



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.

ELLIOT CONSTRUCTION CORP.,

Respondent.

OSHRC Docket No. 07-1578

**ON BRIEFS:**

Edmund C. Baird, Attorney; Michael P. Doyle, Counsel for Appellate Litigation; Charles F. James, Counsel for Appellate Litigation; Joseph M. Woodward, Associate Solicitor for Occupational Safety and Health; Carol A. De Deo, Deputy Solicitor for National Operations; Deborah Greenfield, Acting Deputy Solicitor; U.S. Department of Labor, Washington, DC

For the Complainant

Robert H. Brown, Esq.; Laner, Muchin, Dombrow, Becker, Levin and Tominberg, Ltd.; Chicago, IL

For the Respondent

**DECISION**

Before: ROGERS, Chairman; ATTWOOD, Commissioner.

**BY THE COMMISSION:**

On March 22, 2007, the Occupational Safety and Health Administration (“OSHA”) inspected a construction project in Chicago, Illinois, after four employees of Elliot Construction Corporation (“Elliot”) were exposed to carbon monoxide (“CO”). Following the inspection, OSHA issued Elliot a three-item willful citation alleging violations of the Occupational Safety and Health Act of 1970 (“the Act”), 29 U.S.C. §§ 651-678. Specifically, OSHA alleged that Elliot violated standards pertaining to airborne contaminants and jobsite inspections, and proposed a total penalty of \$112,000.

Following a hearing, former Administrative Law Judge Nancy Spies vacated the jobsite inspection item, affirmed the two airborne contaminants violations as serious, and assessed a total penalty of \$14,000. On review before the Commission are the merits, characterizations, and penalties of these citation items. For the reasons that follow, we affirm all three citation items as willful and assess a total penalty of \$112,000.

### **BACKGROUND**

On March 21, 2007, Elliot, a concrete contractor, used three gas-powered machines to pour a concrete floor inside a building. It is uncontested that the machines produced CO. Before the pour began, Elliot foreman Michael Dynowski set up three fans to ventilate the space, but as the work proceeded, four Elliot employees came to him at various times and reported feeling ill.<sup>1</sup> As each employee reported feeling sick, Dynowski sent the employee outside for a break.

After the fourth employee became ill, Jeff Luif of Safety Check, a safety consultant under contract with Elliot, arrived at the worksite for a routine visit. Luif evaluated the worksite, consulted with Safety Check and Elliot officials by phone, and then contacted emergency personnel. Paramedics administered oxygen to the four sick employees and transported them to area hospitals. At the hospital, Employee-C and Employee-D were diagnosed with CO poisoning. Their blood tests revealed the presence of carboxyhemoglobin (“COHb”), a byproduct of breathing CO that reduces the blood’s oxygen-carrying capacity.

Fire department personnel took measurements of airborne CO inside the building while work on the pour was suspended. Once they left, Dynowski and his crew used a CO monitor and an extra fan while they finished pouring the floor. Whenever the CO monitor registered 35 parts per million (“ppm”), Dynowski evacuated his crew from the room until the monitor registered a single digit reading, which took approximately 20 to 30 minutes each time. Dynowski continued this process until the crew completed the project. No other crew member complained of sickness that day.

### **DISCUSSION**

#### **I. Willful Citation 1, Item 1 (Jobsite Inspections)**

Under this item, the Secretary alleges that Elliot violated 29 C.F.R. § 1926.20(b)(2), which requires employers to maintain programs that “provide for frequent and regular

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<sup>1</sup> These four employees will be referred to here as Employee-A, Employee-B, Employee-C and Employee-D.

inspections of . . . job sites,” by failing to conduct air monitoring for CO at the worksite. The judge vacated the item because, unlike several OSHA airborne contaminant standards, this inspection provision does not specify that the employer must “monitor” or “test” the air. The Secretary contends that the judge’s ruling was in error, and we agree.

Given the context in which the term “inspections” is used in § 1926.20(b)(2), the absence of either the word “monitor” or the word “test” in the cited provision is not determinative of the provision’s meaning. *See, e.g., U.S. Nat’l Bank of Or. v. Indep. Ins. Agents of Am., Inc.*, 508 U.S. 439, 455 (1993) (“Over and over we have stressed that in expounding a statute, we must not be guided by a single sentence or member of a sentence, but look to the provisions of the whole law, and to its object and policy.”) (internal quotation marks and citation omitted); *S. Scrap Materials Co.*, 23 BNA OSHC 1596, 1608, 2011 CCH OSHD ¶ 33,177, p. 55,566 (No. 94-3393, 2011) (noting that standards should be read “ ‘as a harmonious whole,’ ” with all parts construed together) (citation omitted). The cited provision is just one of several requirements under § 1926.20(b), titled “Accident prevention responsibilities,” the first of which requires employers “to initiate and maintain *such programs* as may be *necessary to comply with this part.*” 29 C.F.R. § 1926.20(b)(1) (emphasis added). In this respect, subsection (b)(1) establishes not only the requirement for “such programs,” but also the purpose of these programs—to ensure compliance with the construction standards. *See Northwood Stone & Asphalt, Inc.*, 16 BNA OSHC 2097, 2099, 1993-1995 CCH OSHD ¶ 30,583, p. 42,349 (No. 91-3409, 1994) (stating that under § 1926.20(b)(1), employers are required to maintain “a safety program that include[s] training adequate to educate [their] employees about the requirements of 29 C.F.R. Part 1926 and the need to comply with those requirements”), *aff’d*, 82 F.3d 418 (6th Cir. 1996) (unpublished). Section 1926.20(b)(2) explicitly references these programs in specifying that they must include “inspections.” 29 C.F.R. § 1926.20(b)(2) (“*Such programs shall* provide for frequent and regular inspections of the job sites . . . .”) (emphasis added). Therefore, as an element of the required “programs,” the “inspections” provision shares the purpose of ensuring compliance with the construction standards.

That purpose would not be effectuated here if we were to construe “inspections” to exclude air monitoring. It is uncontested that the gas-powered equipment used at Elliot’s interior pour could generate CO in excess of the Permissible Exposure Limit (“PEL”) specified in 29 C.F.R. § 1926.55(a). Indeed, this potential for overexposure was the very reason foreman

Dynowski set up fans in an attempt to ventilate the room.<sup>2</sup> As the Secretary points out, because CO is odorless and colorless, the *only* way an employer can inspect a worksite to ensure that the PEL for CO will not be exceeded is by air monitoring. In short, to construe § 1926.20(b)(2) as excluding the only effective method of inspection would vitiate the very purpose of the standard's requirement.<sup>3</sup> See *J.A. Jones Constr. Co.*, 15 BNA OSHC 2201, 2207, 1991-1993 CCH OSHD ¶ 29,964, p. 41,026 (No. 87-2059, 1993) (inspections under § 1926.20(b)(2) must be “conducted to keep track of safety hazards at the site”); *Northwood Stone*, 16 BNA OSHC at 2099, 1993-1995 CCH OSHD at p. 42,349 (noting that “under 29 C.F.R. § 1926.20(b)(1), . . . a safety program must include those measures for detecting and correcting hazards which a reasonably prudent employer similarly situated would adopt”) (citing *J.A. Jones.*, 15 BNA OSHC at 2206, 1991-1993 CCH OSHD at p. 41,025); *Gelco Builders, Inc.*, 6 BNA OSHC 1104, 1106 n.6, 1997-1998 CCH OSHD ¶ 22,353, p. 26,941 n.6 (No. 14505, 1977) (rejecting interpretation of fall protection standards that would yield an anomalous result). Because Elliot does not dispute that it failed to conduct such monitoring, the Secretary established a violation of § 1926.20(b)(2). Accordingly, we affirm Citation 1, Item 1.

## **II. Willful Citation 1, Items 2a and 2b (Air Contaminants)**

Under this item, the Secretary alleges that Elliot violated 29 C.F.R. § 1926.55(a) by exposing two employees engaged in the pouring operation on the day in question to levels of CO above the PEL, which is an eight hour time-weighted average (“TWA”) of 50 ppm. In the

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<sup>2</sup> John Cotte, an Elliot superintendent who served as Dynowski's supervisor, testified that he met with Dynowski before the pour to discuss how they would provide CO ventilation, and Dynowski testified that he set up ventilation fans before the pour began specifically because of the CO problem.

<sup>3</sup> The Commission has reached a similar conclusion where the duty to conduct an inspection derives from other sources. For example, in addressing a requirement to institute feasible engineering controls under the general industry air contaminants standard, the Commission concluded that “[w]hen an employer knows that an air contaminant covered by [§] 1910.1000 is generated in the workplace, reasonable diligence requires the employer to make measurements to determine whether and how much the employees are overexposed.” *Seaboard Foundry, Inc.*, 11 BNA OSHC 1398, 1402, 1983-1984 CCH OSHD ¶ 26,522, p. 33,775 (No. 77-3964, 1983); see also *New England Tel. & Tel. Co.*, 11 BNA OSHC 1501, 1510-11, 1983-1984 CCH OSHD ¶ 26,535, p. 33,844 (No. 80-6519, 1983) (finding duty to inspect in the context of an unpreventable employee misconduct defense not satisfied by cursory, visual spot checks that would not detect whether employees wore insulating gloves under their regular work gloves, as required by a provision of the telecommunications standard).

absence of air monitoring from the time during which these employees were allegedly overexposed, OSHA asked its Salt Lake Technical Center (“SLTC”), first in April 2007 and again in October 2008, to calculate the employees’ exposure levels from blood tests taken that day. To make these calculations, SLTC used a computer program based on a formula known as the “Coburn-Forster-Kane equation,” which determines TWA airborne CO levels from COHb blood levels (“CFK methodology” or “CFK”). The CFK methodology accounts for various factors (“input data”), such as the duration of CO exposure and timing of the blood tests, to correlate COHb levels to TWA airborne CO exposure. The TWA results calculated in April 2007 were above the PEL for Employee-C (104.1 ppm) and Employee-D (80.5 ppm). In October 2008, new calculations based on revised input data showed higher exposure levels for both employees: 203.2 ppm for Employee-C and 111.1 ppm for Employee-D.

