FEDERAL MINE SAFETY AND HEALTH REVIEW COMMISSION

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SECRETARY OF LABOR MINE SAFETY AND HEALTH ADMINISTRATION (MSHA), Petitioner	CIVIL PENALTY PROCEEDING Docket No. SE 2016-0302 A.C. No. 08-00051-415720
v.	
BRAND ENERGY & INFRASTRUCTURE SERVICES, Respondent	Mine: Pennsuco Cement Plant

DECISION

Appearances: Latasha T. Thomas, Esq., Office of the Solicitor, U.S. Department of Labor, Nashville, Tennessee for Petitioner

Randy R. Dow, Esq., Boyd & Jenerette, Coconut Creek, Florida for Respondent

Before: Judge McCarthy

I. STATEMENT OF THE CASE

This case is before me upon a Petition for Assessment of a Civil Penalty under section 105(d) of the Federal Mine Safety and Health Act of 1977, 30 U.S.C. § 815(d) (the Mine Act or the Act). At issue is a single 104(a) Citation No. 8907617 charging Respondent, Brand Energy & Infrastructure Services (Respondent or Brand), a scaffold erection contractor, with an alleged violation of 30 C.F.R. § 56.11027 after a scaffold collapsed while contractor K&G Industrial Services, Inc. (K&G) was performing refractory removal inside a calciner at mine operator Titan Florida, LLC's (Titan) Pennsuco Cement Plant.[1] Section 56.11027 provides as follows:

> Scaffolds and working platforms shall be of substantial construction and provided with handrails and maintained in good condition. Floor boards shall be laid properly and the scaffolds and working platforms shall not be overloaded. Working platforms shall be provided with toeboards when necessary.

[1] Order No. 8907620, issued under section 104(b) of the Act, is no longer contested by Respondent. Tr. 13.

30 C.F.R. § 56.11027. The Secretary alleges that the violation was significant and substantial (S&S), reasonably likely to cause a fatal injury to one miner, and the result of Respondent's moderate negligence. P. Ex. 1. The Secretary has proposed a civil penalty of $971.

A hearing was held in Miami, Florida on March 28-29, 2017. During the hearing, the parties offered lay and expert witness testimony and expert reports, and other documentary evidence.[2] Witnesses were sequestered. On June 12, 2017, the parties submitted post-hearing briefs.

The Secretary presents two alternative arguments to support a violation. First, the scaffold collapsed because it was not substantially constructed. More specifically, the Secretary alleges that Brand's scaffold collapsed because (1) it was inappropriate for the scope of work performed inside the calciner, and (2) its design contained defects, which compromised structural integrity and caused collapse when it was allegedly loaded at less than its safety-rated capacity. Sec'y's Post-Hrg. Br. at 9-12. Alternatively, even if the scaffold was substantially constructed and collapsed because it was overloaded by K&G, the Secretay argues that Respondent had sufficient supervision and control over the scaffold to prevent the overloading. Sec'y's Post-Hrg. Br. at 11. The Secretary further argues that Respondent should have taken the scaffold out of service and prevented anyone from working on it, and Respondent's failure to do so violated section 56.11027. Sec'y's Resp. to Respt's Bench Memo. at 1-5. Apart from arguments regarding substantial construction and liability for overloading, the Secretary has made no allegations concerning any other requirements of section 56.11027.

The Respondent argues that the scaffold's design and as-built specifications satisfy MSHA's definition of "substantial construction" within the meaning of 30 C.F.R. § 56.2.[3] In particular, Respondent challenges the testimony of the Secretary's expert that the scaffold had design defects and collapsed when loaded at an estimated 162-180 pounds per square foot (psf), i.e., less than 4 times its safety-rated capacity. Respt's Post-Hrg. Br. at 15. In addition, despite acknowledging strict liability principles, Respondent denies liability for the scaffold's overloading and eventual collapse, which allegedly occurred outside its supervision or control. Resp't's Bench Memo. at 2-6 (citing *Secretary of Labor v. Nat'l Cement Co.*, 573 F.3d 788 (D.C. Cir. 2009)).

For the reasons set forth herein, I find that the Secretary failed to establish a violation of the cited standard. Specifically, the Secretary failed to establish that the scaffold was not

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[2] In this decision, "Tr. #" refers to the hearing transcript. "Jt. Ex. 1" refers to the joint exhibit, "P. Ex. #" refers to the Petitioner's exhibits, and "R. Ex. #" refers to the Respondent's exhibits. Jt. Ex. 1, P. Exs. 1-7, and R. Exs. 1-38, were received into evidence at hearing.

[3] MSHA's regulations define "substantial construction" as "construction of such strength, material, and workmanship that the object will withstand all *reasonable* shock, wear, and usage, to which it will be subjected." 30 C.F.R. § 56.2 (emphasis added).

substantially constructed for the refractory removal work contemplated, or that it contained design defects that compromised its structural integrity and caused collapse at an estimated load of 162-180 psf. Furthermore, I credit the testimony of Respondent's expert witnesses that the scaffold was substantially constructed. I find that Brand's scaffold was constructed of such strength, material, and workmanship that it would withstand all reasonable shock, wear, and usage, but it was unreasonably and substantially overloaded by K&G during refractory removal, and collapsed because of such overloading. I further conclude that Respondent did not have sufficient supervision or control over the scaffold's use during the refractory work to permit liability for the overloading under the Act. Accordingly, I vacate Citation No. 8906717.

II. FINDINGS OF FACT

A. Stipulations of Fact and Law

The parties have stipulated to the following:[4]

(1) Titan Florida, LLC ("Titan") is the mine owner and operator for the Pennsuco Cement Plant, Mine Id. 0800051, which is located in Medley, Florida (the "Mine").

