months later, the judge issued her decision.[20] 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) 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 carriers when the heat index rises to 103°F:

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[20] 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).

2) Monitoring Employees

. . .

> [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 carriers during standup safety talks (NH Tr. 62-63). Peralta found the program to be "very shallow in the depth of information. . . . [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 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 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 carriers who suffered heat injuries were subject to disciplinary procedures (Tr. 89, 96).

Peralta attributed the death of a carrier in Medford, Massachusetts, in July of 2015 to excessive heat exposure (NH Tr. 102). He testified regarding the death of another carrier in Woodland Hills, California, in July 2018 on a day when the temperature was 117°F. The 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 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 carriers and the approximately 143,000 routes on which they deliver. The Postal Service employs approximately 161,000 full-time city 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 carriers due to predicted hot weather. She explained the process she used with the requesting 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)[21]

Vo testified a carrier's medical condition could affect the time needed to complete a route (NH Tr. 2636). When a 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 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 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)

[21] 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. 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 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 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)

In each of the five local cases, supervisors exhibited dismissive or disparaging attitudes towards the carriers. Here, Supervisor SG ignored LC2's texts telling him she was sick, and he did not bother to confirm he received them once he learned she had been taken to the emergency room. Supervisor JL reacted with indifference to CCA1 and LC2 when they called from their routes and reported they were too sick to continue. Supervisor JL told LC2 she could not return with undelivered mail unless she "was going in an ambulance." (Tr. 184) He left the choice of calling 911 to CCA1 and LC2, without taking steps to evaluate the severity of their illnesses. These cases reveal a pervasive culture of mistrust and skepticism on the part of postal supervisors regarding reports of injuries or illnesses made by carriers. The supervisors' indifference and the carriers' reluctance to engage in confrontational conversations with

management contribute to the stress already inherent in meeting the unforgiving demands of the 24-hour clock.

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)

> Item 1 of Citation No. 1 alleges,
>
> Section 5(a)(1) of the Occupational Safety and Health Act of 1970: 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 from exposure to excessive heat.
>
> a) On or about June 13, 2016, at job sites along mail routes for the Beacon Hill Station, employees were exposed to the hazard of excessive heat while walking and hand-delivering mail in an outdoor environment.
>
> b) On or about June 15, 2016, at job sites along mail routes for the Beacon Hill Station, employees were exposed to the hazard of excessive heat while walking and hand-delivering mail in an outdoor environment.[22]

[22] At the beginning of the hearing, counsel for the Postal Service requested a standing objection "to any reference to the hazard as being anything other than excessive heat, as defined in the citation." (Tr. 20-21) The Court granted the Postal Service's request. At the national hearing, the Court ruled that in the context of the five Postal Service cases, references to "excessive heat," "heat stress," or similar formulations are "all the same issue regarding the § 5(a)(1) citations that have been alleged." (NH Tr. 1339) The Commission has also recognized these phrases are interchangeable in the context of § 5(a)(1) cases alleging exposure to the hazard of excessively high temperatures. *See Duriron Co., Inc.*, No. 77-2847, 1983 WL 23869 (OSHRC April 27, 1983) ("heat stress," "excessive heat," "extreme heat"); *Industrial Glass,* No. 88-348, 1989 WL 88787 (OSHRC April 21, 1992) ("heat stress," "excessive exposure to heat").

A. Existence of a Hazard

1. The Evidence Does Not Establish Exposure to Excessive Heat Caused the Illnesses of CCA1 and LC2

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 identifies the workplace at issue as the "outdoor environment" in the area covered by Beacon Hill Station in San Antonio, Texas, through which the city carriers walked as they delivered mail on their routes. 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 temperatures or heat indexes for June 13 and 15, 2016.

Heat Stress Hazards

The Secretary called Dr. Tustin to testify regarding excessive heat exposure.[23] 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

[23] 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).

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 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). Unlike heat stroke, there is no diagnostic test for heat exhaustion (NH Tr. 536). Less severe conditions caused by heat stress include heat cramps, heat rash, and heat syncope (fainting) (NH Tr. 261).

CCA1 and the June 13, 2016, Incident

Dr. Tustin reviewed certified weather data from the National Weather Service (NWS) for San Antonio, Texas, on June 13 and 15, 2016 (NH Exhs. C-144 & C-146; NH Tr. 415). The NWS data showed the highest temperature in San Antonio on June 13 occurred at 3:58 p.m. It was 93°F, and the relative humidity was 57 percent, resulting in a heat index of 105°F.

Dr. Tustin testified a heat index of 105°F is hazardous, based on epidemiological studies and cases he has reviewed (NH Tr. 418). 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. 419)

Dr. Tustin reviewed CCA1's hearing testimony and medical records, including tests conducted at the urgent care center where CCA1 went the evening of June 13 (NH Exh. C-175). Dr. Tustin discussed the test results.

Dr. Tustin: I remember they tested his blood for -- the one that I remember was -- abnormal was the creatinine level. The creatinine level was elevated, which creatinine is a measure of kidney function. So when the creatinine level is elevated, that indicates that there may be kidney injury.

. . .

Q.: [D]o you recall if he received any intravenous fluids?

Dr. Tustin: Yes, I believe he did.

Q.: And do you recall what happened in terms of the creatinine level after he received intravenous fluids?

Dr. Tustin: I don't recall if they checked it again after he got the IV fluids. I didn't -- I don't think I saw a follow-up test after he got the IV fluids.

. . .

Q.: And in this case, was this an acute kidney injury in your opinion?

Dr. Tustin: I think it probably was. And the reason I say that is because when you have the word "acute," now you're talking about whether this was something that had a sudden onset during that day or whether this was a chronic kidney condition. And I didn't see any evidence that he had any chronic kidney condition. I don't believe he reported that as part of his past medical history. And so given the fact that this creatinine level was mildly elevated on a day when he had been working outdoors in conditions that I considered to be hazardous, and that he had sweated profusely, that's a risk factor for developing acute kidney injury. So that's why I think it probably was a mild case of acute kidney injury, yes.

Q.: To a reasonable degree of medical certainty?

Dr. Tustin: I would say so, yes.

Q.: At the urgent care center, a physician diagnosed dehydration and an upper respiratory tract infection. Do you agree with those diagnoses?

Dr. Tustin: Yes. I didn't see any reason to dispute those diagnoses.

Q.: And acute kidney injury was not specifically diagnosed. But in your opinion, he did suffer from acute kidney injury?

Dr. Tustin: I think it's more likely than not – than not, yes. I mean, I would have liked to see a follow-up creatinine level afterwards, just to verify that. But I think, given the circumstances, it's likely that it was acute kidney injury.

Q. In terms of the dehydration diagnosis, what's your conclusion as to what caused the dehydration?

Dr. Tustin: I believe that it was a result of the -- at least in part a result of the heat stress conditions to which he was exposed.

Q.: Why do you say that?

Dr. Tustin: Heat stress -- like I said before, heat stress can cause sweating. He described it, I believe, as profuse sweating. And profuse sweating can cause

> people to become dehydrated. The body loses water, so they have what we call volume depletion and not as much blood plasma volume as normal. . . . And so that can cause dehydration. The heat stress causes profuse sweating, which causes dehydration.
>
> Q.: In terms of the diagnosis of an upper respiratory tract infection, do you think that that could've contributed to the dehydration?
>
> Dr. Tustin: Yes, I think so.

(NH Tr. 420-24)

On cross-examination, Dr. Tustin agreed CCA1 had been ill with an upper respiratory tract infection for several days prior to June 13, 2016, and the condition could cause dehydration (NH Tr. 732). He conceded the steroid injection CCA1 received and the discharge instructions given to him were not treatments for heat-related illness. The treating physician also ordered a rapid strep test and prescribed several medications, which Dr. Tustin agreed were not consistent with a diagnosis of a heat-related illness (NH Tr. 738). Dr. Tustin agreed that in the three visits to the urgent care center CCA1 made on April 19, May 21, and June 13, 2016, his symptoms were relatively consistent and indicative of an upper respiratory infection (NH Tr. 738-39).

Dr. Shirly Conibear also reviewed CCA1's medical records.[24] 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)

Dr. Conibear concluded CCA1 did not experience a heat-related illness on June 13, 2016 (NH Tr. 3086-87). She noted the following regarding the record of his urgent care center visit: the attending physician ordered a rapid stress test and a CHEM8+ test.; the physician prescribed Cheratussin (a cough syrup) and Ventolin (an asthma inhaler used to treat bronchospasm); and CCA1's lab results do not indicate a heat-related illness. None of these treatments or results is typical for heat-related illnesses. The only treatment CCA1 received that was consistent with a

[24]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).

heat-related illness was administration of IV fluids for dehydration. Dehydration may be related to heat stress, but it is also a symptom of infection (NH Tr. 3094-95). Dr. Conibear testified CCA1's discharge instructions relate to an upper respiratory tract infection (NH Tr. 3096). Dr. Conibear noted the symptoms that prompted CCA1's visits to the urgent care center on April 19, May 21, and June 13 were similar and consistent with an upper respiratory infection (NH Tr. 3097-98). She concluded CCA1 would have manifested the same symptoms of upper respiratory illness on June 13, 2016, had the outside temperature been 70°F (NH Tr. 3128-29).

LC2 and the June 15, 2016, Incident

The highest temperature on June 15 was recorded at 3:58 p.m. It was 95°F, with a relative humidity of 50 percent, resulting in a heat index of 105°F (NH Exh. C-302; NH Tr. 418, 426). Dr. Tustin testified a heat index of 105°F presents a heat stress hazard. He reviewed LC2's medical records and concluded she was suffering from a heat-related illness on June 15 (NH Exhs. C-176 & C-177; NH Tr. 429).

LC2 was diagnosed with dehydration at the hospital. It was Dr. Tustin's opinion she also had heat exhaustion.

> All the symptoms and signs that she expressed fit with heat exhaustion. The fast heart rate, the fact that apparently, she became so exhausted that she could not finish her mail route. That's why I think that I would call it heat exhaustion. . . . I think [the dehydration and heat exhaustion] were caused, at least in part, by the heat stress conditions that she was exposed to. . . . [S]he was diagnosed with dehydration. And I'm well aware from, you know, reviewing many other cases that heat stress again causes sweating, which can cause people to lose volume of water in their body. So that's -- that's the main mechanism which heat stress causes dehydration. . . . [B]ased on being away from work for two weeks, I -- in my opinion, it was likely that she was not fully acclimatized to the heat stress conditions that she encountered when she returned to work.

(NH Tr. 429-30)

Dr. Tustin testified LC2's sinus infection may have contributed to her dehydration but found "pretty much all of her sinus symptoms were more consistent with a heat-related illness than with a sinus infection. Sinus infections typically have symptoms like facial pain, runny nose, headache, maybe losing the ability to smell things, whereas . . . her symptoms were becoming exhausted, fast heart rate, vomiting." (NH Tr. 432-33). Dr. Tustin stated, "Within a reasonable degree of medical certainty, I think that this illness would not have occurred without the heat stress exposure (NH Tr. 433). Dr. Tustin considered LC2's illness "serious," but clarified it is not a term physicians use.

> 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. Conibear reviewed LC2's medical records and deposition testimony. She concluded LC2 did not suffer a heat-related illness on June 15, 2016, but instead experienced a "flare up" of chronic IBS, which caused her to be dehydrated (NH Tr. 3118-19). LC2 limited her food and liquid intake because "[w]henever you eat or drink, it creates a peristaltic wave in the gut and so that precipitates a bout of diarrhea. . . .[I]t will contribute to dehydration." (NH Tr. 3119) Dr. Conibear stated diarrhea is "particularly problematic because a person loses electrolytes at the same time to a much greater extent than sweating. So it not only depletes the body of water but also of sodium and potassium. . . [Resulting in] [f]atigue and, if the loss is great enough, there can be cardiac arrhythmias or even central nervous system symptoms." (NH Tr. 3120)

Dr. Conibear testified the amoxicillin prescribed to LC2 could have side effects of dizziness, nausea, and diarrhea. For a person who already has IBS, taking amoxicillin would "likely make it worse and it's likely to manifest sooner." (NH Tr. 3124) LC2 also took Levothyroxine, which has possible side effects of increased body heat and pulse rate (Tr. 3125).

Dr. Conibear stated a person suffering from IBS would have a difficult time acclimatizing to hot weather because IBS "interferes with the accumulation of increased body water. . . [I]t's one of the adaptive responses that has been studied in the physiology lab. It shows that an increase in water permits earlier and more effective sweating, and also because it provides more fluid than can be used to dump heat off into the periphery." (NH Tr. 3127).

As with CCA1, LC2 had an active infection. Dr. Conibear testified the symptoms of infection can mimic those of heat illnesses. "[I]t relates to core body temperature, or it can. And it also causes inflammation, which is activation of the white blood cells in the immune system. But the effects of inflammation are such that they can cause symptoms that are similar to heat exhaustion." (NH Tr. 3156-57)

Credibility Determination

Dr. Tustin testified unequivocally that heat stress was one of the causes of the illness that led to CCA1 and LC2 calling 911 for medical assistance on June 13 and 15, 2016. Dr. Conibear was just as adamant the heat index of 105°F on those days had nothing to do with their illnesses, which were caused by predisposing conditions. 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. The Court does not, however, find their conclusions regarding the cause of the illnesses of CCA1 and LC2 to be particularly helpful.

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. Yet the basis for their certainty is not explained. For example, Dr. Tustin noted CCA1 had an elevated creatinine level on June 13 and concluded, to a reasonable degree of medical certainty, CCA1 had suffered an acute kidney injury caused by heat stress (Tr. 422). He did so without knowing the follow-up creatinine level, which would allow him to verify his conclusion, and despite the absence of an acute kidney injury diagnosis from the attending physician. He did not cite other possible causes of an elevated creatinine level and explain why he had ruled them out.

> Q.: And acute kidney injury was not specifically diagnosed. But in your opinion, he did suffer from acute kidney injury?
>
> Dr. Tustin: I think it's more likely than not – than not, yes. I mean, I would have liked to see a follow-up creatinine level afterwards, just to verify that. But I think, given the circumstances, it's likely that it was acute kidney injury.

(NH Tr. 422-23).

He also determined LC2 experienced heat exhaustion, in addition to dehydration, on June 15, even though the attending physician diagnosed her only with dehydration (NH Tr. 429). 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).

Likewise, Dr. Conibear was unwavering in her opinion the hot weather on June 13 and 15 in San Antonio had no causal link to the illnesses of CCA1 and LC2.

Q.: [I]s it your opinion that [CCA1's] illness was solely a result of the URI [upper respiratory infection], and heat stress did not play a role?

Dr. Conibear: Yes.

Q.: Do you recall that [CCA1] testified that while on his route prior to calling his supervisor around 4 p.m., he began sweating profusely?

. . .

Dr. Conibear: Let me look. Yes, okay, I do see it in my report.

Q.: And so is it your testimony that, in your opinion, [CCA1's] profuse sweating starting in the afternoon was not related to his walking more than five miles, his carrying a satchel weighing up to 30 pounds, or the fact that the heat index exceeded 100 degrees on that day?

. . .

Dr. Conibear: Yes.

Q.: So do you believe if, let's say, [CCA1] had been at home that day in air conditioning and sitting down, do you believe his URI would have caused him to start sweating profusely in the afternoon?

Dr. Conibear: Yes.

(NH TR. 3206-07)

Q.: [LC2] testified that she walks 12 to 15 miles per day and that her satchel weighs between 20 and 40 pounds on a normal day. You concluded that neither the environmental heat conditions nor the metabolic heat conditions played any role in [LC2's] illness; is that correct?

Dr. Conibear: I don't believe that they caused her illness.

Q.: Do you believe that they played a role in her illness?

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

Q.: Is it possible that her illness manifested that day based in part on the heat stress conditions?

. . .

Dr. Conibear: Not in my opinion.

(NH Tr. 3208-09)

The unyielding stances of Dr. Tustin and Dr. Conibear as to whether heat stress caused the illnesses of CCA1 and LC2 on June 13 and 15, 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 illnesses of CCA1 on June 13 and LC2 on June 15, 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 illnesses of CCA1 and LC2 were caused by exposure to heat stress (the Postal Service did not prove they were not caused by heat stress 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 illnesses of CCA1 and LC2 in June of 2016, it is still his burden to prove that high temperatures or heat indexes on those days exposed San Antonio city 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)[25] In this case, however, the Postal Service vigorously disputes the temperature or heat index on June 13 and 15, 2016, presented a hazard to San Antonio's 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

[25] 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 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.

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 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.[26] If Commissioner

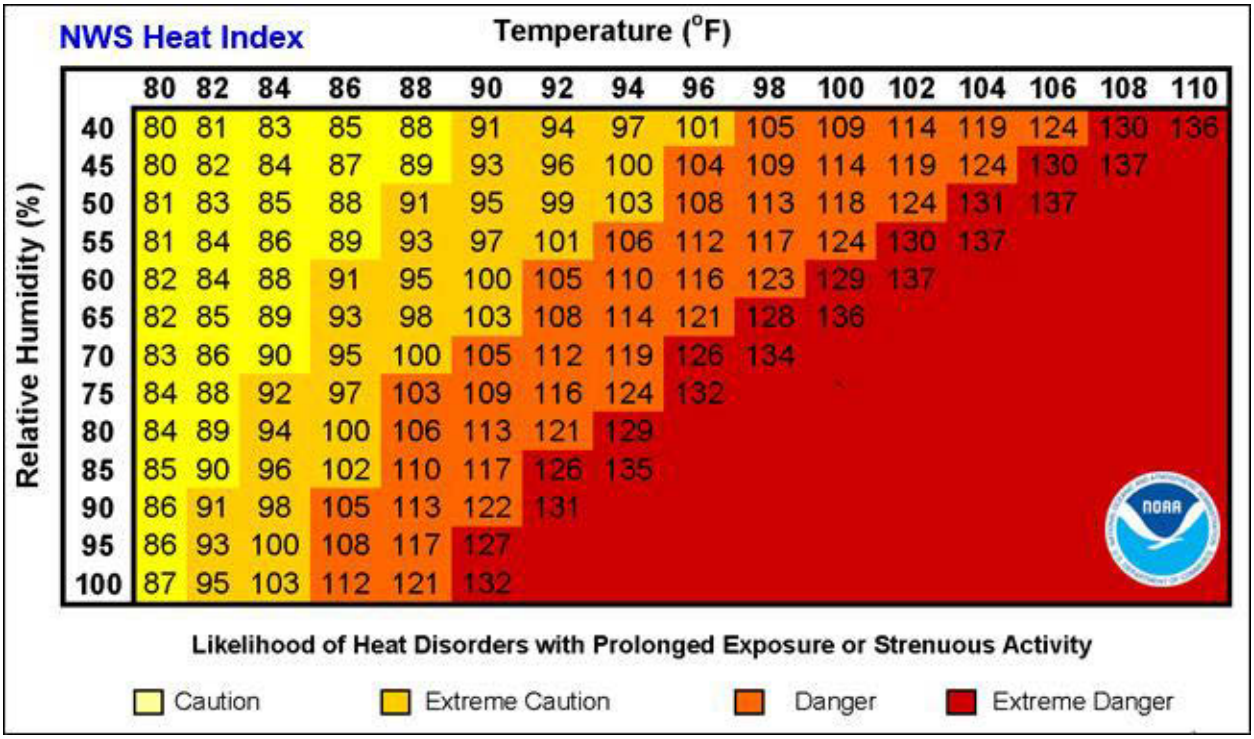
[26] In its entirety, footnote 14 in *A.H. Sturgill* states:

> 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

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*.

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:[27]



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

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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.

[27]A black and white copy of the NWS Heat Index Chart appears on page 20 of NH Exhibit C-144, which was admitted into the record at the national hearing for the San Antonio case only (NH Tr. 415-17). Reproduced here is the chart in color, from the NWS website at https://www.weather.gov/safety/heat-index.

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.[28] The Court qualified Harvey to testify as an expert "in industrial hygiene, with 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,

[28] 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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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." (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 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 no scientific basis exists 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 presented 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.

Both CCA1 and LC2 drove air-conditioned vans on the days at issue. Both were delivering on routes that were primarily park and loop, so they spent only 20 minutes or so driving during the day (Tr. 112, 143-47).

CCA1 began work at 8:30 a.m. on June 13, 2016. He did not case mail that day, so he began delivering mail on Route 13 immediately (Exh. R-13, p. 1416). At approximately 4:00 p.m., he called Beacon Hill Station and informed his supervisor he was ill. CCA1 called 911 after speaking with his supervisor. (Tr. 84). Assuming CCA1 took his two 10-minute breaks and his 30-minute lunch break, he was walking outdoors for approximately 6 hours and 40 minutes.

LC2 testified her start time was either 7:00 or 7:30 a.m. in June of 2016 (Tr. 145, 246). She started delivering mail on Route 30 at 8:30 a.m. (Exh. C-8, p, 1445). LC2 testified she usually did not take her two 10-minute breaks and "[s]ometimes but not usually" took her 30-

minute lunch break. She does not recall if she took any of her breaks that day (Tr. 163). LC2 was walking outdoors for approximately 8 hours (without breaks) or 7 hours and 10 minutes (with breaks), until she called 911 at 4:30 p.m.

From this schedule, the exposure of CCA1 and LC2 to temperatures at specific times can be extrapolated. Dr. Tustin created charts based on data from the NWS for June 13 and 15, 2016, in San Antonio, Texas (NH Exhs. C-144 & C-146; NH Tr. 415-16).

June 13, 2016

Local Standard Time	Central Daylight Time (CDT)	Temperature	Relative Humidity	Heat Index
758	8:58 a.m.	80°F	84%	85°F
0958	10:58 a.m.	83°F	77%	90°F
1158	12:58 p.m.	88°F	70%	100°F
1358	2:58 p.m.	89°F	66%	101°F
1458	3:58 p.m.	93°F	57%	105°F

(NH Exh. C-302)

On June 13, at 8:58 a.m., after CCA1 had been working for approximately 30 minutes, the heat index was 85°F, which is in the caution section of the chart. At 10:58 a.m., after CCA1 had been delivering mail for about 2.5 hours, the heat index was 90°F, which is in the extreme caution section. At 12:58 p.m., the heat index was 100°F, which is still in the extreme caution section. The next heat index recorded is 105°F, in the danger section of the chart, at 3:58 p.m., which is approximately the time CCA called 911.

June 15, 2016

Local Standard Time	Central Daylight Time (CDT)	Temperature	Relative Humidity	Heat Index
758	8:58 a.m.	81°F	82%	87°F
0958	10:58 a.m.	87°F	62%	94°F
1158	12:58 p.m.	90°F	58%	99°F
1358	2:58 p.m.	92°F	53%	100°F
1458	3:58 p.m.	95°F	50%	105°F

(NH Exh. C-302)

On June 15, at 8:58 a.m., after LC2 may have been working outside for approximately 30 minutes, the heat index was 87°F, which is in the caution section of the chart. At 10:58 a.m., after LC2 may have been delivering mail for about 3 hours, the heat index was 94°F, which is in the extreme caution section. At 12:58 p.m., the heat index was 100°F, which is still in the extreme caution section. The next heat index recorded is 105°F, in the danger section of the chart, at 3:58 p.m., approximately 30 minutes before LC2 called 911.

Over the course of approximately 7.5 hours, CCA1 worked outdoors in heat index values ranging from 85°F to 105°F, which the heat index chart places in the caution, extreme caution, and danger sections. LC2 worked outdoors in heat index values ranging from 87°F to 105°F for perhaps 8.5 hours. Nothing adduced by the Secretary in the San Antonio and national hearings assists in making the determination whether these exposure times are *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 the point at which exposure becomes prolonged. City 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 clarity is found, however, in Dr. Tustin's testimony regarding the metabolic heat generated by carriers as they deliver the mail.