The judge did not rely on any CFK results in affirming the violation—she did not address the April 2007 results and found the October 2008 results insufficient because she questioned the accuracy of some of the October 2008 input data. She instead found that the Secretary established overexposure on the basis of (1) air monitoring the fire department conducted after employee exposure; (2) the four employees’ symptoms during and after their exposure; and (3) the COHb results for Employees-C and D.<sup>4</sup> On review, Elliot argues that none of this evidence, including both sets of CFK results, is sufficient to support a finding of overexposure. In her brief to the Commission, the Secretary abandons her reliance on the October 2008 results, but contends that the April 2007 results, as well as the other evidence, shows that the PEL was exceeded. For the following reasons, we find that the April 2007 results alone establish overexposure and, therefore, a violation of the cited provision.

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<sup>4</sup> In relying on the COHb levels of Employees-C and D, which were 16.5% and 13.5%, respectively, as proof of exposure above the PEL, the judge based her finding on an unreviewed administrative law judge decision which referenced testimony from an expert who stated that COHb levels above 5% indicate overexposure. *Cumbie Concrete Co.*, No. 96-1627, 1998 WL 472016, at \*3 (OSHRC Aug. 10, 1998) (ALJ). In so doing, the judge erroneously relied on testimony that was not submitted into evidence in the instant case, and that testimony does not include the type of facts that may be judicially noticed. See Fed. R. Evid. 201(b). Moreover, it is well-settled that an unreviewed administrative law judge’s decision has no precedential value. See *In re Cerro Copper Prods. Co.*, 752 F.2d 280, 284 (7th Cir. 1985) (holding that “[a]n unreviewed ALJ decision does not bind the OSHRC or the courts as precedent”) (citations omitted). Therefore, we do not rely on *Cumbie* here.

As a threshold matter, Elliot contends that the Commission should not consider the April 2007 results because the Secretary did not rely on them before the judge. Elliot asserts that (1) the Secretary amended her complaint at the hearing by implied consent, abandoning the April 2007 results and substituting the October 2008 results as the basis for the overexposure violation, and (2) the April 2007 results, which Elliot introduced into evidence, were admitted only for a limited purpose that did not include showing that the PEL for CO was exceeded. The Secretary maintains that she never amended the citation and claims that there is no valid reason for the Commission to reject consideration of the April 2007 results.

We agree with the Secretary. Although the Secretary did not introduce the April 2007 results into evidence herself, she cited them in support of her opposition to Elliot's dismissal motion made at the end of her case-in-chief. At that point, Elliot still had ample opportunity to address this evidence when presenting its own case. And in her post-hearing reply brief, the Secretary argued that Elliot's critique of OSHA's overexposure findings should fail based on these "lower original figures" that show "significant overexposures." It is true that Elliot stated its intent to proffer the April 2007 input data and results for a "limited purpose," but both the data and the results were admitted into the record at other points during the hearing without any attempt by Elliot to limit their admission. Indeed, this information was read into the record by the compliance officer on cross-examination, and even Elliot's own expert testified about the April 2007 results on direct examination. At no point prior to submission of its brief on review did Elliot object to the Secretary's reliance on these results. Under these circumstances, we find no bar to our consideration of the April 2007 results.

Elliot next argues that these results are not "dependable proof" of overexposure, challenging the validity of the CFK methodology itself and its application in this case.<sup>5</sup> We find none of the arguments raised by Elliot persuasive. With respect to the CFK methodology, Elliot claims that because individuals excrete COHb at different rates, airborne exposures cannot be reliably calculated from COHb levels. Although the Secretary's expert, Daniel Crane, did testify

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<sup>5</sup> We note that Elliot does not claim the CFK results are inadmissible on grounds of unreliability. In any event, we find that the CFK methodology, as discussed *infra*, is sufficiently reliable for determining the CO levels of Employees-C and D. *S. Pan Servs. Co.*, 21 BNA OSHC 1274, 1277, 2004-2009 CCH OSHD ¶ 32,889, p. 53,282 (No. 99-0933, 2005) (applying "sufficiently reliable" test enunciated in *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579 (1993), to determine admissibility of scientific evidence).

that COHb is excreted at varying rates, he explained that the CFK methodology accounts for such variations by relying on “well-established population averages for ... physiological variables,” and testified that the CFK equation is “the definitive model for modeling [COHb] exposures to carbon monoxide exposures.” According to Crane, the CFK methodology yields results that are 95% certain even with the assumptions made for physiological variables. Moreover, the record shows that this methodology was validated using data from volunteers given short-term exposures to high CO levels and peer-reviewed at a 2000 conference of the American Industrial Hygiene Association. Also, the National Institute for Occupational Safety and Health participated in the methodology’s validation and review. Indeed, the CFK equation has a long-standing history, having been first published in 1965, and even Elliot’s expert witness, Frederick Boelter, acknowledged that the methodology was a “useful” model.

Elliot also asserts that there are several inaccuracies in the input data, and that because “small differences in data input lead to significant differences in results,” the application of the CFK methodology here was “thoroughly discredited.” We disagree. Elliot first claims that the amount of time between the end of the employees’ CO exposure and the time their blood was drawn (“post exposure/blood draw interval” or “interval”) was overstated. With respect to Employee-D, although the interval used for the April 2007 calculation of his exposure exceeded by 15 minutes the time Elliot claims was the correct amount, the record shows that the PEL was exceeded even when calculated based on the earlier end-of-exposure time.<sup>6</sup> With respect to Employee-C, Elliot claims the inaccuracy is even greater because, it contends, his exposure ended after that of Employee-D. But Employee-D’s testimony shows that Employee-C left the

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<sup>6</sup> The record shows that SLTC had a mechanism for accounting for data imprecision which involved the application of an “uncertainty factor” of  $\pm 15$  minutes for the post exposure/blood draw interval that was then incorporated in another factor known as the “sampling and analysis error” (“SAE”) factor. The SAE factor, as explained by Crane and SLTC documents, establishes the high and low ends of a range for the calculated exposure level and the results are the mean of this range. Even at the low end of the range for the April 2007 results, Employee-D’s exposure was above the PEL. We note that one of the inaccuracies alleged by Elliot is the “uncertainty factor” SLTC used for the employees’ post-exposure activity level, which is a component of the SAE factor. The activity level figure Elliot suggests, however, would have only served to raise the low end of the SAE range further above the PEL for both employees.

building no later than Employee-D did. Accordingly, we find that Elliot's claim is without merit.<sup>7</sup>

Elliot next claims that the duration of oxygen administration SLTC used to calculate the April 2007 results (35 minutes) was too short—it should have been 79 and 75 minutes for Employees-C and D, respectively, which were the time periods later used by SLTC in calculating the October 2008 results. The 35 minutes used to calculate the April 2007 results was based on the employees having received oxygen for essentially the entire period between the time the ambulance arrived (12:27 p.m.) and when their blood was drawn. The medical records establish that the employees' blood was drawn at 1:05 p.m. (Employee-C) and 1:06 p.m. (Employee-D). We therefore find that the shorter period is, in fact, accurate. In any event, according to Crane, “[a] longer oxygen therapy would indicate a higher back-calculated number for initial exposure.” Therefore, if the oxygen-administration time period was as Elliot alleged, the calculated CO exposure levels would have been even higher.

Finally, Elliot argues that the results are unreliable because the calculated levels of exposure varied significantly among the four employees for whom calculations were made.<sup>8</sup> According to Boelter, Elliot's expert, the employees' actual exposure levels had to have been the same because the CO coming from the equipment would have dispersed evenly throughout the work area and the employees were working close to each other. Crane, however, testified that differences in the calculated exposures are to be expected because the CO was generated at specific locations (i.e., the points at which the gas powered equipment expelled exhaust) and any worker positioned closer to those locations would be expected to have a higher CO exposure. Given his superior qualifications in this area and the persuasiveness of his explanation, we accord greater weight to Crane's opinion on this issue.<sup>9</sup> See *Indus. Glass*, 15 BNA OSHC 1594,

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<sup>7</sup> As to the other component of the interval—the blood draw times—we find, as did the judge, that the record establishes that the times used to generate the April 2007 results were in fact correct.

<sup>8</sup> As noted, *supra*, the ppm levels calculated for Employees-C and D were 104.1 and 80.5, respectively. The other calculated levels were 57.8 (Employee-A) and 39.7 (Employee-B).

<sup>9</sup> As an SLTC manager, Crane has supervised over 600 CO exposure calculations. He has undergraduate degrees in physics and materials science/engineering, and a graduate degree in materials science. Boelter, on the other hand, has an undergraduate environmental engineering degree, no graduate degree, and less experience regarding CO. We also agree with the judge's characterization of Boelter's testimony that the CO levels in the air would have peaked *after* the



1601, 1991-1993 CCH OSHD ¶ 29,655, p. 40,175 (No. 88-348, 1992) (according greater weight to testimony of more eminent expert whose opinion was based on precise and detailed analysis); *All Purpose Crane, Inc.*, 13 BNA OSHC 1236, 1239, 1986-1987 CCH OSHD ¶ 27,877, p. 36,549 (No. 82-284, 1987) (finding expert’s testimony “persuasive in light of his extensive experience”). Accordingly, we find that the April 2007 results establish that the PEL for CO was exceeded.<sup>10</sup> We therefore affirm the § 1926.55(a) violation alleged under Item 2a.

As to Item 2b, the Secretary alleged a willful violation of 29 C.F.R. § 1926.55(b) because “feasible administrative or engineering controls were not implemented for employees exposed to [CO] while conducting concrete pouring operations inside an enclosed building.” Neither party has addressed the merits of this item on review apart from the arguments pertaining to whether the Secretary proved that Elliot employees were overexposed to CO. As we have affirmed Item 2a based on our conclusion that the Secretary has proven overexposure, we also affirm Item 2b.

### **III. Characterization**

The Secretary cited each of the alleged violations as willful. Although the judge conceded that the issue of willfulness was “a close one,” she determined that “Elliot’s state of mind at the time of the violations f[ell] just short of plain indifference to employee safety.” Thus, the judge characterized the violations she affirmed under Items 2a and 2b as serious. For the following reasons, we disagree with the judge and affirm Items 2a and 2b, as well as Item 1, as willful.

“Willful violations are ‘characterized by an intentional or knowing disregard for the requirements of the Act or a “plain indifference” to employee safety, in which the employer manifests a “heightened awareness” that its conduct violates the Act or that the conditions at its workplace present a hazard.’ ” *Barbosa Group, Inc.*, 21 BNA OSHC 1865, 1868, 2004-2009 CCH OSHD ¶ 32,877, p. 53,198 (No. 02-0865, 2007) (quoting *Weirton Steel Corp.*, 20 BNA

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gas-powered equipment had been turned off as “illogical on its face,” indicating his lack of CO expertise, and note that Elliot did not object when the judge declined to qualify Boelter as an expert in CO.