(2) Brand is subject to the Federal Mine Safety and Health Act of 1977.

(3) Brand has an effect upon interstate commerce within the meaning of the Federal Mine Safety and Health Act of 1977.

(4) Brand is subject to the jurisdiction of the Federal Mine Safety and Health Review Commission and the presiding Administrative Law Judge has the authority to hear this case and issue a decision.

(5) Brand was a mine contractor with Contractor ID No. D405.

(6) Brand was contracted to conduct work at the Pennsuco Cement Plant operated by Titan.

(7) Without the Respondent stipulating to the truth of the matters asserted therein, a true copy of the citations and orders at issue were served on the Respondent as required by law.

(8) Brand is in the business of designing and erecting scaffolding in the United States and other countries.

(9) At all materials times, Brand functioned as an independent contractor and was not an owner, lessee, or other person who operated, controlled or otherwise supervised a coal or

[4] At hearing, stipulations a through l from Section 2 of Respondent's Pre-Hearing Statement, and stipulations a, d, e, and k from Section 3 of that document were adopted by the parties. Tr. 15-16; *see* Jt. Ex. 1. Those stipulations are enumerated as stipulations 1-12 and 13-16, respectively.

other mine as contemplated within the meaning of the Federal Mine Safety and Health Act of 1977, 30 U.S.C. §801 et seq.

(10) Titan decided to perform maintenance on its calciner by engaging a refractory contractor to perform this work. In order to perform this refractory work, Titan needed scaffolding in the calciner.

(11) Titan entered into a separate contract with K&G Industrial Services, Inc. ("K&G") to perform the refractory work inside of the calciner. Brand was not a party to the K&G contract. Titan and Brand entered into a written Purchase Order on May 9, 2016 (the "Calciner P.O.") for the erection of a scaffold inside the calciner.

(12) On May 21, 2016, the calciner scaffold located at the Mine collapsed. There were no injuries.

(13) Prior to entering into a contract with Brand, Titan and Brand exchanged multiple emails and had discussions about the calciner design.

(14) Titan decided to procure the higher capacity scaffold that is reflected in the as-built drawings, with a 25/25 lbs. per square foot rating (50 lbs. per square foot total) inside the calciner. Ryan January, P.E., was the principal scaffold designer with Brand.

(15) The Calciner P.O. did not require Brand to perform any inspections, nor did it require Brand to perform any refractory work. However, Brand's inspections were limited to an inspection once per shift per ANSI standards.

(16) Following the collapse of the calciner scaffold, Titan did not allow Brand to participate in the recovery process. Titan hired a third party to develop a removal plan to clear the scaffold of debris. Titan's counsel also warned Brand to not interfere with the process. On or about May 27, 2016, the Petitioner issued Citation No. 8907620 concerning Brand's lack of effort in submitting a removal plan for the calciner and debris. However, this citation was terminated on June 2, 2016 since Titan hired another vendor to remove the scaffold and there was no reason for Brand to enter the calciner going forward.

Jt. Ex. 1.

B. Citation and Investigation

On May 25, 2016, Citation No. 8907617 was issued to Respondent Brand by MSHA inspector Jason Wakefield[5] for a violation of 30 C.F.R. § 56.11027[6] based on the following:

[5] Jason Wakefield has worked with MSHA for four years as an inspector. Tr. 37-38. Previously, he worked for nine years in an underground salt mine. *Id.* Prior to the instant accident, Wakefield had inspected scaffolding "a few dozen times." None of those inspections occurred inside a calciner or involved a scaffold collapse. Tr. 67-69.

> On May 21st the scaffolding that was being used inside the calciner to replace the refractory failed and collapse. [sic] Two (2) contract miners were working on the 7th floor of the scaffolding as it began to fail and were able to get to the 9th floor and escape the calciner before the scaffold collapse. *Photos taken prior to the collapse show material build up that was estimated to weigh well over what the scaffold was designed to hold.* Should the scaffold fail while miners are present it would likely result in fatal injuries.

P. Ex. 1 (emphasis added). Wakefield issued the citation to Respondent for overloading the working platforms and failing to ensure substantial construction of the scaffold. Tr. 58. As noted, Wakefield designated the violation as S&S and reasonably likely to result in fatal injury to one person as a result of Respondent's moderate negligence. P. Ex. 1. The proposed civil penalty is $971.

Respondent was hired by Titan Florida to construct several scaffolds at the Pennsuco Cement Plant in early 2016. Tr. 354. The scaffold at issue was constructed inside of a calciner to provide access to its interior surfaces. Tr. 42, 358; *see* P. Ex. 5q. Titan hired K&G under a separate contract to remove and replace the refractory brick that lined the inside surface of the calciner, using Respondent's scaffold. Stip. 11; Tr. 42-43.

The calciner is a tall, metal cylinder that is approximately 115 feet tall. It has an inside diameter of 26 feet, which narrows at the waist. P. Ex. 4 at 4. There is a cone at the bottom where the vessel narrows to less than 12 feet across and opens into a smaller cyclinder that provides ground-level access. R. Ex. 25 at 3. The outside of the calciner is surrounded by a metal frame with platforms at several elevations that are connected by stairs and an elevator. P. Ex. 5q. Hatches provide access from the outside platforms to the interior of the calciner. Tr. 66. The inside surfaces of the calciner are lined with refractory material consisting of heat-insulating brick coated with "monolith," a concrete-like material. Tr. 277-78, 307; *see* Tr. 544.