> I read the descriptions of the activities that [the 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 workloads of CCA1 and LC2 on the days at issue were moderate (Tr. 419, 426). 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 CCA1 and LC2 were engaged in strenuous activity while working on June 13 and 15, 2016, respectively. As in *A.H. Sturgill*, the Secretary has not met his burden of establishing the employees identified in the Citation's AVD engaged in either prolonged exposure or strenuous activity at specific heat index values 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.[29]

[29]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*

> 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 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.

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

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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.

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) 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 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)

[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)

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 specifically regarding industrial heat stress." (NH Tr. 808) Dr. Bernard testified CCA1 and LC2 were above the occupational exposure limit for heat stress (NH Tr. 992).

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.

> [T]he Beacon Hill Station is in the Rio Grande District. In the summers of 2015 – 2018, (46) forty-six carriers reported heat related incidents at 317 different Rio Grande District Stations; all but three of the 46 incidents occurred in the month of June, July or August. ([NH Exh.] C-127) Twenty-six (26) of the 46 carriers lost a combined 60 days away from work. ([NH Exh.] C-127) On four different dates, numerous letter carriers in the Rio Grande District reported heat illnesses.

(Secretary's brief, p. 11)

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. . . , the number of heat-related incidents per year since 2015 classified by USPS on its official accident reports (PS Form 1769/301) as caused by "GEN-EXPOSURE EXTREME TEMP-HOT" are as follows for 2015, 2016, 2017, and 2018: 378, 564, 399 and 631 ([NH Tr. 1670-71]) In total,

[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).

> the number of heat-related incidents over the four years was 1,972. ([NH Tr. 1668-69]) 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 Exh.] C-127)

(Secretary's brief, p. 13)

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 13 and 15, 2016, there were approximately 2,900 city carriers working in the postal district that includes San Antonio, Texas, and there was only one alleged heat-related illness reported on each day." (NH Tr. 2886-87)

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 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 carriers and compared those to the total number of 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 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 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

[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).

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 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 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 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 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 risk or its

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 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 San Antonio's carriers to a significant risk of harm from excessive heat on June 13 and 15, 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 temperatures or heat index values on June 13 and 15, 2016, presented an excessive heat standard, as well as the elements of industry or employer recognition, likelihood of death or serious physical injury, and knowledge, the Court

[33] This conclusion is not intended to minimize the general physical discomfort of 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).

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.

1. Alternative Means of Abatement

In *A.H. Sturgill*, the Commission stated,

> Before addressing this element of proof [for abatement], however, we must first determine whether the Secretary proposed each measure as an alternative means of abatement, in which case implementing any one of them would constitute abatement of the alleged violation, or as a component of a single means of abatement, in which case all of the measures must be implemented to abate the violation. If the former, the Secretary can prevail on this element only if he proves that Sturgill implemented none of the measures. . . . If the latter, he need only show a failure to implement one of them.

Id. at 2019 WL 1099857, at *9.

The Citation presents ten proposed methods of abatement for the alleged excessive heat exposure hazard:

> Among other methods, feasible and acceptable means to correct this hazard include, but are not limited to, the following:
>
> 1. Acclimatize new employees by gradually increasing their exposure to heat or hot environment. This is also applicable for employees returning from absent periods of three or more days. Gradually increase workers' time in hot conditions over 7 to 14 days.
>
> 2. For new workers, the work schedule should be 20% of the usual duration of work in the heat on Day 1 and no more than 20% increase on each additional day.
>
> 3. Develop a work/rest cycle based on validated measures of heat stress, such as a heat index or wet-bulb globe temperature index.
>
> 4. Reduce the metabolic demands of the job. Provide other means of carrying and transporting heavy mail loads aside from satchels for letter carriers to relieve physiological burden during the hot summer months.
>
> 5. During the summer months where excessive heat conditions may contribute to employee safety and health issue, begin mail delivery routes earlier in the

> workday to aid in the completion of outdoor work prior to the hottest hours of the day.
>
> 6. Provide for a cool and shaded rest area.
>
> 7. Limit time in the heat and/or increase recovery time spent in a cool environment.
>
> 8. Provide cooled air, cooled fluid or ice cooled conditioned clothing such as ice vests or neck towels that can maintain the body's core temperature to below 98 degrees Fahrenheit. [34]
>
> 9. Assign a supervisor or other personnel to closely monitor employees for adequate hydration and work-rest cycles.
>
> 10. Provide training for employees prior to the arrival of excessively hot weather conditions regarding the health effects associated with heat stress, symptoms of heat induced illnesses, and the prevention of such illness.

Here, the language used to introduce the proposed abatement list ("Among other methods, feasible and acceptable means to correct this hazard include, but are not limited to, the following") is similar to the formulation used by the Secretary in *A.H. Sturgill* when introducing the list of proposed abatement methods ("Feasible and acceptable methods to abate this hazard include but are not limited to"). The Commission found

> The abatement portion of the citation . . . begins with a sentence that uses and references the plural word "methods": "Feasible and acceptable *methods* to abate this hazard include, but *are* not limited to: ...," suggesting that each measure is an alternative means of abatement. (emphasis added).

Id. at 2019 WL 1099857, at *9, n. 17.

In his post-hearing brief, the Secretary acknowledges the proposed abatement methods are distinct alternatives, and not components of a single abatement method. "[T]he evidence shows that USPS could have taken *several steps* to abate or materially reduce the heat stress hazard its employees faced. *These steps include* an adequate work/rest cycle, an adequate emergency response program, analyzing existing data on employees' heat-related illnesses, employee monitoring, and reducing outdoor exposure time. *By failing to implement these or equally effective abatement measures,* USPS needlessly exposed its workers to dangerous heat stress hazards." (Secretary's brief, pp. 37-38) (emphasis added)

Having found the Secretary proposed alternate methods of abatement in *A.H. Sturgill*, the Commission concludes, "[I]f the record shows that Sturgill implemented any one of the

[34] 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)

Secretary's proposed measures, or is equivocal in that regard, the abatement element of the Secretary's burden of proof has not been established." *Id.* at 2019 WL 1099857, at *9. So it is here. If the Postal Service implemented any one of the Citation's ten proposed abatement methods, the Secretary cannot meet his burden on this element. The Court finds the Postal Service implemented heat stress training.

2. Heat Stress Hazard Training

In his post-hearing brief, the Secretary addresses five methods of abatement: 1. Work/Rest Cycles; 2. Acclimatization; 3. Emergency Response and Employee Monitoring; 4. Analyzing Existing Data on Heat-Related Illnesses; and 5. Reducing Time Outdoors (Secretary's brief, pp. 38-45).

What the Secretary does not address is the Citation's tenth proposed method of abatement: "Provide training for employees prior to the arrival of excessively hot weather conditions regarding the health effects associated with heat stress, symptoms of heat induced illnesses, and the prevention of such illness."

It is undisputed Beacon Hill Station supervisors provided heat stress training, including the recognition of heat stress symptoms and the prevention of heat stress, to carriers prior to the June 13 and 15, 2016, incidents at issue. Beacon Hill Station supervisors and carriers testified extensively on this issue (Exhs. C-3 & R-6; Tr. 351-52, 423-24, 475-76, 651-56, 717, 721, 731-32).

The Court finds the Postal Service trained Beacon Hill carriers in heat stress symptom recognition and prevention prior to the arrival of "excessively hot weather conditions," in accordance with the Secretary's proposed method of abatement.

3. 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]

Two of the Secretary's proposed abatement methods listed in the San Antonio Citation are:

> 3. Develop a work/rest cycle based on validated measures of heat stress, such as a heat index or wet-bulb globe temperature index[, and]
> . . .
> 5. During the summer months where excessive heat conditions may contribute to employee safety and health issues, begin mail delivery routes earlier in the day to aid in the completion of outdoor work prior to the hottest hours of the day.

At the national hearing, the issues of additional paid breaks and acclimatization schedules were also addressed. All of these proposals would require the Postal Service to pay carriers for 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 carriers' 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 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

[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. 47) The Court disagrees. The burden of proof remains with the Secretary.

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 breaks 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 carriers and 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 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 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. 46). 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. 47)

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 required] 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 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.

[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).

> 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 carriers to excessive heat: an acclimatization program and an additional paid 5-minute break. For the acclimatization program, Dr. Park assumed the targeted carriers are returning to work after a 3-day layoff and after a 7-day layoff. For both layoff periods, Dr. Park assumed the 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 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 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 presented 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*)].

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

[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 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.

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 carriers. Not all city carriers are members of NALC but the CBA for NALC applies to all of them. City 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 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 carriers 8 hours of work or 8 hours' worth of pay daily. If a full-time city carrier works only 2 hours during a day's assignment, the Postal Service still owes the city 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.

VIII. CONCLUSION

The Secretary has not met his burden of proving the cited conditions presented a hazard of excessive heat exposure to San Antonio carriers on June 13 and 15, 2016. He has not shown the Postal Service failed to implement any of the alternative methods of abatement he proposed. And he has failed to establish the economic feasibility of his proposed abatement methods related to acclimatization programs, additional paid breaks, work/recovery cycles, and earlier workday start times.

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 carriers.

The Citation is vacated.

[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).

IX. 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).

X. 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

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.: **16-1872**

Appearances:

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For Respondent

Anita Lewallen
For NALC

BEFORE: Administrative Law Judge Sharon D. Calhoun

DECISION AND ORDER

I. INTRODUCTION

On the afternoon of June 10, 2016, a city letter carrier for the United States Postal Service began to feel sick as he delivered mail on his route in Benton, Arkansas. He experienced a spinning sensation and began to stumble. He started vomiting and sweating profusely. He staggered to a

van parked on the street, opened one of its doors, and collapsed on the front seat. A homeowner eventually noticed him and called 911. Emergency medical technicians arrived, provided emergency treatment for the carrier, and transported him by ambulance to a hospital.

The Benton Post Office notified the Occupational Safety and Health Administration of the carrier's hospitalization. OSHA opened an inspection of the Benton Post Office on July 14, 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 October 14, 2016. The Citation alleges a repeat violation of § 5(a)(1), the general duty clause (29 U.S.C § 654(a)(1)), of the Occupational Safety and Health Act of 1970, 29 U.S.C. §§ 651-658) (Act).[1] The Citation alleges the Postal Service exposed its employees "to the hazard of excessive heat while walking and delivering mail in an outdoor environment." 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. 16). 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.[2]

The parties agreed the Court would hold a separate hearing (referred to as the national hearing) to present testimony from 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, 2019. The testimony and exhibits in the national hearing are part of the records in the

[1] The Secretary initially characterized the alleged violation as serious. The Secretary subsequently amended the Citation and complaint to characterize the alleged violation as repeat (Tr. 9; National Hearing (NH) Tr. 1149-61, 1337-41).

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

five cases, unless otherwise noted. The records of the individual cases were not admitted in the other actions, unless noted.[3]

This is the first of the five Postal Service cases heard by the Court. The hearing was held from October 16 to October 19, 2018, in Little Rock, Arkansas.[4] 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 Benton's carriers on June 10, 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 November 1, 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, ¶¶ 1-2; Tr. 24).[5] 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

[3] 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).

[4] One additional witness relevant to this proceeding testified at the hearing for Docket No. 17-0023 in Houston, Texas. His testimony is admitted as part of the record in this case, the Houston case, and the San Antonio case (No. 16-1713) (Tr. 1005).

[5] Paragraph 2 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)."

> avoid unfair surprise not only when it imposes penalties but also whenever it adjudges past conduct to have violated the law.

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 alleged 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 concludes the Secretary did not overstep the terms of E.O. 13892 when he cited the Postal Service for a violation of § 5(a)(1) for excessive heat exposure. 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 of an agency's compliance with E.O. 13892 in adjudicative proceedings.

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 that it was unfairly surprised by subsequent citations for repeat violations alleging exposure of carriers to excessive heat hazards.

IV. THE BENTON HEARING

Stipulations

The parties stipulate the following:[6]

. . .

3. [The Postal Service] is divided into seven Areas which are in turn divided into Districts.

4. The seven areas are: Northeast Area; Eastern Area; Western Area; Pacific Area; Southern Area; Great Lakes and Capitol Metro.

5. This hearing involves operations at the post office at 1425 Military Rd., Benton, Arkansas (Benton) which is located in the Southern Area.

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

6. On June 10, 2016, [LC-1][7] was an employee of [the Postal Service] who worked at the Benton post office.

7. On June 10, 2016, LC-1 was a city letter carrier who delivered mail for [the Postal Service].

8. On June 10, 2016, LC-1 was assigned to Route 15006 which was his regular route.

9. On June 10, 2016, LC-1's scheduled begin tour time was 7:30 a.m.

10. On June 10, 2016, the total weight of the mail that LC-1 was supposed to deliver was 95.75 pounds.

11. On June [10], 2016, the total number of pieces that LC-1 was supposed to deliver was 1,426.

12. The members of management working at the Benton Post Office on June 10, 2016, do not recall having had any specified discussions with LC-1 before he departed to his route that day.

13. On June 10, 2016, LC-1 drove a Long Life Vehicle (LLV) for [the Postal Service].

14. The LLV did not have air conditioning.

15. The LLV did have a fan on the dashboard that was 6" in diameter.

16. LC-1 was hospitalized on June 10, 2016.

(Exh. J-1)

Background

Overview of the Benton Post Office

In June of 2016, city letter carriers for the Benton Post Office delivered mail on seventeen full-time routes (configured so carriers can deliver the mail in 8 hours daily) and three auxiliary routes (which can be completed in fewer than 8 hours).[8] City carrier associates (CCAs) are contract carriers who usually deliver mail for the auxiliary routes, aided sometimes by city carriers (Tr. 176, 570-71, 751, 774). In postal nomenclature, a *pivot* is the portion of a route assigned to a carrier in addition to his or her regular route.[9] Pivots include auxiliary routes as well as regular routes

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

[8] In this decision and order, the Court refers to respondent as "the Postal Service" or "USPS." The Court uses "post office" to refer to supervisory personnel at the Benton Post Office or the physical building, depending on context.

[9] Brian Renfroe, executive vice president of NALC, stated carriers call the extra route portion by various names in the different areas. "Some call it a piece, a pivot. I've heard a loop. That's what it's called where I'm from. A drag. Pigtail. I've heard some words that are not appropriate for this Court to describe, you know. But they all mean the same thing:

whose assigned carriers are not working that day (Tr. 176-77). Carriers designated as T6 have rotating schedules, working five days on five different routes, to cover the days off of the regular carriers (Tr. 220).

By union contract, city carriers are guaranteed 40 hours of work per week but may volunteer for the *work assignment list*, meaning they are willing to work overtime during their regularly scheduled days but only on their own their routes. City carriers may also volunteer for the *overtime-desired list*, indicating their willingness to deliver on other routes and to work on their scheduled days off. City carriers have the opportunity to sign up for the lists once a quarter and may remove themselves from them at any time (Tr. 69-70, 233-34, 533-34). In some circumstances, supervisors may mandate carriers to work overtime even if they are not on the work assignment or overtime-desired lists. Rules established by the collective bargaining agreement (CBA) between the Postal Service and NALC determine the order in which supervisors assign overtime (Tr. 235).

Trucks hauling the day's mail for Benton arrive at the post office at 4:15 a.m., 5:30 a.m., and 6:45 a.m. (Tr. 775-76). The incoming mail comprises different classes (Priority Mail Express, Priority Mail, First-Class Mail, periodicals, etc.) with different delivery schedules. The delivery schedule is determined by the *service standard*, the delivery time to which the Postal Service has committed. If a post office does not meet the service standard for Priority Mail Express, it must refund the service fee to the customer (Tr. 777-78).

The Benton Post Office staffs a morning (A.M.) supervisor and an afternoon (P.M.) supervisor. The A.M. supervisor arrives at 6:00 a.m. and ensures all delivery routes are covered and assigns pivots if necessary. When the clerks arrive, they unload the mail and separate it. They place the letter mail in a designated area for the carriers to pick up. They also sort magazines (which the Postal Service calls *flats*) and place them at the individual cases the carriers use to prepare their mail for delivery. This morning sorting process lasts approximately 3 hours (Tr. 222-23, 777). Carriers are not permitted to assist with or perform tasks assigned to clerks because it would be "crossing crafts" and is prohibited by the CBA (Tr. 223).

The post office anticipates increases in mail volume on certain days: Mondays (due to mail accumulating on Sunday, when no delivery occurs); days following a federal holiday (especially

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It's a portion of another assignment that I'm going to do in addition to the other work that I have for that day." (NH Tr. 168)

Tuesdays following a Monday holiday, when mail accumulates for two days); and Wednesdays (when pennysaver coupons are delivered to every residence) (Tr. 329-31).

During the day, carriers collect *outbound mail* on their routes, and customers also bring mail to the post office or deposit it in blue USPS collection boxes. The P.M. supervisor ensures the day's outbound mail is brought to the post office before the last dispatch truck leaves for the Postal Service's processing and distribution center in North Little Rock. The first dispatch truck leaves at 4:30 p.m. and the second at 5:40 p.m. (Tr. 780). It takes approximately 30 minutes to load the truck for dispatch. If carriers do not bring outbound mail to the post office in time for dispatch, a Postal Service employee must drive approximately 40 minutes to the North Little Rock plant to deliver the late mail. The deadline for delivery to the plant is 8:00 p.m. (Tr. 225-26, 781). Outbound mail that does not arrive at the North Little Rock center in time is "a failed product." (Tr. 781)

Daily Routine of City Letter Carriers

LC-2 is a city letter carrier for the Benton Post Office. He has worked for the Postal Service for almost 24 years. He served as president of the local union from 2009 to 2017. LC-2 acquired his route when it came up for bid in 2014, and he is on the work assignment list for overtime. He regularly delivers mail on his route 5 days a week, but he often works 6 days (Tr. 67-72, 83).

LC-2 described a typical day for him as a carrier at the Benton Post Office. When he gets up, he looks at a weather app on his phone "to see if it's going to rain and . . . to see what the temperature is going to be." (Tr. 131) He arrives at the post office and clocks in at 7:30 a.m. (city carriers are not permitted to clock in early) (Exh. J-1, ¶ 9; Tr. 91). He first goes to the parking lot and inspects his Long Life Vehicle (LLV), the familiar boxy Postal Service delivery truck. Using a checklist, he notes any deficiencies for listed items ("turn signals, headlights, and windshield wipers, and those type of things" (Tr. 88)) and, if necessary, submits a form to the maintenance department to request needed repairs. He then goes to the post office workroom to prepare the mail for his route (Tr. 87-88). The post office is air-conditioned in warm weather (Tr. 155, 228).

In the post office workroom, the supervisor's desk is set in the center on a raised platform. The cases in which the carriers organize their mail are set in a U-shape around the desk, in view of the supervisor (Tr. 75). Sometimes supervisors will notify carriers they have automated delivery point sequence (DPS) mail that has already been organized in trays. The supervisor also informs the carriers what time the supervisor expects them to be out of the post office and delivering mail,

based on that day's volume of mail (Tr. 72-73). About once a week, usually on a Friday, the supervisor gives a 5-minute *standup safety talk* as the carriers gather around the supervisor's desk (Tr. 92-93, 255).

LC-2 proceeds to *case* the letters, flats, and small parcels or rolls (SPRs) to be delivered on his route. A case has five shelves, with every shelf containing numerous 1-inch cells or slots for each address on the route, so the carrier can organize the mail in delivery sequence. Supervisors expect carriers to maintain a standard pace of "18 and 8," meaning casing 18 letters and 8 flats per minute (Tr. 93, 227). After casing the day's mail, LC-2 pulls the larger parcels for his route and takes them out to his LLV in a hamper, sometimes making several trips. He then withdraws his DPS and checks the *hot case* (where clerks continue to process mail as carriers' case their routes) one more time before clocking out to the street. He drives his LLV to the first *park point* (designated parking spot) on his route. On an average day, casing takes about an hour and 20 minutes. The casing time is included in the 8 hours allotted for completing the route. City carriers at the Benton Post Office are usually on the street by 9:00 a.m. (Tr. 88-92, 227).

MDDs and Cell Phones

The Benton Post Office maintains a call log listing the cell phone numbers of its carriers so supervisors can contact them on their routes (Tr. 241, 244). The post office forbids carriers from using cell phones while driving their LLVs (Tr. 246). Prior to June 10, 2016, LC-1 and LC-3 understood they were not to use their cell phones while delivering mail on foot (Tr. 552-53). Benton Post Office Supervisor K.S. testified the post office instructed the carriers that if they were in an emergency situation, they should first call 911 and then call their supervisors. She was unaware of a rule requiring carriers to leave their cell phones in their LLVs when delivering mail on foot (Tr. 242, 247).

Carriers use handheld mobile delivery devices (MDDs) to scan packages when they deliver them. Supervisors can use the MDDs to track the location of the carriers and the speed at which they are moving. The Benton Post Office provided training to its carriers when they received the MDDs (Tr. 399-400).

LC-1, LC-2, and LC-3 stated that prior to June 10, 2016, they were instructed they could use the MDDs to text supervisors. LC-2 testified, "We were told that they had a text feature that could be used to text management and also by the employee, and that it had some preset text messages that we could use on the scanner to send to management." (Tr. 121) LC-3 stated a

supervisor had told him he could use the MDD to text the post office in an emergency situation (Tr. 524). Following the June 10, 2016, incident, Benton Post Office supervisors informed carriers they could not use their MDDs to text (Tr. 122).

LLVs

The post office configures routes for *mounted delivery* (for which the carrier delivers mail from the LLV to curbside mailboxes); *dismount delivery* (for which the carrier parks and delivers mail to one or two houses at a time and then returns to the LLV and drives to the next park point); and *park and loop delivery* (for which the carrier parks the LLV at a park point and walks down one side of the street delivering mail to each address and then crosses to the other side to deliver mail, looping back to the LLV) (Tr. 132, 230, 785-86). A loop may include 50 to 60 addresses but typically includes closer to 25 addresses (Tr. 133).

The LLVs are not air-conditioned. They are equipped with a small fan mounted on the dashboard (Exh. J-1, ¶¶14-15; Tr. 95, 23). LLVs have two side windows that can be rolled manually up and down (Tr. 145, 231, 340). The LLV driver cannot roll down the side window opposite the driver's side from inside the vehicle (Tr. 162-63, 489-90).

LC-2's route is designed for mounted delivery. He spends approximately 7 hours per day in his LLV. He walks for approximately 10 minutes per day when he delivers mail to a strip mall and when he has to deliver parcels to the doors of buildings (Tr. 132-33, 145). In warm weather, he drives with the LLV windows rolled down. The interior of the LLV becomes quite hot in the summertime. "[I]f you're on a mounted route, which means that if you're delivering curb line routes from the vehicle, you can feel the heat from the floorboard of the truck coming through the soles of your shoes and your feet will actually get hot from that." (Tr. 97-98)

When delivering mail on foot, LC-2 leaves the windows rolled down as long as he can see the LLV. "The rule is that if you lose sight of the vehicle, you have to secure the vehicle." (Tr. 145-46) Carriers who deliver on park and loop routes must either roll the windows up or "crack" them "an inch or two" when they are out of sight of the LLVs (Tr. 157). When he delivered on a park and loop route, LC-2 testified, "I would roll down the driver's side window after I'd come back from my park and loop on to the next one, so I would have one window down." (Tr. 162) He would not roll down the opposite side window "[b]ecause it would take extra time. . . . It really wouldn't be worth it. . . You'll have to get out of the vehicle and walk around to roll the window up or down." (Tr. 162-63) LC-1, who delivered on a park and loop route, only rolled down the

driver side window when driving his LLV. He did not roll down the opposite window because "[m]anagement would consider that a time-wasting practice because I would have to roll it back up every time I stopped for a park and loop." (Tr. 340)

In hot weather, the interior of LC-1's LLV "was hot enough that you couldn't leave your hand on the floorboard because it would burn your hand. . . . [M]y water cooler could actually get squishy on the bottom because the floorboard was so hot." (Tr. 336) He nicknamed his LLV "the oven." (Tr. 341)

Heat and Hydration

The Benton Post Office provides two water fountains and a water faucet in the employees' break room. The water fountains "break down quite often." (Tr. 98, 228, 344) There is also an ice machine, purchased with union funds, which breaks down periodically (Tr. 99, 342). Supervisors occasionally provide Gatorade or electrolyte powders to the carriers (Tr. 101). There is, however, no discretionary fund for unbudgeted items. A former Benton Post Office postmaster stated, "Everything requires approval. . . [S]ometimes as managers and postmasters, we go out and purchase bottled water to hand it out to employees." (Tr. 701) It is undisputed the break room water faucet was always in working order and carriers had access to it daily (Tr. 341, 537).

