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.

A.H. STURGILL ROOFING, INC.

Respondent.

OSHRC Docket No. 13-0224

ON BRIEFS:

Scott Glabman, Senior Appellate Attorney; Charles F. James, Counsel for Appellate Litigation; Ann Rosenthal, Associate Solicitor; M. Patricia Smith, Solicitor; U.S. Department of Labor, Washington, D.C.
For the Complainant

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For the Respondent

Arthur G. Sapper, Esq.; Melissa A. Bailey, Esq.; Lucas J. Asper, Esq.; Ogletree, Deakins, Nash, Smoak & Stewart, P.C., Washington, DC and Greenville, SC
For Amicus Curiae Utility Line Clearance Coalition, Tree Care Industry Association, United States Postal Service, and U.S. Chamber of Commerce

Victoria L. Bor, Esq.; Sue D. Gunter, Esq.; Sherman Dunn P.C., Washington, D.C.
For Amicus Curiae North America's Building Trade Unions

Bradford T. Hammock, Esq.; Tressi L. Cordaro, Esq.; Jackson Lewis P.C., Reston, VA
For Amicus Curiae National Association of Home Builders of the United States

Cynthia L. Rice, Esq.; Javier J. Castro, Esq.; Ronald J. Melton, Esq.; California Rural Legal Assistance, Inc.; Oakland, Stockton, El Centro, CA
For Amicus Curiae California Rural Legal Assistance, Inc. and California Rural Legal Assistance Foundation

Stephen M. Phillips, Esq.; Erin Petre Lis, Esq.; Hendrick Phillips Salzman & Siegel, P.C.; Atlanta, GA
For Amicus Curiae National Roofing Contractors Association

DECISION

Before: MACDOUGALL, Chairman; ATTWOOD and SULLIVAN, Commissioners.

BY THE COMMISSION:

A.H. Sturgill Roofing, Inc. is a commercial roofing company based in Dayton, Ohio. After an employee collapsed while working on a roofing project and subsequently died, the Occupational Safety and Health Administration conducted an inspection and issued Sturgill a citation alleging two serious violations. Item 1 alleges a violation of the general duty clause of the Occupational Safety and Health Act, 29 U.S.C. § 654(a)(1), for exposing employees "to the hazard of excessive heat from working on a commercial roof in the direct sun."[1] Item 2 alleges a violation of 29 C.F.R. § 1926.21(b)(2) for failing to instruct employees on the recognition and avoidance of risk factors related to the development of heat-related illnesses. Administrative Law Judge Carol A. Baumerich affirmed both citation items. For the reasons discussed below, we reverse the judge's decision and vacate both citation items.

BACKGROUND

On August 1, 2012, Sturgill was working on the replacement of an approximately eighteen-foot-high, large, flat roof of a bank in Miamisburg, Ohio. Removing the building's existing roof consisted of tearing off a single-ply sheet rubber membrane and Styrofoam insulation under that membrane so that a new roof could be installed. The crew consisted of eleven employees, including three supplied by a temporary staffing company. 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.

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[1] The 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).

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.

DISCUSSION

I. Item 1 (General Duty Clause Violation)

To prove a violation of the general duty clause, the Secretary must establish the following: (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. *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). On review, Sturgill contends that the Secretary failed to prove any of these elements. We agree that proof of at least two of these elements—the existence of a hazard and a feasible means of abatement—is lacking, and therefore find that the Secretary has not met his burden of proving the alleged violation.

Hazard

To prove that a condition presents a hazard under the general duty clause, the Secretary is required to show that it 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). The Secretary also must establish that the hazard at the worksite was "causing or likely to cause death or serious physical harm." 29 U.S.C. § 654(a)(1). The Secretary is not required "to show that an accident is likely but rather that *if* an

accident were to occur, death or serious physical harm would be the likely result." *Beverly Enters.*, 19 BNA OSHC at 1188 (emphasis in original).

In the citation, the Secretary alleges that all of the employees at Sturgill's worksite were exposed to the hazard of "excessive heat from working on a commercial roof in the direct sun during the performance of their duties which included removal of roofing material, tossing the material off the roof into a dump truck, and installation of new roofing material." The judge agreed that employees were exposed to a "heat-related illness hazard," because in her view: (1) the highest "heat index" was 85°F at 10:53 a.m., which is in the "caution" category on the National Oceanographic and Atmospheric Administration's (NOAA) National Weather Service (NWS) heat advisory chart;[2] (2) the employees were generally working in full sunshine and, pursuant to the NWS chart, that permits increasing the temperature by 15°F, placing the heat index in the chart's "danger" category; (3) Brown testified that it felt about 10°F hotter on the roof than on the ground; (4) the work being performed was "physically demanding and strenuous"; and (5) Dr. Theodore Yee, who the judge qualified as an expert in occupational medicine and injuries for the Secretary, testified that there was a "heat-related exposure risk" at the worksite on the day in question that ranged from "heat exhaustion for a younger person up to heat stroke for an older person."

On review, Sturgill argues that the record does not support the judge's findings. Specifically, it contends that the alleged hazard did not exist on August 1, 2012 because excessive heat was not present, claiming that the judge: miscalculated the NWS heat index; should not have given dispositive weight to the opinion of the Secretary's expert witness, Dr. Yee; and erred in finding that the heat conditions at the site were hazardous. The company also argues that the judge should not have used MR's heat stroke as evidence of a hazard, even though her decision explicitly states that her finding of a hazard is not based on MR's illness. Upon weighing the evidence, we conclude that the Secretary has not established the existence of a hazard likely to cause death or serious physical harm.

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[2] The NWS chart calculates a "heat index" based on ambient temperature and relative humidity; it is a measure of "how hot it really feels when relative humidity is factored in with the actual air temperature." The NWS heat index has an annotation that states, "exposure to full sunshine can increase heat index values by up to 15°F."

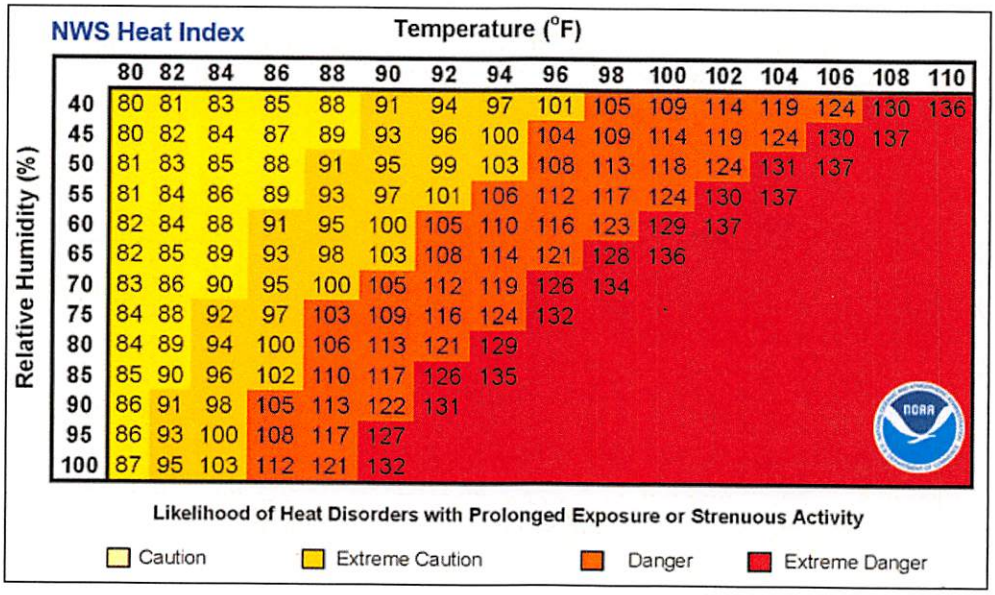
NWS Heat Advisory Chart

We find that the judge erred in her reliance on the NWS chart to establish the existence of the alleged hazard at Sturgill's worksite on August 1 because the Secretary has failed to show that any of the chart's warnings applied to the conditions present that morning. For heat index values of 80°F and higher,[3] the NWS chart sets out four ranges of values and assigns a warning level to each one—caution, extreme caution, danger, and extreme danger—to indicate the "likelihood of heat disorders *with prolonged exposure or strenuous activity*."[4] Consequently, for any of the warnings 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.

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.[5] Yet, we cannot

[3] A heat index of 80°F reflects a temperature/relative humidity combination of 80°F/40%.

[4] The NWS heat index chart states as follows:



[5] The crew worked from 6:00 a.m. until the time MR collapsed, which was approximately 11:40 a.m., and the record is silent as to whether the crew subsequently resumed work that day. There is no evidence that the heat index prior to 9:53 a.m. was high enough to register on the NWS chart—in other words, to even register in the "caution" category. The chart itself does not include heat index values for temperatures below 80°F and the highest recorded temperature prior to 9:53

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.[6] Nor does the record establish that the work performed by Sturgill's crew was "strenuous." Brown explained that employees cut the existing roof's membrane and Styrofoam sheets into small pieces, put the materials into a four-wheel hand cart, and pulled the cart near the edge of the roof for the materials to be discarded—by MR—into a dumpster below. None of the witnesses testified that this work involved anything more than "moderate" exertion; Brown stated that he did not consider the work overall to be strenuous and Dr. Yee characterized MR's work in particular as "light to moderate, if not moderate." Additionally, an OSHA website publication entered into the record that addresses "Occupational Heat Exposure" describes a "moderate work rate category" that fits Brown's characterization of the crew's work that day:

> Under motions, sustained moderate ha[n]d and arm work, moderate arm and leg work, moderate arm and trunk work, moderate pushing and pulling, walking at

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a.m. was 79°F at 8:53 a.m. The record reflects the following temperature and humidity readings for the remainder of the time the crew worked:

Time	Temperature	Humidity	Heat Index
9:53am	82°F	58%	84°F
10:53am	83°F	55%	85°F
11:53am	83°F	51%	84°F

However, these temperatures are based on a measurement the witnesses referred to as "dry bulb" temperature. As Dr. Yee admitted, the "wet bulb globe" temperature is preferred by many as the most accurate measure of climatic heat. The wet bulb temperature is dependent upon "humidity, air movement (i.e., wind), radiant heat, and temperature." OSHA's TECHNICAL MANUAL, Section III, Ch. 4, IV.A. Indeed, even OSHA in its Technical Manual, while not binding and only advisory in nature, states that a wet bulb meter "is the most accurate tool for adjusting the temperature for stress factors." *Id.* The record evidence shows that the wet bulb temperatures for the times noted in this chart are even lower. The highest measured wet bulb temperature during the morning hours of August 1 was 71°F at 10:53 a.m.

[6] Our dissenting colleague would find that MR had "prolonged exposure" to excessive heat after defining such exposure as a half-day's work. We note that she infers this four-hour exposure by adding two hours to the amount of time she presumes the roofing crew would have worked had MR not collapsed—a fact not contained in the record. In addition, it is the Secretary who carries the burden to establish what "prolonged" exposure means, and we conclude he failed to carry this burden by offering no evidence regarding how NOAA defines the term "prolonged," let alone any evidence to aid the trier of fact in understanding the pathophysiology of how environmental temperature/conditions and physical activity contribute to quantifying "prolonged" exposure.

> moderate speed, lifting 10 pounds, ten times per minute or 25 pounds six times per minute. Under example task, picking fruits and vegetables, bending, squatting, painting with a brush, pushing or pulling lightweight carts or wheelbarrows, off-road operation of trucks, tractors or construction equipment, operating an air hammer, weeding or hoeing.

In short, there is no evidence that the work in which any of the employees engaged that day, including MR, was strenuous. Having failed to demonstrate that the work was strenuous or that the workers were exposed to heat index values within any of the NWS warning levels for a "prolonged" period of time, the Secretary has not shown that any of the NWS warnings applied to the conditions at the worksite.

Even if we were to find that the Secretary had established one of these prerequisites, the record shows that only the lowest of the NWS chart's warning levels—the "caution" warning—applied. Indeed, the judge miscalculated the heat index by automatically adding 15°F to the temperature to account for exposure to full sunshine;[7] the NWS chart, however, allows for any increase to be added "to the heat index value[]," not to the temperature. In addition, the chart does not state that the heat index will be increased by 15°F whenever there is full sunshine; it states that "exposure to full sunshine *can* increase heat index values by *up to* 15°F." (emphasis added.) There is simply no evidence in the record addressing the factors that are to be considered when determining how much of an increase (up to 15°F) to apply. Absent such evidence, even if the chart were applicable here, there would be no basis to make any addition to the heat index to account for full sunshine.

In any event, the Secretary has not shown that conditions falling in the caution range rise to the level of a "hazard" under the general duty clause. In the context of the chart's other warning levels—"*extreme* caution, *danger*, and *extreme* danger"—"caution" simply does not connote a *significant* risk of harm.[8] *Cf. Kastalon, Inc.*, 12 BNA OSHC 1928, 1937-39 (No. 79-5543, 1986)

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[7] Sturgill disputes that the employees were working in full sunshine, pointing to the compliance officer's testimony that there were scattered clouds at 10:53 a.m. and broken clouds at 11:53 a.m.; Brown's testimony that it was "partly cloudy" with a "little breeze"; and the presence of available shade on the roof. Given our findings, we do not find it necessary to resolve the dispute as to whether the conditions were closer to "full sunshine" or "partly cloudy."