Respondent finalized the scaffold specifications with Jose ("Joe") Cardoso, a Titan supervisor, without the involvement of K&G. R. Exs. 1-24; Tr. 360. Brand and Titan initially discussed using a light-duty scaffold rated for a storage capacity of 15 psf and a live load of 12 workers. R. Exs. 1-13. Cardoso subsequently indicated that a 15 psf storage load was insufficient. Tr. 368. Brand then proposed, and Titan accepted, plans for a 50 psf, medium-duty

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[6] As noted above, section 56.11027 provides:

> Scaffolds and working platforms shall be of substantial construction and provided with handrails and maintained in good condition. Floor boards shall be laid properly and the scaffolds and working platforms shall not be overloaded. Working platforms shall be provided with toeboards when necessary.

30 C.F.R. § 56.11027.

scaffold rated for a 25 psf storage load and a 25 psf live load, and which further provided that debris material would not be stored on the working platforms, but would instead be passed out of the calciner through a "chain line" of men working together. R. Exs. 14-18; R. Ex. 15 at 2; Tr. 372.[7] Respondent was aware that the scaffold would be used to remove and replace the refractory brick that lined the inside of the calciner. Tr. 370. The final Purchase Order (P.O.) between Titan and Respondent provided that Respondent would erect and dismantle a scaffold with 50-psf capacity. R. Exs. 25, 28.

Brand's design plans utilized a Cuplok systems scaffold.[8] The center of the calciner scaffold rested on metal beams running across the bottom of the calciner's cone. Tr. 213; P. Ex. 4 at 5. Six central legs, plus another eight legs that rested on the inclined surface of the calciner cone, extended the entire 95-foot height of the scaffold and through the narrowed waist of the calciner. P. Ex. 4 at 4-5; R. Ex. 21 at 1. An additional 12 peripheral legs, closest to the walls of the calciner, also rested on inclined surfaces, but did not extend continuously through the waist section. *Id.* Butt joints were installed around the periphery of the scaffold at seven different elevations to brace against horizontal movement. R. Ex. 25 at 2-3.

Brand installed flooring on the top nine levels of the scaffold to provide access to the top section of the calciner. The bottom three working platforms were inside and just below the waist. R. Ex. 25 at 2; Tr. 111, 176. Central stairs connected the nine floors. An access hatch in

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[7] Scaffolds rated for 25 psf loads are considered "light duty," and are appropriate for workers and minimal storage of materials. Scaffolds rated for 50 psf load are considered "medium duty" and are appropriate for workers and some storage of materials. Scaffolds rated for at least 75 psf are "heavy duty," and are appropriate for workers plus considerable storage of material. R. Ex. 34 at 3; *see also* Tr. 204.

[8] A systems scaffold is a set of reusable, modular, pre-fabricated components with fixed connection locations. Vertical posts are connected by horizontal "runner" and "bearer" beams and diagonal bracing. Bearer beams support the steel-plank flooring. *See* 29 C.F.R. § 1926.450(b) (OSHA regulatory definitions of scaffolds and scaffold components). Cuplok is Respondent's proprietary brand of systems scaffold, and is primarily distinguished from other systems scaffolds by its unique connection devices. Tr. 435; R. Ex. 34 at 5, Fig. 1. One of Respondent's expert witnesses, David Glabe, described the Cuplok conncetion devices in his expert witness report, as follows:

> [T]he connection device on the leg consists of cups permanently welded to the leg at intervals of 0.5 meters. . . . Cup covers are installed on the leg above the cups; the covers are allowed to slide up and down the leg so horizontal and diagonal members can be easily installed and secured. The horizontal and diagonal members have blades that fit into the cup and are secured by closing the cover.

R. Ex. 34 at 4-5; *see also* R. Ex. 34 at 5, Fig. 1 (Cuplok Connection).

the wall of the calciner allowed passage from the scaffold's lowest working platform to the seventh floor of the outside structure.[9] R. Ex. 25 at 2; Tr. 379, 406.

On May 19, 2016 at 7:26 p.m., Brand's project manager, Russel Carlson,[10] sent a text message to Titan supervisor Cardoso, and asked Cardoso to warn K&G not to overload the scaffold by storing too much refractory debris on it:

> "Pleas [sic] have a meeting with KG about not loading all decks full[.] I know in the past Safeway [sic] did only a 4' deck around the perimeter and now we have full decks on every level so they might want to stock them all full[.]"

Tr. 371-72; R. Ex. 30. Cardoso responded that, "They [K&G] have already been told[.]" *Id.*

Brand completed construction of the scaffolding on the evening of May 19, 2016. Tr. 294. David Smith, Brand's project superintendent, was responsible for the night-shift examinations of the scaffold that were conducted between 6 and 7 p.m.[11] Ramiro Godines, another Brand superintendent, was responsible for the day-shift inspections of the scaffold that were conducted between 6 and 7 a.m. Tr. 295, 322.[12]

After scaffold construction was completed, Smith immediately conducted a walkthrough inspection of the nine working platforms with Cesar, Titan's night-shift supervisor, and an unidentified employee of K&G. Tr. 289-96. Smith testified that both Titan and K&G were satisfied with the scaffold, although neither had any relevant experience erecting scaffolds. Tr. 290-93. Smith put up and signed an inspection tag, which indicated that the scaffold was safe for use. Tr. 294-95.

"[E]arly in the morning" on Friday, May 20, 2016, prior to Godine's inspection, K&G employees started working on the calciner scaffold. Tr. 338-39. Godines described the

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[9] During testimony from Respondent's project manager, Russel Carlson, this access hatch was alternatively referred to as located on the sixth or seventh floor of the outside structure. *See, e.g.*, Tr. 406.