In the spring and summer of 2016, Benton Post Office supervisors gave a number of standup safety talks focused on delivering mail in hot weather conditions as part of the Postal Service's *Southern Area Heat Stress Campaign* (Exhs. R-5 & R-15; Tr. 258-59, 313-14). Supervisor K.S. testified carriers "were advised to hydrate, avoid eating heavy meals during their route, smoking and tobacco use, alcohol. Mostly hydrate, hydrate, hydrate, and hydrate. You need to drink before, during, and after work. You need to drink small amounts intermittently throughout the day. But to hydrate continuously." (Tr. 256)

The Benton carriers understood the importance of proper hydration. LC-2 testified "anytime it gets over 80°F, you'd better have you some fluids with you, a large amount of fluids to drink. . . . I would say I probably take three or four bottles of Gatorade. . . . And then I would take a couple of bottles of water. . . There's a gas station on my route that I stop and I'll get tea or something to drink." (Tr. 131-32) His fluid intake increases when the temperature exceeds 90°F, drinking "way more than a gallon" as he completes his route, "[b]ecause you're sweating, and all day sweating, and . . . if you don't, you're in trouble because you'll end up having some sort of heat illness." (Tr. 132) LC-1 testified that on hot days, "I could go through a gallon [of water] easy,

and then I'd have to go refill." (Tr. 343) LC-3 stated he drinks at least 2 gallons of water a day in hot weather (Tr. 535-36).

LC-2 has experienced symptoms he attributed to excessive heat while driving his LLV in temperatures over 90°F. "I've had nausea and dizziness while driving a vehicle because of the heat inside the vehicle. . . . In the summertime, it occurs all the time." (Tr. 137-38) He does not call his supervisor when this occurs. "I just feel that it's my job to get the job done, and that's kind of the way we've been programmed, so that's what I do." (Tr. 138)

LC-3 has never felt ill due to heat when the temperature rose above 90°F, but he has experienced discomfort. "Just being uncomfortable in the heat and exhaustion." (Tr. 522) He has never reported this discomfort to his supervisor because "it's a typical thing. . . . [Y]ou work, you get exhausted. . . . [I]t's never been to a point for me personally where I've felt that I was in danger or needed any type of assistance . . . or medical attention." (Tr. 523)

Time Pressure and Form 3996

The postmaster of a post office is "the overseer for the entire facility, which include[s] all of the employees, the supervisors, custodians, clerks, carriers." (Tr. 699) For budgetary purposes the Postal Service expects each post office to accomplish its scheduled work for all operations within a certain number of allotted work hours (Tr. 691-96). The Postal Service does not allow for adjustments to be made in the allotted work hours due to hot weather (Tr. 746).

If carriers believe they will not be able to complete the route in 8 hours, they submit a form (Form 3996) requesting more time (overtime) or help (auxiliary assistance) to complete delivery. The carriers estimate on the forms how much additional time they will need to complete the routes (Exh. C-24; Tr. 72-73, 76-77, 81). Benton carriers must submit the Forms 3996 by 8:00 a.m., which they do by placing them in a tray on the supervisor's desk (Tr. 76, 404, 747).

Supervisors use a computer program each morning to generate a workload status report based on measurements they enter for the mail volume. The workload status report calculates the time required for individual carriers to case the mail and deliver it on their designated routes (Tr. 249). Supervisor K.S. stated that when carriers submit the 3996 forms, the supervisor "could go over the information with them and either approve or disapprove the auxiliary assistance or the overtime." (Tr. 248) The supervisor would not approve a request for auxiliary assistance if the volume of mail "did not warrant the assistance, or if they were not on the overtime list. If they were on the work assignment list, you did not authorize assistance because they had requested to

work the overtime." (Tr. 248) Requests for overtime would be denied "[i]f the volume did not warrant the overtime, or if they weren't going to make dispatch." (Tr. 248) Supervisor K.S. estimated five or six carriers would submit request forms on an average day, and supervisors would disapprove half of them (Tr. 302). If a carrier submits a Form 3996 that is disapproved, he or she may call the supervisor later that day to request auxiliary assistance or overtime (Tr. 301).

LC-2 testified the 8:00 a.m. deadline does not allow enough time for carriers to determine whether they need to submit the forms because "oftentimes the mail is still being worked, especially now the parcel volume is so heavy. . . . So the letter carrier does not always know how much mail that he's going to have." (Tr. 77) LC-2 estimated he submits a Form 3996 "four out of five days on average." (Tr. 77) He has submitted forms listing excessive heat as the reason for needing additional time to deliver the mail (Tr. 103).

LC-3 delivered on City Route 14 in 2016. He walked approximately 5 hours daily on the route, covering a distance of 11 miles. He spent approximately an hour a day in his LLV (Tr. 499, 501). Typically, he was able to complete his route in 8 hours except on Mondays. His route had "a lot of businesses that are closed on Saturdays, so that the mail for closed businesses with nowhere to deliver the mail on Saturday gets delivered on Monday. It's held at the post office till Monday." (Tr. 497) More mail also requires more casing time. LC-3 estimated Monday and post-holiday mail required an additional 15 to 20 minutes to case (Tr. 499). He routinely submitted a Form 3996 each day (Tr. 555).

LC-2 stated requesting more time creates "a contentious situation because the carrier is asking for overtime and the manager does not want to give you overtime. So you're both approaching the issue coming from different viewpoints." (Tr. 78) To discourage carriers from submitting Forms 3996, supervisors "will threaten to put a seat in your vehicle and ride it with you" because they assume "you're not being honest and they're threatening to go with you so that they can prove that you're not telling the truth." (Tr. 79)

LC-2 testified supervisors rushed carriers out the door "almost daily" because "they want you out of the office as soon as they can because when you get out fast, you can get back fast. And that's what their concern's with." (Tr. 85-86) Benton Post Office supervisors have disciplined carriers for taking too long to deliver the mail, citing them for "time wasting practice." (Tr. 164)

Carriers are contractually entitled to a 30-minute lunch break and two 10-minute breaks (one before and one after lunch) (Tr. 108, 238, 790). The Benton Post Office provides carriers with

a route book that identifies approved locations for breaks that "are along their route, and they have multiple places that they get to choose." (Tr. 240) LC-3 usually ate lunch in his LLV "to avoid having any travel time associated with" his 30-minute lunch break. "I would park it under a shade tree and open up both doors. And . . . typically leave the key turned on with the dash fan blowing." (Tr. 501-02)

The Benton Post Office told carriers they may take *comfort breaks* as needed (Tr. 147). A comfort break is usually a bathroom break or an opportunity to refill or purchase beverages. The post office does not limit comfort breaks in hot weather (Tr. 239-40, 790). In standup safety talks given the summer of 2016, supervisors informed carriers "they were allowed to get extra breaks. . . . [An extra break is] a comfort stop. . . . It's not a contractual break. It's above and beyond what we already allow them contractually." (Tr. 301) LC-2 stated he occasionally takes a break just to cool off. He does not ask permission to take breaks to cool off or report taking them to his supervisor afterward (Tr. 148).

Despite the post office's official position allowing comfort breaks, supervisors discourage carriers from taking them, as well as their contractually guaranteed breaks (Tr. 109-11). LC-2 testified, "I have been asked to not take my lunch break before." (Tr. 149) LC-1 testified he had been discouraged from taking extra breaks. "[W]e had to get done in 8 hours. Management stressed that to us on a daily basis. And if we went over, we would get in trouble or there would be confrontation back at the office if we didn't make 8 hours." (Tr. 368-69) The post office held talks, called "official discussions" with carriers who committed infractions. Benton's former postmaster explained, "As part of the collective bargaining agreement we're required to give an employee an official discussion which is putting them on notice of whatever the infraction is. And then there's progressive corrective action." (Tr. 821) LC-1 testified supervisors had held five or six official discussions with him because he had exceeded 8 hours to complete delivery on his route. "They were never sympathetic about not making your 8 hours." (Tr. 369)

CCA is a contract position not entitled to the benefits accorded to city carriers (Tr. 508). CCA-1 testified CCAs are "expected to move faster than regular letter carriers. . . . We're told not to take our lunches, . . .to skip breaks." (Tr. 580) He stated, "Even in training, when I went to training, before I was ever even on job training at the plant, the trainer told us in our 90 days [probation period], it's a good idea not to take your lunch breaks so you can show that you're performing faster, because if not, they'll let you go. Or fire you." (Tr. 584) One supervisor repeated

this to CCA-1 "all the time in the morning. He says you'd better skip break." (Tr. 586) CCA-1 testified that when he submitted Forms 3996 in 2017, the supervisor "[would] tell you, '[Y]ou don't need that,' and [he would] try to swipe the form from you. Also, there's a time where they would hide the 3996s underneath paperwork, but I knew where they were kept on the shelving over by the hot case, so I would just go get one and fill it out and put it on the supervisor's desk." (Tr. 590)

LC-2 witnessed an incident when the former postmaster and a supervisor called a carrier into the office because he failed to complete his route in 8 hours. LC-2, as union steward, accompanied him to the office. LC-2 testified the carrier was "very distraught after the meeting occurred," and he rested his head against the wall (Tr. 139). LC-2 observed the supervisor "taking a photograph of him leaning against the wall. And him and [the postmaster] were laughing at [the carrier]." (Tr. 140)[10]

Benton Post Office supervisors discouraged carriers from taking time off. LC-2 testified they "will kind of give you a hard time about it" if a carrier calls in sick, telling the carrier, "You don't really need to take off. We really need you here today." (Tr. 118) He testified that after he had called in sick one day, his supervisor called him at home three times and sent a carrier to his house to confirm he was there (Tr. 118). The supervisors also pressured employees to work on their scheduled days off. CCA-1 stated the post office called several times while he was sleeping on his day off. "I was asleep for the first bunch of calls, but eventually I woke up, and I saw that they'd been calling. And they sent a CCA out and knocked on my door. Well, he pounded on my door, woke up my baby." (Tr. 681)

June 10, 2016, Incident

LC-1 was one of approximately 25 city carriers working for the Benton Post Office on June 10, 2016. He has worked for the Postal Service for 14 years, and he transferred to the Benton Post Office in 2013 (Tr. 173, 308). (LC-1 now works at a post office in another state (Tr. 342).) He was on the work assignment list indicating his willingness to work overtime (Tr. 234).

LC-1 delivered mail on City Route 6, most of which was a park and loop route, with 15 park points (Tr. 310-13). LC-1 spent 45 minutes to an hour daily in his LLV (Tr. 349). He described

[10] The former postmaster acknowledged she and the supervisor were present at the Benton Post Office when the carrier became upset. She denied photographing or laughing at the carrier (Tr. 820). The Court credits the testimony of LC-2 over the postmaster's denial.

his route as "assisted living, businesses[,] . . . residential, and it was kind of hop outs and then walking. . . .Mainly walking, and then I had cluster boxes in the morning that I would pull up to. But it was maybe like 45 minutes of that." (Tr. 310-11) LC-1 typically spent 5 hours walking on his route, and he was in direct sunlight about half of that time (Tr. 347). LC-1 carried a pedometer with him. He typically walked 9 to 10 miles daily delivering mail (Tr. 333-34). He estimated approximately 100 houses on his route required him to walk up ten or more steps ("the StairMaster loop") (Tr. 346-47).

The Benton Post Office expected LC-1 to complete his route in 8 hours (Tr. 319-20). New addresses had been added to the route since 2013. In 2014, the post office conducted a route check and recalculated the delivery time for City Route 6. "[T]hey took off like 20 minutes, and they added 40 minutes, and they still wanted me to get it done in 8 hours." (Tr. 320)

Although LC-1 often completed his route in 8 hours, he submitted a Form 3996 every day "just in case." (Exh. C-1; Tr. 405) "[W]e usually fill one out every day. Otherwise, we would get in trouble for coming back after 8 hours. So they would want us . . . to kind of like take a guess on how many parcels we had, how [many] flats we had cased up, and how much DPS we'd have." (Tr. 322-23)

Supervisors typically discouraged him from submitting a Form 3996. "They usually said that 'You can do it in 8. We don't even need this 96.'" (Tr. 325) LC-1 described the supervisors' tones as "confrontational" and stated, "They kind of degraded you." (Tr. 326) LC-1 would usually wait until the supervisor left the desk before submitting his form. "That way, I could avoid confrontation." (Tr. 327)

LC-1 began his workday on June 10, 2016, as he usually did, clocking in at 7:30 a.m., inspecting his LLV, and then casing his mail for the approximately 650 houses on his route. This process generally lasted 1 to 3 hours (Tr. 312). LC-1 was supposed to deliver 1,426 pieces of mail that day, weighing a total of 95.75 pounds (Exh. J-1, ¶¶ 10-11). He left the post office at approximately 8:45 a.m. (Tr. 366).

LC-1 would have either watched the news in the morning or looked at his cell phone to check the predicted high temperature and to see if rain were forecast (Tr. 332). LC-1 was dressed in shorts and a T-shirt that day and wore a baseball cap and sunglasses (Tr. 350). The Postal Service provides an annual allowance to carriers to purchase weather-appropriate clothing (Tr. 432). LC-1 submitted a Form 3996 the morning of June 10, 2016, which supervisor K.S. disapproved (Tr.

202-03). She testified the Postal Service has not trained her to evaluate the impact of the day's temperature forecast when evaluating the forms (Tr. 204-05). She did not notice anything out of the ordinary with LC-1 during her encounter with him that morning (Tr. 251).

LC-1 used to carry his cell phone with him as he walked on his route and listened to podcasts. At some point before June 10, 2016, a supervisor instructed the carriers during a standup safety talk they had to leave their cell phones in their LLVs while they walked their routes. He would check his cell phone for texts from his supervisor when he returned to his LLV or use it to find addresses. "If I had a pivot that I didn't know where it was, I would use my maps to see where it was. Like punch up the address and go do my pivot." (Tr. 358, 363-64) At times he used his cell phone to try to call his supervisor, but the calls were not always answered (Tr. 365, 429).

Nothing unusual occurred the morning of June 10 for LC-1. He took his 10-minute morning break between 10:00 and 11:00 (Tr. 401, 425). He took his lunch break sitting in his LLV (Tr. 368). He explained, "I don't like to travel to a certain place because that would take out of my half-hour break. But I would have my door open and so there'd be a breeze and my fan on." (Tr. 401) By the early afternoon, he had drunk approximately a half gallon of water (Tr. 344).

Around 12:50 p.m., as he was driving to his next park point, he began to experience problems with his vision (Tr. 367). "[M]y vision started bouncing back and forth to the left and right while I was driving. And I was in the turning lane. I was about . . . two blocks away from my next park point. There was oncoming traffic, so I had to wait for them to pass by. Then when they passed by, I felt good enough to drive[.]" (Tr. 351) LC-1 drove to his park point and drank some water. He felt well enough to start the next loop which comprised 11 houses (Tr. 351).

> The first two houses were okay. The third house, the mailbox was on the garage . . . so I turned around, put the mail in the box, and when I turned around like the whole world was spinning, and I couldn't walk and I kind of had to catch myself. I stumbled to a light pole that I saw. . . . I grabbed onto that and I started vomiting, and I was still spinning, vomiting, and I could hardly stand up. . . . There was a van beside me, and I managed to make my way over to that, and it was kind of like I let go of the light pole and my body was just falling hard to the right. Then I got onto the van, managed to get my way around that. And I noticed the window was down. So I managed to get the door open and I tried to honk on the horn, but the horn was broke. . . . [I was] sweating. Sweat was just pouring off of me. Still vomiting. Dizziness. My head was spinning. Sweating terribly, and I could see it running down the seats and just like—you know, like I was in the shower pretty much.

(Tr. 353)

LC-1 had left his cell phone in the LLV (Tr. 362-64). He recalled the supervisor's instruction that carriers could text Benton Post Office supervisors using their MDDs (Tr. 360) "I thought I would get help if I sent a text message in an emergency situation to my supervisor." (Tr. 362) He texted the Benton Post Office using his MDD and texted again when he did not hear from a supervisor. He sent a third text using a preset option that requested emergency assistance because he "couldn't type any more buttons to make a sentence." (Tr. 353) He received no response to his texts.[11] After approximately 45 minutes, one of the residents on the street came out and asked if he needed help. At LC-1's request, the resident called the Benton Post Office and 911. Emergency medical technicians arrived and transported LC-1 by ambulance to a hospital, where he stayed for three days (Tr. 353-54).

The former postmaster received a telephone call at around 1:30 p.m. alerting her that LC-1 had been taken to the emergency room (Tr. 702). She and supervisor K.S. drove to the location of LC-1's LLV to retrieve it and secure the undelivered mail. Driving the LLV, K.S. followed the former postmaster to the hospital where they briefly visited LC-1 in the emergency room (Tr. 201, 251, 354, 704).

The former postmaster subsequently completed an accident report (Form 1796/301) for the incident. Line 41 of the form asks, "What object or substance directly harmed the employee?" She responded, "Temperature was 91°F." (Exh. C-14; Tr. 706). She testified she believed her response "was necessary information" based on LC-1's initial diagnoses of heat exhaustion (Tr. 706). The former postmaster testified she later determined LC-1 contributed to "an unsafe personal factor" because when he began to feel ill, "he tried to push himself to go on, and he should've, you know, contacted the supervisor or 911." (Tr. 716) The Postal Service did not discipline LC-1 for his actions on June 10, 2016 (Tr. 725). LC-1's admission diagnosis was heat exhaustion but was later changed to vertigo (Tr. 447, 898).[12]

[11] No one at the Benton Post Office was monitoring incoming MDD messages on June 10, 2016. Later, the post office found the three messages from LC-1 in the inbox for the MDDs, timestamped 1:01 p.m. ("IMDOWNSENDHELP123OLIVE"), 1:21 p.m. ("NOW127OLIVENEEDHELPNOW"), and 1:30 p.m. ("Police/Postal Inspection Emergency") (Exh. C-15; Tr. 754-55).

[12]Dr. Shirley Conibear, who reviewed LC-1's medical records, stated at the national hearing the actual diagnosis was labyrinthitis. "The labyrinth is three circular tubes that are near your ear and it's the way that you sense where you are in space. So they . . . help you balance, basically." (NH Tr. 3016) Vertigo is a symptom of labyrinthitis. "It is the sensation that either you're moving or the world is moving, kind of like when you get off the merry-go-round, except it's there all the time." (NH Tr. 3016)

LC-1 testified that prior to June 10, 2016, he had never been hospitalized. He described himself as "fairly healthy." (Tr. 356) He walked an average of 50 miles a week for work and would often go hiking with his family on Sunday (Tr. 356). After LC-1 was released from the hospital, he went through several weeks of physical therapy (Tr. 373). He continued to experience trouble with his balance and used a cane. He had difficulty rising from a seated position (Tr. 357). At the time of the hearing, more than two years after the episode, LC-1 still had trouble walking. "I'll like to lose my balance and I'll fall to the right still. I've kind of adapted to catch myself before I fall down." (Tr. 357) He also experienced ringing in his ears (Tr. 357).

OSHA's Inspection

Compliance safety and health officer (CSHO) John Wolfe works at OSHA's Little Rock, Arkansas, area office (Tr. 860). In July of 2016 he was assigned to investigate the June 10 incident that resulted in LC-1's hospitalization. He went to the Benton Post Office and met with post office personnel and union representatives and later spoke with LC-1 (Tr. 861-63). He did not walk LC-1's route or take temperature readings inside LLVs (Tr. 891-92, 915-26).

The National Weather Service (NWS) does not have a data acquisition site in Benton, Arkansas. The nearest site is located 15 to 20 miles away, in Little Rock, Arkansas, at the Adams Field Airport. CSHO Wolfe obtained Little Rock's weather data for June 10, 2016, from the NWS (Tr. 864). The NWS data shows the temperature that day at 12:53 p.m. (the approximate time LC-1 began to experience vision problems) was 91°F, with a relative humidity of 42 percent (Exh. C-3).

CSHO Wolfe compared this data with the heat index chart issued by the NWS (Tr. 869-70).[13] The chart indicates that when the temperature is 91°F and the relative humidity is 42 percent, the heat index ("how hot it feels") is 93°F. The NWS Weather Forecast Office (WFO) in Little Rock did not issue a heat advisory for June 10, 2016 (Tr. 929).

Based on the NWS's weather data for June 10, 2016, for Little Rock, Arkansas, and NWS's heat index chart, CSHO Wolfe concluded Benton Post Office carriers "were exposed to heat stress while working delivering the mail" that day (Tr. 888). As a result of his inspection, CSHO Wolfe recommended the Secretary cite the Postal Service for violating the general duty clause by

[13] The Secretary did not move to admit the NWS heat index chart in this proceeding. It was admitted in the other four proceedings and was the subject of expert testimony at the national hearing.

exposing carriers "to the hazard of excessive heat while walking and delivering mail in an outdoor environment." The Secretary issued the Citation on October 14, 2016.

V. TESTIMONY ADMITTED IN THE 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, ¶¶ 3-4). 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 for Docket No. 17-0023 in Houston, Texas, is also admitted as part of the record in the present case and the San Antonio case (No. 16-1713) (Tr. 1005).[14]

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 the Southern Area safety department since November of 2011 (No. 17-0023 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." (No. 17-0023 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 (No. 17-0023 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* (No. 17-0023 Exh. C-2; No. 17-0023 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." (No. 17-0023 Tr. 330) Employee training in the *Southern Area Heat Stress Campaign* was not mandatory (Tr. 331). Penland explained the difference between a Postal Service

[14] References in this decision to testimony and exhibits from the Houston hearing are indicated by *No. 17-0023* followed by the transcript page(s) or exhibit number.

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." (No. 17-0023 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.

(No. 17-0023 Tr. 374-75)

Penland stressed the importance of acclimatization for 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 preventing heat-related illnesses on the 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 degrees or somebody could be out there working in 100 and have no effect. So the temperature itself is not the issue, in my opinion." (No. 17-0023 Tr. 352-53) He listed factors he did believe are relevant to heat-related incidents:

> Had [the 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.

(No. 17-0023 Tr. 353-54)

Penland was dismissive of the relevance of the heat index chart 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." (No. 17-0023 Tr. 354-55)

Penland discounted the importance of heat in the reported heat-related incidents, estimating 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?

(No. 17-0023 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." (No. 17-0023 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 carriers to complete approximately 226,000 routes 6 days per 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 post offices. 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 carriers retrieving mail at the FirstMile. At the end of the workday, the 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.[15] 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. . . [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

[15] "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.

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[16] 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).[17]

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

[16] 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 carriers (NH Tr. 871-74).

[17] 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)

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.