<sup>10</sup> Having concluded that the April 2007 results establish that the PEL was exceeded, we need not address whether the post-exposure air monitoring results obtained by the fire department and the four employees’ symptoms, while consistent with the employees having been exposed above the PEL, are sufficient to prove the violation.

OSHC 1255, 1261, 2002-2004 CCH OSHD ¶ 32,672, p. 51,451 (No. 98-0701, 2003)), *aff'd*, 296 F. App'x 211 (2d Cir. 2008) (unpublished). “The state of mind of a supervisory employee . . . may be imputed to the employer for purposes of finding that the violation was willful.” *Branham Sign Co.*, 18 BNA OSHC 2132, 2134, 2000 CCH OSHD ¶ 32,106, p. 48,263 (No. 98-752, 2000).

Here, we find that foreman Dynowski’s conduct establishes willfulness on the part of the company.<sup>11</sup> Dynowski came into this job with a heightened awareness that CO would be emitted by the gas-powered equipment used by workers engaged in the indoor concrete pour, and that the CO posed a potential danger to their health. Despite this knowledge, he acted with plain indifference to overt signs that his employees could be suffering from overexposure.<sup>12</sup> Indeed, Dynowski was aware from the start of the project that CO had to be addressed at the jobsite and that ventilation was necessary, as evidenced by his prior CO training with Safety Check and his use of fans in an attempt to ventilate the room. Over the ensuing few hours, though, four employees individually reported to Dynowski that they were feeling “sick,” “[not] good,” or “[not] well.”<sup>13</sup> When Employee-A complained of a headache but attributed it to a sinus infection, Dynowski accepted this self-diagnosis, even though he later acknowledged knowing at the time that CO could cause headaches, dizziness, and nausea. When Employee-B also reported not feeling well, Dynowski realized “at that point there was a [CO] issue.” Nevertheless, even after Employee-C and Employee-D reported feeling ill, Dynowski continued the pour with the

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<sup>11</sup> In ruling on characterization, the judge disregarded Dynowski’s conduct, stating that “[t]he Secretary chose . . . to hold Elliot responsible for its general policy rather than for one foreman’s specific actions on a specific day.” But it is clear from the record that the Secretary raised Dynowski’s conduct as an issue in discovery (identifying it as a basis for the willful characterization), at the hearing (questioning Dynowski about his conduct), and in her post-hearing briefs (arguing that his actions demonstrated willfulness). Thus, the judge erred in failing to consider this evidence. *See MVM Contracting Corp.*, 23 BNA OSHC 1164, 1167, 2010 CCH OSHD ¶ 33,073, p. 54,652 (No. 07-1350, 2010) (concluding that the judge erred in limiting his willfulness analysis to the company president’s conduct because the superintendent’s conduct “was fully tried at the hearing,” and “assess[ing] the record as a whole to determine whether the evidence establishe[d] that the violation was willful”).

<sup>12</sup> Elliot contends it “was not aware that CO monitoring was legally required [under 29 C.F.R. § 1926.20(b)(2)], because it is not.” Given that our willfulness determination is based on plain indifference to employee safety, and not disregard for OSHA standards, we need not address Elliot’s contention.

<sup>13</sup> At the hearing, the employees testified that their symptoms included tunnel vision, feeling weak, breathing difficulty, exhaustion, dizziness, and nausea.

workers who had not reported symptoms and did nothing more than permit the stricken workers to take breaks outside the building. At no point did he contact Safety Check to conduct CO monitoring, even though he was specifically charged, pursuant to Elliot's policy, to "[g]et out of the building . . . and . . . notify Safety Check" if he "thought there was a problem with [CO] on any of [his] indoor jobs."

It was only when the crew was forced to wait for more concrete to be delivered that work was temporarily halted. During this break, Employee-B vomited "in front of everybody," but when the additional concrete arrived, Dynowski brought the crew, minus the four ill employees, back into the building to finish the job. Only after Luif arrived at the site for Safety Check's routine visit was medical attention eventually summoned—by Safety Check, not Dynowski—for the ill employees. In other words, despite Dynowski's heightened awareness of the potential for CO exposure at this particular site, and following employee health complaints that he knew were consistent with such exposure, he took no steps to monitor for CO and kept employees working inside the CO-contaminated room. Under these circumstances, we find that Dynowski was plainly indifferent to the safety of his crew and, given that he was a supervisor, his willful state of mind can be imputed to Elliot.

An employer's conduct will not be found willful if it "made a good faith effort to comply with a standard or eliminate a hazard, even though [its] . . . efforts were not entirely effective or complete." *A.E. Staley Mfg. Co.*, 19 BNA OSHC 1199, 1202, 2000 CCH OSHD ¶ 32,220, p. 48,898 (No. 91-0637, 2000) (consolidated), *aff'd*, 295 F.3d 1341 (D.C. Cir. 2002). On review, Elliot argues that while "one might conclude that Mr. Dynowski could have decided to evacuate the site shortly after" Employee-B reported feeling sick, his failure to do so, though negligent, was not willful, because he made a good faith effort to ventilate the room at the start of the job. According to Elliot, Dynowski's effort was made in good faith because he and "at least four others were having no problems" while working inside the room, and he had not experienced problems with CO on numerous prior indoor jobs. In addition, Elliot asserts that Dynowski "evacuated [the building] around twenty minutes" after Employee-B complained, and that this delay does not support a willful characterization.

We find that these arguments lack merit. Even if we accept that Dynowski's placement of fans in the room constituted a good faith effort to eliminate the CO hazard at the beginning of the pour, and that he had not previously experienced CO problems during other indoor pours, he

was later confronted with four ill employees and acknowledged suspecting that CO exposure was the culprit. Yet he did not contact Safety Check to measure CO levels in the building, take steps to improve the ventilation, or remove the workers from the building. There is no support for Elliot's contention that Dynowski "evacuated" the building to escape CO exposure at any time. In fact the twenty-minute point Elliot identifies as the "evacuation" time was actually the time at which, according to Dynowski, everyone left the building to wait for additional concrete to be delivered to the site. And despite his realization that CO was an "issue" by the time Employee-B reported not feeling well, once the concrete arrived Dynowski permitted the remaining employees to reenter the building to finish the job. In light of the foregoing, we find that Elliot's good faith argument based on Dynowski's conduct fails.

Elliot also argues that its overall CO safety program represents a good faith effort to comply with the cited standards and protect its employees. However, even "a good safety program" is "insufficient to negate willfulness" where there is an "absence of any evidence that [the employer] enforced [its] safety rules." *Rawson Contractors, Inc.*, 20 BNA OSHC 1078, 1082, 2002-2004 CCH OSHD ¶ 32,657, p. 51,327 (No. 99-0018, 2003). Here, the record is devoid of evidence that the company ever enforced its rules by disciplining those who violated them. Thus, Elliot's safety program cannot negate Dynowski's willful conduct.<sup>14</sup>

In any event, key aspects of its safety program undermine Elliot's claim that it acted in good faith. In fact, Elliot's track record of dealing with CO supports our finding of Elliot's plain indifference as established by Dynowski's conduct alone. Four years before the events at issue

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<sup>14</sup> Elliot cites *L.R. Willson & Sons, Inc.*, 17 BNA OSHC 2059, 1995-1997 CCH OSHD ¶ 31,262 (No. 94-1546, 1997), for the proposition that a supervisor's willful conduct does not support a willful characterization where the employer has "an excellent safety program," even if the employer cannot show that it enforced its safety rules. To the extent that *L.R. Willson* conflicts with *Rawson Contractors* on this point, we note that the Commission's discussion of willfulness and ruling on characterization in *L.R. Willson* was deprived of legal effect when the Court of Appeals reversed the Commission's affirmance of the item to which that discussion and ruling applied, *L.R. Willson & Sons, Inc. v. OSHRC*, 134 F.3d 1235 (4th Cir. 1998), and when the Commission vacated that item on remand, *L.R. Willson & Sons, Inc.*, 18 BNA OSHC 1698, 1999 CCH OSHD ¶ 31,796 (No. 94-1546, 1999). Thus, *L.R. Willson* is no longer good law on this point, and we follow the Commission's subsequent holding in *Rawson Contractors*. See *Reich v. Contractors Welding of W. N.Y., Inc.*, 996 F.2d 1409, 1412 (2d Cir. 1993) ("We have found no authority . . . to support the proposition that the Commission has the power to issue an advisory opinion.").

here, the Secretary cited Elliot for violations of 29 C.F.R. § 1926.55(a) and (b), alleging that its employees were overexposed to CO as follows:

On March 28, 2003, seven employees . . . were exposed to carbon monoxide in excess of the OSHA permissible exposure limit. The employees were constructing an underground parking garage for condominiums . . . [and] were working for approximately 4 hours when they became ill from carbon monoxide. Exposure levels were calculated from carboxyhemoglobin levels obtained from the hospitals. Exposure levels range from 53.4 ppm to 221.3 ppm (1.07 to 4.43 times the OSHA permissible exposure limit of 50 ppm).<sup>15</sup>

Following this incident, Elliot began using CO monitors designed to be worn on workers' lapels but discontinued its use of these devices after about a year. According to superintendent Cotte, the monitors "didn't give us an actual reading. An alarm would go off and it didn't seem to be really working that well." Cotte further testified that the company declined to obtain different monitors because:

[W]e thought they would be too complicated and there would always be the issue of if they were calibrated correctly. And, you give them out to the guys in the field and they're going to leave them lying around and they're going to get covered in concrete. We just didn't think it was practical.

Instead, Elliot established an unwritten policy that relies on the judgment of its foremen to set up ventilation and decide on a case-by-case basis whether to call Safety Check to conduct air monitoring. As Daniel Hagen, Elliot's president, explained at his deposition:

The protocol was the foreman could get on site and evaluate what he's presented with. He would determine if he's got proper ventilation, does he have a place to put his fans, does he have openings, is there good air movement, and if some of that isn't to his liking then the protocol was to monitor the air.

The foremen are authorized to call Safety Check to perform CO testing if they think it is necessary—"all they need to do is realize that and call and arrange for it and Safety Check will do that testing."