[10] Carlson has worked for Brand as project manager for nine years. Tr. 352. Almost all of his work as project manager involved erecting or dismantling scaffolds. Tr. 353. For seven years before that, Carlson worked as general foreman, foreman, journeyman, carpenter, or laborer at Brand. Tr. 352.

[11] Smith has worked for Brand with industrial scaffolding for nine years. At the time of the hearing, he was a project superintendent. Tr. 286-87. Smith testified that he has constructed "probably hundreds" of scaffolds in confined spaces like a calciner. Tr. 308.

[12] At the time of the hearing, Godines had worked for Brand for two years as a superintendent. Godines has 24 years of experience erecting industrial scaffolds. Tr. 318.

condition of the scaffold Friday morning as "clean," and signed the inspection tag. Tr. 339-40. Smith described the condition of the scaffold on Friday evening as having "a little bit of debris" that created a "housekeeping issue," but signed the inspection tag. Tr. 293-94, 313.

On Saturday, May 21, 2016, Godines conducted an inspection between 6 and 7 a.m. Tr. 330. Godines red-tagged the scaffold due to "a lot of material" on the scaffold that created a "trip hazard." Tr. 325-26.[13] Godines described three piles of debris approximately four feet high on the "north, west, and south side[s]" of the first (lowest) working platform. Tr. 337-38. Godines credibly testified that fixed connection points on the vertical scaffold posts allowed for reasonably accurate estimates regarding the height of the debris. Tr. 331-32. Godines described conditions on the second floor working platform as "almost the same" as on the first floor working platform because there were three piles of debris about three and a half to four feet tall around the perimeter. Tr. 337-38.

After red-tagging the scaffold on the morning of May 21, 2016, Godines told the K&G workers present that they "have to do housekeeping," but he was ignored. Tr. 327, 414. Godines looked for, but could not locate the K&G supervisor. Tr. 333. Godines proceeded to Titan's control room, but could not locate Cardoso or reach him by phone. Tr. 327-29. Godines then called his manager, Russel Carlson, around 9 a.m. and informed Carlson that the scaffold did not pass inspection due to "housekeeping" issues and that Carlson was needed to resolve the situation. Tr. 413. Godines requested Carlson's presence on site because he "wasn't getting anywhere" with K&G. Tr. 414.

Carlson was located in West Palm Beach, Florida, about an hour-and-a-half drive to the Titan Pennsucco plant in Miami. Tr. 413-14. After receiving the call from Godines, Carlson left for the Titan plant and arrived on site between 11:00 and 11:30 a.m. Tr. 413.

When Carlson arrived, he noticed very similar conditions to those described by Godines on the first and second floor working platforms. In addition, Carlson observed that the entire first floor "was covered at least close to a foot high, I'd say. The stairs were covered. You couldn't really see the scaffold deck itself at all anywhere." Tr. 379-80. Carlson credibly testified that the remaining working floors had "considerable piles and messes" but were not comparable in scope to the first two floors. Tr. 416-17.

Carlson photographed the debris that he observed on the first working floor of the scaffold. Tr. 379; R. Ex. 29. Carlson told the K&G workers in the calciner that "they needed to get down there and clean that stuff up now." Tr. 381, 416. They responded, "go to hell, gringo, go talk to my boss." Tr. 381, 416.

Carlson was unable to locate Titan supervisor Cardoso, or any other Titan representative in the plant's administrative suite of offices. Tr. 387. After failing to reach Cardoso by phone, Carlson texted him at 12:30 p.m. and attached a picture of the pile of debris with the message:

[13] A red-tagged scaffold indicates that the scaffold has failed inspection and is not safe for use. Tr. 412-13; Tr. 572-73.

"Joe they have to do a cleanup in the calciner[.] Some areas the block is piled up 4' high....a ton of weight[.]" R. Ex. 29. Carlson then located Derrick Givens, K&G's regional manager, and told him that an immediate cleanup was required before any further work could be done. Tr. 383. Carlson testified that Given's response was "[w]ell, that's what the guys are in there for. We just finished up everything else so they're cleaning up." Tr. 383.

Despite Given's assurances that the K&G workers were cleaning up, Carlson observed that the workers were not proceeding to the levels where the debris piles were located. Tr. 384. I credit Carlson's unrebutted testimony that the K&G workers were not working on or near the levels where the debris was located, and therefore conclude that they were not engaged in housekeeping activities to clear the scaffold of overloaded debris on the first and second working platforms.

The scaffold collapsed several hours later at approximately 3:30 p.m. on May 21, 2016. Tr. 41. The bottom two working floors, just below the waist of the calciner, along with the attached stairs and all scaffolding below that point, collapsed into the bottom of the calciner. Tr. 444-46. The top section of the scaffold remained wedged in place, supported by the waist of the calciner. Tr. 51; *see* R. Ex. 37 at 3, 8.

Two days later, on Monday, May 23, 2016, in response to an anonymous hazard complaint, MSHA inspector Wakefield arrived on site to conduct an accident investigation. Tr. 70. Wakefield met with Titan's safety inspector, Dave Brader, and K&G's supervisor Derrick Givens, and then inspected the calciner and took photographs. Tr. 70, 88; P. Ex. 3 at 11-17. Wakefield testified about a narrative that was relayed to Brader from the two unidentified K&G workers who were present when the scaffold collapsed: "[T]hey stated to [Brader] that they started to hear banging at the bottom of the scaffolding and had ran up two levels to escape out a[n] inspection portal on the ninth level of the vessel of the preheater tower." Tr. 47. The K&G workers escaped without injury. The workers told Brader, who told Wakefield, that they had entered the calciner to "continue cleaning" after lunch. After approximately 15 minutes, they heard noises from the lower section of the scaffold and felt "side to side" movement before they escaped out a calciner access hatch. *Id.* Wakefield recorded the translated narrative from the two K&G workers to Brader as bullet points in his notes. P. Ex. 4 at 5.