[8] With respect to a general duty clause violation, "[t]he Secretary must define the cited hazard in a manner that gives the employer fair notice of its obligations under the Act by specifying conditions or practices over which the employer can reasonably be expected to exercise control." *Otis Elevator Co.*, 21 BNA OSHC 2204, 2206 (No. 03-1344, 2007) (citations omitted). The

(consolidated) (finding that the Secretary failed to show that amount of carcinogen presented a significant risk of harm, as the quantitative risk assessment relied on by the Secretary was too speculative). That serious physical harm is merely "possible" does not satisfy the general duty clause's requirement that the hazard be "likely" to cause such harm.[9] *Id.* ("[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."). *See Indus. Union Dep't, AFL-CIO v. Am. Petroleum Inst.*, 448 U.S. 607, 641 & 646 (1980) (plurality opinion) (the Act "was not designed to require employers to provide absolutely risk-free workplaces"; "The legislative history also supports the conclusion that Congress was concerned, not with absolute safety, but with the elimination of significant harm."). Consequently, the NWS chart does not establish that the

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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. A similar problem arose in a case in which the Commission found that the establishment of a permissible exposure limit for a carcinogen should not be done through the adjudicatory process without regulated industries having the opportunity for input through notice and comment rulemaking, as "in a rulemaking proceeding, all interested parties have the opportunity to be heard, and a rule gives employers notice of what they must do to provide safe and healthful workplaces." *Kastalon, Inc.*, 12 BNA OSHC 1928, 1939 (No. 79-5543, 1986) (consolidated). We note that California's Division of Occupational Safety and Health (Cal/OSHA) has had a heat illness prevention regulation in existence since 2006. 8 Cal. Code Reg. § 3395 (2006).

[9] We note that when reviewing the history of cases in which the Commission has addressed the general duty clause, as well as the reason why the clause was included in the Act in the first place, the Commission has from time to time changed its view as to the scope of the provision and what the Secretary must prove for each of its elements. Section 5(a)(1) was originally intended to serve only as a "stopgap measure to protect employees until standards could be adopted." Donald J. Morgan and Mark N. Duvall, *OSHA's General Duty Clause: An Analysis of Its Use and Abuse*, 5 BERKELEY J. EMP. & LAB. L. 283, 297 (1983). The general expectation was that once a hazard was identified through the general duty clause, OSHA would then engage in rulemaking to ensure the hazard was addressed by a standard. *Id.* While practical considerations may have lead OSHA, over the years, to rely on the general duty clause in lieu of setting standards, the provision seems to have increasingly become more of a "gotcha" and "catch all" for the agency to utilize, which as a practical matter often leaves employers confused as to what is required of them.

worksite conditions posed a hazard likely to cause death or serious physical harm[10]—on the contrary, it stands as evidence that the alleged heat hazard was *not* present at the worksite.[11]

Dr. Yee's Testimony

Dr. Yee, the Secretary's expert, testified that the heat conditions at Sturgill's worksite could cause at least heat exhaustion in a hypothetical worker who is age 61, lacks MR's preexisting conditions, and is performing the same work as MR—that is, work involving "light to moderate, if not moderate" physical exertion. Dr. Yee's opinion was based in part on his assumption that

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[10] To establish the existence of a hazard here, our dissenting colleague draws inferences with no support in the record or Commission precedent. She begins by equating "caution" with the concept of a significant risk of harm. The Commission has previously rejected such a suggestion. In *Kastalon*, the Commission held that it is inappropriate to equate the exercise of caution with recognition of a hazard. 12 BNA OSHC at 1932 ("[T]hat employers take certain precautions does not prove that those precautions are required . . . by the general duty clause."). Our colleague then credits Foreman Brown's generalized estimate that the temperature on the roof was "about" 10 degrees hotter than on the ground because he is a roofer and has been one for 18 years. Next, she leaps to the conclusion that this experience gives the foreman specialized meteorological knowledge that qualifies him to estimate accurately the difference between the temperature on the roof and on the ground. While lay opinion testimony is permissible under Rule 701 of the Federal Rules of Evidence if it is rationally based on the witness's perception (e.g., "it felt warmer on the roof), it cannot be based on scientific, technical, or other specialized knowledge or the application of such knowledge to facts or data, as that is the sole province of experts. *Compare* Fed. R. Evid. 701 (Opinion Testimony by Lay Witnesses), *with* Fed. R. Evid. 702 (Testimony by Expert Witnesses), 703 (Bases of an Expert's Opinion Testimony) ("An expert may base an opinion on facts or data in the case that the expert has been made aware of or personally observed."). Similarly, in again equating precaution with hazard, our dissenting colleague erroneously relies on Brown's testimony that he knew it was going to be a "hot," "summer time" day and that his crew therefore needed to take more breaks, as evidence that Sturgill recognized there was a heat-related illness hazard that day. Rather than proving employer recognition, Brown's testimony simply demonstrates that the company properly trained him on taking *precautions*.

[11] In light of our conclusion that the Secretary has failed to establish that any of the levels in the NWS chart are applicable here, the joint motion filed on February 11, 2019 by Sturgill and the Amici to "Take Official Notice of Material Pertaining to Probative Value of National Weather Service's 'Heat Index Chart,' " is moot; we therefore deny the motion. We note that the Secretary has also failed to show that conditions in the caution zone—the lowest category of the NWS chart—pose a hazard likely to cause death or serious physical harm in light of OSHA's own guidance. In "OSHA's Campaign to Prevent Heat Illness in Outdoor Workers - Using the Heat Index to Protect Workers," OSHA suggests that "excessive heat" exists when NOAA issues an extreme heat advisory if the potential exists for heat index values to reach 105-110°F, and identifies heat index values below 91°F as "Lower (Caution)" such that "[b]asic heat safety and planning" is an appropriate protective measure.

conditions at the worksite included working in direct sunshine for a significant portion of the five-hour period that began at 6:30 a.m. and, as a result, the NWS heat index values for that period should be increased by 7.5°F.

Dr. Yee, however, failed to explain on what basis he determined that 7.5°F was the appropriate increase, stating only that "[h]eat accumulates in a person, so I would say it's at least [7.5°F] more" and that a higher increase "would probably find disagreement among reasonable minds." *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"). We therefore give limited weight to Dr. Yee's expert opinion that the conditions at the worksite could cause his "hypothetical worker" to have a serious heat illness. *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).

Indeed, in the absence of credible evidence as to how much, if any, the NWS heat index values for that morning should be increased, the weight of the evidence establishes at most that the heat index was in the caution range for two hours, which as discussed above indicates that the alleged hazard was in fact not present that morning.[12] *See Boucher v. U.S. Suzuki Motor Corp.* 73 F.3d 18, 21 (2d Cir 1996) (court has discretion under Federal Rule of Evidence 703 "to determine whether the expert acted reasonably in making assumptions of fact upon which he would base his

[12] Although the Secretary asserts that MR "worked for about five hours in direct sunlight," direct sunlight exposure alone is not sufficient to fall within any of the warning zones in the chart—which as discussed above the Secretary has not shown even applies here—because the heat index was not at 80°F or above for the entirety of those five hours. To the extent the Secretary is alleging that any of the employees worked for five hours while heat index levels were within any of the chart's warning zones, the evidence does not support such a claim.

testimony") (citation omitted). Consequently, we do not afford Dr. Yee's testimony dispositive weight but instead weigh all of the evidence; in doing so, we find that his opinion that a heat hazard was present is outweighed by the other substantial record evidence considered as a whole. *See Conn. Nat. Gas Corp.*, 6 BNA OSHC 1796, 1800 (No. 13964, 1978) ("[E]xpert testimony is not conclusive; it is up to the trier of fact to determine what, if any, weight will be given that testimony."); *see also* 29 U.S.C. § 660(a) (Commission's findings conclusive "if supported by substantial evidence on the record considered as a whole").

MR's Illness

Finally, the Secretary has argued throughout this litigation that the occurrence of MR's illness alone is evidence that a heat hazard was present at the worksite on the day in question. This reliance is unfounded. Although the coroner and MR's treating physicians diagnosed MR as having heat stroke, the record does not establish that they were aware of the temperature and humidity levels at the worksite that day—which, as discussed above, do not establish the existence of a hazard—or that MR's work involved only "light to moderate" exertion. Moreover, it is undisputed that MR had preexisting medical conditions. Yet the Secretary and our dissenting colleague would have us reason backwards to make a direct causal connection between MR's diagnosis and the conditions at the worksite without any credible supporting evidence.[13] *Compare Arcadian*, 20 BNA OSHC at 2010 ("no question that the hazard of the pressure vessel explosion caused serious physical harm" under 5(a)(1)), with *Coleco Indus., Inc.*, 14 BNA OSHC 1961, 1964 (No. 84-546, 1991) (noting that hazard of disabled interlocks and contacts on elevator, which

[13] The only evidence in this regard is: (1) Dr. Yee's testimony regarding the hypothetical worker and (2) the coroner's testimony that he would not expect MR's preexisting conditions to cause the elevated body temperature that MR suffered. We have already found Dr. Yee's testimony unpersuasive due to the speculative assumption upon which it was based and his insufficient explanation for his opinion, so we do not rely on it here as well. Nor do we rely on the coroner's testimony for the reasons explained above—the record does not show that he was familiar with the conditions at the worksite. Further, even if we were to credit the Secretary's medical evidence and conclude that MR suffered heat stroke, that evidence would at most show it was not exposure to heat alone that caused such condition, but rather a combination of factors, including MR's preexisting conditions.

We also make this determination without reliance on Sturgill's expert, Dr. David Randolph, an occupational physician, who testified that in his opinion, the heat stroke diagnosis by the numerous physicians who treated MR and the coroner who examined him was "inaccurate." The judge discredited Dr. Randolph's testimony on several grounds, and we do not disturb that finding here.

caused employee to be crushed by inadvertent movement of the elevator, was established under 5(a)(1)).

In fact, Sturgill had neither actual nor constructive knowledge of whatever aspects of MR's physical condition might have made him susceptible to becoming ill that day.[14] *Tampa Shipyards Inc.*, 15 BNA OSHC at 1535 (stating that knowledge of the violative condition is required to establish a general duty clause violation). Sturgill did not know MR's age or preexisting medical conditions—MR was a temporary employee provided by a staffing company and the day of the

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[14] 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.

alleged violation was MR's first on the job. Nor did Sturgill have constructive knowledge of that personal information—as Sturgill correctly points out, the company was precluded from seeking it by the Age Discrimination in Employment Act (ADEA), 42 U.S.C. § 12112, and the Americans with Disabilities Act (ADA), 42 U.S.C. § 12101 *et seq.*, as amended by the Americans with Disabilities Act Amendments of 2008, P.L. 110-325 (ADA). While health-related inquiries are permissible under the ADA if job-related and consistent with business necessity, guidance issued by the U.S. Equal Employment Opportunity Commission makes clear that such inquiries are only allowed when an employer "has a reasonable belief, based on objective evidence that: (1) an employee's ability to perform essential job functions will be impaired by a medical condition; or (2) an employee will pose a direct threat due to a medical condition."[15] *EEOC Enforcement Guidance on Disability-Related Inquiries and Medical Examinations of Employees under the Americans with Disabilities Act*, https://www.eeoc.gov/policy/docs/guidance-inquiries.html (permissible questions include "asking an employee whether s/he can perform job functions"); *see also* 42 U.S.C. § 12112(d)(4)(A) (health-related inquiries permissible under ADA if job-related and consistent with business necessity); 29 C.F.R. § 1630.15(e) ("It may be a defense to a charge of discrimination under [the ADA] that a challenged action is required or necessitated by another Federal law or regulation . . . ."); *Miller v. Whirlpool Corp.*, 807 F. Supp. 2d 684, 688-89 (N.D. Ohio 2011) (compliance with general duty clause cannot be used as justification for conducting medical inquiries that screen out an individual because of disability); *Cripe v. City of San Jose*, 261 F.3d 877, 885, 890 (9th Cir. 2001) (citing 42 U.S.C. § 12112(b)(6)) (the standard to prove the "business necessity" defense under the ADA to validate an employer's qualification standard that "screen[s] out or tend[s] to screen out an individual with a disability" is "quite high").

Here, Sturgill made inquiries within the constraints that the ADA and ADEA impose: it asked MR if he had prior roofing experience and whether he was all right once he started work. Since MR responded yes to both questions, Sturgill had no basis to believe that MR may have had medical conditions that could endanger his health if he performed the assigned work; so, it was precluded from inquiring further. Had Sturgill asked about MR's age or underlying health

[15] Although the Secretary correctly points out that certain OSHA standards authorize an employer to inquire about an employee's medical conditions, no such standard is applicable here. *See, e.g.*, 29 C.F.R. § 1910.134(e)(1) ("The employer shall provide a medical evaluation to determine the employee's ability to use a respirator . . . .").

conditions and then taken action on that basis, it could have been subject to a claim for redress under both of these statutes. *See* 42 U.S.C. § 12112(d)(4)(A) (employer "shall not require a medical examination and shall not make inquiries of an employee as to whether such employee is an individual with a disability or as to the nature of the disability, unless such examination or inquiry is shown to be job-related and consistent with business necessity."); 42 U.S.C. § 12117(a) (powers, remedies, and procedures); *see also* 42 U.S.C. § 2000e-5 (enforcement provisions for equal employment opportunities); 29 U.S.C. § 623(a)(1) (unlawful for an employer "to fail or refuse to hire or to discharge any individual or otherwise discriminate against any individual with respect to his compensation, terms, conditions, or privileges of employment, because of such individual's age"); 29 U.S.C. § 626(b) (provision on enforcement; prohibition of age discrimination under fair labor standards; unpaid minimum wages and unpaid overtime compensation; liquidated damages; judicial relief; conciliation, conference, and persuasion). Under these circumstances, the Secretary cannot rely—directly or indirectly—on any susceptibility MR may have had to heat conditions at the worksite in attempting to establish the alleged violation. *See U.S. Postal Serv.*, 24 BNA OSHC 2066, 2069-71 (No. 08-1547, 2014) (employer lacked constructive knowledge of information that Family and Medical Leave Act regulations prohibited from being disclosed).