We view Elliot's abandonment of worksite monitors and adoption of an ad hoc discretionary monitoring policy as an obviously risky approach to protecting its employees from CO exposure. The record shows that Elliot was well aware that CO is odorless and colorless, and that its employees could be overexposed to CO during interior pours, yet the company has chosen to rely solely on its foremen to somehow foresee when monitoring is needed. In effect, this means waiting until workers exhibit signs of CO exposure before taking any action—as the

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<sup>15</sup> Elliot and the Secretary settled this citation.

Secretary puts it, Elliot was “treating its employees as human canaries.” Indeed, when asked how ventilation alone could inform a foreman whether the PEL for CO has been exceeded, President Hagen responded: “I think the guys can tell when they’re feeling healthy, feeling fine.” This is contrary to the well-established principle that the “purpose of the Act is to prevent the first accident.” *Lee Way Motor Freight, Inc. v. Sec’y of Labor*, 511 F.2d 864, 870 (10th Cir. 1975).

In sum, we conclude that Dynowski had a heightened awareness that CO was hazardous and present at the worksite. We also conclude that Dynowski’s conduct on the day in question was plainly indifferent to employee safety, as was Elliot’s policy for dealing with CO exposure. And because Dynowski was Elliot’s foreman, his willful state of mind can be imputed to the company. Accordingly, we characterize the violations under Items 1, 2a, and 2b as willful.

#### **IV. Penalty**

Under § 17(j) of the Act, 29 U.S.C. § 666(j), “in assessing penalties, the Commission must give ‘due consideration’ to four criteria: the size of the employer’s business, gravity of the violation, good faith, and prior history of violations.” *J.A. Jones*, 15 BNA OSHC at 2214, 1991-1993 CCH OSHD at p. 41,032 (citation omitted). The Secretary proposed a \$56,000 penalty for Item 1 and a \$56,000 grouped penalty for Items 2a and 2b, for a total proposed penalty of \$112,000. The judge found that Elliot employed 91 employees at the time of the inspection, had prior history based on the 2003 OSHA citation for similar violations, but demonstrated good faith by cooperating with OSHA during the inspection. She also found, however, that the gravity of these violations was high.

We agree with the judge’s findings regarding the penalty factors, with the exception of good faith. Even though Elliot’s cooperation during the inspection may have demonstrated some good faith, we conclude that the company’s significant failings concerning the safety of its employees is paramount and negates any penalty reduction for good faith. As the judge found, “Elliot’s foreman prolonged the overexposure of his crew to CO despite his awareness of the problem[,]” failing to even “call for emergency help.” And with its discretionary monitoring policy, Elliot essentially gambled with the safety of its employees, in effect allowing them to get sick before a foreman could identify the presence of a CO hazard. *Gen. Motors Corp., CPCG Okla. City Plant*, 22 BNA OSHC 1019, 1048, 2004-2009 CCH OSHD ¶ 32,928, p. 53,627 (No. 91-2834E, 2007) (consolidated) (giving no credit for good faith when management tolerated and



United States of America  
**OCCUPATIONAL SAFETY AND HEALTH REVIEW COMMISSION**  
1924 Building - Room 2R90, 100 Alabama Street, SW Atlanta, Georgia 30303-3104

Secretary of Labor,

Complainant,

v.

OSHRC

Docket No. **07-1578** Elliot Construction Corp., Respondent.

Appearances:

Kevin Koplin, Esq., U. S. Department of Labor, Office of the Solicitor, Chicago, Illinois For Complainant

Robert H. Brown, Esq., Laner Muchin, Chicago, Illinois For Respondent

Before: Administrative Law Judge Nancy J. Spies

**DECISION AND ORDER**

Elliot Construction Corporation is a concrete construction contractor. On March 21, 2007, one of Elliot's finisher crews was installing a floor in a building at 1801 S. Canal Street in Chicago, Illinois, under the supervision of finisher foreman Michael Dynowski. By 11:00 a. m., four of Elliot's twelve crew members had reported feeling ill to Dynowski. A safety consultant for Elliot called the Chicago Fire Department and paramedics. The paramedics took the four ill employees by ambulance to local hospitals, where medical personnel drew blood samples. The blood samples tested positive for carbon monoxide exposure or poisoning.

On March 22, 2007, Occupational Safety and Health Administration (OSHA) compliance officer Brad Becker began an inspection of the Canal Street site. As a result of Becker's inspection, the Secretary issued a citation to Elliot on September 20, 2007, alleging willful violations of three subsections of the construction standards.



Item 1 alleges a willful violation of § 1926.20(b)(2), for failing to have a competent person make frequent and regular inspections of the jobsite, materials, and equipment. The Secretary proposed a penalty of \$56,000.00 for item 1. Item 2a alleges a willful violation of § 1926.55(a), for exposing employees to carbon monoxide at concentrations above those specified in the “Threshold Limit Values of Airborne Contaminants for 1970” of the American Conference of Governmental Industrial Hygienists. Item 2b alleges a willful violation of § 1926.55(b) for failing to implement feasible administrative or engineering controls to reduce employer exposure to carbon monoxide. The Secretary proposed a total penalty of \$56,000.00 for items 2a and 2b.

Elliot timely contested the citation. The undersigned held a hearing in this matter on October 28 and 29, 2008, in Chicago, Illinois. Elliot concedes jurisdiction and coverage (Tr. 249). Elliot argues the Secretary failed to prove Elliot violated the cited standards. Elliot also argues that, if violations are found, the Secretary failed to prove the violations were willful.

For the reasons discussed below, the undersigned vacates item 1 and affirms items 2a and 2b, reclassifying the violations as serious. A total penalty of \$14,000.00 is assessed for items 2a and 2b.

### **Facts**

Elliot performs concrete construction for general contractors engaged primarily in commercial and public development, including office and retail buildings, as well as churches and schools (Tr. 380). Two superintendents work for Elliot, one for “flat” work and one for walls. In flat work, the crew pours concrete to construct “anything other than foundation walls” (Tr. 258): floors, sidewalks, patios, curbs, and gutters. John Cotte is Elliot’s flat work superintendent. He oversees seven flat work crews (Tr. 356-357).

In March 2007, Elliot was under contract to American Igloo Corporation for a project located at 1801 S. Canal Street in Chicago, Illinois. By that time, Elliot had completed approximately 20 jobs for American Igloo, a company specializing in developing cooling and freezer spaces for the food industry. At the Canal Street site, Elliot was constructing a concrete floor inside an addition to an existing dry storage facility (Tr. 372-374).

The steel-frame building was connected to an existing structure by an overhead door leading to a vestibule area. There were two openings to the vestibule: the overhead door towards the end of the vestibule, facing west onto a parking lot, and a man door near the newly constructed addition.

A man door at the southwest side of the building opened onto a parking lot on the adjoining street. The building is 90 feet long, 75 feet wide, and 30 feet high (Exh. R-9; Tr. 103-106).

Finisher foreman Michael Dynowski arrived at the site with a crew on March 20, 2007. That day, the crew performed a “grade and prep,” leveling the gravel and preparing for the concrete pour the next day (Tr. 267). Elliot used a gas-powered Bobcat to place the gravel. No one complained of feeling ill that day (Tr. 268).

The next day, March 21, Elliot’s crew began pouring the floor at approximately 8:00 a. m. Elliot was operating three types of gas-powered equipment inside the building that day: a laser screed (also referred to as a Copperhead and a vibra-strike), a power rake, and two power trowels (Tr. 114). At approximately 10:15 a.m., laborer {Redacted} reported to Dynowski that he felt ill. Dynowski told him to take a break outside the building. {Redacted} went outside for about 15 to 20 minutes, then returned to work. Shortly after {Redacted} went out, laborer {Redacted} told Dynowski he felt ill. {Redacted} took a break outside, then returned to work. Feeling ill again, {Redacted} exited the building and vomited. In short order, laborers {Redacted} and {Redacted} also informed Dynowski they felt ill, and they were sent outside (Tr. 25, 40, 52-53, 6869, 82-83). The entire crew exited the building some time between 11:00 a.m. and 11:30 a.m., to wait on the “balance,” the last of the concrete to be pumped (Tr. 83-292).

As the crew waited outside, Jeff Luif, a field safety consultant for Safety Check, arrived at approximately 11:30 a.m. for his monthly inspection (Tr. 319-320, 332). Luif entered the building to look for Dynowski. Noticing the “excessive fumes,” Luif spoke with Dynowski and learned that employees had complained of feeling ill that morning (Tr. 334). Luif discussed the situation with Dynowski and spoke with the four ill employees. Luit did not have a carbon monoxide (CO) monitor with him at that time. Luif called his boss at Safety Check, Frank Marino, and called Elliot’s main office. At approximately 12:20 p.m., Luif called 911 and reported the incident (Tr. 335, 345). Within 5 minutes, the Chicago Fire Department (CFD) and paramedics arrived (Tr. 335).

The paramedics administered oxygen to {Redacted},{Redacted}, {Redacted}, and {Redacted} at the site, and then continued to administer oxygen to them in the ambulances. The paramedics transported {Redacted} and {Redacted} to one hospital. They transported {Redacted} and {Redacted} to Rush University Medical Center (RUMC) (Tr. 26, 43, 55, 71). At RUMC,

medical technicians drew blood samples from {Redacted} and {Redacted}. {Redacted} sample resulted in a carboxyhemoglobin reading of 13.5 % (Exh. C-18). {Redacted} sample resulted in a carboxyhemoglobin reading of 16.5 % (Exh. C-19).

Hemoglobin carries oxygen throughout the body. CO has a higher affinity for hemoglobin than does oxygen. When a person is exposed to a high concentration of CO, the CO bonds preferentially with the hemoglobin and displaces oxygen from the blood. This results in oxygen deprivation. Symptoms of oxygen deprivation include headache , tightness in the forehead or chest, dizziness, nausea, and impaired judgment. The exposed person may pass out. Death or permanent damage can result if the overexposure lasts long enough. The normal range for a person's carboxyhemoglobin level is 0 to 5% (Tr. 206-207).

Firemen from the CFD entered the Canal Street building and used a CO monitor to measure the amount of CO in the workspace. The reading was 101 parts per million (ppm) (Exh. C-10). When the reading fell to 35 ppm, the CFD left (Tr. 296).