(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 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 carriers throughout the country." (NH Tr. 43)

In July of 2012, Peralta learned a 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).[18] Dr. Bernard's testimony inspired Peralta to address the issue of excessive heat exposure for 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 have to do as a craft to prevent our brothers and sisters from getting hurt. A few months later, the judge issued her decision.[19] 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

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

[19] 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).

Stand Up Talks and Info Pak Information (attached as an appendix).

(NH Exh. C-106, p. 3) 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 carriers when the heat index rises to 103°F:

> 2) Monitoring Employees
>
> . . .
>
> [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 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 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 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 carriers who suffered heat injuries were subject to disciplinary procedures (Tr. 89, 96).

Peralta attributed the death of a carrier in Medford, Massachusetts, in July of 2015 to excessive heat exposure (NH Tr. 102). He testified regarding the death of another carrier in Woodland Hills, California, in July 2018 on a day when the temperature was 117°F. The 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 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)

LLVs and Air Conditioning

Dr. Thomas Bernard testified regarding the benefits of providing carriers with air-conditioned vehicle.[20] 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 specifically regarding industrial heat stress." (NH Tr. 808)

[20] 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).

Dr. Bernard recommended air conditioning be provided in the carriers' vehicles, and he found it to be technically feasible (NH Tr. 823). The goal of a heat stress program is to reduce the metabolic rate. An air-conditioned space is "more favorable to dissipating heat by sweat evaporation[.] . . . [T]he air conditioning provides a less humid environment, so that's the thing that really helps make it more favorable to evaporative cooling." (NH Tr. 820) Carriers could take breaks in their air-conditioned vehicles instead of spending time driving to air-conditioned rest areas. Air-conditioned vehicles would also assist with the first aid response in the event a carrier recognizes the onset of a heat-related disorder. "[A]n air-conditioned vehicle helps facilitate the recovery so that it doesn't progress into an incident." (NH Tr. 823)

Han Dinh works for the engineering department of the Postal Service as its manager for vehicle engineering (NH Tr. 314). He has a Master of Science and a Bachelor of Applied Science, both in mechanical engineering (NH Tr. 316). He is "the chief technical advisor for the Postal Service when it comes to vehicles. . . . [He is] responsible for the research, development, technology, testing and evaluation, including the specifications for mail vehicles for the Postal Service." (NH Tr. 315).

Dinh testified the Postal Service introduced the LLV to its workforce in 1987 and the fleet of over 200,000 vehicles was fully deployed by 1994 (NH Tr. 317, 347-48). In 2014, the Postal Service began its Next Generation Delivery Vehicle (NGDV) project because by that time the LLVs were from 20 to 27 years old and the costs to maintain and repair them were increasing. "[T]he spare parts have been very hard, difficult to find because General Motors stopped making the spare parts for the vehicle. . . . [The engineering department had] to actually design and rebuild and make the new frame for the" LLVs (NH Tr. 320).

LLVs and NGDVs are purpose-built vehicles with right-hand driving. The Postal Service's engineering department convened a supply conference in 2015, attended by representatives from Ford, General Motors, and Chrysler, among others (NH Tr. 321-22). The Postal Service issued a statement of objectives (SOO) and subsequently selected the top six suppliers to build prototypes meeting the SOO and to deliver them to the Postal Service by the end of September of 2017. The Postal Service began testing and evaluating the prototypes, and that process continued at the time of the national hearing (NH Tr. 323-26). Dinh stated the Postal Service is "planning to have the vehicle go into production assembly lines in December 2021, if everything goes right." (NH Tr.

332) Air conditioning was listed as "optional" at the supply conference, but the Postal Service listed it as a requirement in the SOO (NH Tr. 337-38).

The SOO, updated November 20, 2015, by Dinh, provides:

> The vehicles must have air conditioning/cooling systems sufficient to cool the operator's torso area when seated in the driving position with the driver's window open, so that the air temperature at the operator's torso area is maintained at or below 85 degrees Fahrenheit when the outside temperature is 120 degrees Fahrenheit. Cooling is only required in the operator cab.

(NH Exh. C-161; NH Tr. 352-53)

Dinh explained the Postal Service has not committed to deploying air-conditioned vehicles to its workforce but wanted to study its efficacy.

> We wanted to study the feasibility of the air conditioning in the delivery vehicle with the window open, with carriers getting in and out all the time. So the intent behind to have a requirement in the SOO codified so that we can have a chance to study whether we can efficiently cool the vehicle with everything open and we go at the extremely low speed. And you probably are aware that all delivery vehicles, from UPS, from FedEx, none of them have air conditioning today in their vehicles. So we wanted to study it.

(NH Tr. 339-40)

Dinh explained the rationale for requiring the capacity for cooling the interior of the cab to 85°F when the outside temperature is 120°F.

> My research at the time found out that when the outside temperature 120 degrees, the maximum temperature they can achieve with the AC system is around 70 degrees at the vent where the AC vent is inside the vehicle. So we made an educated guess at the time, if the vent temperature, the coolest temperature at the vent is about 70 degrees and the torso area is far away from the vent because of heat loss between where the vent is and the torso of the driver, so we made an educated guess about 15 degrees. So by the time it gets to the torso with the heat loss -- heat environment coming from the environment, the torso area probably at best can achieve -- optimum temperature would be around 85 degrees. That's educated guess of how the air conditioning system would -- could operate at the time.

(NH Tr. 353-54)

It is Dinh's opinion that equipping vehicles with air conditioning is a matter of comfort, and not safety, for the drivers (NH Tr. 367-68). He testified the Postal Service had not reached a final decision on whether it would require its NGDV to be equipped with air conditioning (NH Tr. 341, 368-69).

Kevin McAdams works for the Postal Service in Washington, D.C., as its vice president of delivery and retail operations. He agreed with Han Dinh that air conditioning is a matter of comfort,

not safety, and the ubiquity of air conditioning in contemporary vehicles reflects a societal shift in lifestyle. "What's different today is air conditioning as a comfort feature has become like satellite radio, right? You don't have a tape deck anymore. It's just standard equipment. . . . So that decision is really – society has made that decision. The car manufacturers have made that decision for us. But in 1980 that was not an unusual decision [to drive a vehicle without air conditioning]." (NH Tr. 2098-99)

Dr. Aaron Tustin testified regarding the temperatures inside LLVs.[21] 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 concluded the interiors of LLVs were hotter than the outside air temperature after reviewing a report entitled *Postal Vehicle Temperature Test Phoenix District Safety Office 2005* (NH Exh. C-151; NH Tr. 299). The Phoenix report explained the setup and process for the Phoenix test:

> The test set-up consisted of taking temperature readings on three days when the temperatures were above normal in the Phoenix area. The first test was to get baseline data on temperatures in a Long Life Vehicle (LLV) with readings on dew point, heat index, percent relative humidity and the outside air temperature on May 19th, 2005. The follow up testing, on May 20th, consisted of gathering data points comparing two LLV side by side measuring one LLV with windows up and the other LLV with windows down 1½ inches to quantify the difference in temperature.

[21] 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).

> Additional testing was performed on May 23rd gathering data on temperatures on a static Ford Windstar and 2-ton delivery vehicle; both vehicles closed with windows up. The hypothesis was designed to take accurate measurements of the temperature in postal delivery vehicles to answer the question "Are vehicles any cooler with the windows down 1½ inches opposed to windows closed?" The hypothesis was further tested to find out if the vehicle inside temperature increased 75% within the first 5 minutes and 90% of the temperature increase occurred within 15 minutes.

(NH Exh. C-151, p. 1)

> The report summarized the Phoenix test results:
>
> The following conclusions were made from the analysis of the series of tests to compare the rate of rise of temperature in static postal delivery vehicles:
>
> The temperature reached a maximum of 122 degrees inside the LLV at 5 p.m. when the temperature was 101 degrees outside; a temperature differential of 21 degrees. The temperature rose only 4 degrees in the first 5 minutes and 10 degrees within 15 minutes. This did not verify the hypothesis of 75% temperature increase in the first five minutes nor 90% within fifteen minutes. However, the hypothesis did not take into account the constant rise of the outside air temperature during the day. The temperature on the test day ranged from 86 degrees at 10 a.m. to 101 degrees at 5 p.m.
>
> The side by side test of two LLV's comparing temperatures with the windows closed in one LLV and the windows down 1½ inches in the other show very small difference. The results show that at the maximum temperature the difference in temperature was only 2½ degrees. This equates to only a 2% difference in temperature.
>
> . . .
>
> In conclusion, this testing shows that having windows down in a parked LLV does not make a significant impact on the inside temperature.

(NH Exh. C-151, p. 3)

> Dr. Tustin summarized the results of the temperature test:
>
> They put temperature sensors inside an LLV, both with the windows completely closed and also with the windows cracked open about an inch and a half, and they were comparing the interior temperature to outside temperature. I believe they had several conclusions, but some of the main conclusions that I take away from this were that the interior temperature was always hotter, at least 5°F hotter, than the outside conditions.

(NH Tr. 299-300)

On cross-examination, Dr. Tustin conceded the test was conducted in LLVs parked in direct sunlight in a parking lot in Phoenix, Arizona, with the doors closed and the windows either closed or open 1.5 inches. It took an hour for the interior temperature to increase 21°F, and the interior temperature reached 122°F after the LLV sat in direct sunlight for 7 hours. Dr. Tustin

agreed he could not think of an example in any of the five Postal Service cases where a carrier left an LLV parked in direct sunlight for an hour or more (NH Tr. 650-52). He also acknowledged the Phoenix test did not factor in any cooling effects from a carrier opening the door to reenter the LLV and driving it with the windows down to the next park point (Tr. 653-54).

The Postal Service hired Rodman Harvey as a consultant in the five cases before the Court.[22] The Court qualified Harvey to testify as an expert "in industrial hygiene, with specialized expertise in assessing the risk of exposure to excessive heat, based on his knowledge, skill, experience, training, and education." (NH Tr. 2766)

Harvey found the Phoenix test report to be unreliable. "In reviewing the document, there's errors with regard to definitions of terms. There's nonsensical statements about temperatures increasing by a certain percentage point. There's representations in the conclusions that don't appear to be supported by the testing that was done. And the testing conditions were not very rigorous in terms of standardization or trying to standardize other variables." (Tr. 2838)

Harvey elaborated on the errors he found in the report:

> Q.: You mentioned definitions. Can you be specific about what you found with regard to the definitions?
>
> Harvey: Yeah. On page 4 of that document, there's a section called "Definitions". And it has a definition for "heat stress" and then in parentheses it says, "heat index". And then the definition is primarily a definition of heat index and has nothing to do with heat stress, which is the primary word or phrase being defined.
>
> Q.: Mr. Harvey, I notice on the first page of the document, which is marked 0001085, in the first paragraph, there's a reference to "hypothesis" and then it's got 75 percent and 90 percent. What does that sentence mean?
>
> Harvey: I have no idea what it means. It talks about the hypothesis that the temperature increased 75 percent in a certain period or 90 percent, but the temperature is not an absolute scale. So you can't compare two different temperatures using percentages. For instance, 60 degrees Fahrenheit is not twice as hot as 30 degrees Fahrenheit. So I don't know what the hypothesis was or what they were trying to test.

[22] 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).

> Q.: I believe that the document describes – I guess what I would call the testing conditions for the various vehicles. Did you find any flaws in the testing methods?
> . . .
> Harvey: [I]n describing the methods when they tested the LLVs, they made a point to point out that the LLVs were both pointing south so that the effect of the sun would be the same on each. And then later they test two other vehicles and one was pointed to the south and one was pointed to the west. So the effect of the sun would be completely different.
>
> Q.: If you look at the first chart or graph or whatever it is on the first page, which begins 0001085, is this trying to tell us the temperature with windows open or windows closed, or what is this trying to communicate? Based on your review of this.
>
> Harvey: I don't know that I can tell the condition of the LLV from what's written here.

(NH Tr. 2838-40) [23]

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 carriers and the approximately 143,000 routes on which they deliver. The Postal Service employs approximately 161,000 full-time city carriers and 2,800 part-time employees, plus approximately 44,000 CCAs (NH Tr. 2587-88).

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[23] The Court finds the Phoenix test report to be unreliable and accords it no weight. In addition to the flaws pointed out by Rodman Harvey, the record establishes the Phoenix testing conditions do not reflect the actual working conditions of carriers who drove LLVs in Benton, Arkansas.

The Court does credit the testimony of the carriers in this proceeding who testified temperatures in the interiors of LLVs are hotter in the summertime than outside temperatures. The evidence, however, falls short of establishing the existence of an excessive heat hazard in LLVs in this case for two reasons. First, there is no evidence in the record verifying the accuracy of the carriers' subjective estimates of the LLVs' increased interior temperatures in comparison to the outside temperatures. There is, therefore, no evidence establishing the magnitude of the increase in the interior temperatures of the LLVs on the days referred to by the carriers.

Second, the Citation alleges the Postal Service employees were exposed to hazards "while walking and delivering mail in an *outdoor* environment." (emphasis added) The testimony of the carriers establishes the conditions that make driving an LLV uncomfortable and potentially hazardous (including the greenhouse effect created by the large windows and the engine heat rising from the floor) are separate from the conditions attendant to delivering mail outdoors on foot. "The Secretary must draft a citation 'with sufficient particularity to inform the employer of what he did wrong, i.e., to apprise reasonably the employer of the issues in controversy.' *Alden Leeds, Inc. v. OSHRC*, 298 F.3d 256, 261 (3d Cir. 2002) (quoted case omitted); see 29 U.S.C. § 658(a) (requiring that citations "describe with particularity the nature of the violation")." *L & L Painting Co., Inc.*, No. 05-0050, 2008 WL 4542427, at *4 (OSHRC September 29, 2008). The Court concludes evidence relating to the alleged hazard of excessive heat or high heat levels in LLVs is not probative of an alleged excessive or high heat hazard related to working outside.

Vo has experience as a post office supervisor receiving Form 3996 requests from carriers due to predicted hot weather. She explained the process she used with the requesting 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)[24]

Vo testified a carrier's medical condition could affect the time needed to complete a route (NH Tr. 2636). When a 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 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 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)

Vo presents an idealized description of conversations between supervisors and 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. In this case, carriers testified at length that when they submitted 3996 forms, supervisors reacted by acting "domineering," belligerent," "intimidating," and "confrontational," and they "degraded" the carriers. Supervisors also encouraged carriers to skip breaks and harassed carriers who called in sick or did not respond to phone calls on their days off (Tr. 78-79, 85-86, 109-11, 139-40, 149, 164, 369). 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)

[24] 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.

Dr. Bernard testified 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 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)

In each of the five local cases, supervisors exhibited dismissive or disparaging attitudes towards the carriers. Here, as in two of the other local cases, it was a homeowner who happened to notice and respond to the carrier's distress after his messages sent to the Benton Post Office went unanswered. To discourage requests for overtime or sick leave, supervisors intimidated, belittled, and, in at least once instance, bullied carriers, creating an atmosphere of disquiet and suspicion. These cases reveal a pervasive culture of mistrust and skepticism on the part of postal supervisors regarding reports of injuries or illnesses made by carriers. The supervisors' indifference and the carriers' reluctance to engage in confrontational conversations with management contribute to the stress already inherent in meeting the unforgiving demands of the 24-hour clock.

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)

Item 1 of Citation No. 1 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 excessive heat while delivering the U.S. mail. Such exposure(s) may lead to serious and life-threatening heat-related illnesses such as heat stroke or heat exhaustion.
>
> On or about June 10, 2016, at job sites located on mail routes for the Benton Post Office, in and around Benton, Arkansas, employees were exposed to the hazard of excessive heat while walking and delivering mail in an outdoor environment.[25]

A. Existence of a Hazard

1. Exposure to Excessive Heat Did Not Cause LC-1's Illness

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 identifies the workplace at issue as the "outdoor environment" in Benton, Arkansas, through which the city carriers walked as they delivered mail on their routes. 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 10, 2016.

Heat Stress Hazards

The Secretary called Dr. Aaron Tustin to testify regarding excessive heat exposure. He 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

[25] At the beginning of the hearing, counsel for the Postal Service requested a standing objection "to any reference of the hazard in this case as being anything other than excessive heat, which is the terminology used in the citation." (Tr. 17) The Secretary was not opposed, and the Court granted the Postal Service's request for a standing objection to "any reference to the hazard as being anything other than excessive heat." (Tr. 18) At the national hearing, the Court ruled that in the context of the five Postal Service cases, references to "excessive heat," "heat stress," or similar formulations are "all the same issue regarding the § 5(a)(1) citations that have been alleged." (NH Tr. 1339) The Commission has also recognized these phrases are interchangeable in the context of § 5(a)(1) cases alleging exposure to the hazard of excessively high temperatures. *See Duriron Co., Inc.*, No. 77-2847, 1983 WL 23869 (OSHRC April 27, 1983) ("heat stress," "excessive heat," "extreme heat"); *Industrial Glass,* No. 88-348, 1989 WL 88787 (OSHRC April 21, 1992) ("heat stress," "excessive exposure to heat").

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 NWS 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 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 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). Unlike heat stroke, there is no diagnostic test for heat exhaustion (NH Tr. 536). Less severe conditions caused by heat stress include heat cramps, heat rash, and heat syncope (fainting) (NH Tr. 261).

LC-1's Diagnosis

The collapse, hospitalization, and diagnosis of heat exhaustion of LC-1 were the events that triggered OSHA's inspection and subsequent issuance of the Citation in this proceeding. LC-1's doctors later determined his diagnosis of heat exhaustion was incorrect. The symptoms LC-1 manifested on June 10, 2016, were a result of vertigo; his illness was labyrinthitis. Dr. Tustin conceded he could not state within a reasonable degree of medical certainty that LC-1's illness was caused by exposure to excessive heat (NH Tr. 409, 682-761). Dr. Shirley Conibear concurred with this opinion (NH Tr. 3014).[26]

[26] 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

The fact the incident cited in the AVD turns out not to have been caused by the cited hazard 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 LC-1 on June 10, 2016, it is still his burden to prove the temperature or heat index that day exposed Benton city 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)[27] In this case, however, the Postal Service vigorously disputes the temperature or heat index on June 10, 2016, presented a hazard to Benton's carriers, and consequently the record evidence differs markedly from that of 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

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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).

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)

[27] 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 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.

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 a 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 judge 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 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 15 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 lack of fair notice to the employer.[28] If Commissioner

[28] 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").

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*.

5. 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.

> 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.

> 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 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.

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]

[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

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 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 index values 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 does not appear to present a heat stress hazard. A higher heat index increases the risk of heat stress (NH Tr. 291-92).

> [W]hen the heat index was between 80 and 90 [degrees Fahrenheit], 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)

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.

> 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)

> The hazard of heat stress extends far beyond the Benton Station and even the Arkansas District. In the summers of 2015–2018, 33 carriers reported heat related incidents at 25 different Arkansas District Stations; all but two incidents occurred in the month of June, July or August. . . Thirteen of the 33 Arkansas District carriers lost a combined 166 days away from work. . . . On two specific dates in 2015, numerous letter carriers reported heat incidents ([NH Exh.] C-127).

(Secretary's brief, p. 11)

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. . . , the number of heat-related incidents per year since 2015 classified by USPS on its official accident reports (PS Form 1769/301) as caused by "GEN-EXPOSURE EXTREME TEMP-HOT" are as follows for 2015, 2016, 2017, and 2018: 378, 564, 399 and 631 ([NH Tr. 1670-71]) In total, the number of heat-related incidents over the four years was 1,972. ([NH Tr. 1668-69]) 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 Exh.] C-127)

(Secretary's brief, p. 13)

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 10, 2016, there were approximately 793 city carriers working in the postal district that includes Benton, Arkansas, and there was only one alleged heat-related illness reported." (NH Tr. 2886)

The Postal Service retained Dr. Joshua Gotkin to analyze its data on heat-related accidents.[31] 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 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 carriers and compared those to the total number of 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 of having a heat-related

[31] 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).

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 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 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 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 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 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 risk or its 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. There is no diagnostic test for heat exhaustion (NH Tr. 538-541).

Dr. Conibear testified regarding the inconclusive nature of presumed heat-related illnesses. Here, LC-1 was initially diagnosed with heat exhaustion but his doctors later determined the correct diagnosis was labyrinthitis. LC-1 was also diagnosed with hypokalemia, or low potassium level in the blood. "Potassium is a salt that's present in your cells in the blood. It's one of the entities that's referred to as an electrolyte. When you vomit, you lose a lot of potassium. . . [D]iuretic medications cause hypokalemia. Diarrhea causes hypokalemia, and sweating can do it also." (NH Tr. 3017) LC-1 was also diagnosed with dehydration, which Dr. Conibear attributed to his vomiting and sweating (NH Tr. 3017-18).

Dr. Conibear stated a later diagnosis in a reported heat-related case is often more accurate than the initial diagnosis.

> Q.: Why are later records often more helpful?
>
> Dr. Conibear: Well, because, as this case illustrates, heat exhaustion has a course that it runs and you expect the person to improve pretty quickly and not have any symptoms in a matter of hours. In this case that didn't happen. And he was also -- he had physical signs that were not characteristic of heat exhaustion in that he was staggering and couldn't walk. So those all indicated that this was not the right -- heat exhaustion was not the right diagnosis.
>
> Q.: And Dr. Tustin testified that within a reasonable degree of medical certainty, [LC-1] did not suffer from a heat-related illness. Do you agree with Dr. Tustin's—
>
> Dr. Conibear: Yes.
>
> . . .
>
> Q.: Based on your review of the records, was [LC-1] acclimatized?
>
> Dr. Conibear: Yes.
>
> Q.: Why do you say that?
>
> Dr. Conibear: Because he had been working and was doing the same work that he had been doing for weeks, and basically, he had satisfied the 2 weeks of acclimatization.

(NH Tr. 3020-21)

Tolerability of Heat Stress

At one point in the hearing, 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 the precise 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 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 carriers completed their routes without incident on the dates the alleged heat-related illnesses cited by the 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 Benton's city carriers to a significant risk of harm from excessive heat on June 10, 2016.[32] The Secretary has not met his burden to establish a condition or activity in the workplace 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 temperature or heat index on June 10, 2016, presented an excessive heat hazard, as well as the elements of industry or employer recognition,

[32] This conclusion is not intended to minimize the general physical discomfort of 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).

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.

1. Alternative Means of Abatement

In *A.H. Sturgill*, the Commission stated,

> Before addressing this element of proof [for abatement], however, we must first determine whether the Secretary proposed each measure as an alternative means of abatement, in which case implementing any one of them would constitute abatement of the alleged violation, or as a component of a single means of abatement, in which case all of the measures must be implemented to abate the violation. If the former, the Secretary can prevail on this element only if he proves that Sturgill implemented none of the measures. . . . If the latter, he need only show a failure to implement one of them.

Id. at 2019 WL 1099857, at *9.

The Citation presents seven proposed methods of abatement for the alleged excessive heat exposure hazard:

> Feasible and acceptable methods to abate this hazard include, but are not limited to:
>
> 1. Implement a heat stress management program with measures to address exposure to excessive heat. Such program may include the following:
>
> > Provide for a cool and shaded rest area. Ensure employees take their breaks in the shade or in a cool, climate-controlled area.
> >
> > Develop a work/rest cycle based on validated measures of heat stress, such as a heat index or wet-bulb globe temperature index.
> >
> > Limit time in the heat and/or increase recovery time spent in a cool environment.
> >
> > Develop and implement procedures to be followed for heat-related emergency situations and procedures for first-aid to be administered immediately to employees in those situations. Train managers and supervisors to respond to employees reporting heat-related illness symptoms.

Assign a supervisor or other personnel to closely monitor employees for adequate hydration and work-rest cycles.