Accordingly, we conclude that the record does not support the Secretary's allegation that an excessive heat hazard was present at the worksite.[16]

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[16] Having found that the Secretary has failed to establish the existence of a hazard, we need not reach the issue of whether Sturgill or its industry recognized the alleged hazard. *See Pepperidge Farm, Inc.*, 17 BNA OSHC 1993, 2003 (No. 89-265, 1997) (a hazard is deemed "recognized" when "the potential danger of a condition or activity is either actually known to the particular employer or generally known in the industry.") (quoting *St. Joe Minerals v. OSHRC*, 647 F.2d 840, 845 (8th Cir. 1981)). We note, however, that the evidence on industry recognition falls short. The Secretary relies on documents from an industry trade group, the National Roofing Contractors Association (NRCA), that reference the potential for "heat" to pose a hazard, but these documents do not specify at what point or under what conditions that occurs; so, they do not show that the industry would have recognized that the climatological conditions present at Sturgill's worksite on August 1, 2012 were hazardous. *See, e.g., Kokosing Constr. Co.*, 17 BNA OSHC 1869, 1873 (No. 92-2596, 1996) (industry recognition that climbing formwork walls without fall protection was hazardous was established based on evidence that the industry understood climbing the walls posed a fall risk, not based on evidence that the industry recognized the general principle that falling from heights is dangerous). An industry trade association that puts out a few documents advising that "heat" can be dangerous to one's health is not evidence that the industry has recognized that

Feasible and Effective Abatement Measures

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). On review, the parties dispute whether Sturgill implemented five abatement measures proposed by the Secretary in the citation: (1) implementing an "acclimatization plan"; (2) requiring employees to wear loose fitting, reflective clothing; (3) imposing a "formalized work-rest regimen"; (4) imposing a "formalized hydration policy" that requires employees to drink water at regular intervals; and (5) monitoring employees for signs of a heat illness.

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

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the conditions at issue posed a hazard. To hold otherwise would have a chilling effect on the willingness of trade associations to produce guidance materials for their members on issues such as the prevention of heat illness.

As noted above, Commissioner Sullivan finds that the Secretary has not proven that an excessive heat hazard was present at the worksite because the Secretary has not proven that a heat-related incident was reasonably foreseeable. Even if he were to apply the test utilized by his colleagues, however, he rejects the notion that one trade association's guidance documents constitute proof that the roofing industry, and particularly Sturgill, recognized the cited hazard at issue in this case. The Secretary gives great weight to the NRCA publications discussing heat illnesses, signs, symptoms, and precautions, and argues that these documents show the roofing industry recognized that a hazard was present in this case, as Sturgill used these publications in its training program for permanent employees. While the NRCA may be a leading voice for many roofing employers, Commissioner Sullivan notes that its publications and opinions benefit those who choose to be NRCA members. Since not all roofing employers belong to the NRCA, many may not be aware of these publications. In his view, to conclude otherwise is unfair to those businesses who may not know the NRCA exists or choose not to join its membership.

Further, as pointed out in one of the *amici* briefs, Commissioner Sullivan agrees that the NRCA materials do not stand for the conclusion that the NRCA and its members "recognize essentially any remotely elevated temperature as a recognized 'heat' hazard for employees performing roofing work." Rather, these materials provide "information to member companies and to their employees on ways to protect themselves from working in certain hot environments."

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. *Id.* If the latter, he need only show a failure to implement one of them. The judge did not expressly address this threshold issue but analyzed the record with regard to each of the "five means of abatement" measures and found that Sturgill had not implemented any of them.

We find, unlike our dissenting colleague, that the Secretary litigated his proposed measures as alternative means of abatement. Although the citation is internally inconsistent in this regard,[17] the Secretary's post-hearing brief clearly identifies four measures as alternative abatement methods:

> CSHO Wallace suggested a number of feasible abatement methods. Perhaps *the most obvious means* of reducing exposure to the hazards *was to acclimate* workers to working in the heat .... Sturgill *could also have feasibly reduced exposure* to the heat hazards by preventing MR from working while wearing clothing wholly unsuitable for hot environments .... Sturgill *could also have feasibly reduced exposure* to heat hazards by implementing a formalized work-rest regimen .... Sturgill *could also have feasibly reduced exposure* to the heat hazards by implementing a formalized water drinking program .... Sturgill could have

[17] The first part of the citation, which addresses the nature of the alleged violation, concludes with a sentence alleging that Sturgill failed to implement a "prevention program" addressing five points: loose and reflective clothing; a formal work/rest regimen; monitoring for signs of heat-related illness; guidelines for removal of symptomatic employees; and a formal acclimatization work practice. The next part of the citation, which specifically addresses abatement, includes an enumerated list of five measures that parallel these points, and a sixth (unenumerated) measure that overlaps with the fifth—"[d]evelop an acclimatization program and provide training of heat related illnesses." This suggests an intent to allege that the proposed abatement is a program comprised of these specific measures. The abatement portion of the citation, however, 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).

The Secretary's brief on review sheds no light on this threshold question. More revealing, however, is an exchange at oral argument during which the Secretary's counsel answered affirmatively that the Secretary has proposed these measures as alternatives. Counsel was then asked twice by our dissenting colleague—presumably in an effort to save the counsel from himself—if the Secretary has to show that Sturgill's actions were ineffective with regard to all five measures, and both times he answered that the Secretary does. Only after being asked a fourth time, at which point the ramifications of his prior answers were evidently now clear, did counsel assert that they are not alternatives. The Secretary's failure to appreciate the effect of proposing the measures as alternatives stands as further evidence that the measures were litigated as alternatives.

> feasibly reduced employees' exposure to heat hazards in at least *four separate ways* . . . .

(emphasis added). Therefore, if 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.

The record supports Sturgill's contention that the company utilized an acclimatization program that included assigning new employees to the lightest, easiest jobs, and providing a flexible work schedule that allowed new employees to take as many additional informal breaks as they desired. Thomas Gould, Sturgill's superintendent, testified that to acclimate new employees, "we start them out with the lighter tasks, less physical duties . . . [a]nd then work them up from there . . . ." He stated that as part of its acclimatization program, Sturgill also: (1) reduces the workload for all employees when the weather becomes hotter; (2) makes sure all employees take breaks; and (3) ensures that a shaded rest area is available to all employees.

As an example of its program, Sturgill points to the fact that MR was assigned the easiest task at the worksite. Indeed, consistent with Gould's testimony, Brown testified that he gave MR the easiest task "because it was his first day," and told him to go at his own pace and to take rests when he needed. The compliance officer's testimony confirms that Sturgill: (1) provided employees at the worksite with water, rest breaks, and shaded break areas; (2) allowed employees to work at their own pace; and (3) gave MR as a new employee the lightest task. The CO not only agreed that these measures are all components of an acclimatization program but acknowledged that an OSHA "Accident Investigation Summary," prepared in part based on her investigation, states: "It appears that [Sturgill] was utilizing an informal acclimatization program for the new temp agency employee."

In the face of this evidence, the Secretary has never delineated what specific, additional steps—beyond those already implemented—Sturgill should have taken to acclimate employees. *See Mid-South Waffles, Inc.*, No. 13-1022, slip op. at 12 (OSHRC Feb. 15, 2019) ("[W]hen an employer already has a safety program designed to eliminate the recognized hazard, the Secretary must 'show [the] *specific additional measures*' required to abate the hazard.") (quoting *Pelron Corp.*, 12 BNA OSHC 1833, 1836 (No 82-388, 1986) (emphasis added)). The Secretary claims that Sturgill could have limited the amount of time MR spent working in the heat, but he does not identify by *how much* Sturgill would have needed to limit MR's time on the roof to have adequately met this proposed abatement measure. Similarly, Dr. Yee stated that acclimatization is

"important" because it can allow an individual to dissipate heat from the body faster, but he did not explain what constitutes acclimatization in practice, specifically in terms of what additional measures Sturgill needed to implement.

Moreover, none of the documents the Secretary submitted into evidence identify acclimatization measures beyond those implemented by Sturgill. The Centers for Disease Control and Prevention publication "Working in Hot Environments" states only that "[g]radual exposure to heat gives the body time to become accustomed to higher environmental temperatures. Heat disorders in general are more likely to occur among workers who have not been given time to adjust to working in the heat . . . ." The NRCA has published a toolbox talk sheet on "Heat Stress" that simply advises: "Work up to it. It can take about two weeks to get used to working in a hot environment." As the Secretary has not shown that Sturgill's acclimatization program was inadequate, he has failed to prove that this abatement method was not met.

The Secretary has also failed to establish that Sturgill did not adequately implement two of his other proposed abatement measures: (1) monitoring employees for signs and symptoms of heat illness; and (2) a formalized work/rest regimen. As to monitoring, Gould testified that Sturgill instructs its employees on the signs and symptoms of heat illnesses, including use of the NRCA toolbox talk sheet which explains such signs. His testimony is consistent with that of Brown, who testified that as foreman, he is responsible for monitoring employees and knows the signs and symptoms of heat illness. With respect to MR, Brown testified that he observed MR and checked on him that morning (and saw him drink a 44-ounce cup filled with ice water while taking a break), and he did not display any of those signs prior to his walking clumsily. As to a formalized work/rest regimen, Gould testified that Sturgill has a regimen consisting of formal rest breaks at mid-morning, lunch, and mid-afternoon, and that employees are "encouraged" to take additional informal breaks "any time" with "no retribution, no discipline, no looking down on them . . . ." Again, Brown corroborated Gould's testimony regarding the company's work/rest regimen. As with acclimatization, the Secretary has not identified what more Sturgill should have done to satisfy either of these proposed measures.

In sum, we find the Secretary has proposed abatement measures as alternative means of abating the alleged violation and therefore, his failure to prove that Sturgill did not adequately

implement three of those measures means that the abatement element has not been proven.[18] Accordingly, we find that a violation of the general duty clause has not been established and vacate Item 1.

II. Item 2 (Safety Training Violation)

The Secretary alleges that Sturgill violated § 1926.21(b)(2) because it failed to adequately instruct its employees on the recognition and avoidance of "risk factors related to the development of heat-related illnesses." The judge agreed and affirmed the violation. On review, Sturgill argues not only that it instructed each of its employees in the recognition and avoidance of unsafe heat conditions but that the Secretary failed to provide evidence that a "reasonably prudent employer" would have given different instructions under the same circumstances. For the following reasons, we vacate this item.

If an employer "rebuts the allegation of a training violation 'by showing that it has provided the type of training at issue, the burden shifts to the Secretary to show some deficiency in the training provided.' " *N & N Contractors, Inc.*, 18 BNA OSHC 2121, 2126-27 (No. 96-0606, 2000) (quoting *Am. Sterilizer Co.*, 18 BNA OSHC 1082, 1086 (No. 91-2494, 1997)), *aff'd*, 255 F.3d 122 (4th Cir. 2001). To prove that an employer's instructions are insufficient to satisfy § 1926.21(b)(2), the Secretary must "establish that the cited employer failed to provide the instructions that a reasonably prudent employer would have given in the same circumstances." *Compass Envtl., Inc.*, 23 BNA OSHC 1132, 1134 (No. 06-1036, 2010), *aff'd*, 663 F.3d 1164, 1168 (10th Cir. 2011) (internal citation omitted). Further, "[an employer's] obligation to train is dependent upon the specific conditions [at the worksite], whether those conditions create a hazard,

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[18] Given our conclusion here, we need not address the remaining abatement methods identified by the Secretary and addressed by our dissenting colleague. Our dissenting colleague devotes a large portion of her dissenting opinion to her contention that the Secretary's theory was that his proposed abatement measures "had to be evaluated together." She argues that the majority's analysis of the issue is "upside down and backwards." The Secretary's position expressed in his briefs, in the words he used in the citation, and multiple times at oral argument, however, is, without a doubt, right side up and straightforward—that the abatement measures are to be evaluated separately as alternatives, not together as a single means of abatement. But even if his position were the latter, as the dissent maintains, the Secretary still failed to prove that the steps taken by Sturgill to address heat at the workplace were overall insufficient. As a result, the abatement element has not been established by the Secretary, irrespective of whether the measures are alleged separately or together.

and whether the employer or its industry has recognized the hazard." *Id.* (quoting *W.G. Fairfield Co.*, 19 BNA OSHC 1233, 1236 (No. 99-0344, 2000), *aff'd*, 285 F.3d 499 (6th Cir. 2002)).

Here, we have already concluded that no hazard was present.[19] Moreover, it is undisputed that Sturgill instructs its permanent employees and long-term temporary employees on how to recognize and avoid heat-related illnesses through a comprehensive safety program that includes: (1) safety training videos that cover heat hazards; (2) 10-hour OSHA classes, which address heat-related illnesses; (3) distribution and review of an NRCA "Pocket Guide to Safety" that addresses heat-related illnesses; (4) review of NRCA toolbox talk sheets titled "Weather – Personal Injury" and "Heat Stress"; (5) daily presentations at the start of each shift given by the foreman or superintendent; (6) distribution of Sturgill's Employee Handbook, which includes safety provisions; and (7) onsite presentations by the owner related to heat stress and prevention. In addition, Sturgill's foremen warn employees through multiple pre-shift discussions to drink plenty of water and take rest breaks when needed.

As to MR, Sturgill acknowledges that he did not receive all of these forms of instruction, as it was his first day as a temporary employee assigned to the company, but Sturgill contends that foreman Brown provided MR with sufficient instruction that day regarding the risk of a heat-related illness. Brown, who determined training for temporary employees "on a site-specific basis," told MR in a pre-job orientation meeting that it might be a hot day and advised him to avoid

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[19] Our dissenting colleague's decision to affirm this violation is premised on her erroneous finding that such a hazard has in fact been proven here. Since the Secretary did not establish that a heat-related hazard was present at Sturgill's worksite, the Secretary did not meet his threshold requirement of showing that the company was obligated to provide heat-related hazard training under the standard. *See Pressure Concrete Constr. Co.*, 15 BNA OSHC 2011, 2015 (No. 90-2668, 1992) (holding that § 1926.21(b)(2) requires that "an employer must instruct its employees in the recognition and avoidance of those hazards of which a reasonably prudent employer would have been aware"). For this reason alone, the dissent's conclusion that a training violation has been established is flawed.