Elliot's office sent a replacement laborer to the site, and an Elliot foreman brought over a CO monitor and an extra fan. Dynowski and his crew finished the floor, operating one of the power trowels. Twice, the CO monitor rose to 35 ppm. When that happened, Dynowski turned off the power trowel and evacuated the building. After 20 to 30 minutes, the monitor's reading fell to a single digit, and the crew resumed work. Elliot completed the floor at approximately 3:30 that afternoon (Tr. 299-300).

OSHA compliance officer Brad Becker arrived at the Canal Street building the next day. Becker met with Cotte and Luif. He took photographs and interviewed employees. On September 20, 2007, the Secretary issued the instant citation.

### **The Citation**

The Secretary has the burden of proving a violation by a preponderance of the evidence.

In order to establish a violation of an occupational safety or health standard, the Secretary has the burden of proving: (a) the applicability of the cited standard, (b) the employer's noncompliance with the standard's terms, (c) employee access to the violative conditions, and (d) the employer's actual or constructive knowledge of the violation (*i.e.*, the employer either knew or, with the exercise of reasonable diligence could have known, of the violative conditions).

*Atlantic Battery Co.*, 19 BNA OSHC 2131, 2138 (No. 90-1747, 1994).

**Item 1: Alleged Willful Violation of § 1926.20(b)(2)**

The Secretary alleges Elliot committed a willful violation of § 1926.20(b)(2), which provides:

Such [safety] programs shall provide for frequent and regular inspections of the job sites, materials, and equipment to be made by competent persons designated by the employers.

The citation alleges Elliot's competent person on the site, Dynowski, "did not conduct air monitoring to determine employees level of exposure to carbon monoxide." Elliot argues the standard requires no such monitoring.

Section 1926.20(b)(2) applies to Elliot's work at the Canal Street site. As a contractor engaged in concrete construction, Elliot is required to comply with the terms of the standard.

Elliot contends it did comply with the terms of the standard, based on the actions of its designated competent person, Dynowski. Dynowski met with flat work superintendent John Cotte before the job began. Dynowski and Cotte discussed "the fact it was a closed-in building and [they] had access to a man door and also to a corridor that led outside" (Tr. 364). On March 21 (the day of the pour), Dynowski set up three fans. He brought a 36-inch fan owned by Elliot, and used a 48-inch fan owned by American Igloo. He placed one fan at the man door that opened to the outside parking lot and the other at the overhead door inside the building that led to a vestibule (Exhs. C-7, R-1, R-2, R-3; Tr. 287, 306). Dynowski also used a small pedestal fan (Exhs. R-3, R-19; Tr. 273276). The fan at the man door blew air in from outside. The fan at the overhead door blew air into the adjoining vestibule ( Tr. 274-275).

Dynowski tested the fans' capacity to ventilate the space by lighting a cigarette and noting the direction the smoke drifted. Dynowski observed the smoke move towards the exhaust fan (Tr. 280).

The Secretary argues these actions were insufficient to meet the requirements of § 1926.20(b)(2). She argues the presence of CO can only be detected with a monitoring device. Thus, the Secretary contends, an adequate inspection includes CO testing. Elliot disputes this interpretation, contending it cannot be required to monitor for a gas when a standard requires only a general inspection.

The OSHA standards do not define “inspection.” Other standards do, however, differentiate between “inspecting” and “monitoring” or “testing.” For example, in contrast to § 1926.20(b)(2), § 1915.12(a)(1) provides (emphasis added):

The employer shall ensure that atmospheric testing is performed in the following sequence: oxygen content, flammability, toxicity.

(a) Oxygen content.

(1) The employer shall ensure that the following spaces are *visually inspected and tested* by a competent person to determine the atmosphere's oxygen content prior to initial entry into the space by an employee[.]

The Secretary has propagated numerous standards specifically requiring air monitoring or testing for airborne contaminants, including asbestos (§ 1926.1101(f)(2)), arsenic (§§ 1910.1018(e) and 1926.1118), chromium (§§ 1910.1026(b) and 1926.1126(d)(2)), cadmium (§§ 1910.1027(b) and 1926.1127(b)), and benzene (§§ 1910.1028 and 1926.1128). The undersigned has searched for Review Commission decisions requiring CO testing under § 1926.20(b)(2), and has found none. This is not to say that monitoring for specific contaminants is never required under this standard, only that, in the instant case, the Secretary has not shown CO monitoring was initially indicated.

“[W]here a term is carefully employed in one place and excluded in another, it should not be implied where excluded.” *Diamond Roofing Co., Inc. v. OSHRC*, 528 F.2d 645, 648 (5<sup>th</sup> Cir. 1976). The tenets of statutory construction support Elliot’s position that “inspection,” as used in § 1926.20(b)(2) does not necessarily require monitoring or testing under these facts. The undersigned agrees with Elliot that the Secretary is attempting to import a requirement into § 1926.20(b)(2) that is not found in the plain language of the standard.

Under the specific circumstances of the instant case, the Secretary has not shown monitoring for CO is required by the standard. The Secretary has failed to prove Elliot did not comply with the terms of § 1926.20(b)(2). Item 1 is vacated.

**Item 2a: Alleged Willful Violation of § 1926.55(a)**

The Secretary alleges Elliot committed a willful violation of § 1926.55(a), which provides:

Exposure of employees to inhalation, ingestion, skin absorption, or contact with any material or substance at a concentration above those specified in the “Threshold Limit Values of Airborne Contaminants for 1970” of the American Conference of Governmental Industrial Hygienists, shall be avoided. See Appendix A of this section.

The citation alleges Elliot exposed employees to airborne concentrations of CO above the threshold limit value of 50 parts per million (ppm) in two instances:<sup>1</sup>

- a. On or about March 21, 2007, at the [Canal Street] jobsite, an employee conducting concrete pouring operations inside an enclosed building was exposed to Carbon Monoxide at a Time-Weighted-Average (TWA) of 104 parts per million (ppm), 2.08 times the OSHA Permissible Exposure Limit (PEL) of 50 ppm.
- b. On or about March 21, 2007, at the [Canal Street] jobsite, an employee conducting concrete pouring operations inside an enclosed building was exposed to Carbon Monoxide at a Time-Weighted-Average (TWA) of 80.5 parts per million (ppm), 1.61 times the OSHA Permissible Exposure Limit (PEL) of 50 ppm.

The Secretary revised the CO exposures alleged in instances (a) for {Redacted} and (b) for {Redacted} to 203.2 ppm and 111.1 ppm, respectively (Exhs. C-26, C-36).

Elliot does not dispute the cited standard applies to its worksite, but argues the Secretary failed to establish the employee exposures to CO exceeded the PEL of 50 ppm. Elliot contends the Secretary used an unreliable model for estimating the CO exposure, failed to establish the accuracy of the fire department’s monitoring results for CO at the worksite, and received inconsistent results for CO exposure when she recalculated the TWA on the eve of the hearing. The Secretary counters that the carboxyhemoglobin levels found in the blood samples of {Redacted} and {Redacted} are undisputed, and are *prima facie* evidence the employees were exposed to CO above the OSHA’s PEL of 50 ppm.

<sup>1</sup> The Secretary withdrew a third instance (instance (c)) of item 2a (Tr. 7-8).

## **The Affected Employees**

Analysis of this item requires a discussion in greater detail of the experiences of the four stricken employees:

*{Redacted}*

At the time of the hearing, {Redacted} had worked as a laborer for Elliot for approximately three years, and for a total of twenty-seven years in the construction industry (Tr. 165). {Redacted} had worked on “hundreds” of pours while working with Elliot. Compared with most of the pours {Redacted} had done with Elliot, the pour at Canal Street occurred in a building with fewer openings. The interior of the building was “pretty tight,” because it was designed as a cooling or freezer space (Tr. 66). On March 21, {Redacted} began working at approximately 8:00 a. m., grading 6 to 10 feet behind the laser screed. {Redacted} was working to the right of the laser screed. {Redacted} described the work as “exhausting” (Tr. 67).

At approximately 10:00 a.m., {Redacted} began to feel ill. His physical state was, “Weak, like I couldn’t do my job anymore. I couldn’t motivate. I didn’t have any energy” (Tr. 68). {Redacted} typically develops sinus infections two or three times a year and thought this might be a recurrence. He told Dynowski he had a headache possibly resulting from a sinus infection (Tr. 72, 291). Dynowski told {Redacted} to take a break outside, allegedly because the machines in operation created a lot of noise in the building (Tr. 89-90). {Redacted} worked another 15 to 30 minutes, then went outside to take an antibiotic pill and drink some water (Tr. 76). At the time, {Redacted} did not associate his physical condition with the presence of CO. He stated, “I mean, we know there were fumes in there. There had to be. But, we have always coped with it in the past, and I just thought I was weakened from the sinus infection” (Tr. 75).

After spending approximately 15-20 minutes outside, {Redacted} returned to work. He felt better for a little while, then was overcome with fatigue: “I couldn’t do anything. I could hardly walk out of there. I was just exhausted totally” (Tr. 69). {Redacted} left the building again and sat outside on the curb.

At approximately 11:30, Jeff Luif from Safety Check arrived. Luif could tell by looking at {Redacted} that he was ill (Tr. 353). By this time, the entire crew was outside. {Redacted} saw laborer {Redacted} exit the building and vomit next to Luif (Tr. 70).

At approximately 12:25 p.m., the CFD and the paramedics arrived. The paramedics administered oxygen to {Redacted} at the site and in the ambulance as they transported him to the hospital. Once at the hospital, {Redacted} continued to receive oxygen for four or five hours (Tr. 70).

*{Redacted}*

{Redacted} had worked as a laborer for Elliot for eight years at the time of the hearing. On March 21, {Redacted} began his day at approximately 7:00 a.m., setting up the laser screed and power rake in the building. Starting at 8:00, he worked as a flagger, directing the cement trucks as they arrived at Canal Street (Tr. 49-51).

{Redacted} directed ten to twelve cement trucks lined up on Canal Street (Tr. 59). Canal Street is a four-lane street that was being used at the time as an alternate route for a closed street. Traffic was heavy on the morning of the pour. {Redacted} testified staging the cement trucks was fairly routine, except “it was a very tight access area to the building. The building was very close” (Tr. 58). Elliot “only had room to back in just one truck at a time. And the trucks sat very close to the operation we were doing” (Tr. 59). As the trucks sat close to the Canal Street entrance to the building, the motors were running in order to keep the cement turning, contributing to fumes in the outside atmosphere.