On Tuesday, May 24, 2016, Wakefield met with Brand representatives and its engineer, Ryan January. Tr. 103.[14] Wakefield then met separately with Titan and its engineer, John Pepper. *Id.* At that second meeting, Pepper had a bucket of debris material brought in from the accident. According to Wakefield, Pepper "did some weighing and calculating" and determined that there was an estimated load of 180 psf based on Brand's pre-collapse photograph. Tr. 105-

[14] Ryan January has worked for Brand for three years as a scaffolding engineer. Ryan estimates that his team designs 500-700 scaffolds each year. Tr. 423. Previously, Ryan worked six years as a design engineer for scaffolding at Brand. *Id.* January is a licensed engineer in 36 states. Tr. 424. He earned a Bachelor of Science in civil structural engineering from the University of Missouri. *Id.*

106. On May 25, 2016, Wakefield issued the instant citation to Brand, and additional citations to Titan and K&G. Tr. 60; P. Ex. 1.[15]

Shortly after the collapse, Titan and K&G inspected all Brand-erected scaffolds at the cement plant. Tr. 209. In an adjacent vessel, they found that "one of the legs on the scaffolding was bending prior to having received any material loading other than the weight of the scaffold itself." Tr. 209-210.[16] Titan ordered all remaining Brand scaffolds to be disassembled and removed from the cement plant. Tr. 410. Titan excluded Brand from participating in the abatement process. Stip. 16; Jt. Ex. 1.

C. Expert Witness Testimony

Terrence Taylor provided expert witness testimony and a report (P. Ex. 4) for the Secretary. Douglas Bishop provided expert witness testimony and a report (R. Ex. 33) for the Respondent. David Glabe also provided expert witness testimony and a report (R. Ex. 34) for the Respondent on the suitability of the scaffold for refractory work.

1. Summary of Terrence Taylor's Expert Report

Terrence Taylor testified as an expert witness for the Secretary. Taylor is a civil engineer in the Mine, Waste and Geotechnical Engineering division of MSHA's technical support group in Pittsburgh, Pennsylvania. Tr. 166-67. He earned a Bachelor of Science degree in Civil Engineering at Penn State University and a Masters from the University of Colorado, with a specialization in structural engineering. Tr. 167. He is a licensed Professional Engineer and has worked with MSHA as a civil engineer in the mining industry for 29 years. P. Ex. 4 at 4. Taylor has completed 720 projects for MSHA, including "numerous forensic investigations of structural failures and collapses." Tr. 168; P. Ex. 4 at 4. Apart from the instant investigation, Taylor has been involved in three scaffold-related projects. Tr. 169. None of them involved a scaffold collapse or a Cuplok scaffold. Tr. 226.

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[15] Citation No. 8907615 was issued to Titan. The Commission's records show that Citation No. 8907615 was contested and assigned to Docket No. SE 2016-0293. The Chief Judge assigned it to the undersigned on October 13, 2016. Order of Assignment, Docket No. SE 2016-0293 (Oct. 13, 2016) (ALJ). Titan later withdrew its contest and agreed to pay the full penalty proposed by the Secretary. Decision Approving Settlement & Order to Pay, Docket No. SE 2016-0293 (Oct. 31, 2016) (ALJ).

Citation No. 8907616 was issued to K&G. MSHA's records indicate that Citation No. 8907616 was not contested and was paid in full. Citations, Orders, and Safeguards for Contractor ID No. v589, MSHA Mine Data Retrieval System, *available at* https://arlweb.msha.gov/drs/ASP/CntctrAction.asp (last accessed Apr. 13, 2018).

[16] The component that was bending was alternatively described as "one of the legs," a "swivel jack," a "screw jack," or a "scaffold post." Tr. 210, 212, 215, 223; Tr. 410.

Taylor's expert witness report evaluates whether Brand's scaffold was "substantially constructed" within the meaning of section 56.11027. Section 56.11027 requires, in relevant part, that "scaffolds and working platforms shall be of substantial construction and provided with handrails and maintained in good condition." 30 C.F.R. § 56.11027. As noted, MSHA's regulations define "substantial construction" as "construction of such strength, material, and workmanship that the object will withstand all *reasonable* shock, wear, and usage, to which it will be subjected." 30 C.F.R. § 56.2 (emphasis added).

Given the general nature of MSHA's regulations and its definition of substantial construction, Taylor also evaluated the scaffold under the American National Standard for Construction and Demolition Operations Scaffolding Safety Requirements,[17] and the Occupational Health and Safety Administration's (OSHA's) regulations governing scaffolds, published at 29 C.F.R. Subpart L-Scaffolds. P. Ex. 4 at 3. Although not formally enforced by MSHA, both the ANSI Scaffolding Safety Requirements and the OSHA scaffold regulations are generally-accepted industry standards that serve as "guidance when considering whether scaffolding is substantially designed and constructed." *See* P. Ex. 4 at 3.