Chairman MacDougall notes that this is consistent with her separate opinion, concurring in part and dissenting in part, in *Bardav, Inc.*, 24 BNA OSHC 2105, 2115 (No. 10-1055, 2014) ("inquiry as to whether [respondent] failed to train its employees in the recognition and avoidance of unsafe conditions necessarily depends upon whether a reasonably prudent employer would have believed that training was necessary under the circumstances—in other words, whether a reasonably prudent employer would have believed that there existed any unsafe conditions requiring training").

a heat-related illness by drinking water, taking rests, and utilizing shade.[20] Superintendent Gould, when asked whether the company has a "standard operating procedure" to impart the information in the NRCA toolbox talks to temporary employees, confirmed Brown's testimony about the steps he took that day: "Absolutely. That's why they don't show up at exactly the same time as our [permanent] employees do. That gives [the foreman] time to talk to those employees, as temps, when they come out, to let them know what the situations are and what the hazards for that job and that day would be."

The Secretary claims that the instructions given to MR were insufficient to satisfy § 1926.21(b)(2) because they "did not include information on the need for frequent breaks, the importance of drinking water even before [becoming] thirsty, and how to recognize the signs and symptoms of heat illness." The judge agreed, finding that MR should have been informed that lack of thirst and excessive sweating are signs of a heat-related illness, that he should drink water before being thirsty, and that it is necessary to "dress appropriately" in hot weather. The Secretary also argues that Sturgill's safety program for long-term employees is insufficient because it does not include "specific instruction on the need to acclimate new employees or specific guidance on how to implement an acclimation program." The judge agreed that the training Sturgill provides permanent employees is insufficient because it does not include "information regarding the need to acclimatize new employees" and "delegate[s] to the employees the responsibility to recognize" when to take breaks and drink water.

Sturgill maintains, as it did before the judge, that there is no evidence a reasonably prudent employer would have given its employees different instructions than what the company provided, so the Secretary has failed to meet his burden of proving a violation.[21] The Secretary, however,

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[20] Specifically, Brown testified that he told MR "it was going to be hot," "showed him where the water coolers [were]," told him "if he needed a break . . . he could take one," that it "was like take your time," and "showed him where we take breaks at and everything."

[21] While the Commission has never held as such, it would appear inconsistent to affirm a training violation under § 1926.21(b)(2) on the basis that an employer failed to adequately instruct its employees on the recognition and avoidance of "risk factors related to the development of heat-related illnesses" *where it did not also find that the conditions presented a heat hazard.* As we vacate the training citation item on other grounds, we do not find the need to address this issue in this case. Nonetheless, our decision to vacate this training citation item should not be construed as an endorsement of providing only minimal instructions to temporary employees or day laborers.

has never responded to this argument either on review or in the proceedings below.[22] Given the Secretary's silence, which our dissenting colleague takes it upon herself to fill, we find that he has failed to meet his burden of persuasion on this issue. *See, e.g., Avcon, Inc.*, 23 BNA OSHC 1440, 1444-45 (No. 98-0755, 2011) (consolidated) (finding that the Secretary failed to show amendment of the complaint was proper, an issue "for which she carries the burden," where "the Secretary did not respond to [the employers' review brief] arguments in her subsequently filed opening brief nor did she explain her reasons for not doing so."); *Ragnar Benson, Inc.*, 18 BNA OSHC 1937, 1938 (No. 97-1675, 1999) ("The Commission need not review an issue abandoned by a party."). Therefore, the Secretary has not shown that Sturgill failed to provide the instructions regarding heat-related illnesses that a reasonable employer would have given under the circumstances, and thus he has not established a violation of § 1926.21(b)(2). Accordingly, we vacate Item 2.

Based on the foregoing, both citation items are vacated.

SO ORDERED.

Heather L. MacDougall
Chairman

Dated: FEB 28 2019

James J. Sullivan, Jr.
Commissioner

New employees who lack training or are not acclimated are particularly at risk for heat-related illnesses.

[22] The Secretary contends that Sturgill's instructions to MR *must* have been insufficient because Brown did not recognize that MR was suffering a heat-related illness until he collapsed. This argument fails for two reasons. First, the Secretary has not pointed to any evidence to support his claim that Brown *should* have known that MR was suffering from a heat-related illness at an earlier point in time. The Secretary has not identified any signs MR displayed that Brown failed to notice or pointed to any evidence that someone adequately trained in heat-related illnesses would have noticed such signs. As previously noted, Brown testified that he knew the signs and symptoms of a heat-related illness, observed MR working, and asked him how he was doing during a break. According to Brown, at that time, MR did not display any signs of a heat-related illness and responded to Brown that he was fine.

Second, even if MR had displayed such signs, it does not necessarily follow that Brown must not have been properly trained. Brown could have failed to notice such signs for any number of reasons—because the signs were subtle, because he was otherwise occupied, or simply due to a lack of attention.

MACDOUGALL, Chairman, concurring:

While I join in the majority opinion, I also write separately to express my concern that the Commission has been asked in this case to construe the general duty clause to cover work situations in ways that Congress never intended and to unreasonably stretch longstanding Commission precedent by applying the provision to broadly-defined risks inherent in the work being performed. *See Mo. Basin Well Serv., Inc.*, 26 BNA OSHC 2314, 2316 n. 5 (No. 13-1817, 2018) (MacDougall, Chairman) (expressing concern that the alleged hazard—an unsafe distance between a pump and discharges of oil and gas from a tank—was too broadly defined to give the employer fair notice); *Mid-South Waffles, Inc.*, No. 13-1022, slip op. at 20-24 (OSHRC February 15, 2019) (MacDougall, Chairman, concurring) (finding that Secretary's overly broad hazard definition—the risk of burns from failing to properly maintain a grease drawer to prevent a grease fire—fails to provide adequate notice of what employer could do to protect employees); *Pelron Corp.*, 12 BNA OSHC 1833, 1835 (No. 82-388, 1986) ("To permit the normal activities in . . . an industry to be defined as a 'recognized hazard' within the meaning of section 5(a)(1) is to eliminate an element of the Secretary's burden of proof and, in fact, almost to prove the Secretary's case by definition, since under such a formula the employer can *never* free the workplace of inherent risks incident to the business.") (emphasis added).

To implicate the general duty clause, a work situation must present a "hazard." The term "hazard" refers to a concrete condition that poses a risk of harm. Longstanding Commission and court precedent requires that to constitute a cognizable hazard under the general duty clause, a worksite condition must pose more than the mere possibility of harm. *See, e.g., Pelron Corp.*, 12 BNA OSHC at 1835 ("Defining the hazard as the 'possibility' that a condition will occur defines not a hazard but a potential hazard."); *Pratt & Whitney Aircraft v. Donovan*, 715 F.2d 57, 64 (2d Cir. 1983) ("[T]he Secretary must show more than the mere possibility of injury; he must show that the potential hazard presents a significant risk of harm.") In addition, to comport with due process, the Secretary must define the hazard that he charges an employer with allowing to exist at its worksite in a manner that "apprise[s] [the employer] of its obligations, and identif[ies] conditions or practices over which an employer can reasonably be expected to exercise control." *Davey Tree Expert Co.*, 11 BNA OSHC 1898, 1983 (No. 77-2350, 1984).

Simply defining the hazard as "excessive heat," as the Secretary has done here, falls far short of meeting these well-established requirements. "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. 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.

Another requirement inherent in the type of hazard contemplated by the general duty clause is that the hazard be preventable, i.e., that feasible means of abatement exist that an employer can use to "free" its workplace of the hazard. "Congress intended to require elimination only of *preventable* hazards." *Nat'l Realty and Constr. Co., Inc. v. OSHRC*, 489 F.2d 1257, 1266 (D.C. Cir. 1973) (emphasis added). Where the hazard at issue is a moving target with unclear parameters, how can the employer possibly prevent it?

Moreover, the general duty clause only applies to "recognized hazards." 29 U.S.C. § 654(a)(1). This phrase draws its definition from the clause that modifies it: not all hazards are cognizable under section 5(a)(1), only those "that are causing or are likely to cause death or serious physical harm to [an employer's] employees." "Causing" connotes a current, ongoing, continuous process, rather than a single isolated event or an inchoate possibility; it means "to be the cause of; effect; make happen; bring about." THE AMERICAN HERITAGE DICTIONARY OF THE ENGLISH LANGUAGE 214 (New College ed., 1976). "Likely" means more probable than not and therefore more than a mere possibility. *See Indus. Union Dep't., AFL-CIO v. Am. Petroleum Inst.*, 448 U.S. 607, 704 n. 25 (equating "likely" with "more probable than not"). Thus, unsupported expert

testimony like Dr. Yee's addressing a "heat-related exposure risk" that can lead to "heat exhaustion for a younger person up to heat stroke for an older person" is far too attenuated and broad to establish a breach of an employer's obligation under the general duty clause.

Finally, an employer's duty to keep its workplace free from recognized hazards extends not "to any employee"—a phrase used elsewhere in the statute—but rather "to his employees"—the phrase used in the general duty clause. *Compare* 29 U.S.C. § 654(a)(1) (general duty clause) *with* 29 U.S.C. § 666(e) (setting forth penalties for willful violations that "caused death *to any employee*," demonstrating that Congress knew how to distinguish between a single employee and all employees) (emphasis added). Thus, the idiosyncratic underlying health conditions of a single employee cannot trigger an employer's responsibility under the general duty clause. As the National Association of Home Builders of the United States observed in its amicus brief, this provision is referred to as the "general" duty clause, not the "individual" duty clause: "Analyzing personal risk factors such as underlying health conditions or ages eliminates the sweeping concept of a 'recognized hazard' for all employees and instead turns the General Duty clause into an individual duty clause whereby the recognition of the hazard is now employee-specific." Accordingly, evidence of a single employee's unique susceptibility to heat illness cannot be sufficient to establish the existence of an "excessive heat" hazard.

I find that these are all further reasons to vacate the general duty clause violation alleged here by the Secretary. As the violation is being properly vacated, however, I leave the resolution of these troubling issues for another day.

Dated: FEB 2 8 2019

Heather L. MacDougall
Chairman

ATTWOOD, Commissioner, dissenting:

Because I find that the Secretary has established all the elements of the alleged general duty clause violation, I dissent with respect to Item 1. In addition, because I find that the Secretary has established that Sturgill failed to adequately train MR regarding measures to avoid the heat-related illness hazard and the signs and symptoms of that hazard, I dissent with respect to Item 2. Accordingly, I would affirm both violations.

DISCUSSION

I. The General Duty Clause Violation

To prove a violation of the general duty clause, the Secretary must establish the following: (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. *Arcadian Corp.*, 20 BNA OSHC 2001, 2007 (No. 93-0628, 2004). The Secretary must also show that the employer knew, or, with the exercise of reasonable diligence, could have known of the hazardous condition. *Burford's Trees, Inc.*, 22 BNA OSHC 1948, 1950 (No. 07-1899, 2010), *aff'd*, 413 F. App'x 222 (11th Cir. 2011) (unpublished).

A. Existence of a Hazard Likely to Cause Death or Serious Physical Harm

The judge found that "Sturgill's employees were exposed to heat-related illness hazards during the PNC roofing project, and in particular, on August 1, 2012." I agree based on evidence regarding: (1) the National Weather Service (NWS) "heat index" chart;[1] (2) the temperature on the roof that day; (3) the medical evidence; and (4) the testimony of the Secretary's expert, Dr. Theodore Yee.

First, I disagree with the majority's summary dismissal of the NWS heat index chart as insufficient to support the finding of a hazard here. The chart identifies four different warning levels ("Caution," "Extreme Caution," "Danger," and "Extreme Danger") based on a factor of temperature and humidity readings.[2] The warning levels in the chart apply when there is either "prolonged exposure or strenuous activity." My colleagues assert that the heat index chart is

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[1] Heat index values on the NWS chart indicate "how hot it really feels" based on ambient temperature and relative humidity.

[2] In this case, the temperature and humidity readings were taken by the National Oceanic and Atmospheric Administration (NOAA) on August 1 at Dayton-Wright Brothers Airport, which the record reflects is located two miles away from the worksite.

inapplicable here because neither prolonged exposure nor strenuous activity on the roof that morning has been shown. On the contrary, the record proves that exposure that day was, indeed, prolonged.

"Prolonged" is not defined on the heat index chart. However, it means "continuing for a long time . . . . " THE NEW OXFORD AMERICAN DICTIONARY (2d ed. 2005). Here, the record shows that the heat index values were at least in the "caution" warning zone for at least two of the hours the crew worked on the roof in the morning.[3] Moreover, it appears that, absent MR's collapse, the crew, which was working an 8-hour shift, would have continued to work in hot conditions for at least two more hours.[4] Accordingly, the total time of exposure to conditions in the "caution" zone would have been in excess of four hours. In my view, working in hot conditions for half of a work day qualifies as "prolonged" exposure. Thus, unlike my colleagues, I conclude that the heat index chart provides relevant evidence regarding the presence of a heat-related illness hazard on August 1, 2012.

Second, my colleagues fail to factor into their analysis of the heat index Foreman Leonard Brown's testimony regarding the temperature on the roof on August 1. In his transcribed statement to the compliance officer,[5] Brown was asked whether the temperature on the roof was hotter than on the ground. He answered, "[it] was about a 10[-]degree difference." There is every reason to credit Brown's testimony in this regard: he has done roofing work for eighteen years, and therefore, has surely developed an understanding of the difference in temperature that can exist

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[3] Work on the roof began between 6:00 and 6:30 a.m.; the NOAA temperature reading at 6:53 a.m. was 72°F, at 7:53 a.m. was 76°F, and at 8:53 a.m. was 79°F—only one degree below the 80° minimum required to register on the heat index chart. The heat index values in the two hours prior to noon were well within the caution zone (84°F at 9:53 a.m. and 85°F at 10:53 a.m. and 11:53 a.m.).

[4] The record is silent as to whether the crew resumed work that day. The heat index values for the NOAA readings at 12:53 p.m. and 1:53 p.m. were 85°F and 86°F, respectively. After the 1:53 p.m. reading, the humidity readings fell below the heat index cutoff of 40%.