When {Redacted} became ill and needed to take a break, {Redacted} replaced him behind the laser screed (Tr. 52).<sup>2</sup> Shortly thereafter, {Redacted} began to feel ill. He informed Dynowski, who sent him outside. {Redacted} returned to work briefly, but felt ill again and exited the building. He vomited outside. {Redacted} saw Luif at this time (Tr. 53, 56, 83). Dynowski stated that when {Redacted} exited the building, he realized CO inside the building was causing the workers to be ill (Tr. 83). Sometime between 11:00 a.m. and 11:30 a.m., everyone left the building. {Redacted} testified, “The fumes were getting too heavy within the building and we knew it” (Tr. 56).

<sup>2</sup> {Redacted} estimated he relieved {Redacted} between 9:30 a.m. and 10:00 a.m. {Redacted} estimated his first break as being between 10:15 a.m. and 10:30 a.m. Neither Dynowski nor any of the crew members wore a watch due to the messy nature of their work. The workers’ estimates of the time of day, as well as elapsed time, were rough, and not entirely consistent with each other. Furthermore, the four stricken workers were in distress and not focused on the time. Nevertheless, the record is generally consistent in establishing the pour began at 8:00 a.m. on March 21, Luif arrived at 11:30 a.m., and the CFD and paramedics arrived at 12:27 p.m. (Tr. 23, 38, 49, 67, 332, 347).



When the paramedics arrived, they administered oxygen to {Redacted} and continued doing so while he was in the ambulance and later at the hospital (Tr. 54-55). At the hospital, a technician took a blood sample from {Redacted}. {Redacted} is a nonsmoker (the results of the blood tests of {Redacted} and {Redacted} were not at issue in this proceeding) (Tr. 55).

{Redacted} testified the Canal Street building had fewer openings than buildings in which Elliot normally poured (Tr. 59-60). The buildings Elliot typically works on for American Igloo are “barrier-tight because of the thermal they have for refrigeration” (Tr. 62). The Canal Street building is “a very tightly-built building compared to a residence or residential properties” (Tr. 63). {Redacted} had never previously encountered a problem with exposure to CO while working on an indoor pour for Elliot (Tr. 62).

{Redacted}

At the time of the hearing, {Redacted} had worked as a laborer for Elliot for seven years (Tr. 21). {Redacted} handled the hose through which the concrete was poured. He worked 7 to 15 feet from the laser screed and 10 to 20 feet from the power rake (Tr. 22-23, 29). At some point, {Redacted} began to feel dizzy and nauseated. He told Dynowski, “I don’t feel good. I’ve got to walk outside and get some air” (Tr. 25).

{Redacted} went outside for approximately 10 minutes. He returned to work for half an hour, then, began to feel ill again. He took a second break, returned to work, experienced trouble breathing, and left a third time (Tr. 24, 35).

When the paramedics arrived, they administered oxygen to {Redacted}. He continued to receive oxygen in the ambulance and at RUMC, where a technician drew a blood sample. The hospital lab results for {Redacted} carboxyhemoglobin level was 16.5%, leading to a diagnosis of “acute carbon monoxide exposure/poisoning” (Exh. C-19). {Redacted} is 5 feet, 3 inches tall and weighs approximately 160 pounds. He does not smoke (Tr. 26).

{Redacted}

At the time of the hearing, {Redacted} had worked as a laborer for Elliot for approximately five years (Tr. 37). On March 21, {Redacted} was using a “come-along” (a hoe) to smooth the concrete, approximately 10 feet from the laser screed (Tr. 39).

Towards the end of the pour, {Redacted} began to feel dizzy and nauseated, and he developed tunnel vision. He told Dynowski he felt ill. Dynowski told him to take a break outside.

This was the fourth employee to tell Dynowski he felt sick. {Redacted} left the building for 5 to 10 minutes, then returned to work. About 5 minutes later, {Redacted} felt sick again and went outside. He did not return to work (Tr. 40-41).

The paramedics administered oxygen to {Redacted} at the site, in the ambulance, and at RUMC (Tr. 43). A technician drew a blood sample from {Redacted}. The lab results for the sample established his carboxyhemoglobin level at 13.5%, which is “acute carbon monoxide exposure/poisoning” (Exh. C-18). {Redacted} is 6 feet tall and weighs approximately 185 pounds. He is a nonsmoker (Tr. 43).

### **The Salt Lake City Technical Center’s Analysis Using the CFK Equation**

In April 2007, compliance officer Becker submitted medical and employment information for {Redacted} and {Redacted} to the Salt Lake City Technical Center (SLTC), using SLTC Application forms. The SLTC used the information to calculate the 8-hour time-weighted-average (TWA) exposure to CO for the employees. The SLTC calculated a TWA of 104 ppm for {Redacted} and 80.5 ppm for {Redacted}. These TWAs were quoted in the original citation. In October 2008, shortly before the hearing began, Becker submitted new SLTC Application forms for {Redacted} and {Redacted}, changing some of the data from the April 2007 submissions. Becker testified he did this “[d]ue to some inaccuracies and to new information brought to my attention” (Tr. 130). Based on the amended SLTC Applications, the SLTC calculated {Redacted} TWA for CO to be 203.2 ppm and {Redacted} to be 111.1 ppm (Exh. C-36).

Daniel Crane calculated the 8-hour TWAs for {Redacted} and {Redacted}. Crane has bachelor of science degrees in physics and materials science and engineering, and a master’s degree in materials science, all from the University of Utah (Exh. C-34; Tr. 199-200). He is the team leader for the Methods and Investigations Branch of the SLTC (Tr. 197-198). Since 2000, Crane has overseen the SLTC’s calculations of CO exposures based on the carboxyhemoglobin blood levels of employees. He has personally supervised over 600 CO exposure calculations (Tr. 198-199).

The SLTC uses a computer program it developed in 2000, based on a model used by the National Institute of Occupational Safety and Health (NIOSH). NIOSH used the model to calculate CO exposures based on the percentage of carboxyhemoglobin in a person’s blood (Tr. 205, 241). The SLTC presented the program to the public for comment at the American Industrial Hygiene Association’s 2000 conference. NIOSH also reviewed the program (Exh. C-26; Tr. 205).

The SLTC's program is based on the Coburn-Forster-Kane (CFK) equation, developed in 1965, which is a model for relating carboxyhemoglobin blood levels to CO exposures. The CFK equation models the uptake of CO in the body over time at particular levels and predicts carboxyhemoglobin levels in the blood based on the body's physiological properties. The SLTC's program reverses the CFK equation, using it to back-calculate the known carboxyhemoglobin levels to estimate the average exposure to CO experienced by the employee (Tr. 208).

The SLTC program considers several factors, including the duration of the employee's exposure to CO, the type and length of oxygen treatment received by the employee, and the time between the last exposure to CO and when the employee's blood was drawn. Over time, the body washes out CO, lowering the carboxyhemoglobin level. Oxygen treatment hastens the excretion of CO from the body. A longer period of oxygen treatment indicates a higher back-calculated number for the initial exposure (Tr. 209-210, 226). When calculating the carboxyhemoglobin levels for {Redacted} and {Redacted}, Crane also considered Becker's observations included in the SLTC Applications. His observations did not factor into the calculations, but Crane used them as a qualitative check on the calculations (Tr. 211).

The SLTC program allows for various factors to estimate the uncertainty that exists in particular measurements. The uncertainty factors provide a sampling analytical error (SAE) rate (Tr. 211, 230).

Using the information supplied by Becker in the SLTC Application, Crane calculated the 8-hour TWA CO exposure for {Redacted} to be 203.2 ppm. Based on an SAE value of 0.689, Crane is 95% certain the actual exposure level is within 68.9% plus or minus of 203.2 ppm of CO (Exh. C-30 and C-36; Tr. 215). Crane calculated {Redacted} was exposed to an 8-hour TWA of 111.1 ppm of CO. Based on an SAE value of 0.19, Crane is 95% certain the actual exposure level is within 19% plus or minus of 111.1 ppm of CO (Exhs. C-29 and C-36; Tr. 212, 214).

Elliot disputes the accuracy of the SLTC's results. It presented expert testimony from Fred Boelter, an environmental engineer and former OSHA compliance officer (Exh. R-23; Tr. 390-391). Boelter criticized the SLTC's results because he expected the exposure levels would be more closely aligned because the employees worked in the same area (Tr. 395). Boelter also pointed out that, based on the October 2008 SLTC Application (Exh. C-30), {Redacted} experienced a 3-hour

exposure to CO of 540 ppm, which Boelter stated, “is really a lethal concentration for that period of time, and that’s another example of something that doesn’t make sense” (Tr. 413).

Elliot contends the SLTC used inaccurate data in its calculations. Crane conceded small changes in variables can significantly change the results of the calculations (Tr. 228-229). On the SLTC Applications, Becker listed the time {Redacted} blood was drawn as 1:50 p.m. and {Redacted} as 1:46 p.m. (Tr. 131-136). Elliot persuasively argues that the medical records list 1:50 and 1:46 as the times the blood test results were reported, not when the blood was drawn. Exhibit C-19, {Redacted} RUMC emergency record, states in pertinent part:

ORDERS CARBOXYHEMOGLOBIN by LH1 for MM01 on 3/21/207 13:05 Status: Done  
3/21/2007 13:50 . . . RESULTS (13:51 MM01) LAB: CARB/HB Mar 21 2007 13:49  
CARB/HB 16.5 %, Range (0.0-5.0), Notified: DR. MALIK Date/Time: 03/21/07  
13:49 Location : ES by 153. Result, was read back.

Exhibit C-18 is {Redacted} emergency record. It provides in pertinent part:

ORDERS CARBOXYHEMOGLOBIN by LH1 for MM01 on 3/21/207 13:06 Status: Done  
3/21/2007 13:46 . . . RESULTS (13:49 MM01) LAB: CARB/HB Mar 21 2007 13:45  
\*CARB/HB 13.5 %, Range (0.0-5.0)

Although no witness explained the details of the medical records, a reasonable interpretation is that {Redacted} blood was drawn at 1:05 p. m. and {Redacted} at 1:06 p. m. The later times, listed after the words “done” and “results,” possibly are the times the results of the blood tests were available.

The undersigned expresses no opinion on the efficacy of the underlying computer model used by the SLTC, but has doubts regarding the validity of the results for the {Redacted} and {Redacted} in the instant case. Elliot has raised legitimate questions regarding the information used as input data for {Redacted} and {Redacted} calculations. Inaccurate input data will skew the

results of the model's calculations. Such results cannot provide a basis for finding a violation of the cited standard.