In particular, Taylor relied on ANSI Standard A10.8, section 9.1, and OSHA section 1926.451(a)(1). ANSI's Standard A10.8, section 9.1, requires that "the erected scaffold assembly shall be designed to support without failure its own weight and at least four times the maximum intended load." National Standard for Construction and Demolition Operations Scaffolding Safety Requirements, ANSI A10.8, § 9.1 (2011); R. Ex. 32 at 47. Carlson testified that Respondent's standard policy was to comply with ANSI requirements by conducting daily shift inspections of its scaffolds. Tr. 377. OSHA's section 1926.451(a)(1) contains more specific requirements for each component part: "[E]ach scaffold *and* scaffold component shall be capable of supporting, without failure, its own weight and at least 4 times the maximum intended load applied or transmitted to it." 29 C.F.R. 1926.451(a)(1) (emphasis added).[18] Thus, OSHA section 1926.451(a)(1) is more stringent than ANSI Standard A10.8, section 9.1. OSHA section 1926.451(a)(1) requires that each individual component of the scaffold satisy the four-times safety factor, whereas ANSI Standard A10.8, section 9.1 only requires that the scaffold as a whole satisfy the four-times safety factor.

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[17] American National Standard for Construction and Demolition Operations Scaffolding Safety Requirements contain industry-consensus guidance developed by the American Society of Safety Engineers and accredited by the American National Standards Institute (ANSI), a private, not-for-profit organization that "oversees the creation, promulgation, and use of thousands of norms and guidelines that directly impact businesses in nearly every sector . . . ." ANSI, https://www.ansi.org/about_ansi/overview/overview?menuid=1 (last accessed Apr. 13, 2018).

[18] Although section 1926.451(a)(1) provides exceptions to its requirements in certain instances, the parties have raised no arguments regarding such exceptions and I find that such exceptions are not applicable to the facts of this case. Moreover, the four-times safety factor represents a minimum safety rating: the enumerated exceptions to section 1926.451(a)(1) require safety factors greater than four. *See* 29 C.F.R. § 1926.451(a)(1)—(5); (g).

The purchase order (P.O.) executed between Titan and Respondent warranted compliance with applicable OSHA standards, rules, and regulations. R. Ex. 28 at 3. In short, in order to satisfy both ANSI and OSHA guidelines, Respondent's 50-psf scaffold and each component part should have been able to support at least 200 psf without failure.

Taylor's expert witness report contained three general conclusions that supported his expert opinion that Brand's scaffold was not substantially constructed. First, Taylor concluded that the medium-duty scaffold that Brand provided to Titan, was only rated for 50 psf, which was not sufficient for the scope of work involved. In particular, Taylor found that

> [d]ue to the need to scale, perform demolition of the existing brick lining, and reline the Calciner [sic] vessel with replacement bricks, it should have been obvious to Brand that the scaffolding would need to hold considerable materials in addition to men and tools, as they did not have a convenient means to remove the accumulated materials as the work progressed. Brand should have provided a heavy duty tube scaffolding system.

P. Ex. 4 at 7 (internal citation omitted). Second, based on the estimated weight of debris on the scaffold at the time of its collapse, Taylor concluded that Brand's "failure to brace and tie against sway from the lateral, eccentric, and unsymmetrical loadings, and/or lack of substantial support at the bearing plates and butt locations caused a premature collapse of the scaffolding system." P. Ex. 4 at 8. Taylor based this conclusion on his opinion that the scaffold collapsed under a load that was estimated to weigh somewhere between 162 and 180 psf, although the scaffold should have been able to support a load of at least 200 psf, i.e., 4 times 50 psf. P. Ex. 4 at 4. Finally, Taylor determined that Brand should have taken the scaffold out of service after Godines red-tagged the scaffold during his morning inspection on May 21, 2016. P. Ex. 4 at 8. These three findings supported Taylor's "professional opinion that the scaffold in the Calciner [sic] vessel was not substantially designed and constructed by Brand and that Brand did not take the scaffold out of service when Brand discovered the scaffold was substantially overloaded." P. Ex. 4 at 8.

2. Summary of Douglas Bishop's Expert Report

Respondent tendered Douglas Bishop as an expert witness in structural failure analysis. Tr. 492. Bishop is a mechanical engineer employed by CED Technologies, Inc., located in Jacksonville, Florida. Tr. 489; R. Ex. 35. Bishop currently performs forensic failure investigations and specializes in forensic structural analysis and machinery design. Tr. 490. Bishop earned a Bachelor of Science in aerospace engineering from the University of Florida in 1990. He has extensive employment experience in the aerospace industry. Tr. 490; R. Ex. 35.

Bishop's expert witness report addressed whether Brand's scaffold was designed appropriately. P. Ex. 33 at 2. Bishop specifically investigated whether Respondent's 50 psf, medium-duty scaffold complied with OSHA section 1926.451(a)(1)'s four-times safety factor requirement. R. Ex. 33 at 19. Bishop calculated how much each individual scaffold component (e.g., a particular leg) could hold before buckling and failing, using data from tests conducted by an independent third party and provided to him by Respondent. Tr. 495. Bishop described a

"critical buckling failure" as "a sudden instability in a vertical column caused by an excess load." Tr. 510. Bishop referred to the results of his calculations as the "allowable load," i.e. exactly how many pounds per square foot of weight would cause a particular leg of the scaffold to buckle and collapse. Tr. 504.