[5] The judge found Brown to be a reliable, credible witness and noted that, where there was a conflict between Brown's statement to the CO and his later testimony at the hearing, she would give his recorded statement more weight, as it was "given close in time to the events, when recollections were fresh." The judge reached the same conclusions regarding Sturgill Superintendent Thomas Gould and his testimony.

between the roof and the ground.[6] Moreover, he had no incentive to exaggerate this number. Taking Brown's unrebutted statement into account, the heat index on the roof would have been in the "extreme caution" zone.[7] Therefore, the majority's insistence that readings in the "caution" zone fail to connote a significant risk of harm is irrelevant.[8]

Third, MR's diagnosis of heat stroke—a diagnosis supported by all of the credible medical evidence—shows that conditions at the worksite presented a heat hazard. Indeed, I find that the judge properly credited the medical opinions of MR's attending physicians at the hospital and of Dr. Bryan Casto, the coroner who reviewed the medical evidence, over that of Sturgill's expert witness, Dr. David Randolph, a physician with a specialization in occupational medicine.[9] The

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[6] I find that Brown was testifying as to what he *felt* the difference in temperature to be. Because the heat index values account for how temperature *feels*, I construe his testimony that it was 10 degrees hotter on the roof as meaning that the heat index was 10 degrees higher on the roof than on the ground. Accordingly, based on his testimony, the heat index on the roof was 95°F.

[7] I need not address whether the heat index values should be increased based on the NWS chart statement that "exposure to full sunshine can increase heat index values by up to 15°F" because, even without that increase, the evidence establishes that heat index values in the two hours prior to noon were within the "extreme caution" zone.

[8] In any event, "caution" means "care taken to avoid danger." THE NEW OXFORD AMERICAN DICTIONARY (2d ed. 2005). If there were no hazard, there would be no reason for the NWS chart to advise the exercise of caution. And OSHA's guidance certainly does not suggest otherwise, as it instructs employers: "[i]mplement your [heat-illness prevention] plan when the heat index is at or above 80° Fahrenheit." Therefore, I reject my colleagues' arbitrary distinction between the "caution" and other warning zones on the NWS chart—the "caution" warning zone shows the existence of a serious heat hazard.

[9] At the hearing, Dr. Randolph testified that in his opinion MR suffered hyperthermia (elevated body temperature), but not heat stroke, and that heat stroke was diagnosed by all of MR's attending physicians and later by the coroner's office only because "[i]t was passed on from day one in error, and no one bothered to look because everybody thought that the person before them had done all of their thinking for them." He explained that hyperthermia can be caused by a number of non-environmental factors, including drugs, alcohol, heart attacks, pneumonia, cancer, and strokes and noted that MR's medical records show he had preexisting congestive heart failure and "cardiac myopathy" caused by long-term alcohol use. Dr. Randolph further testified that the "mild" climatic conditions that day could not "possibly explain [MR's] temperature of 105 degrees" and that rather than suffering a heat stroke due to environmental conditions, MR "more likely than not" suffered "an acute cardiac event" that led to "massive system failure because of long-term alcohol abuse."

But Dr. Randolph admitted that in the first report he provided to Sturgill concerning MR's death, which he subsequently amended, he gave a different explanation for MR's diagnosis. In that

medical records show that all of MR's attending physicians during his hospital stay diagnosed him with heat stroke.[10] And Dr. Casto testified that MR died due to "complications" from heat stroke.[11] Although he acknowledged that MR had preexisting "heart disease" and that this condition can make one "more likely *to succumb* to a heat-related illness," Dr. Casto testified that he "would not expect [MR's] heart disease, as defined in the medical record, to *cause* the elevated body temperature." (emphasis added). Dr. Casto also testified that he was unaware of any evidence "by history or by investigation" that would show MR's heat stroke was related to prior substance abuse, as alleged by Sturgill. He noted that MR's medical records show he was specifically tested for alcohol and cocaine on the day he was admitted to the hospital, and that both tests were negative.

Finally, MR's diagnosis is consistent with Dr. Yee's expert testimony that, based on his review of the medical records, the heat conditions at the worksite led to MR suffering heat stroke. Because Dr. Yee's expert testimony that conditions on the roof on August 1 presented a heat-related illness hazard is both reliable and compelling, I find that my colleagues' decision to give

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report, he concluded: "[A]fter reviewing 5,771 pages of medical records from [MR] and the current peer-reviewed literature, it is my medical opinion that [MR] suffered from cocaine-induced hyperthermia rather than the heat exposure from his job." Dr. Randolph explained that when he prepared his first report, he was unaware of one of the drug tests MR was given at the hospital. After seeing the negative results of that test, he amended his report because he was no longer "as convinced that cocaine was a principal factor."

In light of the discrepancies between Dr. Randolph's two reports, I find that the judge properly rejected his opinions as "unreliable and unpersuasive" and accorded them no weight because they "changed too often," and were "in stark contrast to all other medical opinions." As the judge pointed out, Dr. Randolph's initial cocaine theory was undermined by laboratory results and each opinion he offered "appeared predetermined to support a conclusion that work-related heat exposure could not have caused MR's [death]." I agree with the judge that Dr. Randolph's attempt to explain away MR's heat-related illness without regard for the evidence or the opinions of the numerous qualified physicians who actually examined and treated MR lacks credibility, and therefore join my colleagues in giving his testimony no weight.

[10] Other possible causes for MR's hyperthermia were considered but apparently ruled out by medical personnel at the hospital, including "malignant hyperthermia secondary to a typical antipsychotic" and "hyperthyroidism."

[11] That factors other than MR's heat stroke, including his several serious medical conditions, may have played a role in MR's subsequent death, is irrelevant to the current inquiry. That he was diagnosed with heat stroke—which is by definition "a condition caused by exposure to excessive heat"—is the fact that is relevant to the hazard issue. *See* DORLAND'S MEDICAL DICTIONARY (28th ed. 1994).

his opinion "little weight" makes little sense. Dr. Yee, who was qualified as an expert in occupational medicine and injury,[12] unequivocally testified that, in regard to a hypothetical worker who is "age 61" and lacks MR's preexisting conditions, "[c]ertainly that person on the first day . . . would [develop] some sort of heat-related illness" in the absence of appropriate protective measures.[13] He opined that the heat conditions at Sturgill's worksite that day could cause at least heat exhaustion in such a worker and that heat exhaustion is a serious condition that "often" causes the victim to collapse, although the severity of any illness would vary.[14] This expert testimony was based on Dr. Yee's evaluation of the work at Sturgill's worksite as being "light to moderate," which the record fully supports, as well as the fact that employees had spent most of the morning working on the roof in direct sunlight.

The majority acknowledges the Secretary's contention that MR "worked for about five hours in direct sunlight," and that an annotation on the NWS heat index states that "exposure to full sunshine can increase heat index values by up to 15°F." Yet, my colleagues' sole basis for discrediting Dr. Yee's expert opinion is that, in their view, he did not sufficiently explain his position that the exposure of Sturgill's employees to direct sunlight warranted an increase of 7.5°F to the heat index values (for a total heat index of 92.5°F). But Dr. Yee did explain that "heat accumulates in a person," an evident reference to the fact that if a body cannot get rid of excess

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[12] As a board-certified physician in occupational medicine, Dr. Yee was the medical officer for OSHA in 2012.

[13] The fact that it was MR's first day on the job, after having previously worked in an air-conditioned printing facility for three years, presents a particular hazard. According to "OSHA's Campaign to Prevent Heat Illness in Outdoor Workers – Using the Heat Index: A Guide For Employers,"

> Workers new to outdoor jobs are generally most at risk for heat-related illnesses. For example, Cal/OSHA investigated 25 incidents of heat-related illness in 2005. In almost half of the cases, the worker involved was on their first day of work and in 80% of the cases the worker involved had only been on the job for four or fewer days.

[14] The serious nature of heat exhaustion is also shown by (1) the National Roofing Contractors Association (NRCA) "Pocket Guide to Safety" (which Superintendent Gould testified served as Sturgill's safety manual), which states that heat exhaustion can be "dangerous" and recommends those affected seek "medical attention," and (2) a NRCA "toolbox talk" sheet regarding "heat stress," that describes heat exhaustion as a "serious" condition. As to heat stroke, Dr. Yee testified that its mortality rate is 10 to 80 percent, depending on age, acclimatization, and "other factors."

heat (i.e. through sweating), it will store it.[15] Moreover, Dr. Yee's 92.5°F heat index estimate is consistent with Foreman Brown's estimate that it was 10 degrees hotter on the roof than it was on the ground, i.e., a heat index of 95°F, both of which are in the "extreme caution" zone.[16] Finally, Dr. Yee did not base his opinion that a heat hazard was present on the fact that the heat index was elevated by 7.5°F. Rather, he stated his opinion in terms of the actual work and conditions present at Sturgill's work site on the day in question. And Dr. Yee's expert opinion on all these points is uncontradicted.[17]

In my view, the record supports the judge's determination that the opinions of MR's treating physicians deserve the "greatest weight" because they were in the best position to diagnose him, and that the opinions of Drs. Yee and Casto should also be credited.[18] I therefore agree with the judge's finding that MR's heat stroke was reliable and persuasive evidence that a heat hazard

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[15] As OSHA describes in its document "Occupational Heat Exposure":

> When the air temperature is close to or warmer than normal body temperature, cooling of the body becomes more difficult. Blood circulated to the skin cannot lose its heat. Sweating then becomes the main way the body cools off. But sweating is effective only if the humidity level is low enough to allow evaporation, and if the fluids and salts that are lost are adequately replaced.
>
> If the body cannot get rid of excess heat it will store it. When this happens, the body's core temperature rises and the heart rate increases. As the body continues to store heat, the person begins to lose concentration and has difficulty focusing on a task, may become irritable or sick, and often loses the desire to drink. The next stage is most often fainting and even death if the person is not cooled down.

[16] As I credit Brown's uncontradicted and reliable testimony, I find Dr. Yee's heat index estimate to be reasonable.

[17] Although Dr. Randolph testified that conditions at the work site were too "mild" to have caused MR's heat stroke, he did not address whether or not they could cause heat exhaustion. In any event, the judge discredited Dr. Randolph's testimony and neither the majority nor I find any reason to overturn that finding.

[18] Unlike my colleagues, I find that the record's silence on whether Dr. Casto and the treating physicians were aware of the precise conditions present at Sturgill's worksite has no bearing on their credibility. MR's medical records show that when he was admitted to the hospital, his treating physicians were told that he had been working on a roof in hot weather for four hours, and Dr. Casto had access to MR's medical records in making his determination. There is no basis for finding that Dr. Casto and the treating physicians needed to know anything more than that to determine that MR had suffered heat stroke.

existed at the worksite.[19] For all these reasons, I conclude that the Secretary has proven the existence of serious heat-related illness hazard.

B. Hazard Recognition

Hazard recognition "may be shown by proof that 'a hazard . . . is recognized as such by the employer' or by 'general understanding in the [employer's] industry.' " *Otis Elevator Co.*, 21 BNA OSHC at 2207 (quoting *Kokosing Constr. Co.*, 17 BNA OSHC 1869, 1873 (No. 92-2596, 1996)). To establish recognition, the Secretary must show that the industry or employer understood that the *conditions* (or practices) at a worksite that are the subject of the citation were hazardous. *See Pepperidge Farm*, 17 BNA OSHC 1993, 2003 (No. 89-265, 1997) (A hazard is "recognized" when "the potential danger *of a condition or activity* is either actually known to the particular employer or generally known in the industry.") (citation omitted) (emphasis added). Here, the Secretary has shown that Sturgill recognized that the specific climatological conditions at its worksite on the day in question constituted a hazard.[20]

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[19] Contrary to the majority's finding, the fact that MR developed a heat-related illness while performing roofing work for Sturgill is undoubtedly evidence of a heat hazard. *See Beverly Enters.*, 19 BNA OSHC at 1174 (reports of lower back pain by employees did "not alone necessarily establish" that employer's lifting practices caused such pain, but reports were relevant, considered together with the other evidence in the record, to the question of whether a hazard existed); *Phoenix Roofing Inc.*, 17 BNA OSHC 1076, 1078 (No. 90-2148, 1995) (fact that employee fell through skylight, along with the dimensions of the skylight and "clear" danger it posed, proved that there was a "hazard of falling through" the skylight), *aff'd*, 79 F.3d 1146 (5th Cir. 1996). Where the evidence shows that the injury was caused by the worksite condition at issue, the Commission has found that the existence of a hazard was established. *Otis Elevator Co.*, 21 BNA OSHC 2204, 2206 (No. 03-1344, 2007) (evidence that employee's death was caused by condition at worksite established that the condition posed a hazard); *see also A.E. Burgess Leather Co.*, 5 BNA OSHC 1096, 1097 (No. 12501, 1977) ("The occurrence or absence of injuries caused by a machine is probative evidence of whether the machine presents a hazard."), *aff'd*, 576 F.2d 948 (1st Cir. 1978). The majority attempts to dismiss MR's illness by claiming that "the Secretary would have us make a direct causal connection between his diagnosis and the conditions at the worksite without any credible supporting evidence." Not only did Dr. Yee explain that a 61-year-old worker *without* MR's preexisting medical conditions would "[c]ertainly" have developed a heat-related illness, but Dr. Casto also explained that he did not expect MR's preexisting medical conditions to cause his highly elevated body temperature.

[20] Because the record shows employer recognition of the hazard, there is no need to reach whether the Secretary has established industry recognition. However, the NRCA tool box talks regarding heat-related illness and the NRCA pocket guide support a finding of industry recognition.