Provide training for employees prior to the arrival of excessively hot weather conditions regarding the health effects associated with heat stress, symptoms of heat induced illnesses, and the prevention of such illness.

Provide cooled air, cooled fluid or ice cooled conditioned clothing, such as ice vests or neck towels that can maintain the body's core temperature to below 98°F Fahrenheit.[33]

2. Implement procedures for employees to report heat stress symptoms to management.

3. Ensure trained managers or supervisors go into the field to check on employees when National Weather Service heat advisories are in effect.

4. Training managers, supervisors, and employees in the measures to take to prevent heat-related illnesses, how to recognize the signs and symptoms of heat-related illnesses, and the procedures to follow when they or others are experiencing heat-related illnesses. Such training could be conducted annually in advance of the hot weather season and throughout the season when excessive heat is predicted. All managers, supervisors, and employees could be required to confirm their receipt and understanding of the training and records of said training could be maintained.

5. Ensure managers and supervisors are communicating to employees USPS-disseminated heat stress information, including safety talks, fully and in a timely manner.

6. Reduce the metabolic demands of the job. Provide other means of carrying and transporting heavy mail loads aside from satchels for letter carriers to relieve physiological burden during the hot summer months.

7. During the summer months where excessive heat conditions may contribute to employee safety and health issue, begin mail delivery routes earlier in the workday to aid in the completion of outdoor work prior to the hottest hours of the day.

The Secretary in *A.H. Sturgill* used the same formulation he uses in this case to introduce the list of proposed abatement methods ("Feasible and acceptable methods to abate this hazard include but are not limited to"). The Commission found

> The abatement portion of the citation . . . begins with a sentence that uses and references the plural word "methods": "Feasible and acceptable *methods* to abate this hazard include, but *are* not limited to: ...," suggesting that each measure is an alternative means of abatement. (emphasis added).

Id. at 2019 WL 1099857, at *9, n. 17.

[33] 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)

In his post-hearing brief, the Secretary acknowledges the proposed abatement methods are distinct alternatives, and not components of a single abatement method. "[T]he evidence shows that USPS could have taken *several steps* to abate or materially reduce the heat stress hazard its employees faced. *These steps include* an adequate work/rest cycle, an adequate emergency response program, analyzing existing data on employees' heat-related illnesses, employee monitoring, and reducing outdoor exposure time. By failing to implement *these or equally effective abatement measures*, USPS needlessly exposed its workers to dangerous heat stress hazards." (Secretary's brief, pp. 36-37) (emphasis added)

Having found the Secretary proposed alternate methods of abatement in *A.H. Sturgill*, the Commission concludes, "[I]f the record shows that Sturgill implemented any one of the Secretary's proposed measures, or is equivocal in that regard, the abatement element of the Secretary's burden of proof has not been established." *Id.* at 2019 WL 1099857, at *9. So it is here. If the Postal Service implemented any one of the Citation's seven proposed abatement methods, the Secretary cannot meet his burden on this element. The Court finds the Postal Service implemented communication of heat stress information as a method of abatement.

2. Communication of Heat Stress Information

In his post-hearing brief, the Secretary addresses five methods of abatement: 1. Work/Rest Cycles; 2. Air-Conditioned Vehicles; 3. Emergency Response and Employee Monitoring; 4. Analyzing Existing Data on Heat-Related Illnesses; and 5. Reducing Time Outdoors (Secretary's brief, pp. 37-44).[34]

What the Secretary does not address is the Citation's fifth proposed method of abatement: "Ensure managers and supervisors are communicating to employees USPS-disseminated heat stress information, including safety talks, fully and in a timely manner."

It is undisputed Benton supervisors regularly communicated heat stress information to carriers (using material from the Postal Service's *Southern Area Heat Stress Campaign 2016*) prior to LC-1's June 10 incident, usually during the Friday morning standup talks.[35] The Benton post office also provided heat stress training, including video training. Benton supervisors and carriers

[34] The Benton Citation does not mention air-conditioned vehicles or analyzing existing heat-related illness data in its list of proposed abatement methods.

[35] The Secretary argues the *Southern Area Heat Stress Campaign 2016* was inadequate but he does not dispute Benton post office supervisor regularly communicated heat stress information to carriers in standup safety talks (Secretary's brief, p. 34).

testified extensively on this issue (Exh. C-10; Tr. 105, 127, 152, 195-96, 207-08, 254-66, 393-94, 547-50, 648, 652, 765-66, 768, 791-92, 796-802).

The Court finds the Postal Service ensured Benton Post Office managers and supervisors communicated heat stress information to its carriers, fully and in a timely manner, in accordance with the Secretary's proposed method of abatement. Under *A.H Sturgill,* this is sufficient to establish the Postal Service abated the alleged violation.

3. Economic Infeasibility

Finally, the Secretary failed to establish its proposed abatement methods regarding work/rest cycles, acclimatization programs, earlier start times, 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).[36]

Two of the Secretary's proposed abatement methods listed in the Benton Citation are:

> 1. Develop a work/rest cycle based on validated measures of heat stress, such as a heat index or wet-bulb globe temperature index [, and]
> . . .
> 7. During the summer months where excessive heat conditions may contribute to employee safety and health issues, begin mail delivery routes earlier in the day to aid in the completion of outdoor work prior to the hottest hours of the day.

At the national hearing, the issues of additional paid breaks and acclimatization schedules were also addressed. All of these proposals would require the Postal Service to pay carriers for 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 use 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,

[36]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. 45) The Court disagrees. The burden of proof remains with the Secretary.

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 carriers' 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 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 breaks is 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 carriers and 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 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 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. 46). 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. 47)

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 heat said 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.[37] 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)

[37] 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).

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 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 carriers to excessive heat: an acclimatization program and an additional paid 5-minute break. For the acclimatization program, Dr. Park assumed the targeted carriers are returning to work after a 3-day layoff and after a 7-day layoff. For both layoff periods, Dr. Park assumed the 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 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 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.[38]

> 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)

[38] 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 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.

It is not the Postal Service's burden to establish the Secretary's proposed abatement methods are economically feasible. The Postal Service has presented 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*)].

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 carriers. Not all city carriers are members of NALC but the CBA for NALC applies to all of them. City 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 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.[39] [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 carriers 8 hours of work or 8 hours' worth of pay daily. If a full-time city carrier works only 2 hours during a day's assignment, the Postal Service still owes the city 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

[39] 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).

his proposed abatements relating to acclimatization programs, additional paid breaks, work/recovery cycles, and earlier workday start times are economically feasible.

VIII. CONCLUSION

The Secretary has not met his burden of proving the cited conditions presented a hazard of excessive heat exposure to Benton city carriers on June 10, 2016. He has not shown the Postal Service failed to implement any of the alternative methods of abatement he proposed. And he has failed to establish the economic feasibility of his proposed abatement methods related to acclimatization programs, additional paid breaks, work/recovery cycles, and earlier workday start times.

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 carriers.

The Citation is vacated.

IX. 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).

X. ORDER

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

Item 1 of the Citation, alleging a repeat 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

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:

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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.

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[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*.

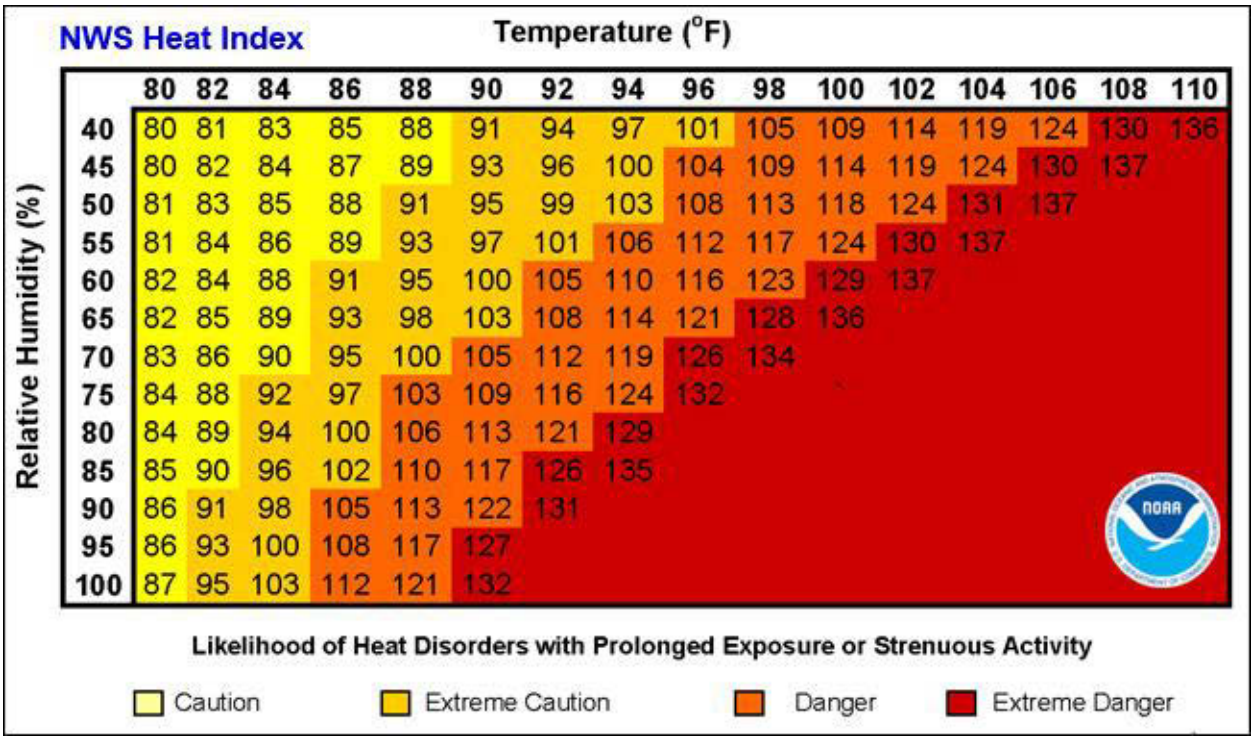
[25] In its entirety, footnote 14 in *A.H. Sturgill* states:

> 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

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[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

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.: **17-0279**

Appearances:

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For Respondent

Michael J. Gan, Esq. and Mark Gisler, Esq., Washington, D.C.
For NRLCA

BEFORE: Administrative Law Judge Sharon D. Calhoun

DECISION AND ORDER

I. INTRODUCTION

On the afternoon of August 13, 2016, a rural letter carrier for the United States Postal Service began to feel dizzy and nauseated as she drove and delivered mail on her route in Martinsburg, West Virginia. She was sweating profusely and then stopped sweating altogether. Alarmed, she drove to a house on her route belonging to a couple with whom she had become friendly over the years. The couple brought her inside to rest and called the Martinsburg Post

Office to alert her supervisor of the situation. Her supervisor eventually arrived at the house and drove the rural carrier to a hospital, where she was admitted.

The Martinsburg Post Office notified the Occupational Safety and Health Administration of the incident. OSHA opened an inspection of the post office on August 17, 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 January 19, 2017. 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 recognized hazards of working outside during periods of excessive heat." The Secretary proposes a penalty of $69,713 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 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. NALC did not send a representative to attend the hearing (Tr. 13-14). Counsel for the NRLCA attended the hearing, presented an opening statement to the Court, and cross-examined two witnesses. Neither union submitted a post-hearing brief (Tr. 51, 252, 520). 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, 2019. The testimony and exhibits in the national hearing are part of the records in the five cases,

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

unless otherwise noted. The records of the individual cases were not admitted in the other actions, unless noted.[2]

This is the fourth of the five Postal Service cases heard by the Court. It was held from November 5 to November 7, 2018, in Martinsburg, West Virginia. 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 Martinsburg's carriers on August 13, 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 February 13, 2017. The parties stipulate the Commission has jurisdiction over this action, and the Postal Service is a covered employer under the Act (Exh. J-1, ¶¶ 1-2).[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 2 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). Employer or industry recognition precludes unfair surprise. The Secretary had previously cited the Postal Service for the willful exposure of carriers to an excessive heat hazard, 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 MARTINSBURG HEARING

Stipulations

The parties stipulate the following:[4]

. . .

3. [The Postal Service] is divided into seven Areas which are in turn divided into Districts.

4. The seven areas are: Northeast Area; Eastern Area; Western Area; Pacific Area; Southern Area; Great Lakes and Capitol Metro.

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

5. This hearing involves operations at the post office at 1355 Old Courthouse Square, Martinsburg, West Virginia (Martinsburg) which is located in the Eastern Area.

6. On August 13, 2016, rural carrier [LC-1] [5] was an employee of [the Postal Service] who worked at the Martinsburg Post Office.

7. On August 13, 2016, LC-1 was a rural carrier.

8. On August 13, 2016, LC-1 [had] worked for [the Postal Service] as a rural carrier for 26 years[,] 10 months.

9. On August 13, 2016, LC-1 was assigned to Rural Route 13 which was her regular route.

10. On August 13, 2016, LC-1 had been assigned Rural Route 13 for 21 years.

11. On August 13, 2016, LC-1 [had driven] a Long Life Vehicle (LLV) for [the Postal Service] for at least 10 years.

12. The LLV had a fan on the dashboard that was 6" in diameter.

13. LC-1 was hospitalized on August 13, 2016.

14. On August 13, 2016, the total number of city letter carriers who were employed by the Martinsburg Post Office was 24.

15. On August 13, 2016, the total number of rural letter carriers who were employed by the Martinsburg Post Office was 33.

16. On August 13, 2016, the total number of mail routes at the Martinsburg Post Office was:

18 City routes
24 Rural routes

(Exh. J-1)

BACKGROUND

The Martinsburg Post Office

The Postal Service employs both city letter carriers and rural letter carriers at the Martinsburg Post Office in Martinsburg, West Virginia. During the summer of 2016, 24 city carriers and 33 rural carriers worked in the post office. Rural carriers deliver mail on *mounted* routes, meaning they deliver mail mostly from their vehicles as they drive from mailbox to mailbox. Rural carriers occasionally park and exit their vehicles to deliver parcels or mail that requires customers' signatures (Exh. J-1, ¶¶ 14-15; Tr. 576, 587-88).

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

There are several classifications for rural carriers. A regular rural carrier is a career employee who delivers mail on one assigned route every day and has the same day off every week. A part time flexible (PTF) rural carrier is a career employee who is not assigned a regular route. A rural carrier associates (RCA) is a non-career employee who covers routes on the off days of regular carriers. Associate rural carriers (ARCs) deliver Amazon packages on Sundays and federal holidays (Tr. 576-77). A T6 is a regular rural route carrier who is assigned to five specific routes that rotate. "They basically fill in for the day off of the regular carrier on five different routes during the week." (Tr. 627)

In 2016, the Martinsburg Post Office received outgoing mail at around 7:30 a.m. on trucks transporting it from a facility in Baltimore, Maryland. Clerks in the Martinsburg Post Office would sort the mail into parcels, *flats* (magazines and legal-sized envelopes), and letters. The collective bargaining agreement (CBA) between the Postal Service and the NRLCA prohibited carriers from assisting in sorting the mail. Postmaster TT, who was postmaster of the Martinsburg Post Office in the summer of 2016, stated "Rural carriers deliver mail in the rural area, and clerks are the only ones that break down or sort mail or sell product at the retail counter." (Tr. 578-79)

In 2016, the start time for rural carriers was 8:00 a.m. They could not start earlier because the clerks would not have completed sorting the incoming mail (Tr. 169, 582, 630-31). Postmaster TT explained the *casing* process carriers used to sequence their day's mail once they received it from the clerks:

> [A] carrier case is basically a cubicle that a carrier stands at and it's got three sides to it and it has six shelves and it has a ton of slots in it, and every slot represents an address on the row. So like to kind of consider that the neighborhood and it literally would go in order that they would deliver their mail. So they would get a bucket of mail, bring it over and organize it in the way that they would deliver it.

(Tr. 582)

One route may have 500 to 1,000 addresses for which mail must be cased at the beginning of each workday. Casing mail for rural carriers generally takes 2 to 3½ hours to complete, which is about twice as long as casing time for city carriers (Tr. 584). The post office workroom where the carriers case mail is air-conditioned (Tr. 633). After casing the mail, rural carriers pull it down in order and place it into hampers they roll out to their vehicles for loading. In the summer of 2016, rural carriers generally clocked out to the street to deliver the mail

anytime from 10:00 a.m. to 1:30 p.m. (Tr. 585). Rural carriers usually completed delivery of their routes in 4 to 5 hours (Tr. 593).

As the rural carriers are casing their mail in the morning, supervisors go around and perform a time check (or projection) to see what time each carrier thinks he or she will return in the afternoon. If a carrier projects a late return, the postmaster or supervisor can arrange for assistance or make other adjustments. "[O]nce the carriers hit the street, if you don't know that they're going to run late until it's too late, the help has gone home." (Tr. 606)

Rural carriers collect customers' outbound mail as they deliver their routes each day and bring it back to the post office. They are required to return with the outbound mail by 6:00 p.m. because the dispatch truck that transports the outbound mail to the distribution facility leaves shortly after 6:00 p.m., and a supervisor has to drive any late mail to the distribution center after hours (Tr. 581).

Route Evaluations

The Postal Service conducts rural route evaluations annually, usually in February, March, or April, when the mail flow is "average" compared to the peak holiday season in December and the lighter volume in summer. Postmaster TT stated mail volume changes "[d]ramatically" over the course of the year, lessening significantly "[u]sually toward the end of May." (Tr. 598) By performing the evaluations in late winter or early spring, the Postal Service avoids the extremes of mail volume. "[The carriers'] evaluation is done during the average time of year, so, you know, Christmas they're carrying more mail, but it's also the overtime time. So they would get paid above and beyond their evaluation at Christmas. But in the summer, it's kind of where they make up time. So you know, a route that may be evaluated at 8½ hours, they may be able to do in less time because there's lighter mail volume. They'd be skipping more houses. It's a day-to-day thing." (Tr. 598-99)

The first part of the evaluation is a ride along, when the evaluator rides with the carrier or follows in a separate vehicle and records the mileage driven and the steps taken. If the carrier has "to do a dismount or if [the carrier has] to get out of the vehicle to service a customer, its actual footage is measured." (Tr. 594-95)

The second part of the evaluation is counting the mail. Postmaster TT explained the process:

> Usually in my experience, it runs 2 full weeks or 12 business days, but it can run up to 30 days. We literally count everything that comes in. So what happens is as the mail is coming in, I'm counting every piece . . . When I finish a pile, I put the yellow sticky note on, and the carrier is permitted to go ahead and verify your count on every set.
>
> All that information is entered into a computer program and at the end of . . . each day I would enter everything in, and the next morning the carrier would come in and they would have like a worksheet in front of them that summarized the day prior, and that would be their opportunity to dispute anything that they didn't agree with or add something or remind you of something.
>
> Then at the end of the count, put all the information in. It spits back out the evaluation. You sit down with the carrier, go over it, and then you both sign off on it.

(Tr. 595-96)

The rural carrier is expected to complete delivery for that route within the evaluated time. The Postal Service does not pay rural carriers more if they exceed the evaluated time (with the exception of Christmas overtime) (Tr. 70, 598-99).

LLVs

In the summer of 2016, the vehicles provided by the Martinsburg Post Office for letter carriers were six Dodge Caravans, four Ram ProMasters, and several Long Life Vehicles (LLVs). The Caravans and the ProMasters were air-conditioned and equipped with left-hand side steering, which could be used by carriers on *park and loop* routes and on *centralized delivery* routes.[6] They could not be used on mounted routes because the carrier could not reach safely across from the left-hand driver's seat and through the opened right-hand window to deliver the mail to the mailboxes (Tr. 588-90).

The LLV is designed for right-hand driving and is not air-conditioned (Tr. 74). The LLV has two side windows that can be rolled down (Tr. 590-91). The LLV also has two 3-inch by 5-inch vents in each back corner and a fan, 6 inches in diameter, mounted to the dashboard (Tr. 75, 592-53).

Carriers could drive with the windows rolled down and could leave them rolled down when they exited the LLVs, as long as they were in sight of it. Carriers could also drive with the

[6] Park and loop routes primarily require walking delivery. The carrier parks at a designated park point and exits the vehicle, carrying mail for one loop. The carrier delivers mail on one side of the street, crosses, and delivers mail on the other side of the street on the way back to the vehicle. The carrier then drives to the next park point and repeats the process (Tr. 587, 637-38). Centralized delivery is delivery to a cluster box, "the big box were every customer has their own key and the carrier would distribute the mail in the back and then lock it up." (Tr. 587-88)

driver's side door open as they made deliveries from mailbox to mailbox. "They were not allowed to cross an intersection of any sort, even if it was a small subdivision street. That door had to be closed any time they were crossing more than just box to box." (Tr. 592)

RLC-1 is a former city carrier who worked for the Martinsburg Post Office for almost 34 years before he retired in 2008 (Tr. 257). He began driving LLVs when they were relatively new, "[e]arly somewhere in the '90s." (Tr. 263) He delivered on a mounted route and estimated he spent 5½ to 6 hours driving each workday. He described the interior of an LLV on a summer's day. "Just very, very hot. . . . [L]ike a car without air conditioning wouldn't be as hot as it was in that truck. It's bare metal with a piece of rubber on the floor. So it's just very, very hot in there. And the windshield in them is enormous. And the fan that sits on the [dashboard is] just blowing this very hot air on you all the time." (Tr. 264-65) RLC-1 stated the LLV's "engine sits up front, and you get the transmission with the exhaust. Everything's right under you. And hot air rises." (Tr. 265)[7]

LC-1 drove an LLV for approximately 8 years on her route. Before that, she drove her personal vehicle, for which the Postal Service reimbursed her for mileage. The Martinsburg Post Office eventually disallowed LC-1 the use of her personal vehicle (Tr. 72-73).[8] LC-1 was in the LLV approximately 80 percent of her route. Perhaps 5 percent of that time was spent in a shaded area (Tr. 76-77, 114). LC-1 explained that when driving from the post office to her route and back, she could lower only the right-side window closest to her. "I could open both of them when I was on the route, but if you were going in -- like traveling back and forth from the road or the Post Office to the route, I would say anything over 30-mile-an-hour, you could only have the one window down, because your mail was sitting on a ledge beside of you where the other

[7] RLC-1 testified he bought a digital thermometer from Walmart and used it to measure interior temperatures of the LLV on certain days when the exterior temperature exceeded 90°F (Tr. 265-69). He believes he bought the thermometer in the early 2000s. He does not recall the brand of the thermometer (Tr. 269, 272). He did not calibrate the thermometer. "It was just a simple thermometer. You turn it on. . . . [T]here's no calibrating on it. . . . It either reads right or it doesn't." (Tr. 274) RLC-1 did not record the temperature readings or tell anyone about the temperature readings at the time (Tr. 277-78). Based on the vagueness of RLC-1's testimony relating to the brand of the thermometer, the date he purchased it, the dates he took the temperature readings, the exterior temperatures on the days he took the interior readings, and the absence of calibration data or a contemporaneous record of the readings, the Court determines RLC-1's testimony regarding interior temperature readings of the LLV is unreliable and gives it no weight.

[8] It is not clear why the Martinsburg Post Office told LC-1 and LC-2 they could no longer drive their personal vehicles to deliver mail. At the national hearing, it was established that approximately 47 percent of rural carriers drive personally-owned vehicles (POVs), for which they receive an equipment maintenance allowance (EMA) (NH Tr. 2479).

window is. And, of course, you can't have the air blowing in and blowing things around." (Tr. 75) The carriers refer to an LLV as "an Easy Bake Oven," (Tr. 77)

LC-2 is a rural carrier for the Martinsburg Post Office (Tr. 165). She also drove her personal vehicle to deliver mail on Route 1 before the post office disallowed it. She spends approximately 90 percent of her route in an LLV (Tr. 168-69). In the summer of 2018, she felt ill one day when the temperature was above 90°F after having driven her LLV for approximately 3.5 hours (Tr. 170).