Next, Bishop examined the scaffold's as-built specifications and drawings, which contained details such as the shape, assembly configuration, and duty rating of the calciner scaffold, to identify the components that were subject to the heaviest loads, i.e., "the critical loading areas." Tr. 496-498; 500-03; *see, e.g.*, P. Ex. 33 at Appdx. B at 3 (results of tributary load calculations for leg AA). Bishop calculated the critical loading areas by identifying how the scaffold's design allowed the transfer of weight between different components, which he referred to as calculating the tributary area for each scaffold leg. Tr. 497. The areas that Bishop identified as "critical" were the scaffold elements that "ha[d] more load on them." Tr. 503. For example, Bishop identified two of the six longest vertical legs near the center of the scaffold, which were labeled AA and BB in his diagrams, as the legs which carried the most tributary weight and were subject to the heaviest actual loads. P. Ex. 33 at Appdx. B at 9 (Fig. 45: Upper Leg Calculation Nomenclature); *see, e.g.*, P. Ex. 33 at Appdx. B at 4 (Fig. 40: Brand Drawing #2015-381 Section A-A Column Live Loads and Storage Loads).

Relying again on the scaffold's as-built specifications, Bishop then calculated how much tributary weight (in pounds per square foot) each critical loading area component, i.e. each leg of the scaffold, would support if the scaffold was uniformly loaded to a 50 psf capacity. His calculations adjusted for the effects of both the 25 psf live load rating and the 25 psf dead load rating. Tr. 500-01. Bishop concluded that legs AA and BB (the two center legs with the greatest combined tributary load) would be supporting an actual load of 2,000 psf if the scaffold were loaded at its maximum capacity of 50 psf. R. Ex. 33 at Appdx. B at 8.

Bishop next compared the results of the allowable load calculations. i.e., how many pounds per square foot would cause leg AA to buckle and fail, with the tributary load data, i.e., how many pounds per square foot leg AA would be supporting if the scaffold were loaded to the maximum 50 psf capacity, to determine the actual safety factor, i.e. how many times each component could support its own weight before it buckled and failed. Tr. 504. The lowest safety factor for any of the components that Bishop evaluated was 4.3, which exceeded the four-times safety factor minimum required under both ANSI Standard A10.8, section 9.1 and OSHA section 1926.251(a)(1). Tr. 509.

Based on his analysis, Bishop concluded that Respondent's calciner scaffold satisfied both ANSI's and OSHA's four-times safety factor requirements, and MSHA's more general requirement that the scaffolds be "substantially constructed." Bishop found "no evidence to suggest that Brand design, equipment, or erection of the equipment caused the structure to fail." R. Ex. 33 at 1.

3. Summary of David Henry Glabe's Expert Report

Respondent tendered and qualified David Glabe as an expert witness in scaffolds and scaffold usage. Tr. 543. Glabe is a civil engineer and owner of Glabe Consulting Services. Tr. 540. Glabe earned a Bachelor of Science degree in civil engineering from Valparaiso University in 1973. He is a licensed professional engineer in 11 states. R. Ex. 36 at 1; Tr. 542. Glabe has 44 years of experience working with scaffolds. Glabe is also a scaffolding instructor and has performed training for OSHA certified training centers in Ohio, Colorado, and California, and for the federal OSHA Training Institute in Illinois. Tr. 540. He also serves as the Scaffold & Access Industry Association's representative to the ANSI A10 committee, which is charged with revising the 2011 ANSI standards. R. Ex. 36 at 1; Tr. 572. Glabe has provided forensic assistance in approximately 100 scaffold-related projects and has testified in approximately 50 cases. Tr. 541.

Glabe's expert witness report examined whether Respondent's scaffold was appropriate and suitable for the refractory work that was planned inside the calciner. R. Ex. 34 at 2; Tr. 539. Glabe testified that there is no regulatory or industry requirement to design scaffolds for a particular minimum load based on the type of work being performed. Tr. 545; R. Ex. 34 at 3. Glabe concluded that the Cuplok scaffold system was an excellent choice for the work that was to be performed. R. Ex. 34 at 3, 6.

III. ANALYSIS, DISPOSITION, AND CONCLUSIONS OF LAW

The Secretary requests that I affirm Citation No. 8907617, as written, and assess the proposed penalty of $971. Sec'y's Post-Hr'g Brief at 16. Respondent denies that the cited standard was violated because the the scaffold was not of substantial construction. Respondent also argues that is not liable for K&G's overloading of the scaffold because Respondent lacked sufficient supervison or control over such overloading. Respt's Post-Hrg. Br. at 2-3, 14, 19-20; Tr. 29-31. Respondent does not dispute the Secretary's gravity, S&S, and negligence designations. Tr. 62.

Significantly, six of the seven witnesses at the hearing testified that the scaffold collapsed due to overloading, including all three expert witnesses. Tr. 95 (Wakefield), Tr. 170 (Taylor), 312-13 (Smith), Tr. 418 (Carlson), Tr. 475 (January), Tr. 510 (Bishop), and Tr. 582 (Glabe).[19] This testimony was corroborated by Respondent's Exhibit 29, which shows substantial, asymmetrical overloading on the first floor working platform of the scaffold, and by Carlson's testimony that the second floor working platform was similarly overloaded. Tr. 379; R. Ex. 29. Based on such substantial evidence, I find that the scaffold collapsed as a result of being overloaded by K&G refractory workers.

[19] The sole exception was Godines. When asked on cross-examination whether he red-tagged the scaffold because it was overloaded, Godines responded that "he didn't want to say that" because he "didn't know." He stated that he red-tagged the scaffold because the large piles of debris on the working platforms created tripping hazards. Tr. 340.