Foreman Brown, whose supervisory status is not in dispute, testified that he knew it was going to be a "hot" day. In addition, he recognized that because it was "summer time when the heat was just beginning, . . . [the crew] had to take more breaks than normal." He also knew it was inappropriate to wear black clothing. As to MR, Brown told him that if he was hot he could take additional breaks as needed. And he showed him where the water coolers were and where shade and cool air from "chillers" was available on the roof. This comprehensive testimony from a supervisor present at the worksite on the day in question unquestionably establishes that Sturgill recognized that there was a heat-related illness hazard.[21] *See Beverly Enters.*, 19 BNA OSHC at 1186 (warnings by company personnel regarding the existence of a hazard are persuasive evidence of hazard recognition); *Mo. Basin Well Servs.*, 26 BNA OSHC 2314, 2317-18 (No. 13-1817, 2018) (supervisor's recognition of hazard imputed to company); *N&N Contractors, Inc.*, 18 BNA OSHC

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[21] I disagree with my colleagues that a recognized hazard did not exist here because Sturgill was unaware of MR's age and physical infirmities and was precluded from inquiring about such matters under the Age Discrimination in Employment Act (ADEA) and the Americans with Disabilities Act (ADA). In making this argument Sturgill creates a straw man. When, as in this case, the element of hazard recognition is based on employer (as opposed to industry) recognition, the critical question is whether the employer *actually* recognized the hazard, not whether it *should* have recognized the hazard. *See Waldon Healthcare Ctr.*, 16 BNA OSHC 1052, 1061 (No. 89-3097, 1993) (employer recognition depends on whether the employer *actually* knew that conditions created the hazard). Any lack of awareness on Sturgill's part of MR's age and medical condition is therefore irrelevant to the inquiry. "The Commission has held that it is the hazard, not the specific incident that resulted in injury . . . that is the relevant consideration in determining the existence of a recognized hazard." *Kelly Springfield Tire Co.*, 10 BNA OSHC 1971, 1973 (No. 78-4555, 1982), *aff'd*, 729 F.2d 317 (5th Cir. 1984). Thus, analysis of the hazard recognition element does not involve determining whether Sturgill recognized that there was a heat-related illness hazard *to MR*, but rather to exposed employees generally. As I discuss above, the Secretary has established that Sturgill recognized that the worksite conditions were hazardous based on evidence that makes no reference to any lack of inquiry by Sturgill into MR's age or medical condition.

Nor are the ADEA and ADA relevant to the issue of the Secretary's prima facia case of employer knowledge, which is knowledge of the presence of the cited conditions (here, the climatological conditions), not that the employer understood that they were hazardous. *See Jacobs Field Servs. N. Am.*, 25 BNA OSHC 1216, 1218 (No. 10-2659, 2015) ("To establish knowledge, the Secretary must prove that the employer knew or, with the exercise of reasonable diligence, should have known of the conditions constituting the violation."). In sum, no element of the Secretary's case here is dependent on any showing that it was necessary for Sturgill to inquire into MR's age or medical condition.

2121, 2123 (No. 96-0606, 2000) (imputing knowledge of foreman to company), *aff'd*, 255 F.3d 122 (4th Cir. 2001).

C. Knowledge

The Secretary must also show 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). The conditions constituting the hazard here included the climatic conditions (temperature and humidity), the exposure to full sunshine on a flat roof, and the physical nature of the work. Knowledge of all these conditions is established by Foreman Brown's testimony, as he acknowledged that he was present at the worksite and observed the conditions directly, including that it felt 10 degrees hotter on the roof than the ground. *See Id.* at 1537 ("The actual or constructive knowledge of a foreman or other supervisory employee can be imputed to the employer.") In addition to its foreman's testimony, Sturgill's knowledge is also evidenced by its superintendent's testimony that he is "well aware of what the weather conditions are going to be for any given day," and does "not wake up and think it is going to be 70 and it's 100 degrees." Thus, the Secretary has established Sturgill's actual knowledge of the violative conditions.

D. Abatement

Finally, I disagree with the majority's analysis of the abatement issue as well as its conclusion. My colleagues begin their analysis of this element by propounding an issue—whether the Secretary's abatement measures were proposed as alternatives—that was not raised by either party before the judge or by the Commission itself in the briefing notice. My colleagues find that the Secretary's abatement measures were proposed as alternatives and therefore conclude "if the record shows that Sturgill implemented any one of the Secretary's proposed measures, or is equivocal in that regard, the abatement element . . . has not been established." I disagree and find that the Secretary did not propose the abatement measures in a manner that would require the citation be vacated if the Secretary failed to establish that all of Sturgill's abatement efforts were inadequate. In addition, I find the Secretary proved that Sturgill's actions regarding the three proposed abatement measures discussed by the majority were plainly inadequate, as were Sturgill's other abatement efforts. Finally, I find that the Secretary established that his proposed abatement efforts were feasible and would materially reduce the cited hazard.

1. Abatement Measures Not Proposed as Alternatives

To prove a violation of the general duty clause, the Secretary must establish that the proposed abatement measures are feasible and will eliminate or materially reduce the hazard. *Arcadian Corp.*, 20 BNA OSHC 2001, 2007 (No. 93-0628, 2004) (citing *Pelron Corp.*, 12 BNA OSHC 1833, 1835 (No. 82-388, 1986)). Here, the citation specifically alleges that Sturgill "failed to develop and implement a heat-related illness prevention program which adequately addressed appropriate clothing for working conditions, a formalized work/rest schedule, worksite monitoring, guidelines for removing employees from hazardous conditions, and acclimatization for new or returning employees." The citation then proposes those same measures as "feasible and acceptable methods" to abate the excessive heat hazard:

> 1. Develop guidelines for employees to wear loosely worn reflective clothing to deflect radiant heat . . . .
>
> 2. Develop a formalized work/rest regimen based on environmental working conditions. Remove employees from hazardous conditions when/if rest breaks are not taken.
>
> 3. Develop a work practice for monitoring employees for signs and symptoms of heat-related illness.
>
> 4. Develop guidelines for removal of employees from hazardous conditions when recognized through worksite monitoring.
>
> 5. Develop a formalized acclimatization work practice which includes the element of reduced time to hazardous conditions in addition to a reduction in work-load.[22]

My colleagues argue that because the Secretary describes each of the five proposed measures as "methods" to abate the hazard, they are necessarily alternative means of abatement, and the Secretary, therefore, can only prevail on the abatement issue "if he proves that Sturgill implemented none of the measures." In other words, my colleagues conclude that if the evidence supports a finding that Sturgill adequately undertook *any one* of the five listed abatement measures, the Secretary would fail to establish the abatement element, and thus, the general duty clause violation. The majority bases its erroneous conclusion that the Secretary proposes the abatement measures in the alternative on an illogical reading of the citation and a crabbed interpretation of various statements made by the Secretary. Specifically, the majority cites: (1) the language of the citation, which it finds is "internally inconsistent" on this issue; (2) the Secretary's post-hearing

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[22] The Secretary also proposed, and the parties litigated the adoption of a formalized hydration program.

brief, which it finds proposes the abatement methods in the alternative; and (3) the Secretary's response to my question at oral argument in the case, which the majority claims shows the "Secretary's failure to appreciate the effect of proposing the measures as alternatives."

With regard to the first point, my colleagues emphasize that "[t]he abatement portion of the citation . . . begins with a sentence that uses and references the plural word 'methods'. . . suggesting that each measure is an alternative means of abatement." I see no reason to read the proposed abatement measures in this restrictive manner. First, my colleagues' reliance upon the fact that the word "methods" is expressed in the plural form conveniently ignores the basic axiom that citations are to be construed liberally. *Erickson Air-Crane, Inc.*, 2012 WL 762001 at *2 (Mar. 2, 2012, No. 07-0645) ("It is well-settled that pleadings are to be liberally construed and easily amended."); *Gen. Dynamics Land Sys. Div.*, 15 BNA OSHC 1275, 1279-80 (No. 83-1293, 1991) (same), *aff'd*, 985 F.2d 560 (6th Cir. 1993); *see Nat'l Realty & Const. Co., Inc. v. OSHRC*, 489 F.2d 1257, 1264-65 (D.C. Cir. 1973) ("[C]itations under the [OSH] Act are drafted by non-legal personnel, acting with necessary dispatch. Enforcement of the Act would be crippled if the Secretary were inflexibly held to a narrow construction of citations issued by his inspectors.").

Second, the citation's assertion that Sturgill failed to implement a "*heat-related illness prevention program*" consisting of five measures can only be read as requiring that all five measures be present in the program. (emphasis added). As this assertion is coupled with the citation's abatement section, which lists the *very same* five measures, it is only reasonable to read the citation's abatement section as requiring a program consisting of *all five measures.*

Third, to the extent the citation's language can be characterized as ambiguous, the very nature of the proposed abatement measures here—measures that were proposed as materially reducing the hazard, not eliminating it—dictates that they cannot be alternatives. Instead, the measures are, by their very terms, cumulative measures that each address distinct aspects of the excessive heat hazard and together form a complete prevention program. The Secretary's brief on review makes this abundantly clear:

> First, the Secretary's proposed implementation of an acclimatization plan is feasible because, as the Secretary's expert explained, acclimatization *materially reduces* the heat hazard by increasing an employer's ability to cool off in the heat.
>
> ***
>
> Second, the Secretary's proposed requirement that employees wear loose-fitting reflective clothing in the heat is feasible because such clothing tends to reflect heat while dark clothing, such as that worn by M.R., tends to absorb and retain heat. Both the CDC and

> the NRCA recommend such clothing because it keeps the worker cooler, i.e., *materially reduces* the heat hazard.
>
> ***
>
> Third, the Secretary's proposed implementation of a formalized work-rest regimen based on weather conditions, increasing the ratio of rest periods to work periods when appropriate, is feasible because such work-rest cycles *materially reduce* the heat hazard by giving the body an opportunity to get rid of excess heat . . . .
>
> ***
>
> Fourth, the Secretary's proposed implementation of a specific, formalized hydration policy requiring employees to drink water at regular intervals when working in the heat is feasible.
>
> ***
>
> Finally, the Secretary's proposed practice of monitoring employees for signs and symptoms of heat illness is feasible. This practice of monitoring employees for heat illness would *materially reduce* the heat hazard because, as the CDC explained, "[e]arly recognition and treatment of heat stroke are the only means of preventing permanent brain damage or death."

(emphasis added). Thus, the Secretary's brief clarifies that taking one of these measures, such as wearing lightweight reflective clothing would not eliminate the need to drink quantities of water, just as drinking quantities of water would not eliminate the need to acclimate to the heat.[23] Indeed, when dealing with a hazard that cannot be eliminated through implementation of a single abatement measure, such as excessive heat, the Secretary's failure to prove that an employer did not implement one of the proposed abatement measures would never be the end of the matter. The Secretary could still prove that the employer failed to implement one or more of the other proposed measures, and that such implementation would *further* materially reduce the incidence of the hazard.[24]

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[23] The publications in the record discussing workplace heat hazards also make this point clear. For example, the Centers for Disease Control and Prevention (CDC) publication titled "Working in Hot Environments" discusses various measures for addressing such hazards including acclimatization, implementing work-rest cycles, making the job easier, providing cool rest areas, drinking sufficient water, and wearing appropriate clothing, and concludes that the "employer should establish a *program* designed to acclimatize workers who must be exposed to hot environments and provide necessary work-rest cycles and water to minimize heat stress." (emphasis added).

[24] For example, even if an employer has adequately implemented one measure intended to abate—i.e., materially reduce—an excessive heat hazard (e.g., the employer requires that all employees wear lightweight reflective clothing) that does not mean the hazard has been eliminated. The

This is exactly the case here. Because the Secretary argues in his brief that each of the proposed measures would *materially reduce*, not eliminate, the hazard, the measures cannot possibly be read as alternatives. Thus, even if Sturgill had taken one of the proposed measures, the Secretary could still prevail by establishing that one of the other proposed abatement measures was feasible and would *further* materially reduce the hazard. In short, my colleagues analyze this issue both upside down and backwards.

Fourth, reading the citation's list of abatement measures as alternatives is inconsistent with the way the parties actually tried the case. For example, Sturgill's counsel and the Secretary's expert, Dr. Yee, engaged in the following colloquy:

> Q. And is your opinion here today that acclimatization would have prevented M.R. having what you claim to be heat-related illness on August 1, would acclimatization [have] made a difference?
>
> A. I believe that if they had a *full injury illness prevention program* which would include acclimatization and proper education, proper work/rest schedules emphasizing rest, water, shade and enforced water breaks and enforced shade breaks, that combined—a comprehensive injury illness prevention program should have prevented his death. Acclimatization in and of itself probably not.
>
> Q. . . . So even though you mentioned it six times in your opinion, you are now telling me that acclimatization is not significant to the situation, that it would not have made a difference?
>
> A. If he were not acclimatized regardless of whether else they did, he probably still would have died . . . . A full illness and injury prevention program probably would have prevented his death. Even if you had all of that minus an acclimatization of over seven to fourteen days or five to fourteen or something similar to that minus the acclimatization, he probably would have still died . . . . An acclimatization program in and of itself would not have prevented his death . . . .

(emphasis added). As this exchange clearly establishes, the Secretary's theory of the case is that the proposed abatement measures have to be evaluated together. Indeed, Sturgill approached the case from the exact same vantage point, specifically arguing that it developed and utilized "a Comprehensive Heat Related Illness Prevention Program." Nowhere does Sturgill even suggest the hidebound theory propounded by my colleagues.

Secretary could still establish a general duty clause violation by proving that his other proposed abatement measures (e.g., enforcing work/rest schedules) would *further* materially reduce the hazard.

The judge also understood that the proposed abatement measures were to be evaluated as a whole "heat-related illness prevention program," not as separate alternatives. Indeed, the judge found that "Sturgill's heat-related illness safety program is inadequate in a number of ways," and then discussed Sturgill's failure to: give heat-related toolbox talks in the summer; provide the NRCA Pocket Guide to Safety, orientation safety videos, and OSHA 10-hour training to temporary employees; inform new or temporary employees when they should use the shaded rest areas; specifically instruct temporary employees that additional breaks were anticipated and required for employees unaccustomed to working in the heat; train MR regarding heat-related hazards or the signs and symptoms of heat-related illness; have a plan to monitor its employees' hydration; assure that employees wore clothing that was suitable given the weather conditions; and implement an acclimatization program. Thus, everyone involved in this case, including the judge, has understood that the citation proposed a prevention program, with separate component measures, not five alternative means of abatement.