> [I]t started out just sweating profusely, and it didn't seem like I could get enough to drink. Just very dry. As it progressed, I just -- just felt like I couldn't breathe properly. So I had to -- I had a parcel for this one lady on my route, and I get out and she said, "You look awful." And I said, "I feel awful." And she produced a bottled water for me and an orange, and I sat there at her house until I finished the orange and the water. And I was able to continue on. And when I got back to the Post Office, I did feel a bit dizzy.

(Tr. 169-70)

LC-2 testified that in the summer, the heat in the LLV affects her on a daily basis. "Just about every night I have leg cramps and a headache." (Tr. 177) She did not have these symptoms when she drove her air-conditioned personal vehicle (Tr. 177). LC-2 has not told her supervisors about the leg cramps and headaches and has not sought medical treatment for them (Tr. 208-09).

LC-3 is a city letter carrier for the Martinsburg Post Office (Tr. 214). She drives an LLV on her regular route. She described the heat in an LLV on a summer day. "It feels like you're in a sauna. It's radiant heat coming off the floorboards that just overwhelms you, and you feel like you can't escape. . . . When you're inside the LLV, it feels overwhelming because there's not much air movement even with the fan on. It's blowing hot air in your face." (Tr. 226-27)[9]

RLC-2 worked as a city letter carrier for 44 years and retired in May of 2018 (Tr. 282). He drove an LLV as he delivered mail on his route, which was primarily mounted (Tr. 291). "It's pretty warm. And I probably opened the windows more than most carriers did because it just,

[9] LC-3 recounted an incident from "[a]round 2006" when she began to feel unwell while driving an LLV in the afternoon and eventually sought treatment at an urgent care center (Tr. 224-25, 240). The alleged violation description (AVD) of the Citation alleges the Postal Service exposed its employees in Martinsburg to the hazard of excessive heat "[o]n August 13, 2016," when the afternoon heat index was 103°F. The Court determines LC-3's testimony regarding the incident, which occurred a decade before the hospitalization that gave rise to this proceeding and for which no temperature readings or medical records were presented, lacks probative value and is accorded no weight.

you know, was very warm especially on a sunny day with that sun coming through all that glass of the big windshield and everything -- pretty warm. It was so warm that the fan in there really is pretty much worthless because it just blows hot air in your face. So you don't use the fan." (Tr. 292)

RLC-2 testified regarding an incident that occurred in June of 2016, when he was driving an LLV an average of 7½ to 9½ hours a day (Tr. 290-91).[10] He stated he began to experience symptoms of "nausea, feeling light-headed and just not sweating. That's why my wife was concerned when I talked to her about the fact that I wasn't sweating. I just felt really weak." (Tr. 292)

LC-4 is an RCA who carries the mail "for the regular carriers when they're out of town or they need a day off." (Tr. 330) She testified regarding the LLVs she drives on the various routes she has delivered. "I would describe it as you could fry an egg on the floor of it, and also I believe that no human being should have to drive. That's how hot they get in the summer. No human being should have to drive an LLV in the summer."(Tr. 331) She stated the temperature of the interior of an LLV in the summer "is way hotter" than the outdoor temperature, and the fan "blows hot air. . . It does not help at all (Tr. 332).

LC-4 recalled an incident on July 2, 2018, when the temperature was "[a]t least 100 degrees (Tr. 333). She left the post office around 11:30 a.m. and was driving an LLV. At approximately 3:15, she began to feel nauseated and dizzy. She eventually vomited several times. She notified Supervisor DD by text that she did not feel well (Tr. 334-38). She managed to complete the her assigned routes, but when she returned to the post office, Supervisor DD assigned her another route.

> I got back and I pulled into my parking spot and I saw [Supervisor DD] coming towards me with a clipboard and I asked him, I said, "Do I really have to go back out?" And he said, "Yes. I'm sorry, we just really need the help." It was 5:45 at this point. And there were two other regular carriers that had pulled in at the same time as me. I was telling them that I was sick and I had thrown up a couple of times and they -- that's what they said to [Supervisor DD]. They said, "She cannot go back out. She's sick. Look at her."
>
> Like I was sweating profusely, like noticeably. Not just sweaty from the heat. Like sick sweaty.
>
> And he said, "I'm sorry, but you have to go back out." And I got back in the back of my truck to get my stuff and my voice was cracking and I started to

[10] RLC-2 was on the overtime list and sometimes exceeded the 8 hour daily base time (Tr. 291).

> cry. Then I went inside and [LC-2], the regular carrier, gave me a towel, a wet towel to put on my neck, and I was about to leave and [Supervisor DD] offered me a drink of Gatorade if I had a cup. . . . I just left to do my – because we have a time crunch and they want us back at a certain time. So I wasn't going to say no to my supervisor.

(Tr. 339-40)

Bruce Goetz is the Eastern Area safety manager for the Postal Service (Tr. 447). He testified the Postal Service uses approximately 30,000 LLVs in the Eastern Area. He acknowledged LLVs "can get hot" in the summer, and that "could be a factor" in heat-related incidents (Tr. 506).

Overtime-Desired List and Scheduling

City routes are configured so letter carriers can complete them in 8 hours. Regular city carriers are guaranteed 8 hours per day in accordance with the CBA and must be paid overtime for any time worked over 8 hours. Postmaster CE was the city delivery supervisor for the Martinsburg Post Office in 2016 (Tr. 626). She explained carriers could choose to be on *work assignments*, for which "they are willing to work however many hours in a day that it took to complete their route. . . . They did not want to work their day off, but they would work as many hours in one day as they needed." (Tr. 644)

Every quarter, management posts an *overtime-desired list* on the post office bulletin board. Carriers could sign up to be on the 10- hour or 12-hour overtime desired list, for which they are willing to work up to 10 or 12 hours every day (Tr. 370-71). "They would help on other routes, either a case, or carry, or both and they would also work on their day off if they were needed." (Tr. 643) The lists run from quarter to quarter, and carriers have to sign up each time if they want to remain on the list. Carriers can choose to be on the list one quarter and off the next (Tr. 644)

If a city carrier believes it will take more than 8 hours to complete his or her route on a given day, the carrier can submit a form (Form 3996) in the morning to request more time (overtime) or help (auxiliary assistance) (Tr. 641). Postmaster CE testified she would approve or disapprove the request based on the amount of mail the carrier had that day. "I could compare

that request to the DOIS [(Delivery Operations Information System)] workload status report.[11] And also I could look at the mail myself, see that what the carrier has, and then make the determination." (Tr. 641)

Postmaster CE was asked what happens when a city carrier has already clocked out to the street and is delivering mail when he or she notifies management the route will not be completed in 8 hours. She responded, "If the carrier is an overtime carrier, an overtime-desired carrier, I would allow them to carry the mail themselves. If the particular carrier was an . . .8-hour worker, I would send either an overtime person to finish carrying the route for them, or maybe a CCA if I had one." (Tr. 642)

Supervisors often assign letter carriers a *pivot* or *bump* to facilitate mail delivery. RLC-2 explained the use of pivots. "Pivoting is something that usually occurs during the summer when the mail volume is lower. It is a management strategy to . . . 'capture the savings.'" (Tr. 296) For example, if on a given day some city carriers complete their routes in 7½ hours, their supervisors can determine they are undertime and assign them an additional half hour of street time to meet their 8 hour minimums. Supervisors may divide up an auxiliary route, which has no regularly assigned carrier, and assign portions of the route (pivots) to various carriers (Tr. 296-97). "So they're not only carrying their own route but they're carrying part of another route just to make their 8 hours in the summer." (Tr. 297)

RLC-2 believes the Postal Service benefits financially from assigning pivots because it saves money by paying for fewer hours at the end of the day. "They're not paying an extra 3 or 4 hours to carry a route or auxiliary route or whatever. It's being absorbed by the regular carriers." (Tr. 297-98) This strategy comes at a physical cost for the carriers, according to RLC-2. "The downside is this happens during summer. And when you're already out there and it's 90 or 95 degrees or maybe even a 100 index day, you've already had a tough enough day as it was. And now you're out there another half hour or 45 minutes or whatever, carrying somebody else's route in addition to yours." (Tr. 298) RLC-2 conceded that when the Postal Service assigns pivots to regular carriers, it is utilizing hours for which it is contractually obligated to pay (Tr. 301).

[11] The DOIS program generates daily workload status reports that calculate "how many hours it should take the carriers to case up their mail, what time approximately they should leave, and what time approximately they should return." (Tr. 641)

Time Pressure

LC-2 felt pressure to complete her route as quickly as possible every day. She does not usually take the 30-minute lunch break to which she is entitled because she is trying to complete her route and get back to the post office by 6:00 p.m. (Tr. 177-80). She has been yelled at by a postmaster for failing to meet her evaluated time. She witnessed Supervisor DD send LC-4 back out to deliver mail on another route after she had vomited while delivering mail on her assigned route (Tr. 181-84).

LC-3 testified she has felt pressure to complete her route more quickly (Tr. 219).

> If we're going to go over the 8 hours, they want you to explain why you're going over the 8 hours. And they don't take into account the human factor that customers are going to ask you questions, if you have to pick up packages, and things of that nature. . . . When you get back in the office, they usually ask you: "What took you so long? We didn't have that much mail; it shouldn't have -- you shouldn't have taken this time on the street."

(Tr. 219-20)

In the summer of 2016, city letter carriers were permitted to take *comfort breaks,* to use the restroom, buy or refill beverages, or cool off (Tr. 644). Asked if carriers were allowed to take extra breaks in hot weather, LC-3 replied, “They say we can, but they pressure you if you do.” (Tr. 221) As a city carrier, LC-3 was entitled to overtime. On days when she took longer than 8 hours to complete her route, she was paid for the overtime, and she was not disciplined for exceeding 8 hours (Tr. 238-39).

RLC-2 testified regarding the pressure carriers feel to work faster, in part due to the GPS-equipped scanners they carry to scan bar codes on parcels as they deliver them.

> The time pressure that’s exerted on the employees through the GPS in their scanner could make them want to hurry because they know that they’re being tracked. They can even hear the pings in their scanner being tracked. And the supervisors at the desks watching the little pins every -- whatever it is -- minute, you know, watching them on the street. So just the time pressure involved in that. . . . [M]anagement knows exactly where you are on the map and can track you on the map and print out a map of exactly where you are. They even know if you’re off your route. . . . At one time I had a Postmaster actually called me up or texted me and wondered where I was. I was taking a break and he wanted to know what I was doing, you know, and it was just one of my two scheduled ten minute breaks. He knew where I was.

(Tr. 287-88)

LC-5 is a city letter carrier for the Martinsburg Post Office (Tr. 361). She testified, "We're under a lot of pressure to get the mail delivered and be back, preferably by 5:00 but by 6:00p.m. at the latest. That's, like, our drop dead time. And it's -- you know, you're pushed, you're pushed, you're pushed to do more. If you happen to get done early, they find more for you to do, to go help someone else. So you -- it's just not a real comfortable working situation." (Tr. 365-66) She testified management's attitude towards comfort breaks is "two-sided. Out of one side of their mouth, they will say it's hot, take more breaks in the shade if you need them. And out of the other side, it's hurry up because you need to be back by 6:00." (Tr. 367)

Hydration

In the summer of 2016, the Martinsburg Post Office placed marine coolers containing ice and bottled water in a vestibule next to the parking area for the LLVs. The post office also provided two water fountains and a breakroom with a sink and faucet, a refrigerator, and a vending machine (Exh. R-32; Tr. 585-86, 634-37). City and rural carriers had access to "[a]ll the water, the water coolers, the marine coolers were full of ice, and we have ice bags in the freezer." (Tr. 586)

Heat Stress Safety Training

Postmaster TT testified regarding heat stress safety training during the summer of 2016. "We had service talks regarding how to dress, how to stay hydrated, you know, getting good sleep the night before, avoiding alcohol, being mindful of any medications that you took that heat may be a factor of, reminding them to take water, reminding them when they came back off the street to drink as well." (Tr. 600) Topics included how to prevent heat-related illness, recognizing the signs and symptoms of heat-related illness, providing help to those with heat illness, and reporting heat illness (Exhs. R-6, R-7, R-9, R-10, R-12, R-13; Tr. 197-99, 232, 407).

Exhibit R-9 is a copy of safety talk entitled *Beat the Heat*:

May 2016

Beat the Heat, Stay Cool

It's that time of year again, when the temperatures begin to rise, and the potential for heat related illnesses becomes a factor during your daily work routines. It's important to remember the keys to staying cool and safe this summer season.

Here are some quick tips for battling the heat:

1. Hydrate before, during and after work. Prevention is important, so make sure to maintain good hydration by drinking at least 8-ounces of water every 20 minutes.

2. Dress appropriately for the weather. On warm days, make sure to wear light colored, loose fitting, breathable clothing to keep body temperatures down.

3. Utilize shade to stay cool. When possible, use shaded areas to stay out of direct sunlight.

4. Know the signs of heat stress. You should understand what heat stress is, and how it can affect your health and safety. Here are some things to look out for:

- Hot, dry skin or profuse sweating
- Headache
- Confusion or dizziness
- Nausea
- Muscle cramps
- Weakness or fatigue
- Rash

Finally, it's important to notify your supervisor or call 911 if you're experiencing signs of heat related illnesses. This will not only ensure your safety but can also save your life!

(Exh. R-9)

Postmaster TT stated this safety talk was "for everyone in the building, not just carriers. It would have impacted the clerks as well. If I remember correctly, there was a poster that accompanied this, a carrier with a bottle of water in his hand. So that was posted. And this was given frequently, not just once in a while." (Tr. 602)

LC-1 and the August 13, 2016, Incident

LC-1 worked for the Postal Service for 27 years, leaving the job in February of 2017 (Tr. 68).[12] She started her career with the Postal Service as a rural carrier associate (RCA), which is "basically a substitute for a regular carrier. They work when the regular carrier needs time off." (Tr. 67-68) LC-1 worked as an RCA for approximately 7 years and then became a rural carrier (Tr. 65).

LC-1's regular route for almost 20 years was Route 13. Route 13 comprised approximately 780 addresses. LC-1 generally completed the route in 5 or 6 hours once she was

[12] LC-1 did not formally resign or retire. She took leave for a surgical procedure and never returned or contacted the Martinsburg Post Office. LC-1 received a Notice of Removal and several other letters from the Postal Service, to which she did not respond (TR. 96-97). She stated, "I found it hard to return because, prior to going out, I felt I had been harassed: why I couldn't get back in time, why I wasn't meeting my evaluation. I just -- on a daily basis they would come to me and ask me why I couldn't be as fast as I used to be, why I wasn't getting done in time." (Tr. 68)

on the road (Tr. 70). She was expected to be on the street by 11:45 a.m. and back at the post office 5:20 p.m. (Exhs. R-21 & R-22; Tr. 71-72, 100).

Route 13 is a mounted route, meaning the carrier will stay in the vehicle when making most deliveries. At each address, LC-1 would pull up to the mailbox, open it, and insert that day's mail while staying seated in the vehicle. If there was a parcel or mail for which the customer needed to sign, she would exit the LLV and take it to the residence and leave the parcel or get the customer's signature. There were also residential cluster boxes for mail delivery to multiple people (Tr. 76-77, 93, 94).

Every time LC-1 exited the LLV, she was required to curb the wheels, put the vehicle in park, turn off the ignition, set the emergency break, and lock the doors. If she stayed in sight of the vehicle, she could leave the windows rolled down—otherwise she was required to roll them up. LC-1 was in the LLV approximately 80 percent of the route. Perhaps 5 percent of that time was spent in a shaded area. LC-1 chose to take the mail in every day for a 7-Eleven convenience store, where she would also use the restroom and buy beverages. It was the only time on her daily route that she was in an air-conditioned building (Tr. 76-77, 114).

On August 13, 2016, LC-1 arrived at the Martinsburg Post Office at 8:45 a.m. She was wearing shorts and either a T-shirt or a tank top.[13] She cased her mail in the air-conditioned post office workroom. After loading her LLV, she left the post office at 11:10 a.m. She had two or three bottles of water with her. About an hour later, she stopped at the 7-Eleven for a break. She dampened some paper towels and wrapped them around her neck to cool off. She bought bottles of Gatorade, water, and iced tea. She was at the 7-Eleven for about 15 minutes (Exh. R-22; Tr. 78, 80-81, 120-23, 127).

At approximately 12:45 p.m., she began to feel ill. "I started feeling sort of nauseous and sweating pretty profusely. And then as time went on, it got to where I was feeling lethargic and I started nodding. And then I stopped sweating. And I just kept nodding, and it was getting worse as time went on." (Tr. 78-79) Despite feeling ill, LC-1 continued delivering her route for approximately an hour and a half. "I was afraid that if I didn't push myself and try to finish the route that I would be reprimanded in some way for not completing the tasks. . . I've been

[13] Rural carriers do not have a uniform policy (Tr. 346).

harassed in the past about not completing them quick enough and not getting done in the evaluated time." (Tr. 83)

At approximately 2:20 p.m., she decided to return to a house where she had already delivered that day's mail. She had become friendly over the years with the Clarks, the couple who live there. She exited the LLV, making sure to lock it, and knocked on the door. Both Mr. and Ms. Clark came to the door, looked at LC-1, and told her she needed to come inside immediately (Tr. 82-83, 85-86, 127). "[T]hey looked at me, and they said, 'Oh, my God, you need to get in here right away.' And they took me in and sat me down in a chair next to the door. She went and got me a cold rag and put that on my forehead." (Tr. 86)

Ms. Clark called the Martinsburg Post Office and informed Supervisor DD of the situation. Supervisor DD arrived at the Clarks's house. He asked LC-1 if she was able to drive herself to the hospital, and she replied she did not feel it was safe to do so (Tr. 87). He then asked her if she thought she needed an ambulance. Eventually Supervisor DD and LC-1 left together and got in DD's car. LC-1 believed they were going to the hospital but Supervisor DD drove to the Martinsburg Post Office instead to pick up "the necessary paperwork." (Tr. 88) Supervisor DD then drove LC-1 to the Berkeley Medical Center emergency room (Tr. 89).

The attending physician told LC-1 her "kidneys had stopped functioning, and that they needed to admit [her] and try to get [her] kidneys restarted." (Tr. 90) She stayed at the hospital for 2 days, and she was off work for another 4 days (Tr. 90). At the time of the incident, LC-1 was taking several prescription medications daily, including lisinopril, hydrochlorothiazide, oxycodone, oxymorphone, tizanidine, gabapentin, Topamax, and diclofenac (Tr. 118-19).

V. 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 piece of mail 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.[14] 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

[14] "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.

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. . . [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)

LLVs and Air Conditioning

Dr. Thomas Bernard testified regarding the benefits of providing letter carriers with air-conditioned vehicle.[15] The Court found Dr. Bernard qualified, "based on his knowledge, skill,

[15] 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 the [American Conference of Governmental Industrial Hygienists] [(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

experience, training, and education," to testify as an expert "in the areas of industrial hygiene and specifically regarding industrial heat stress." (NH Tr. 808)

Dr. Bernard recommended air conditioning be provided in the letter carriers' vehicles, and he found it to be technically feasible (NH Tr. 823). The goal of a heat stress program is to reduce the metabolic rate. An air conditioned space is "more favorable to dissipating heat by sweat evaporation[.] . . . [T]he air conditioning provides a less humid environment, so that's the thing that really helps make it more favorable to evaporative cooling." (NH Tr. 820) Letter carriers could take breaks in their air-conditioned vehicles and save time driving to an air-conditioned rest area. Air-conditioned vehicles would also assist with the first aid response in the event a letter carrier recognizes the onset of a heat-related disorder. "[A]n air-conditioned vehicle helps facilitate the recovery so that it doesn't progress into an incident." (NH Tr. 823)

Han Dinh works for the engineering department of the Postal Service as its manager for vehicle engineering (NH Tr. 314). He has a Master of Science and a Bachelor of Applied Science, both in mechanical engineering (NH Tr. 316). He is "the chief technical advisor for the Postal Service when it comes to vehicles. . . . [He is] responsible for the research, development, technology, testing and evaluation, including the specifications for mail vehicles for the Postal Service." (NH Tr. 315).

Dinh testified the Postal Service introduced the LLV to its workforce in 1987 and the fleet of over 200,000 vehicles was fully deployed by 1994 (NH Tr. 317, 347-48). In 2014, the Postal Service began its Next Generation Delivery Vehicle (NGDV) project because by that time the LLVs were from 20 to 27 years old and the costs to maintain and repair them were increasing. "[T]he spare parts have been very hard, difficult to find because General Motors stopped making the spare parts for the vehicle. . . . [The engineering department had] to actually design and rebuild and make the new frame for the" LLVs (NH Tr. 320).

LLVs and NGDVs are purpose-built vehicles with right-hand driving. The Postal Service's engineering department convened a supply conference in 2015, attended by representatives from Ford, General Motors, and Chrysler, among others (NH Tr. 321-22). The Postal Service issued a statement of objectives (SOO) and subsequently selected the top six

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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).

suppliers to build prototypes meeting the SOO and deliver them to the Postal Service by the end of September of 2017. The Postal Service began testing and evaluating the prototypes, and that process was continuing at the time of the national hearing (NH Tr. 323-26). Dinh stated the Postal Service is "planning to have the vehicle go into production assembly lines in December 2021, if everything goes right." (NH Tr. 332) Air conditioning was listed as "optional" at the supply conference, but the Postal Service listed it as a requirement in the SOO (NH Tr. 337-38).

The SOO, updated November 20, 2015, by Dinh, provides:

> The vehicles must have air conditioning/cooling systems sufficient to cool the operator's torso area when seated in the driving position with the driver's window open, so that the air temperature at the operator's torso area is maintained at or below 85 degrees Fahrenheit when the outside temperature is 120 degrees Fahrenheit. Cooling is only required in the operator cab.

(NH Exh. C-161; NH Tr. 352-53)

Dinh explained the Postal Service has not committed to deploying air conditioned vehicles to its workforce but wanted to study its efficacy.

> We wanted to study the feasibility of the air conditioning in the delivery vehicle with the window open, with carriers getting in and out all the time. So the intent behind to have a requirement in the SOO codified so that we can have a chance to study whether we can efficiently cool the vehicle with everything open and we go at the extremely low speed. And you probably are aware that all delivery vehicles, from UPS, from FedEx, none of them have air conditioning today in their vehicles. So we wanted to study it.

(NH Tr. 339-40)

Dinh explained the rationale for requiring the capacity for cooling the interior of the cab to 85°F when the outside temperature is 120°F.

> My research at the time found out that when the outside temperature 120 degrees, the maximum temperature they can achieve with the AC system is around 70 degrees at the vent where the AC vent is inside the vehicle. So we made an educated guess at the time, if the vent temperature, the coolest temperature at the vent is about 70 degrees and the torso area is far away from the vent because of heat loss between where the vent is and the torso of the driver, so we made an educated guess about 15 degrees. So by the time it gets to the torso with the heat loss -- heat environment coming from the environment, the torso area probably at best can achieve -- optimum temperature would be around 85 degrees. That's educated guess of how the air conditioning system would -- could operate at the time.

(NH Tr. 353-54)

Three of the suppliers submitted prototypes of the NGDV with air conditioning. The Postal Service was in the process of testing and evaluating the feasibility of air conditioning the NGDVs at the time of the national hearing (NH Tr. 363-64). It is Dinh's opinion that equipping vehicles with air conditioning is a matter of comfort, and not safety, for the drivers (NH Tr. 367-68). He testified the Postal Service had not reached a final decision on whether it would require its NGDV to be equipped with air conditioning (NH Tr. 341, 368-69).