### **Boelter and Crane's Analyses Using the CFD's Monitoring Results**

The CFD monitored the airborne concentration for CO in the Canal Street building at 12:27 p.m. and at 12:55 p.m., getting readings of 101 ppm and 35 ppm, respectively (Exh. C-10). Using these readings, Crane and Boelter each estimated the airborne concentration of CO to which employees were exposed during the pour.

Boelter used a concept he called "normalization" to arrive at an 8-hour TWA of 37.9 ppm of CO for all four of the affected employees. He explained his method (Tr. 409-410):

What I did was I utilized the Chicago Fire Department's value of 101 parts per million and the values of the back-calculated OSHA concentrations and I used{Redacted}, for example, because that was reasonably close in terms of a back-calculation to what the Fire Department actually measured. And then I developed a relationship between the 101 and the measured value for what that would translate to in terms of an eight-hour time-weighted average.

Boelter assumed that 101 ppm was the maximum concentration of CO that day (Tr. 415):

Well, actually, I think you can assume that it was the maximum based on the carboxyhemoglobins that were found and based on the normalization that I went through in terms of what one could expect, based on physiologic differences between the individuals. That's not an unreasonable assumption or it's not an unreasonable conclusion.

Crane did not assume that 101 ppm was the maximum concentration of CO that day. From 8:00 a.m. to approximately 11:00 or 11:15 a.m., Elliot operated two to four gas-powered machines. Some time between 11:00 and 11:15, the machines were all turned off. For approximately an hour and a half, the three fans ventilated the area. Using Microsoft's Excel spreadsheet software to perform a trend line analysis, Crane calculated the concentrations of CO in the building were 306 ppm at 11:00 and 208 ppm at 11:15 (Exh. C-31, Tr. 219-220).

Boelter criticized Crane's linear analysis as flawed because it improperly assumes a uniform decay of the level of CO between the time Elliot turned off its machines and the time the CFD took the readings (Tr. 414-415). Crane countered, and the undersigned agrees, that it is only reasonable to assume the level of CO decreased after Elliot turned off the machines (Tr. 219):

Well, the basic assumption is that you start with a concentration and with no carbon monoxide deemed generated in the area, its going to decrease over time, especially if there's any air being moved out of the room. It was demonstrated by a decrease from 101 to 35 parts per million. And a simple linear trend back is just an estimate of what it might have been.

The undersigned rejects Boelter's calculations. Despite Boelter's assertion, it is unreasonable to conclude the reading of 101 ppm of CO, taken an hour and a half after Elliot turned off its machines, represents the high point of the CO concentration. The assertion is illogical on its face. The undersigned accepts Crane's assertion that the airborne concentration of CO was higher than 101 ppm while the employees were working. Crane's finding aligns with the carboxyhemoglobin results for the blood samples drawn from {Redacted} and {Redacted}.

### **Noncompliance With the Standard's Terms**

The laboratory results for the blood samples taken from {Redacted} and {Redacted} established carboxyhemoglobin levels of 16.5% and 13.5%, respectively. Accepting Elliot's interpretation of the medical records, the blood samples were drawn about 1:05 p.m. That is approximately 2 hours after {Redacted} and {Redacted} removed themselves from the CO exposure, and after half an hour of receiving oxygen. Crane testified CO washes out of the body over time, and washes out more rapidly if the person receives oxygen treatment. It is reasonable to assume the carboxyhemoglobin levels of {Redacted} and {Redacted} were even higher while they were working. It has been held that a carboxyhemoglobin level of 5% or higher indicates an exposure to CO above the threshold limit value of 50 ppm. *Cumbie Concrete Co., Inc.*, 18 BNA OSHC 1522 (No. 96-1627, 1998). The CFD monitored the work area an hour and a half after all gas-powered machines were turned off and fans ventilated the area, and obtained a reading of 101 ppm of CO. The timing and the CFD's CO reading, combined with the carboxyhemoglobin results and physical symptoms of the employees, establishes that Elliot's employees were exposed to the inhalation of CO at a concentration above the PEL of 50 ppm. The Secretary has established that Elliot failed to comply with the terms of the standard.

### **Employee Exposure**

Twelve crew members were working in the Canal Street building. While only four workers were affected, all of the crew members were exposed to concentrations of CO above the PEL. Crane testified, "Individual responses to carbon monoxide is quite varied. From reading in a variety of literature, people can even build a kind of immunity to it at low levels. So, various people have different responses" (Tr. 231). The Secretary has proven employee overexposure to CO.

### **Employer Knowledge**

The Secretary contends Elliot had actual knowledge of the violation, based on Dynowski's knowledge. "[W]here a supervisory employee has actual or constructive knowledge of the violative conditions, that knowledge is imputed to the employer, and the Secretary satisfies [her] burden of proof without having to demonstrate any inadequacy or defect in the employer's safety program." *Dover Elevator Co., Inc.*, 16 BNA OSHC 1281, 1286 (No. 91-862, 1993).

The Secretary argues Dynowski and Cotte "knew that the Canal Street site had limited openings for ventilation and that they could not know whether the ventilation was working without monitoring" (Secretary's brief, p. 40). Dynowski testified he had never previously experienced a problem with CO on a worksite. He had set up a ventilation system using fans. Without a CO monitor on site, Dynowski could not know with mathematical certainty that the CO exceeded the PEL.

The Secretary did establish Dynowski had constructive knowledge of the violation, and at some later point also had actual knowledge of the violative conditions. Dynowski testified that when {Redacted} came to him complaining of a headache, he accepted {Redacted}'s assumption it was caused by a sinus infection. By the time {Redacted} came to him, Dynowski realized CO inside the building was causing workers to become sick (Tr. 83). Elliot provides quarterly training on CO to supervisory personnel and competent persons (Tr. 309). Elliot had a contract with Safety Check. Luif testified regarding Elliot's policy, "If carbon monoxide becomes an issue, contact Safety Check, so we can go out and monitor the air" (Tr. 325).

Dynowski did not halt the work and did not evacuate the building. He did not contact Safety Check. Instead, he continued the pour. {Redacted} and {Redacted} then informed Dynowski they felt ill, and he still continued with the pour. The crew only left the building during a natural stopping point in the process, while waiting for the "balance." Despite the fact {Redacted} was

visibly ill and {Redacted} had vomited, Dynowski still did not call Safety Check. Luif happened to show up for his monthly inspection but did not have a CO monitor. It was Luif who eventually called 911, albeit after a delay of 50 minutes. The efficacy of Elliot's alternative to CO monitoring is questionable.

From the time {Redacted} informed Dynowski he was ill, Dynowski had constructive and actual knowledge of the violation. He testified he knew CO was making his employees sick. With the exercise of reasonable diligence, Dynowski would have stopped work and evacuated the building. He would have called Safety Check and asked for a consultant to come out with a CO monitor. Dynowski's knowledge of the violation is imputed to Elliot. Item 2a is affirmed.

**Item 2b: Alleged Willful Violation of § 1926.55(b)**

Section 1926.55(b) provides:

To achieve compliance with paragraph (a) of this section, administrative or engineering controls must first be implemented whenever feasible. When such controls are not feasible to achieve full compliance, protective equipment or other protective measures shall be used to keep the exposure of employees to air contaminants within the limits prescribed in this section. Any equipment and technical measures used for this purpose must first be approved for each particular use by a competent industrial hygienist or other technically qualified person. Whenever respirators are used, their use shall comply with 1926.103.

Section 1926.55(b) applies to the cited conditions. Elliot was required to use administrative or engineering controls, where feasible, to keep concentrations of airborne CO below the PEL.

The citation alleges "feasible administrative or engineering controls were not implemented for employees exposed to Carbon Monoxide while conducting concrete pouring operations inside an enclosed building." In order to establish this violation, the Secretary must show feasible engineering or administrative controls exist that could significantly reduce employee exposure to contaminants. *G & C Foundry Co.*, 17 BNA OSHC 2137 (No. 95-0869, 1997).

Feasible engineering controls did exist to significantly reduce employee exposure to airborne concentrations of CO, and Elliot used them the afternoon of March 21. Elliot brought in an additional fan to increase the ventilation and reduced the number of gas-powered machines in operation. It used a CO monitor to read the CO levels. When the monitor reached 35 (below the



threshold value of 50 ppm), Elliot turned off all machines, evacuated the building, and waited until the reading on the CO monitor was lowered to a single digit.

At a later date, Elliot equipped its gas-powered machinery, including the equipment used on the Canal Street job, with catalytic converters. Catalytic converters significantly reduce CO emissions (Exh. C-17).

The Secretary has established feasible engineering controls existed to reduce the airborne concentrations of CO. Elliot did not avail itself of these controls the morning of March 21, 2007. Its failure to implement the engineering controls exposed Elliot's crew to airborne concentrations of CO above the PEL.

Elliot had actual knowledge it had not implemented feasible engineering controls. Elliot's management was aware its machines were not equipped with catalytic converters. Superintendent Cotte and foreman Dynowski discussed the ventilation plan for the job, but did not take into account the small number of openings to the space or its barrier-tight construction. Elliot made a conscious decision not to use CO monitors on its jobsites (Tr. 360).

The Secretary has established a violation of § 1926.55(b). Item 2b is affirmed.

#### **Classification of the Violation**

The Secretary classified the violations of §§ 1926.55(a) and (b) as willful.