Finally, the colloquy during oral argument that my colleagues reference began when I asked the Secretary's counsel whether the Secretary needed to establish that the employer inadequately implemented each of the five mentioned methods of abatement. After initially responding "yes," the Secretary's counsel stated "on reflection it's a matter of establishing that overall the hazard was effectively abated." It is not surprising that the Secretary's counsel failed "to appreciate the effect" that the majority now ascribes to the Secretary's listing of proposed abatement measures; it would defy logic for the Secretary to support a reading of the citation that would doom his case if he did not establish that Sturgill failed to implement any one of the proposed abatement measures that comprised an effective prevention program. Thus, the initial failure by the Secretary's counsel to "appreciate the effect" of proposing the measures as alternatives only serves to further highlight the illogicality of my colleagues' position.

For all these reasons, I reject the majority's assertion that the Secretary was required to prove that Sturgill's efforts to comply with each one of the Secretary's proposed abatement measures were inadequate. However, as discussed below, I also find that the Secretary established that Sturgill's abatement measures were inadequate.

2. Respondent's Measures Were Inadequate

To prove that a proposed abatement measure will eliminate or materially reduce the hazard, "the Secretary must submit evidence proving, as a threshold matter, that the methods undertaken

by the employer to address the alleged hazard were inadequate." *U.S. Postal Serv.*, 21 BNA OSHC 1767, 1773-74 (No. 04-0316, 2006). Sturgill argues that it had an adequate heat-related illness prevention plan because it: (1) carried out an acclimatization program; (2) instructed all employees on heat-related illnesses including their signs and symptoms and how to prevent such illness as well as treatment options; (3) presented two NRCA tool box talks on heat-related issues; (4) provided employees with the NRCA Pocket Guide to Safety, which contains a section on heat-related illnesses describing symptoms and treatment for heat exhaustion and heat stroke;[25] (5) provided 10-hour OSHA training; (6) provided drinking water on the roof; (7) encouraged employees to take breaks during the day in addition to the three scheduled breaks; and (8) during periods of extreme heat worked an abbreviated schedule or worked at night. Finally, Sturgill argues that it had an acclimatization program which it implemented for MR by assigning him to the least strenuous job on the roof, encouraging him to drink water, and informing him that he could take additional unscheduled breaks.

In a seven-page discussion of the abatement element, the judge found that none of the abatement measures Sturgill used that day were adequate. My colleagues analyze the evidence regarding three of those proposed abatement measures—a formalized acclimatization work practice, monitoring employees for signs and symptoms of heat illness, and a formalized work/rest regimen—and find that the Secretary failed to establish that Sturgill did not adequately implement those measures. And, as a result of their previous erroneous conclusion that the abatement measures were proposed as alternatives, they conclude that the Secretary failed to establish the abatement element of the general duty clause violation. I disagree with the majority's findings regarding these three measures and, in accord with the judge's well-supported findings, conclude that the Secretary established inadequate implementation with regard to the remaining measures.

a. Acclimatization, Including Formalized Work/Rest Regimen

The Secretary proposed that Sturgill "[d]evelop a formalized acclimatization work practice which includes the element of reduced time [sic] to hazardous conditions in addition to a reduction

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[25] Superintendent Gould identified the NRCA Pocket Guide to Safety as Sturgill's safety manual, and the two pages in the pocket guide that deal with heat-related illnesses (as well as the OSHA 10-hour training course) as Sturgill's heat-related illness prevention program. The guide's pages contain guidance regarding behavior on hot days, such as "take frequent rest breaks in cool areas," "[d]rink plenty of fluids, particularly water and fruit juices," and "[w]ear cotton clothing." In addition, they contain brief descriptions of the symptoms of heat exhaustion and heat stroke.

in work-load." The Secretary introduced various similar descriptions of acclimatization to a heat hazard. For example, in "Working in Hot Environments," the CDC states:

> Humans are, to a large extent, capable of adjusting to the heat. This adjustment to heat, under normal circumstances, usually takes about 5 to 7 days, during which time the body will undergo a series of changes that will make continued exposure to heat more endurable. On the first day of work in a hot environment, the body temperature, pulse rate, and general discomfort will be higher. With each succeeding daily exposure, all of these responses will gradually decrease, while the sweat rate will increase. When the body becomes acclimated to the heat, the worker will find it possible to perform work with less strain and distress.
>
> Gradual exposure to heat gives the body time to become accustomed to higher environmental temperatures. Heat disorders in general are more likely to occur among workers who have not been given time to adjust to working in the heat or among workers who have been away from hot environments and have gotten accustomed to lower temperatures. Hot weather conditions of the summer are likely to affect the worker who is not acclimatized to heat.

Similarly, in "Heat: A Major Killer," the NWS notes that "[a]cclimatization has to do with adjusting sweat-salt concentrations, among other things. The idea is to lose enough water to regulate body temperature, with the least possible chemical disturbance—salt depletion."[26]

The judge found that "Sturgill did not have an acclimatization plan."[27] She relied on OSHA and CDC documents submitted into evidence by the Secretary which explain the need to acclimate and outline the elements of an adequate acclimatization program. She also cited to a Sturgill toolbox talk on heat stress, which advised that employees should "[w]ork up to it. It can take about two weeks to get used to working in a hot environment." The judge found that, in spite of Sturgill's own warning, there was no schedule for new employees to build up a tolerance to working in the heat. Moreover, although Foreman Brown testified that he assigned MR the lightest job—throwing materials off the roof—because it was his first day at the worksite and he was "a much older guy," he did not relate that assignment to any concerns he might have had that MR needed

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[26] OSHA's document on "Acclimatizing Workers" warns that "implementing acclimatization activities is essential for new workers . . . . Be extra-careful with these workers and recognize immediately the symptoms of possible heat-related illness."

[27] The acclimatization plan that Sturgill described is not in writing. It is based on Gould's and Brown's testimony.

to be acclimated to the heat.[28] In fact, as the judge found, Brown stated that MR was limited in what jobs he could do because he had no tools.[29] Thus, I agree with the judge's finding that Brown did not assign MR the task that he did as part of an acclimatization plan. Indeed, there is no evidence that Brown thought MR needed any acclimatization because MR answered in the affirmative when asked whether he had done roofing work before.[30] There is no indication in the record *when* MR had previously done this roofing work; the record shows only that immediately prior to his assignment to Sturgill, MR had worked for three years on the night shift of an air-conditioned printing facility.

The judge acknowledged Sturgill's practice of allowing employees to take breaks beyond the three scheduled breaks per day when they needed to. However, she found that:

> [T]here is no evidence in the record that a new temporary employee would be comfortable asking for and taking additional breaks. Fearing loss of additional days of employment at this job assignment, a temporary employee likely would be reluctant to take multiple unscheduled breaks on his first day on the job, absent a specific instruction that additional breaks were anticipated and required for new employees unaccustomed to working in a hot environment.[31]

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[28] In his transcribed statement to OSHA, Brown explained that Sturgill's workers performed three tasks related to removing the old roofing in preparation for installing new roofing. Most of the workers were tearing off membrane and insulation, cutting those materials into smaller pieces, and placing them in a four-wheeled cart. One or two workers would then move the cart to the edge of the roof, directly above Sturgill's truck. MR's job was to remove the material from the cart and throw or push it over a 39-inch high parapet so that the material would land in the truck below.

[29] In his transcribed statement, Brown stated that he

> [s]howed [MR] around, showed him the warning lines, showed him how we cut the rubber and of course he had no tools [because] he had not been there[—]it was his first day. [The other two temporary employees] had been there all week so they [brought] their tools. [MR] did not have any tools and we would not loan him tools so I showed him the easiest (inaudible) so the only thing he had to do was stand there and throw the trash.

[30] Brown testified:

> I told [MR] it was going to be hot but he said he knew that. He [had] done roofing before. So I took his word, you know, he [had] done roofing before.

[31] In fact, MR took no breaks other than the scheduled midmorning fifteen-minute break.

Moreover, the judge found Sturgill's *informal* practice of allowing breaks with the foreman's approval, rather than implementing a formalized work/rest regimen based on the day's particular weather conditions, to be inadequate.[32] I agree with both findings.

My colleagues, without addressing the judge's findings, conclude that Sturgill used an acclimatization program that included assigning new employees to the lightest, easiest jobs, and providing a flexible work schedule that allowed for informal breaks. And they conclude that the Secretary did not delineate specific additional steps that Sturgill should have taken in addition to the ones Sturgill identified. Thus, the majority concludes that the Secretary has not proven that Sturgill's acclimatization program was inadequate. I disagree.

First, the totality of Superintendent Gould's testimony regarding Sturgill's acclimatization program consists of the following:

> Q. As part of the heat illness prevention program, does the A.H. Sturgill Company do anything with respect to acclimatization?
> A. Sure, we do. . . . [W]e start them out with the lighter tasks, less physical duties that you could have on a particular project. And then work them up from there, so to speak.
>
> . . . .
>
> A. In addition, if I may, the breaks, we'll make sure that they have a place to break, not just to take a break but to have a place to break with shade available.

This bare-bones testimony contrasts with the detailed advice provided by OSHA in its "Campaign to Prevent Heat Illness in Outdoor Workers - Protective Measures to . . . .," submitted into evidence here by the Secretary, as to the elements of a *formal* acclimatization program:

> Develop a heat acclimatization program and plans that promote work at a steady moderate rate that can be sustained in the heat. For example, allow workers to get used to hot environments by gradually increasing exposure over at least a 5-day work period. Begin with *50% of the normal workload* and *time spent in the hot environment* and then gradually build up to 100% by the fifth day. New workers and those returning from an absence of two weeks or more should have a 5-day minimum adjustment period. While a significant amount of acclimatization occurs

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[32] OSHA's "Campaign to Prevent Heat Illness in Outdoor Workers - Protective Measures to . . . ." notes that:

> When possible, more frequent shorter periods of exposure to heat are better than fewer longer exposures. This means that the work/rest schedules are often based on 1-hour cycles and might call for a rest period of 15 minutes every hour during hot weather, but 45 minutes per hour when temperature and humidity are extreme.

rapidly in that first week, full acclimatization may take a little longer. Some workers require up to two or three weeks to fully acclimatize.[33]

Second, my colleagues find it significant that "[t]he CO not only agreed that [Sturgill's] measures are all components of an acclimatization program but acknowledged that an OSHA 'Accident Investigation Summary,' prepared in part based on her investigation, states: 'It appears that [Sturgill] was utilizing an informal acclimatization program for the new temp agency employee.' "[34] In light of the numerous inadequacies of Sturgill's purported acclimatization plan, this statement in the Accident Investigation Summary is clearly inaccurate.[35]

Third, Sturgill's practice of allowing workers to ask for breaks in addition to the scheduled ones, while commendable, was not part of a formal plan designed to adjust new workers to hot conditions. And although Brown told MR to let him know "if he g[o]t hot you know he['s] got to tell me and if he wanted a break if he can't do it let me know," he made no attempt to explain to MR the reasons *why* it was essential for him to take numerous breaks in order to acclimate himself, and he did not insist that MR do so. Without an explicit instruction, MR, a temporary employee working his first day on the job, could not be expected to run what any such worker would perceive as an unacceptable risk of asking to take extra breaks. For these reasons, I conclude that the Secretary established that Sturgill's informal acclimatization program and work/rest regimen were inadequate.

b. Monitoring Employees for Signs and Symptom of Heat Illness

My colleagues find that the Secretary failed to establish that Sturgill's prevention plan did not adequately assure that employees were monitored for signs and symptoms of heat-related

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[33] My colleagues ignore these specific measures in finding that the Secretary "does not identify by how much Sturgill would have needed to limit MR's time on the roof to have adequately met" his proposed abatement measure.

[34] It is well established that "the Commission is not bound by the representations or interpretations of OSHA Compliance Officers." *Kaspar Wire Works, Inc. v. Sec'y of Labor*, 268 F.3d 1123, 1128 (D.C. Cir. 2001); *see also L.R. Willson & Sons, Inc. v. Donovan,* 685 F.2d 664, 676 (D.C. Cir. 1982); *W. Steel Mfg. Co.*, 4 BNA OSHC 1640, 1643 (No. 3528, 1976).

[35] With regard to the Accident Investigation Summary, the judge found: "[t]he facts set[] forth in the [S]ummary, based on reported hearsay statements, are accorded limited weight. Greater weight is given to the direct and cross-examination testimony of the hearing witnesses."

illness.[36] My colleagues point to Gould's testimony that, utilizing the NRCA toolbox talk sheets, Sturgill instructs its employees in the signs and symptoms of heat illnesses, and Brown's testimony that he knew those signs and symptoms. My colleagues also accord weight to Brown's testimony that he checked on MR that morning, saw him drinking water at the midmorning break, and did not observe MR displaying any signs of heat-related illness until Brown saw him walking clumsily. However, even though Brown observed MR drinking water at the break, he repeatedly testified that he was not paying any particular attention to MR.[37] And although he asked MR how he was doing twice that morning, Brown was unable to discern any initial signs of heat-related illness—

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[36] OSHA's document "About Work/Rest Schedules" states: "Assign new and un-acclimatized workers lighter work and longer rest periods. Monitor these workers more closely."

[37] Q. [E]ach time the carts made a circle did you observe him stand – going to the shade and standing there?

A. I mean I was observing ten guys on the roof. So I observed him at times, yeah.

. . . .

Q. Did you observe him drink water at other times in the course of that morning?

A. Well, I mean to my recollection, I was watching everyone. I didn't really pay attention if he kept going to the cooler or not.

. . . .

Q. Did you pay particular attention to him working that morning?

A. Well, I had ten guys, so I paid attention to all of them. So I observed all of the guys.

. . . .