Kevin McAdams works for the Postal Service in Washington, D.C., as its vice president of delivery and retail operations. He agreed with Han Dinh that air conditioning is a matter of comfort, not safety, and the ubiquity of air conditioning in contemporary vehicles reflects a societal shift in lifestyle. "What's different today is air conditioning as a comfort feature has become like satellite radio, right? You don't have a tape deck anymore. It's just standard equipment. . . . So that decision is really – society has made that decision. The car manufacturers have made that decision for us. But in 1980 that was not an unusual decision [to drive a vehicle without air conditioning]." (NH Tr. 2098-99)

Dr. Aaron Tustin testified regarding the temperatures inside LLVs.[16] 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)

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[16] 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).

Dr. Tustin concluded the interiors of LLVs were hotter than the outside air temperature after reviewing a report entitled *Postal Vehicle Temperature Test Phoenix District Safety Office 2005* (NH Exh. C-151; NH Tr. 299). The Phoenix report explained the setup and process for the Phoenix test:

> The test set-up consisted of taking temperature readings on three days when the temperatures were above normal in the Phoenix area. The first test was to get baseline data on temperatures in a Long Life Vehicle (LLV) with readings on dew point, heat index, percent relative humidity and the outside air temperature on May 19th, 2005. The follow up testing, on May 20th, consisted of gathering data points comparing two LLV side by side measuring one LLV with windows up and the other LLV with windows down 1½ inches to quantify the difference in temperature. Additional testing was performed on May 23rd gathering data on temperatures on a static Ford Windstar and 2-ton delivery vehicle; both vehicles closed with windows up. The hypothesis was designed to take accurate measurements of the temperature in postal delivery vehicles to answer the question "Are vehicles any cooler with the windows down 1½ inches opposed to windows closed?" The hypothesis was further tested to find out if the vehicle inside temperature increased 75% within the first 5 minutes and 90% of the temperature increase occurred within 15 minutes.

(NH Exh. C-151, p. 1)

The report summarized the Phoenix test results:

> The following conclusions were made from the analysis of the series of tests to compare the rate of rise of temperature in static postal delivery vehicles:
>
> The temperature reached a maximum of 122 degrees inside the LLV at 5 p.m. when the temperature was 101 degrees outside; a temperature differential of 21 degrees. The temperature rose only 4 degrees in the first 5 minutes and 10 degrees within 15 minutes. This did not verify the hypothesis of 75% temperature increase in the first five minutes nor 90% within fifteen minutes. However, the hypothesis did not take into account the constant rise of the outside air temperature during the day. The temperature on the test day ranged from 86 degrees at 10 a.m. to 101 degrees at 5 p.m.
>
> The side by side test of two LLV's comparing temperatures with the windows closed in one LLV and the windows down 1½ inches in the other show very small difference. The results show that at the maximum temperature the difference in temperature was only 2½ degrees. This equates to only a 2% difference in temperature.
>
> . . .
>
> In conclusion, this testing shows that having windows down in a parked LLV does not make a significant impact on the inside temperature.

(NH Exh. C-151, p. 3)

Dr. Tustin summarized the results of the temperature test:

> They put temperature sensors inside an LLV, both with the windows completely closed and also with the windows cracked open about an inch and a half, and they were comparing the interior temperature to outside temperature. I believe they had several conclusions, but some of the main conclusions that I take away from this were that the interior temperature was always hotter, at least 5°F hotter, than the outside conditions.

(NH Tr. 299-300)

On cross-examination, Dr. Tustin conceded the test was conducted in LLVs parked in direct sunlight in a parking lot in Phoenix, Arizona, with the doors closed and the windows either closed or open 1.5 inches. It took an hour for the interior temperature to increase 21°F, and the interior temperature reached 122°F after the LLV sat in direct sunlight for 7 hours. Dr. Tustin agreed he could not think of an example in any of the five Postal Service cases where a carrier left an LLV parked in direct sunlight for an hour or more (NH Tr. 650-52). He also acknowledged the Phoenix test did not factor in any cooling effects from a carrier opening the door to reenter the LLV and driving it with the windows down to the next park point (Tr. 653-54).

The Postal Service hired Rodman Harvey as a consultant in the five cases before the Court.[17] The Court qualified Harvey to testify as an expert "in industrial hygiene, with specialized expertise in assessing the risk of exposure to excessive heat, based on his knowledge, skill, experience, training, and education." (NH Tr. 2766)

Harvey found the Phoenix test report to be unreliable. "In reviewing the document, there's errors with regard to definitions of terms. There's nonsensical statements about temperatures increasing by a certain percentage point. There's representations in the conclusions that don't appear to be supported by the testing that was done. And the testing conditions were not very rigorous in terms of standardization or trying to standardize other variables." (Tr. 2838)

Harvey elaborated on the errors he found in the report:

> Q.: You mentioned definitions. Can you be specific about what you found with regard to the definitions?

[17] 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).

Harvey: Yeah. On page 4 of that document, there's a section called "Definitions". And it has a definition for "heat stress" and then in parentheses it says, "heat index". And then the definition is primarily a definition of heat index and has nothing to do with heat stress, which is the primary word or phrase being defined.

Q.: Mr. Harvey, I notice on the first page of the document, which is marked 0001085, in the first paragraph, there's a reference to "hypothesis" and then it's got 75 percent and 90 percent. What does that sentence mean?

Harvey: I have no idea what it means. It talks about the hypothesis that the temperature increased 75 percent in a certain period or 90 percent, but the temperature is not an absolute scale. So you can't compare two different temperatures using percentages. For instance, 60 degrees Fahrenheit is not twice as hot as 30 degrees Fahrenheit. So I don't know what the hypothesis was or what they were trying to test.

Q.: I believe that the document describes – I guess what I would call the testing conditions for the various vehicles. Did you find any flaws in the testing methods?
. . .

Harvey: [I]n describing the methods when they tested the LLVs, they made a point to point out that the LLVs were both pointing south so that the effect of the sun would be the same on each. And then later they test two other vehicles and one was pointed to the south and one was pointed to the west. So the effect of the sun would be completely different.

Q.: If you look at the first chart or graph or whatever it is on the first page, which begins 0001085, is this trying to tell us the temperature with windows open or windows closed, or what is this trying to communicate? Based on your review of this.

Harvey: I don't know that I can tell the condition of the LLV from what's written here.

(NH Tr. 2838-40) [18]

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

[18] The Court finds the Phoenix test report to be unreliable and accords it no weight. In addition to the flaws pointed out by Rodman Harvey, the record establishes the Phoenix testing conditions do not reflect the actual working conditions of carriers who drove LLVs in Martinsburg, West Virginia.

(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[19] 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).[20]

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

[19] 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).

[20] 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)

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.

(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).[21] 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 have to do as a craft to prevent our brothers and sisters from getting hurt. A few months later, the judge issued her decision.[22] 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

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

[22] 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).

Stand Up Talks and Info Pak Information (attached as an appendix).

(NH Exh. C-106, p. 3) 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
> . . .
>
> [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)

Rural Delivery

The working conditions and payment structure for rural carriers differs from that of city carriers. David Heather of the NRCLA provided an overview of rural delivery for the Postal Service.[23]

Heather described a typical day for a rural letter carrier: Rural carriers report to their post offices and gather their mail, including the delivery point sequence mail that has already been organized. They then case the mail for 2 or 3 hours by sorting it into the slotted sections of the case for each delivery address. The rural letter carriers also gather and sort their parcels. They then load the mail and parcels into their vehicles and proceed on their routes. They deliver and collect mail as they drive their routes, dismounting to walk parcels to the addresses or to deliver

[23] David Heather is on leave without pay from his position as a rural letter carrier in Kansas City, Missouri, while he works as the director for labor relations for the NRLCA (NH Tr. 175-76). His duties include overseeing "all labor relations issues with the Postal Service, including the grievance and arbitration procedure, national arbitrations, area arbitrations, [and] the steward system in the field." (NH Tr. 177)

to business addresses. After completing their routes, the rural letter carriers return to their post offices where they will deal with undeliverable mail (due to an incorrect address, for example) and the mail they collected on their routes (NH Tr. 179-81). Heather testified approximately 45 percent of the rural carriers drive their own vehicles, and the rest drive LLVs (NH Tr. 181-82).

Heather explained the different positions among the rural letter carriers:

> [T]he first designation would be a regular rural carrier. That's a career rural carrier who works either five or six days a week on a full-time regular route. We have another career position called a PTF or a part-time flexible rural carrier. Those folks are only guaranteed anywhere between two and five days of work per week. But they're considered career. They have career benefits. So that's the second category. We have rural carrier associates [RCAs] who are actually not guaranteed a whole lot of work at all. Because when they're hired their job is specifically to fill in for one particular regular carrier. Ideally, we would have an RCA assigned to every regular route so that when the regular carrier is gone that RCA's job would be to fill in. That is a non-career position. And then we have another non-career position that we established fairly recently called an assistant rural carrier. And that position was established specifically to help us deliver parcels on Sundays and holidays. And then we did agree that they could do some other work on Saturdays. So it's basically a weekend position.

(NH Tr. 183-84)

Heather explained rural letter carriers "are kind of an anomaly in the Postal Service and probably in all of labor" in the calculation of their salary (NH Tr. 186). They are paid on the basis of "evaluated time," using

> a daily evaluation which comes from a weekly evaluation of the route. And this weekly evaluation is determined by a mail count which is a periodic time where we take a snapshot . . . most of the time it is [for] two weeks. And during that period of time we establish how many boxes there are on the route; how long the route is in miles. We count, physically count, every letter, every flat, every parcel that the carrier delivers. We count every certified letter. All of these items have a time factor that's been agreed to and in some cases arbitrated by the carriers over the years. And you add up all of these elements. You multiply the time factors. You add all of that up and you come up with a weekly evaluation for the route. And that establishes how that route will be paid and how that carrier will be paid until there is a next mail count or a next substantial change in the route.

(NH Tr. 187)

Rural letter carriers are paid the same amount regardless whether they complete their routes in 6 hours or 10 hours (NH Tr. 188). They cannot earn overtime. "It's a matter of personal motivation and efficiency." (NH Tr. 189) The pay rate includes the time spent casing in the post

office as well as delivering the mail (the street time). Evaluated time is calculated based on 42 different elements. The weather is not one of them (NH T. 188-89, 2484-86).

Rural letter carriers are not permitted the 10-minute morning and afternoon breaks that the city letter carriers take. They are allowed an unpaid 30-minute lunch break "in whatever increments [they] want, wherever and whenever [they] want along the route." Heather assumes "the bulk of our rural carriers probably don't take any of that lunch most days. . . . [T]he incentive is strong. When you get to go home when you're done, that's a strong motivator." (NH Tr. 191) It is Heather's opinion that if rural letter carriers were paid for 30-minute lunch breaks, they would still not take them "[b]ecause rural carriers want to get done and go home." (NH Tr. 195)

Rural letter carriers are expected to return to their post offices in time for the evening dispatch, when "the last truck comes to the office to pick up the outgoing mail." (NH Tr. 191) If a rural letter carrier misses the evening dispatch, a postal employee will have to drive to the distribution center with collected mail (NH Tr. 192). Heather stated, "[T]here's always pressure to make it back to dispatch. I think that's especially high during the peak season when the weather's bad, when we have a lot more parcels than we normally would. When I say 'peak' I mean Christmas. . . . [T]here are folks who have trouble getting back before the dispatch even during all seasons." (NH Tr. 193)

James Boldt has been the Postal Service's manager of rural delivery since 2013 (NH Tr. 2466). He is responsible for overseeing the policy and procedures of rural delivery, including the efficiency of operations and changes in standards for how rural carriers perform their duties (NH Tr. 2470).

Boldt testified the Postal Service delivers on 78,500 rural routes nationwide, in 64 of its 67 districts, to approximately 45 million delivery points (NH Tr. 2470). He stated people often envision "rural" as farm country but in reality "city delivery is basically urban and suburban, and rural delivery is suburban and rural. . . .[A]bout 58 percent of the rural routes are actually in locations that I would consider more suburban." (NH Tr. 2471) Each year, the Postal Service adds 1.1 to 1.5 million new deliveries, and up to 75 percent of those are on rural routes. The Postal Service employs approximately 132,000 regular and replacement rural letter carriers. Regular rural letter carriers are career employees who deliver on a regular route. Replacement carriers, or rural carrier associates (RCAs) are noncareer employees who relieve regular carriers

on their scheduled days off, or when they take annual or sick leave. The Postal Service also employs approximately 6,500 associate rural carriers (ARCs) who deliver on Sundays and holidays. The NRLCA represents all three categories of rural carriers (NH Tr. 2472-73).

The majority of rural deliveries are to curbside mailboxes; park and loop routes are rare. Approximately 53 percent of rural letter carriers drive vehicles provided by the Postal Service (mainly LLVs). The remaining rural letter carriers drive their personally owned vehicles (POV), for which the Postal Service provides a maintenance allowance (NH Tr. 2478-79, 2481-82).[24]

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 was explaining to the managers and the supervisors, we had four types of 3996, all heat off for half an hour.
>
> 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" 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.

[24]The Postal Service offers an incentive of $1,000 to rural carriers to buy a right-hand drive vehicle as a POV. It offers an incentive of $500 for purchase of a conversion kit to modify a left-hand drive vehicle so it can be driven from both sides (NH Tr. 2480). Boldt testified the conversion incentive is "very limited in today's world. . . Airbags have kind of prevented that from happening because to put that steering wheel on the right side, you now interfere with the safety of the vehicle, so it's pretty much a nonevent in today's world." (NH Tr. 2480)

> 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)[25]

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

[25] 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.

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 3993 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)

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 or calling in sick. In this case, every city and rural carrier, active and retired, testified they were "harassed" or "pushed" or "yelled at" when they asked for more time or assistance (Tr. 68, 93, 177-84, 219-21, 287-88, 365-67). 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)

Even if the letter carriers in these cases did not suffer heat-related illnesses, they were experiencing illnesses of some sort and were plainly in distress. Yet in every one of the five local cases, supervisors to whom carriers reported their ailments either ignored the calls or texts or exhibited dismissive and disparaging attitudes towards the carriers. To discourage requests for overtime or sick leave, supervisors intimidated, belittled, and, in at least once case, bullied carriers, creating an atmosphere of disquiet and suspicion. These cases reveal a pervasive culture of mistrust and skepticism on the part of postal supervisors regarding reports of injuries or illnesses made by carriers. The supervisors' indifference and the carriers' reluctance to engage in confrontational conversations with management contribute to the stress already inherent in meeting the unforgiving demands of the 24-hour clock.

VI. 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)

Item 1 of Citation No. 1 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 recognized hazards related to working outside during periods of excessive heat.
>
> a) On August 13, 2016, at job sites located on mail routes in Martinsburg, West Virginia, with an afternoon heat index of 103 degrees Fahrenheit, the employer exposed employees to the recognized hazard of excessive heat during mail

delivery. Beginning at approximately 11:30 a.m., a rural letter carrier began delivering mail from an enclosed Postal Service truck (LLV) without air conditioning and in the direct heat. At approximately 1:30 p.m. the employee began feeling the symptoms of heat stress. The employees was hospitalized and diagnosed with heat related illness.[26]

A. Existence of a Hazard

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

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 identifies the workplace at issue as "outside." The Citation identifies the hazard presented as "excessive heat." The "condition or activity" that presented the alleged hazard appears to be the afternoon heat index of 103°F.

Heat Stress Hazards

The Secretary called Dr. Tustin to testify regarding excessive heat exposure. He 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)

[26] At the beginning of the hearing, counsel for the Postal Service requested a standing objection "to any reference to the hazard as being anything other than excessive heat, as defined in the citation." (Tr. 14-17) The Court granted the Postal Service's request. At the national hearing, the Court ruled that in the context of the five Postal Service cases, references to "excessive heat," "heat stress," or similar formulations are "all the same issue regarding the § 5(a)(1) citations that have been alleged." (NH Tr. 1339) The Commission has also recognized these phrases are interchangeable in the context of § 5(a)(1) cases alleging exposure to the hazard of excessively high temperatures. *See Duriron Co., Inc.*, No. 77-2847, 1983 WL 23869 (OSHRC April 27, 1983) ("heat stress," "excessive heat," "extreme heat"); *Industrial Glass,* No. 88-348, 1989 WL 88787 (OSHRC April 21, 1992) ("heat stress," "excessive exposure to heat").

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 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). Unlike heat stroke, there is no diagnostic test for heat exhaustion (NH Tr. 536). Less severe conditions caused by heat stress include heat cramps, heat rash, and heat syncope (fainting) (NH Tr. 261).

LC-1 and the August 13, 2016, Incident

Dr. Tustin reviewed weather data from the National Weather Service (NWS) for Martinsburg, West Virginia, on August 13, 2016 (NH Exh. C-304; NH Tr. 445). The NWS data showed the highest temperature in Martinsburg on August 13 occurred at 3:53 p.m. It was 93°F, and the relative humidity was 58 percent, resulting in a heat index of 106°F.

Dr. Tustin testified a heat index of 106°F is hazardous, based on epidemiological studies and cases he has reviewed (NH Tr. 447). 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. 419)

Dr. Tustin reviewed LC-1's hearing testimony and medical records, and he gave his opinion of her medical condition at the time she arrived at the hospital on August 13, 2016.

> She was in the hospital for, I believe, two days, and they performed several tests. The ones that I thought were most pertinent were the blood tests. So they tested her creatinine level, which I've already mentioned for the previous case. Her creatinine level was elevated about four times the upper limit of normal, according to my – what I recall. And so that's essentially diagnostic of what we call kidney failure or renal failure. Her blood pressure was low, so that's an objective vital sign that we look at. That was probably a causal factor in the renal failure. They had her seen by a nephrologist, who's a kidney specialist. And the nephrologist concurred that this was acute renal failure due to prerenal kidney injury. . . . [The attending physician] diagnosed her with, like I said, acute renal failure, which resolved by the time she was discharged. And they diagnosed her with heat exhaustion, which also resolved by the time she was discharged two days later.

(NH Tr. 452-53)

LC-1 had gone to the emergency room approximately 2 weeks before the incident at issue, on July 28, 2016. She was diagnosed with a urinary tract infection (UTI), hypotension, renal failure and essential hypertension, and was given a prescription for Ceftin (NH Tr. 3023-24). Dr. Tustin disagreed with the diagnosis of UTI.

> She did not have any pain or burning with urination. She didn't have any flank pain, so pain around the region of the kidneys or in the region of the bladder on physical exam. The lack of those symptoms really reduces the likelihood of a UTI. And the reason they diagnosed a UTI was based on a urinalysis. But when I looked at the urinalysis results, it was contaminated, which that means that it wasn't a clean urine sample. And when you do a urinalysis, you're trying to examine a clean sample directly from the bladder. But sometimes when the patient urinates, the sample can be contaminated by cells or bacteria or other things from the surrounding tissue. The laboratory in July specifically mentions it was a contaminated urine sample. They said that it should be repeated because it was contaminated. So you really can't diagnose a UTI based on a contaminated urine sample.

(NH Tr. 459). LC-1 was also diagnosed with a UTI during her stay at the hospital that began 2 weeks later on August 13, 2016 (Exh. R-35, p. 305).

Dr. Tustin was asked about the side effects of one of the medications LC-1 was taking.

> Q.: [C]an topiramate cause sweating cessation?
>
> Dr. Tustin: Yes, I've seen that. I've seen that listed as a side effect.
>
> Q.: In this case in August of 2016, do you believe that topiramate caused [LC-1] to stop sweating?
>
> Dr. Tustin: No, I don't think so. . . . [T]here are actually several reasons, but probably a couple of the most important ones are the mechanism just doesn't make sense to me. If topiramate caused someone to not be able to sweat, then you wouldn't see sweating in the morning and then suddenly stop sweating in the afternoon, for one thing. I think that if it was due to topiramate that's she's been taking for months or years, then you wouldn't see that abrupt change from sweating to not sweating.
>
> And the other thing I think is that it doesn't really make sense that it would cause dehydration. If topiramate prevented somebody from sweating, that would actually protect against -- protect against dehydration because the person wouldn't be sweating, so they wouldn't dry out like someone dries out when they are sweating a lot. And so if it was due to the topiramate, then she, in my opinion, would not have developed the dehydration-related acute renal failure. . .
>
> [T]hey instructed her to continue taking the topiramate. So that indicates to me that they did not think it had a causal role in her acute renal failure. I think a physician would not have instructed a patient to continue taking a medication if the physician thought that it had caused acute renal failure that was serious enough for hospitalization.

(NH Tr. 460-62)

On cross-examination, Dr. Tustin conceded LC-1's opioid usage could cause some of the same symptoms he attributed to heat exhaustion.

> Q.: Can taking opioids cause UTIs?
>
> Dr. Tustin: I believe I have seen that, yes.
>
> Q.: And can UTIs cause dehydration?
>
> Dr. Tustin: They can, yes.
>
> Q.: Can taking a high dose of opioids cause low blood pressure?
>
> Dr. Tustin: Again, I don't remember all the side effects of opioids, but it might be possible.
>
> Q.: Can it cause fatigue?
>
> Dr. Tustin: Possibly.
>
> Q.: Some of the literature I've read says it can cause sedation. Do you agree with that?
>
> Dr. Tustin: Yes. Yes, I agree with that.

(NH Tr. 692).

Dr. Shirly Conibear also reviewed LC-1's medical records.[27] 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)

Dr. Conibear concluded LC-1 did not experience a heat-related illness on August 13, 2016 (NH Tr. 3021). She noted that when LC-1 had gone to the emergency room previously on July 28, 2016, she had complained of "nausea, dizziness and generalized weakness for a few days." (NH Tr. 3024) At the time she went to the emergency room, LC-1 was taking the

[27]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).

medications "atorvastatin, lisinopril, omeprazole, oxycodone, oxymorphone, tarzanadine and topiramate." (NH Tr. 3024)

Dr. Conibear testified regarding the uses and side effects of the medications LC-1 was taking. Topiramate (Topamax) is a carbonic anhydrase inhibitor, used to suppress seizures and as an anti-psychotic. Side effects of topiramate include cessation of sweating and increased body temperature (NH Tr. 3033). Lisinopril lowers blood pressure, which can cause symptoms of fatigue, dizziness, and lightheadedness (NH Tr. 3025-26). Hydrochlorothiazide a diuretic, "so it causes volume depletion of about a liter and a half of fluid. . . . [I]t basically reduces blood pressure by eliminating the amount of fluid there is to pump around. So it works in concert with the lisinopril to lower blood pressure." (NH Tr. 3026) Diuresis is not a side effect of hydrochlorothiazide but is "the desired effect. You're giving it to them so that they will become dehydrated and that lowers the blood pressure." (NH Tr. 3040)

Two of LC-1's medications were synthetic opioids: oxycodone (prescribed four times a day) and oxymorphone (prescribed three times a day) (Tr. 3025). Dr. Conibear explained doctors calculate the morphine equivalent dose (MED) to determine a patient's cumulative daily intake of any drugs in the opioid class to reduce the likelihood of an overdose.

> [Morphine] was the ultimate pain reliever for many years and then when the synthetic opioids came out, there was a question about how to switch people who were taking morphine to these drugs and how -- there was no experience with them. So this was a way of equating it to what doctors were using previously. It's also a way of in terms of looking at overdose, what the risk is. Basically, they all work the same way. They just have different timings of when they act.