A willful violation is one "committed with intentional, knowing or voluntary disregard for the requirements of the Act, or with plain indifference to employee safety." *Falcon Steel Co.*, 16 BNA OSHC 1179, 1181, 1993-95 CCH OSHA ¶30,059, p. 41, 330 (No. 89-2883, 1993)(consolidated); *A.P. O'Horo Co.*, 14 BNA OSHC 2004, 2012, 1991-93 C.H. OSHA ¶ 29,223, p. 39,133 (No. 85-0369, 1991). A showing of evil or malicious intent is not necessary to establish willfulness. *Anderson Excavating and Wrecking Co.*, 17 BNA OSHC 1890, 1891, n.3, 1995-97 OSHA ¶ 31,228, p. 43,788, n.3 (No. 92-3684, 1997), *aff'd* 131 F.3d 1254 (8th Cir. 1997). A willful violation is differentiated from a nonwillful violation by an employer's heightened awareness of the illegality of the conduct or conditions and by a state of mind, *i.e.*, conscious disregard or plain indifference for the safety and health of employees. *General Motors Corp., Electro-Motive Div.*, 14 BNA OSHC 2064, 2068, 1991-93 C.H. OSHA ¶ 29,240, p. 39,168 (No. 82-630, 1991)(consolidated). A willful violation is not justified if an employer has made a good faith effort to comply with a standard or eliminate a hazard, even though the employer's efforts were not entirely effective or complete. *L.R. Willson and Sons, Inc.*, 17 BNA OSHC 2059, 2063, 1997 C.H. OSHA ¶ 31,262, p. 43,890 (No. 94-1546, 1997), *rev'd on other grounds*, 134 F.3d 1235 (4th Cir. 1998); *Williams Enterp., Inc.*, 13 BNA OSHC 1249, 1256-57, 1986-87 C.H. OSHA ¶ 27,893,

p. 36,589 (No. 85-355, 1987). The test of good faith for these purposes is an objective one; whether the employer's efforts were objectively reasonable even though they were not totally effective in eliminating the violative conditions. *Caterpillar, Inc. v. OSHRC*, 122 F.3d 437, 441-42 (7th Cir. 1997); *General Motors Corp., Electro-Motive Div.*, 14 BNA OSHC at 2068, 1991-93 C.H. OSHA at p. 39,168; *Williams Enterp., Inc.*, 13 BNA OSHC at 1256-57, 1986-87 C.H. OSHA at pp. 36, 589.

*A.E. Staley Manufacturing Co.*, 19 BNA OSHC 1199, 1202 (Nos. 91-0637 & 91-0638, 2000).

The Secretary narrowed the grounds for a willful classification. Compliance officer Becker stated his opinion that Dynowski's failure to shut down the job and evacuate the building was "an error in his common sense judgment" and not willful (Tr. 182). Becker stated the willful classification was not based on Dynowski's actions or inactions on the job (Tr. 185). The Secretary based the willful classification on Elliot's failure to use CO monitors on the worksite and its failure to implement engineering controls (Tr. 182). Becker testified he did not believe Elliot manifested intentional disregard for the requirements of the Act, but plain indifference to employee safety (Tr. 179).

The Secretary argues Elliot was aware its employees could potentially be overexposed to CO while working on tightly enclosed interior pours. The Secretary cited Elliot in 2003 when seven Elliot employees were overexposed to CO during an interior pour at a garage in Skokie, Illinois. Elliot and the Secretary settled the case, with Elliot agreeing to correct the cited conditions (Exh. C-21; Tr. 126-127). Items 2a and 2b of citation no. 2 issued for the Skokie site charge serious violations of §§ 1926.55(a) and (b), the same standards for which violations are affirmed in this case. The citation states:

On March 28, 2003, seven employees working for Elliot Construction at the 5105 Madison Avenue site in Skokie, were exposed to carbon monoxide in excess of the OSHA permissible exposure limit. The employees were constructing an underground parking garage for condominiums. Employees started at the back of the garage, approximately 234 feet in. The windows in the back were boarded up and there was no ventilation. Two employees were driving bobcats and another employee was operating a compactor, the remainder of the employees were framing and grading. Employees were working for approximately 4 hours when they became ill from carbon monoxide. Exposure levels were calculated from carboxyhemoglobin levels obtained from the hospitals. Exposure levels range from 53.4 ppm to 221.3 ppm (1.07 to 4.43 times the OSHA permissible exposure limit of 50 ppm).

On January 19, 2006, Elliot superintendent Mike Bradley called Jeff Luif and asked him to bring a CO meter to an Elliot worksite at Weinstein Warehouse Meats. An Elliot crew was pouring a floor inside a warehouse that had four overhead doors. Elliot was operating a riding trowel and a hand trowel machine inside the building with two of the overhead doors opened. Luif used the CO monitor and took a reading between 35 and 55 ppm of CO. Elliot turned off the machines and opened the other two overhead doors. Luif then took a CO reading of 25 ppm (Exhs. C-11, R-21; Tr. 328-330).

Following the Skokie incident, Elliot emphasized CO safety training in its toolbox meetings and its supervisor training. Elliot called a special meeting addressing CO safety attended by all of its foremen and superintendents, some of its office personnel, and representatives from Safety Check. After the special meeting, Elliot discussed CO safety at least once a year at its quarterly meeting (Tr. 361, 378).

Elliot purchased CO monitors designed to be worn on the workers' lapels. According to Elliot, the employees did not like the lapel monitors (Tr. 358, 377-378). Cotte testified, "[The lapel monitors] seemed to not -- they were difficult to use because they didn't give us an actual reading. An alarm would go off and it didn't seem to be working that well. . . . I left mine on all the time, and I had it go off in a bank drive-up lane that was wide open and there was probably a car in front of me, so I don't think there was that much carbon monoxide, but it went off then" (Tr. 359-360). Cotte estimated Elliot used the lapel monitors for about a year, then abandoned them. Elliot switched its policy to relying on Safety Check. If a supervisor believed there was an issue with CO, he was to call Safety Check, who would send out a consultant with a CO monitor to test the work area (Tr. 360). When asked why Elliot did not purchase CO monitors for use at the worksite, Cotte responded, "I believe at the time we thought they would be too complicated and there would always be the issue of if they were calibrated correctly. And, you give them out to the guys in the field and they're going to leave them lying around and they're going to get covered in concrete. We just didn't think it was practical" (Tr. 360-361).<sup>3</sup>

<sup>3</sup> Since the Canal Street incident, Elliot has purchased CO monitors and now requires its foreman to use them to continually monitor for CO during all interior jobs (Tr. 367-368).

Cotte estimated Elliot averaged 100 interior pours a year (Tr. 362). Of those, Cotte estimated approximately 50 were done in a “more enclosed” space, such as the Canal Street building (Tr. 363). Other than the Skokie incident and the Weinstein Warehouse incident, Cotte could not recall any other incidents where CO at the site created a health hazard (Tr. 364). This may be attributed to the employees’ determination to “cope” with the fumes (Tr. 75).

“The hallmark of a willful violation is the employer’s state of mind at the time of the violation -- an ‘intentional, knowing, or voluntary disregard for the requirements of the Act or . . . plain indifference to employee safety.’” *Kaspar Wire Works, Inc.*, 18 BNA OSHC 2178, 2181 (No. 90-2775, 2000), *aff’d* 268 F.3d 1123 (D.C. Cir. 2001). The undersigned considers the issue of whether the violations of §§ 1926.55(a) and (b) are properly classified as willful to be a close one. Upon consideration of the issue, she determines Elliot’s state of mind at the time of the violation falls just short of plain indifference to employee safety.

A stronger case for willfulness could perhaps be made based on Dynowski’s conduct the day of the Canal Street incident. Dynowski recognized CO was making his employees ill, yet completed the pour despite serially sending {Redacted},{Redacted}, {Redacted}, and {Redacted} outside. He then failed to immediately call for emergency help. Had Luif not unexpectedly arrived, no emergency call may have been made. Dynowski’s conduct as foreman is highly questionable.

The Secretary chose, however, to hold Elliot responsible for its general policy rather than for one foreman’s specific actions on a specific day. The Secretary charges Elliot’s willfulness derives from its systemic error in failing to require its foremen to monitor for CO at all interior pours. The Secretary’s position appears to be that, absent the events at the Canal Street building on March 21, 2007, Elliot was still in willful violation of §§ 1926.55(a) and (b) every time it performed an interior pour without monitoring for CO. The undersigned finds this theory too sweeping. All the witnesses agree the Canal Street building was designed to be barrier-tight and had fewer openings to the outside than is normally encountered. It is located on a busy street. The job was a large pour requiring approximately a dozen cement trucks to remain idling while parked near one of the few openings to the building. Each site has its own specific set of features that must be considered. Some interior pours may have multiple doors and windows. The number of machines operating affects the amount of CO produced.

Elliot exercised concern for employee safety to the extent it contracted with Safety Check. Elliot supervisor Bradley called Safety Check to its Weinstein Warehouse site when it anticipated a problem with CO during a pour. Elliot incorporated CO safety training into its safety program. Elliot had purchased lapel monitors for its employees and required their use at one time. Elliot failed to use diligence in searching for an alternative monitoring system once the lapel monitors proved problematic, but its failure was not willful.

It is determined Elliot's violations of §§ 1926.55(a) and (b) are not willful in nature. Under §17(k) of the Act, a violation is serious if it creates a substantial probability of death or serious physical harm. In this instance, four employees were hospitalized due to CO poisoning. The violations are classified as serious.

### **Penalty Determination**

The Commission is the final arbiter of penalties in all contested cases. In determining an appropriate penalty, the Commission is required to consider the size of the employer's business, history of previous violations, the employer's good faith, and the gravity of the violation. Gravity is the principal factor to be considered.

Elliot employed 91 employees at the time of the inspection (Tr. 379). OSHA had previously cited Elliot for similar violations in 2003 (Exh. C-20). Elliot demonstrated good faith during the inspection. The remaining factor to be considered is the gravity of the violations.

*Items 2a and 2b of the citation—§ 1926.55(a) and (b):* The gravity of the violations is high. A crew of twelve men was overexposed to CO. Four of the men suffered headaches, extreme fatigue, nausea, tunnel vision, and difficulty breathing. Over exposure to CO may cause permanent physical damage. Elliot's foreman prolonged the overexposure of his crew to CO despite his awareness of the problem. He failed to call for emergency help when it was apparent such aid was needed. It is determined a total penalty of \$14,000.00 is appropriate for items 2a and 2b.

## **FINDINGS OF FACT AND CONCLUSIONS OF LAW**

The foregoing decision constitutes the findings of fact and conclusions of law in accordance with Rule 52(a) of the Federal Rules of Civil Procedure.

## **ORDER**

Based upon the foregoing decision, it is ORDERED that:

1. Item 1 of the citation, alleging a willful violation of § 1926.20(b)(2), is vacated and no penalty is assessed;
2. Item 2a of the citation, alleging a willful violation of § 1926.55(a), is affirmed as serious; and
3. Item 2b of the citation, alleging a willful violation of § 1926.55(b), is affirmed as serious, and a total penalty of \$14,000.00 is assessed for items 2a and 2b.

/s/ Nancy J. Spies NANCY J. SPIES  
Judge

Date: June 12, 2009  
Atlanta, Georgia