Q. You did not monitor the amount of water that MR drank on August 1, 2012?

A. Well, I had ten guys on the roof. I couldn't monitor how much each one of them drank. I mean if I provide the water and everything for them, it's on the individual to go drink it.

Q. So you don't know how much he drank?

A. No, I don't – I didn't monitor how much he dr[a]nk. I mean, like I said, I had ten guys on the roof.

Q. You don't know if he finished even one cup of water, right?

A. I mean I don't know if he finished it or not. Like I had ten guys on the roof, we all had water to drink. I assumed he would have drunk.

such as sweating[38] and odd behavior[39]—only 15 minutes before MR collapsed.[40] As the judge found:

> Sturgill could have developed a practice of monitoring employees for signs and symptoms of heat-related illness. The initial signs that M.R. displayed of heat related illness, that morning, odd behavior, sweating, and not drinking water, went unnoticed and unrecognized by foreman Brown.... A work practice of monitoring employees for signs and symptoms of heat-related illness would have disclosed [that] M.R. was experiencing the initial warning signs and symptoms of illness.

For these reasons, I find that Sturgill's monitoring of employees for signs and symptoms of heat-related illness was inadequate.

c. Clothing and Hydration

My colleagues do not discuss the measures of appropriate clothing and a formalized hydration program, but I find that the Secretary has shown that Sturgill failed to adequately implement these measures as well. As to clothing, the Secretary asserts that Sturgill failed to institute "guidelines for employees to wear loosely worn reflective clothing to deflect radiant heat...."[41] The evidence establishes that MR was wearing all-black clothing, including a black sweater on August 1. Foreman Brown was aware that black clothing was not appropriate for

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[38] In his transcribed statement to OSHA, Brown acknowledged that during the midmorning break MR drank some water: "He did drink some water but after that no. We [saw] him sweating and we ask[ed] him if he wanted something to drink and he said no he was al[l] right." The NRCA Pocket Guide to Safety, which Sturgill used as its safety manual and gave to all permanent employees, lists "heavy perspiration" as a symptom of heat exhaustion.

[39] Evidently, MR refused to talk to workers other than Brown.

[40] In fact, Brown testified that it was another worker who told him to check on MR:

> One of the right hand man[]s . . . came to me and was like go check Mr. [MR]. I went over to him and asked him was he all right. And he kept saying yes but he was walking like clumsy. So I grabbed him . . . carried him over to the shade. And at that time that's when I felt that he wasn't right and I called the ambulance.

[41] The toolbox talk sheets and the NRCA pocket guide contain recommendations regarding appropriate clothing: "Light colored clothing and a hat with a brim will help to protect you from harmful UV rays, and will actually keep you cooler than if you don't wear a hat or shirt" (Toolbox Talks, Weather - Personal Injury); "Always wear a shirt, preferably of cotton material" (Toolbox Talks – Heat Stress); "wear cotton clothing" and "do not work in shorts, and always wear a shirt" (NRCA pocket guide). As noted above, none of these documents were shared with the temporary workers.

roofing work: "I mean I'm no tripping [sic] but when you go on a roof during a hot day you are suppose[d] to wear light clothes. He had on all black." However, Brown said nothing to MR about his clothes because "[MR] said he had done [roofing work] before." The NWS document warns, "Dress for summer. Wear lightweight, light-colored clothing to reflect heat and sunlight." The judge correctly found that "Sturgill could have required its employees to wear suitable clothing when working on a roof in the heat."

As to a hydration program, Sturgill routinely provided its workers with water and ice at the worksite.[42] However, the Secretary argues that Sturgill could have done more to ensure that workers, including new workers such a MR, drank sufficient water. He asserts that "Sturgill could . . . have feasibly reduced exposure to heat hazards by implementing a formalized water drinking program." The CDC provides clear, specific advice about the need for significant amounts of water when working in hot environments:

> In the course of a day's work in the heat, a worker may produce as much as 2 to 3 gallons of sweat. Because so many heat disorders involve excessive dehydration of the body, it is essential that water intake during the workday be about equal to the amount of sweat produced. Most workers exposed to hot conditions drink less fluids than needed because of an insufficient thirst drive. A worker, therefore, should not depend on thirst to signal when and how much to drink. Instead, the worker should drink 5 to 7 ounces of fluids every 15 to 20 minutes to replenish the necessary fluids in the body.

As I have noted above, MR apparently drank very little water during the five hours that he worked on the roof,[43] and Brown did next to nothing to assure that MR remained hydrated. Gould also expressed a laissez-faire attitude toward worker hydration. In his transcribed interview with OSHA, Gould described how Sturgill provides water and ice, but explained that no one is mandated to drink water: "Well you give them breaks but you can't force a guy, you can't hold his head and pour water down his throat . . . . But the water is available, they know they need to drink it, they know it is there . . . . [B]ut you can't like I say, you can't force it down their throats." There are many possible ways to encourage the drinking of water short of "pour[ing] water down

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[42] As noted above, although the Secretary did not mention the need for a formal hydration program in the citation, the parties litigated the issue and the judge ruled on it.

[43] Brown testified that a fellow worker gave MR a 44-ounce cup of water during the morning break. However, it is not clear how much MR drank.

[the] throat" of an employee.[44] However, Sturgill took no action in this regard, and Brown paid little attention to whether MR was drinking. Given that MR was not acclimated to the heat, I find Sturgill's failure to better attend to this aspect of an adequate heat-related illness prevention program was particularly serious.

For all these reasons, I find that the Secretary has established all the elements of the alleged general duty clause violation and would therefore affirm the violation.

II. The Training Violation

The Secretary alleges that Sturgill violated 29 C.F.R. § 1926.21(b)(2) because it

> did not ensure that its full[-]time permanent employees, including managers, and temporary employees all received reasonable and necessary instruction specific to the recognition and avoidance of risk factors related to the development of heat-related illnesses such as, but not limited to heat stroke, heat exhaustion, heat cramps and heat rash.[45]

The judge affirmed the violation, finding that Sturgill did not provide adequate training to recognize and avoid heat-illness hazards to its permanent employees, including Foreman Brown, and to its temporary employees, including MR. Because I find that Sturgill failed to provide MR with the training that a reasonably prudent employer would provide, I agree with the judge and dissent from the majority's contrary conclusion.[46] To prove a violation of § 1926.21(b)(2) the Secretary must establish that:

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[44] For example, OSHA advises that supervisors can "remind workers to drink water often" (Safety and Health Topics—Occupational Heat Exposure"), and can emphasize that it is important to drink water even when a worker does not feel thirsty.

[45] The standard provides:

> The employer shall instruct each employee in the recognition and avoidance of unsafe conditions and the regulations applicable to his work environment to control or eliminate any hazards or other exposure to illness or injury.

29 C.F.R. § 1926.21(b)(2).

[46] Two other temporary workers were present on the day of the incident. As found by the judge, there is a conflict in the record as to when those employees began work on the project. The list of employees on the project provided by Sturgill indicates that the other two temporary employees only worked on the day of the incident. However, Foreman Brown stated that the other temporary employees "had been there all week." The judge found that the day of the incident "was not the first work day on the . . . roofing jobsite for the two other temporary employees." Given the state of the evidence, it would appear that, at most, the two other temporary employees worked for two days prior to the incident. In any event, I need not address whether their training (or that provided

> (1) The standard applies to the cited working conditions, (2) the terms of the standard were not complied with, (3) employees had access to the violative conditions, and (4) the employer knew of the violative conditions or could have known with the exercise of reasonable diligence.

Pressure Concrete Const. Co., 15 BNA OSHC 2011, 2015 (No. 90-2668, 1992); *Bardav, Inc.*, 24 BNA OSHC 2105, 2111 (No. 10-1055, 2014). I find that all four elements have been established.

My finding above—that there was a recognized heat-related illness hazard at the worksite on the day of the incident—establishes the first element of proof of the training violation. *See W.G. Fairfield Co.*, 19 BNA OSHC 1233, 1236 (No. 99-0344, 2000) (where underlying violation is of generalized standard, "employer's obligation to train is dependent upon the specific conditions, whether those conditions create a hazard, and whether the employer or its industry has recognized the hazard") (citation omitted), *aff'd*, 285 F.3d 499 (6th Cir. 2002). To establish the second element of the training violation, the Secretary must prove that Sturgill "failed to provide the instructions that a reasonably prudent employer would have given in the same circumstances." *El Paso Crane & Rigging Co.*, 16 BNA OSHC 1419, 1424 (No. 90-1106, 1993) (citations omitted); *Compass Envtl., Inc.*, 23 BNA OSHC 1132, 1134 (No. 06-1036, 2010), *aff'd*, 663 F.3d 1164, 1168 (10th Cir. 2011) (same). Based on my analysis of the record, I disagree with my colleagues' conclusion that this element has not been proven.

My colleagues' analysis rests on their flawed description of the facts. As explained in my discussion of the general duty clause violation above, the judge found—and I agree—that the only heat-related illness training MR received involved Foreman Brown telling him that if he got hot, he could ask to take a break.[47] MR was not informed of the signs and symptoms of heat-related illnesses or given a copy of the NRCA pocket guide (which identified several precautions against heat-related illness and described the symptoms of heat exhaustion and heat stroke). He was not instructed about heat-related illness based on the two toolbox talks that Sturgill gave to permanent

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to Sturgill's permanent employees) was sufficient because I find that Sturgill failed to provide adequate training to MR.

[47] My colleagues recite seven elements of what they characterize as Sturgill's comprehensive safety program. But only one of these elements—daily presentations at the start of each shift given by the foreman or superintendent—was even arguably applicable to MR. As discussed in detail above, MR did not watch safety training videos, attend OSHA 10-hour training, read or receive the NRCA pocket guide, attend the mentioned toolbox talks, receive any employee safety handbook, or hear a presentation by the owner.

employees at other times during the year, even though Brown recognized that it was going to be a hot day. MR was not given a work/rest regimen, or training on how to use such a regimen, to acclimate himself to the heat.[48] Likewise, although he was shown where water was located, he was not told that it was important that he drink lots of water, and that he must drink water even if he was not thirsty. Nor was he instructed that standing by the chillers on the roof was necessary to help him cool down. And, finally, although MR was wearing all black clothing, he was not told that he should wear lightweight, reflective clothing.

My colleagues paint a very different picture of these facts, which is inaccurate in several respects. Although it is true, as I note above, that Brown told MR that it was going to "get hot," showed him where the water was located, showed him where breaks could be taken in the shade, and told him that if he became hot and "if he wanted a break if he can't do it let me know," there is absolutely no support in the record for my colleagues' finding that Brown told MR "*to avoid a heat-related illness* by drinking water, taking rests, and utilizing shade." (emphasis added). Indeed, the fundamental problem with the "instructions" that Brown did give to MR is that they were not explicitly tied in any way to the signs, symptoms, or dangers of heat-related illness. Without that link, the limited guidance that Brown provided was inadequate to equip MR with the information he needed to protect himself from heat-related illness. Moreover, my colleagues do not even mention the topics that Brown did not discuss at all, such as the signs and symptoms of heat-related illnesses; a formal acclimatization plan and formal work/rest regimen; the importance of drinking lots of water, even if MR was not thirsty; and that he should only wear lightweight, reflective clothing, not all black.

Based on their version of the facts, my colleagues assert that there was no evidence that a reasonably prudent employer would have given its employees different training than what the company provided, and the Secretary failed to respond to that argument. They conclude that "[g]iven the Secretary's silence, we find that he has failed to meet his burden of persuasion on this issue." I disagree. Because evidence in the record establishes that a reasonably prudent employer would have given its employees different training, and, indeed Sturgill did give its *permanent*

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[48] As my colleagues note, "[n]ew employees who lack training or are not acclimated are particularly at risk for heat-related illness."

employees different training, I find the Secretary has established this element of the training violation with respect to MR.[49]

Importantly, *there is* evidence in the record relating to the "reasonably prudent employer" inquiry. Industry practice is relevant (although not necessarily dispositive) to a "reasonably prudent employer" inquiry. *See, e.g., W.G. Fairfield Co.*, 19 BNA OSHC at 1235-36. And industry practice is reflected in this case by the NRCA Pocket Guide to Safety that Sturgill identified as its safety manual and the two NRCA toolbox talks that Sturgill used in its training of its permanent employees.[50] Together, these documents instruct employees on the signs and symptoms of heat exhaustion and heat stroke; recommend that employees take frequent breaks in shady areas and wear appropriate clothing; emphasize the importance of acclimatization ("Work up to it. It can take about two weeks to get used to working in a hot environment"); and stress that employees should drink "lots of water" throughout the day ("don't wait until you feel thirsty"). I find that the NRCA documents are evidence of industry practice for training employees on heat-related illness hazards and therefore support a finding that a reasonably prudent employer would have included *at least* those items in its heat-related illness training for all employees, including MR.

As my colleagues find, "Sturgill instructs its permanent employees and long-term temporary employees on how to recognize and avoid heat-related illnesses" through a safety program that includes, among other things, the NRCA documents. Because the NRCA documents constitute at least a portion of the training a reasonably prudent employer would provide to its employees regarding heat-related illness hazards, and because Sturgill itself provided this training to its permanent employees, but *not to MR*, who was exposed to exactly the same heat-related illness hazard, the Secretary has established noncompliance with the training standard. As § 1926.21(b)(2) states, "[t]he employer shall instruct *each employee* in the recognition and avoidance of unsafe conditions . . . ."

Because there is no dispute that MR had access to the violative condition, and that Sturgill knew that it did not provide adequate training to MR regarding the heat-related illness hazard, I

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[49] This is not to say that the training Sturgill gave to its permanent employees complied with the training standard. As noted above, I need not address that issue.

[50] Gould identified the NRCA as "undisputed leaders in the industry. They have been in business – NRCA, has been together over 100 years."

conclude that Sturgill violated the training standard. For all these reasons, I agree with the judge and would also affirm the citation in its entirety.

Cynthia L. Attwood
Commissioner

Dated: FEB 2 8 2019