(NH Tr. 3030)

Dr. Conibear stated an MED of "60 would be considered a very substantial dose currently." (NH Tr. 3031) She calculated LC-1's MED as 240, or four times the recommended dosage (Tr. 3030-31). When asked what side effects could result from such a high dosage, Dr. Conibear responded, "[D]efinitely somnolence and lethargy and sleepiness. Can also lower blood pressure, suppress respiration. It can also paradoxically cause cramping, cause urinary retention and the bowel stops working. Those are the most common. . . . [Urinary retention] does tend to lead to urinary tract infection." (NH Tr. 3030)

Dr. Conibear testified the symptoms LC-1 reported at the ER on August 13, 2016, ("nausea, stopped sweating, and lethargy") were "very similar" to the symptoms she reported July 28, 2016, when she was diagnosed with renal failure (NH Tr. 3035). Dr. Conibear believes

the hospital correctly diagnosed LC-1 with a UTI during her stay that began on August 13, 2016. "[I]t was diagnosed by a nephrologist and she had an elevated white blood count and she ascribed to having had urinary tract infection symptoms for the previous two weeks." (NH Tr. 3036) LC-1's discharge records reflect "her neutro cells are elevated ... It's called a left shift and it signifies infection somewhere in the body, usually a bacterial infection." (NH Tr. 3039).

Dr. Conibear concluded LC-1's medication use, in combination with the UTI, caused LC-1's hospitalization on August 13, 2016, not excessive heat.

> Q.: Is it your belief that her symptoms were caused by her medications on August 13, 2016?
>
> Dr. Conibear: Yes.
>
> . . .
>
> Q. [W]hat symptoms would the opioids cause?
>
> . . .
>
> Dr. Conibear: Somnolence, sleepiness, and they could have lowered her blood pressure to a certain extent. They could have been responsible for her muscle spasms, for her chronic dizziness, nausea, lethargy.
>
> Q.: What symptoms would the diuretics cause?
>
> Dr. Conibear: Diuretics cause dehydration and they cause low blood pressure, and that can cause feeling of fatigue and weakness and dizziness.
>
> Q.: What symptoms would the topiramate cause?
>
> Dr. Conibear: Topiramate can cause lack of sweating and it also can cause sleepiness, dizziness.
>
> Q.: [LC-1] had been taking some of these medications for quite some time, or had she?
>
> Dr. Conibear: Yes, quite some time.
>
> . . .
>
> Q.: So if she had been taking these medications for years without suffering side effects other than July 28th, is the differentiating factor the urinary tract infection?
>
> Dr. Conibear: Yes, I would say so.

(NH Tr. 3047-49)

Dr. Conibear stated that a UTI "causes an inflammatory response, so it's not just in the organ that's infected itself. It's that icky feeling that you get when you have the flu. It's called -- it actually has a name now. It's called systemic inflammatory response. The whole immune system gets roiled up and it gives you those feelings that people associate with being sick." (NH Tr. 3049-50). She disagreed with the LC-1's diagnosis of heat exhaustion. "[E]verything that she

had is explained by the diagnoses list that we went through, with the exception of heat exhaustion." (NH Tr. 3052)

Dr. Conibear noted LC-1's medical records state under "Final Diagnoses" that one of her diagnoses was "Heat exhaustion, unspecified, *initial encounter*." (Exh. R-35, p. 279) (emphasis added) "That's what was diagnosed in the ER. . . . I think she continued to have the same problem August 13th that she had July 28th. She had hypotension and that caused her kidney problems, and those were the drug side effects and she had a urinary tract infection." (NH Tr. 3053) When asked if LC-1 would have manifested the same symptoms had she been working when the heat index was 70°F, Dr. Conibear replied, "Yeah, I don't think it would have made any difference." (NH Tr. 3054)

Credibility Determination

Dr. Tustin testified unequivocally that heat stress caused LC-1's illness that led to her hospitalization on August 13, 2016. Dr. Conibear was just as adamant the heat index of around 103°F at the time LC-1 sought help from the Clarks that day had nothing to do with her illness, which was caused by predisposing conditions. 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. The Court does not, however, find their conclusions regarding the cause of the illness of LC-1 to be particularly helpful.

Dr. Tustin and Dr. Conibear reviewed the limited information presented in the medical records and appeared to conclusively diagnose LC-1's condition. They each appeared to be beyond doubt as to cause of the illness of LC-1, whom they had never met or examined. They selectively discounted diagnoses in LC-1's medical records that did support their opinions but relied on other diagnoses that aligned with their seemingly predetermined conclusions.

Dr. Conibear was unwavering in her opinion the hot weather on August 13, 2016, in Martinsburg had no causal link to the illness of LC-1.

> Q.: Didn't you testify in your deposition that due to her medications, [LC-1]was more susceptible to suffering an illness as a result of exposure to heat stress?
>
> Dr. Conibear: Yes.
>
> Q.: And didn't you testify during your deposition that the drugs [LC-1] was taking interfered with her body's ability to dissipate heat and therefore made her more likely to become ill?
>
> Dr. Conibear: Yes.

> Q.: Meaning she was more prone to having a heat-related illness?
>
> Dr. Conibear: Yes.
>
> Q.: And so is it your opinion that [LC-1] did in the end suffer a heat-related illness . . . [c]aused both by her exposure to heat stress and her medications?
>
> Dr. Conibear: No.

(NH Tr. 3198)

The unyielding stances of Dr. Tustin and Dr. Conibear as to whether heat stress caused the illness of LC-1 on August 13, 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 LC-1 on August 13, 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.

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 LC-1 was caused by exposure to heat stress rather than the effects and side effects of the multiple medications she took and the UTI

she may have had (the Postal Service did not prove it was not caused by heat stress 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 illness of LC-1. The fact the incident 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 LC-1 on August 13, 2016, it is still his burden to prove that high temperature or heat index on that day exposed Martinsburg's 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, "[O]n 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. 30)[28] In this case, however, the Postal Service vigorously disputes the temperature or heat index on August 13, 2016, presented a hazard to Martinsburg'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. §

[28] 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.

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 judge 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 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.[29] If Commissioner

[29] 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

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*.

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:[30]

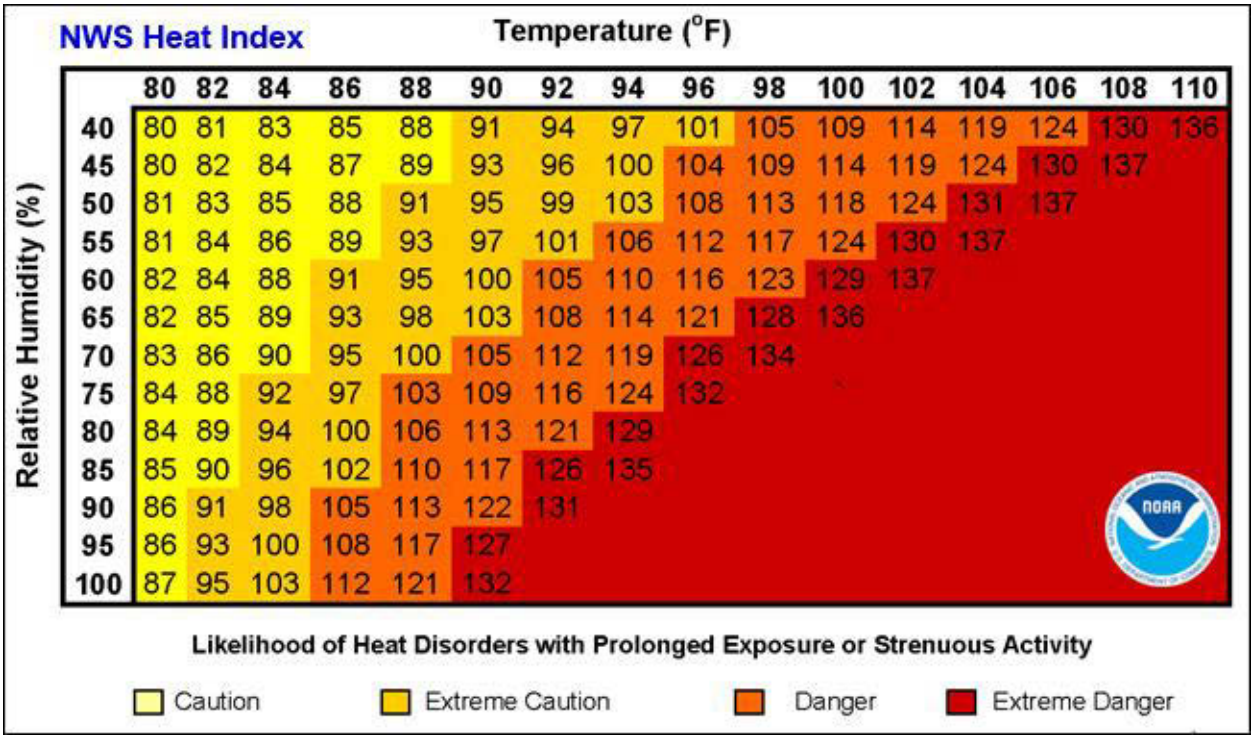
F.2d at 104 (the Act "is intended only to guard against significant risks, not ephemeral possibilities").

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.

[30] Exhibit C-23 is a copy of the heat index chart admitted at the hearing. Reproduced here is the chart from the NWS website at https://www.weather.gov/safety/heat-index.



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).

Rodman 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." (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 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 no scientific basis for the risk levels exists, 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 presented 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.

LC-1began work at 8:45 a.m. on August 13, 2016, casing her route's mail in the air-conditioned workroom of the post office. She he began delivering mail on Route 13 at 11:20 a.m.

and took a 15-minute break in the air-conditioned 7-Eleven around 12:10 p.m. At approximately 2:20 p.m., she went to the Clarks's residence, where they invited her inside their air-conditioned house. She waited there until supervisor DD arrived to take her to the hospital (Exh. R-22; Tr. 127).

From this schedule, the exposure of LC-1 to temperatures at specific times can be extrapolated. Dr. Tustin created a chart based on data from the National Weather Service (NWS) for August 13, 2016, in Martinsburg, West Virginia (NH Tr. 446).

August 13, 2016

Local Standard Time	Eastern Daylight Time (EDT)	Temperature	Relative Humidity	Heat Index
0853	9:53 a.m.	84°F	77%	93°F
0953	10:53 a.m.	87°F	70%	98°F
1053	11:53 a.m.	91°F	61%	103°F
1153	12:53 p.m.	93°F	56%	105°F
1253	1:53 p.m.	92°F	58%	103°F
1353	2:53 p.m.	92°F	60%	105°F
1453	3:53 p.m.	93°F	58%	106°F

(NH Exh. C-304)

On August 13, at 11:53 a.m., after LC-11 had been working for approximately 43 minutes, the heat index was 103°F, which is in the extreme caution section of the chart. At 12:53 a.m., after LC-1 had been delivering mail for an hour and a half (having taken a 15- minute break in an air-conditioned building), the heat index was 105°F, which is in the extreme caution section. At 12:58 p.m., the heat index was 100°F, which is still in the danger section. The next heat index recorded is 103°F at 1:53 p.m. LC-1 arrived at the Clarks's house around 2:20 p.m.

Over the course of approximately 2 hours and 55 minutes (subtracting the 15-minute break from the time LC-1 clocked out to the street at 11:10 a.m. until 2:20 p.m.), LC-1 drove her LLV as heat index values hovered between 103°F and 105°F, which the heat index chart places in the extreme caution and danger sections. Nothing adduced by the Secretary in the Martinsburg 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. LC-1 generally completed her route in 5 or 6 hours (Tr. 70). Exposure to hot weather for less than 3 hours 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 clarity 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 [American Conference of Governmental Industrial Hygienists] [(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 LC-1 on August 13, 2016, issue was light (Tr. 449-50). A workload characterized as "light" 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 LC-1 was engaged in strenuous activity while working on August 13, 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.

> 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.

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)[31]

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)[32] 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 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

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[31] 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).

[32] 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)

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. 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 specifically regarding industrial heat stress." (NH Tr. 808) Dr. Bernard testified LC-1was exposed to hazardous levels of heat stress (NH Tr. 981-83).

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 Respondent's records ([NH] Ex. C-127), the number of heat-related incidents per year (since 2015) classified by Respondent on its official accident reports (PS Form 1769/301) as caused by "GEN-EXPOSURE EXTREME TEMP-HOT" are: 378 for 2015 ([NH] 1670:9-18); 564 for 2016 ([NH] 1670:19-22); 399 for 2017 ([NH] 1670:23-1671:1); and 631 for 2018 ([NH] 1671:2-5). This is a total of 1,972 heat-related incidents over 4 years. ([NH] 1668:13-1669:16). The 1,972 heat-related incidents came from 1,258 different Respondent facilities across the country and resulted in carriers missing a total of 8,757 days away from work. ([NH] Ex. C-127) Respondent reported to the president of the NRLCA that its carriers suffered 19 injuries in 2015, 29 injuries in 2016, and 23 injuries in 2017. ([NH] Exhs. C-157 and 157)

(Secretary's brief, p. 22)

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 August 13, 20[16], there were 1,284 other rural carriers working in the postal

district that includes Martinsburg, West Virginia, 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.[33] 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 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 vehicles. 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

[33] 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).

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 risk or its 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 the 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 Martinsburg letter carriers to a significant risk of harm from excessive heat on August 13, 2016.[34] The Secretary has not met his burden to establish a condition or activity presented a hazard.[35] The Citation is vacated.

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[34] This conclusion is not intended to minimize the general physical discomfort of letter carriers delivering mail in hot weather. 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).

[35] The Martinsburg case is the only one of the five Postal Service cases in which the cited incident involved a carrier who delivered mail on a mounted route in an LLV. The evidence for a workplace hazard of excessive heat is more compelling in this case than in the cases involving carriers whose routes were primarily park and loop or who drove air-conditioned vehicles.

The Court credits the corroborative, consistent testimony of the seven carriers in this proceeding who testified temperatures in the interiors of LLVs are hotter in the summertime than outside temperatures (In the words of LC-3, "When you're outside the LLV, you have some air movement from a slight breeze, and it just feels more comfortable because you don't have the radiant heat coming at you. The sidewalks don't get as hot as the floorboards." (Tr. 227)).

The evidence, however, falls short of establishing the existence of an excessive heat hazard for two reasons. First, the only references to the interior temperatures of LLVs in Martinsburg comes from RCL-1's testimony that he used a digital thermometer sometime in the early 2000s to take temperature readings on hot days. The Court

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

Assuming the Secretary had established the heat index values on August 13, 2016, presented an excessive heat standard, 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.

1. Alternative Means of Abatement

In *A.H. Sturgill*, the Commission stated,

> Before addressing this element of proof, however, we must first determine whether the Secretary proposed each measure as an alternative means of abatement, in which case implementing any one of them would constitute abatement of the alleged violation, or as a component of a single means of abatement, in which case all of the measures must be implemented to abate the violation. If the former, the Secretary can prevail on this element only if he proves that Sturgill implemented none of the measures. . . . If the latter, he need only show a failure to implement one of them.

Id. at 2019 WL 1099857, at *9.

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concludes his testimony is unreliable and gives it no weight. There is, therefore, no probative evidence establishing the interior temperatures of the LLVs on the days carriers experienced illnesses they attributed to excessive heat.

Second, the Citation alleges the Postal Service employees were exposed to hazards "related to *working outside* during periods of excessive heat." (emphasis added) In contrast, the AVD of the Citation states the carrier became ill as she delivered mail "from an enclosed . . . LLV without air conditioning and in the direct heat." The Citation contradicts itself in asserting the carrier was exposed to excessive heat hazards both when she was "working outside" and when she was delivering mail from an "enclosed . . . LLV." The testimony of the carriers establishes the conditions that make driving an LLV uncomfortable and potentially hazardous (heat rising from the motor, the greenhouse effect created by the large windows, the hot air circulated by the fan, etc.) are separate from the conditions attendant to delivering mail outdoors on foot. "The Secretary must draft a citation 'with sufficient particularity to inform the employer of what he did wrong, i.e., to apprise reasonably the employer of the issues in controversy.' *Alden Leeds, Inc. v. OSHRC*, 298 F.3d 256, 261 (3d Cir. 2002) (quoted case omitted); see 29 U.S.C. § 658(a) (requiring that citations "describe with particularity the nature of the violation")." *L & L Painting Co., Inc.*, No. 05-0050, 2008 WL 4542427, at *4 (OSHRC September 29, 2008). The Court concludes evidence relating to the the alleged hazard of excessive heat in LLVs is not probative of an alleged excessive heat hazard related to working outside.

The Citation presents six proposed methods of abatement (the sixth proposed method includes ten subparts proposing additional methods of abatement) for the alleged excessive heat exposure hazard:

> Among other methods, feasible and acceptable means of hazard abatement include:
>
> (i) Providing a climate-controlled environment or vehicle where heat-affected employees may take their breaks and/or recover when signs and symptoms of heat-related illnesses are recognized,
>
> (ii) Acclimatizing employees returning to work after an extended absence to working in the heat or beginning a new route,
>
> (iii) Training supervisors and other employees in the proper response to employees reporting heat-induced illness symptoms, which includes stopping work, getting to a cool place, and providing help, evaluation and medical assistance,
>
> (iv) Requiring trained supervisors to go into the field and conduct in-person evaluations of employees complaining of heat-induced symptoms [and] arranging for medical attention or other assistance as necessary,
>
> (v) Establishing work rules and practices that encourage employees to seek assistance and evaluation when experiencing heat stress symptoms, and
>
> (vi) Establishing a heat stress management program which incorporates guidelines from the ACGIH's threshold limit values and biological exposure indices and/or National Institute for Occupational Safety and Health (NIOSH) document, "Working in Hot Environments"; such a program should be tailored to the particulars of the employer's work, and may include the following:
>
> 1. Training for supervisors and workers to prevent, recognize, and treat heat-related illness
>
> 2. Implementing a heat acclimatization program for workers
>
> 3. Providing for and encouraging proper hydration with proper amounts and types of fluids
>
> 4. Establishing work/rest schedules appropriate for the current heat stress conditions
>
> 5. Ensuring access to shade or cool areas
>
> 6. Monitoring workers during hot conditions
>
> 7. Providing prompt medical attention to workers who show signs of heat-related illness
>
> 8. Monitoring weather reports daily and rescheduling jobs with high heat exposure to cooler times of the day

Here, the language used to introduce the proposed abatement list ("Among other methods, feasible and acceptable means of hazard abatement include") is similar to the formulation used by the Secretary in *A.H. Sturgill* when introducing the list of proposed abatement methods ("Feasible and acceptable methods to abate this hazard include but are not limited to"). The Commission found

> The abatement portion of the citation . . . begins with a sentence that uses and references the plural word "methods": "Feasible and acceptable *methods* to abate this hazard include, but *are* not limited to: ...," suggesting that each measure is an alternative means of abatement. (emphasis added).

Id. at 2019 WL 1099857, at *9, n. 17.

In his post-hearing brief, the Secretary acknowledges the proposed abatement methods are distinct alternatives, and not components of a single abatement method. "[T]he evidence shows that Respondent could have taken *many steps* to abate or materially reduce the heat stress hazard its employees faced. *These steps include* an adequate work/rest cycle, use of air-conditioned LLVs, an adequate emergency response program, analyzing existing data on employees' heat-related illnesses, employee monitoring, reducing outdoor exposure time, and proper training. *By failing to implement these or equally effective abatement measures,* Respondent exposed its workers to dangerous heat stress hazards." (Secretary's brief, p. 44) (emphasis added)

Having found the Secretary proposed alternate methods of abatement in *A.H. Sturgill*, the Commission concludes, "[I]f the record shows that Sturgill implemented any one of the Secretary's proposed measures, or is equivocal in that regard, the abatement element of the Secretary's burden of proof has not been established." *Id.* at 2019 WL 1099857, at *9. So it is here. If the Postal Service implemented any one of the Citation's six proposed abatement methods, the Secretary cannot meet his burden on this element.

2. Training in Heat-Related Illness Symptoms and Prevention of Heat-Related Illness

The Secretary's sixth proposed means of abatement is

> (vi) Establishing a heat stress management program which incorporates guidelines from the ACGIH's threshold limit values and biological exposure indices and/or National Institute for Occupational Safety and Health (NIOSH) document, "Working in Hot Environments"; such a program should be tailored to the particulars of the employer's work, and may include the following:
> . . .
> 3. Training employees about the effect of heat-related illness symptoms and how to prevent heat-related illnesses.

It is undisputed Martinsburg Post Office supervisors provided heat stress training, including the recognition of heat stress symptoms and the prevention of heat-related illness, to letter carriers prior to the August 13, 2016, incident at issue. Martinsburg supervisors and letter carriers testified on this issue (Tr. 197-98, 407, 487-88, 565-68, 600-05, 645-48).

Postmaster TT, who was the postmaster for the Martinsburg Post Office in the summer of 2016, testified, "We had service talks regarding how to dress, how to stay hydrated, you know, getting good sleep the night before, avoiding alcohol, being mindful of any medications that you took that heat may be a factor of, reminding them to take water, reminding them when they came back off the street to drink as well." (Tr. 600) Topics included how to prevent heat-related illness, recognizing the signs and symptoms of heat-related illness, providing help to those with heat illness, and reporting heat illness (Exhs. R-6, R-7, R-9, R-10, R-12, R-13; Tr. 232, 407).

The Court finds the Postal Service trained Martinsburg letter carriers in heat stress symptom recognition and prevention prior to the arrival of "excessively hot weather conditions," in accordance with the Secretary's proposed method of abatement.

3. 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).[36]

Two of the Secretary's proposed abatement methods listed in the Martinsburg Citation are:

> (ii) Acclimatizing employees returning to work after an extended absence to working in the heat or beginning a new route.

[36]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 it is an executive branch agency." (Secretary's brief, p. 58) The Court disagrees. The burden of proof remains with the Secretary.

. . .
(vi) Establishing a heat stress management program which incorporates guidelines from the ACGIH's threshold limit values and biological exposure indices and/or National Institute for Occupational Safety and Health (NIOSH) document, "Working in Hot Environments"; such a program should be tailored to the particulars of the employer's work, and may include the following:
. . .
2.) Provide a work/rest regimen.
. . .
4.) Including a heat acclimatization program for new employees or employees returning to work from absences of three or more days.
. . .
9.) Allowing employees to modify their work schedules in the summer months to begin an hour to two hours earlier and end their shift one to two hours later.

At the national hearing, the issues of acclimatization schedules, work/rest cycles, and early workday start times were also addressed, along with extra paid breaks. All of these proposals would require the Postal Service to pay for time during which letter carriers are not working or pay additional carriers at regular or overtime rates.[37] 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 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

[37] 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).

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 breaks 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)

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)

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)

Funding for Proposed Abatement Methods

The Secretary presented no witnesses, expert or otherwise, to show funding the proposed additional rest/recovery/acclimatization 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. 61). 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 Respondent'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 ("PAEA") is not a true expense because the act has no mechanism to enforce payment, Respondent suffers no penalty from default, and it intentionally chooses to spend its revenue elsewhere.

(Secretary's brief, p. 60)

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 heat said 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.[38] 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 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.

[38] 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).

> 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.[39]

> 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. 61, n. 28)

It is not the Postal Service's burden to establish the Secretary's proposed abatement methods are economically feasible. The Postal Service has presented 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*)].

[39] 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.

Restrictions Imposed by the CBA for City Letter Carriers

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)

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).

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.[40] [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 Martinsburg letter carriers on June 13, 2016. He has not shown the Postal Service failed to implement any of the alternative methods of abatement he proposed. And he has failed to establish the economic feasibility of his proposed abatement methods related to acclimatization programs, additional paid breaks, work/recovery cycles, and earlier workday start times.

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

[40] 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 breaks (NH Tr. 2236).

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