The Secretary must prove his allegations by a preponderance of the evidence. *RAG Cumberland Res. Corp.*, 22 FMSHRC 1066, 1070 (Sept. 2000), *aff'd*, 272 F.3d 590 (D.C. Cir. 2001). This requires the Secretary to show "that the existence of a fact is more probable than its nonexistence." *Id.* (internal citations omitted). For the reasons set forth below, I find that the Secretary has failed to establish by a preponderance of the evidence that Respondent had supervision or control over K&G's overloading or use of the scaffold or that the scaffold was not substantially constructed for K&G's reasonable usage.

A. Supervision or Control

The parties stipulated that Respondent was an "independent contractor" subject to jurisdiction under the Mine Act. Respondent, however, disputes that it had sufficient supervision or control over the use or overloading of the scaffold after its construction to qualify it as a production-operator subject to strict liability for K&G's overloading of the scaffold under Commission precedent. Resp't Bench Memo. at 6; Resp't's Post-Hrg. Br. at 20; *see also* 30 U.S.C. § 802(d). The Secretary argues that Respondent's ownership, construction, and maintenance of the scaffold and Respondent's daily workplace inspections of the scaffold establish that Respondent maintained sufficient supervision and control over the scaffold and its use to subject Respondent to strict liability under the Act. Sec'y's Resp. to Respt's Bench Memo. at 4; Sec'y's Post-Hrg. Br. at 14-15. For the reasons discussed below, I find that Respondent did not have sufficient supervision or control over the scaffold after its completion to subject it to liability for K&G's overloading under the Act.

The parties stipulated that "[a]t all material times, [Respondent] functioned as an independent contractor and was not an owner, lessee, or other person who operated, controlled, or otherwise supervised a coal or other mine as contemplated within the meaning of the Federal Mine Safety and Health Act of 1977, 30 U.S.C. § 801 et seq." Jt. Ex. 1, ¶ 9. However, the Commission has recognized that independent contractors may also qualify as production-operators within the meaning of the Act when they exercise supervision over a mining process or control over certain areas within the mine. *Ames Constr., Inc.*, 33 FMSHRC 1607, 1611 n. 5 (July 2011) *aff'd sub nom. Ames Constr., Inc. v. FMSHRC*, 676 F.3d 1109 (D.C. Cir. 2012).

Both the Secretary and Respondent rely on the Commission's decision in *Ames Construction.* In that case, the Administrative Law Judge found that Ames Construction, an independent contractor charged with constructing tailings dams at the Kennecott Tailing Facility, was liable for an accident that fatally injured William Kay, a miner employed by another independent contractor, Bob Orton Trucking, Inc. (Orton), during the process of unloading pipes from a truck. *Id.* at 1609.[20] Orton's employee Kay had arrived at Kennecott to deliver a load of pipe used in the tailings dam construction. Kay stopped at the mine office, and was escorted to the delivery location by three Ames employees, Greg Davis, James Hilton, and Juan Florez. Davis told Kay to "stay right there" and went with Hilton to go get a forklift to unload the pipes. While waiting for the forklift, Kay removed the top layer of straps on the pipes, causing a pipe to

[20] Ames was cited under 30 C.F.R. § 56.9201, which requires that "equipment and supplies shall be . . . transported, and unloaded in a manner which does not create a hazard."

roll off the truck and crush him. 32 FMSHRC 347, 348-50 (Mar. 2010) (ALJ). Although the Commission recognized that the judge erred in finding that the Kay was Ames' subcontractor, rather than an independent contractor with no contractual relationship to Ames, the Commission found that Ames had supervisory responsibility for unloading the pipes and upheld the judge's finding of a violation. *Ames Constr., Inc.*, 33 FMSHRC at 1610 (July 2011).

The Commission agreed with the judge's finding that Ames exercised supervision over the pipe-unloading process during which the accident occurred. The Commission emphasized that the parties had stipulated that

> Orton drivers are instructed to follow the policies and procedures of the recipient [Ames] regarding safety and the unloading process. Orton drivers are instructed to follow the instructions of the supervisor of the unloading process.

Id. at 1612. In addition, mine operator Kennecott also imposed on Ames a Safety, Health, and Environmental Action Plan (SHEAP) that granted Ames' supervisors, foremen, and safety supervisors the authority to stop work "that would place employees, equipment, or property in immediate dangers, and to ensure that all unsafe conditions are corrected." Ames also controlled access to the tailings work site, and was required to meet the Orton truck drivers and their deliveries at the entrance to the mine property and escort them to the work site. 32 FMSHRC at 347, 349-50 (Mar. 2010) (ALJ). The Commission found that these facts supported the conclusion that Ames had supervisory authority over the unloading process. 33 FMSHRC at 1612-13. That supervisory authority rendered Ames subject to liability without fault under the Mine Act. *Id.* at 1614.[21]

The United States Court of Appeals for the District of Columbia Circuit affirmed. *Ames Constr., Inc. v. FMSHRC*, 676 F.3d 1109 (D.C. Cir. 2012). In doing so, the court stated:

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[21] In *Ames*, the Secretary argued two bases for Ames' liability as an independent contractor: Ames supervised the unloading process, and Ames had control over the pipe unloading area. *Ames*, 33 FMSHRC at 1610. The Commission based its legal holding on a factual determination that Ames exercised supervision over the particular process of unloading pipes that occurred at the mine. 33 FMSHRC at 1614. Although the Commission majority acknowledged "that a contractor may also be liable under the Mine Act for violations which occur within an area of the mine which the contractor controls," the Commission noted that it "need not reach that issue in this case, because Ames is liable on the basis of its supervision of the unloading process." *Id.* at 1611, n.5. The Secretary's theory of the instant case, as presented at hearing, failed to make clear whether the Secretary was pursuing liability on the basis of Brand's alleged supervision over a process (the refractory work), or Brand's alleged control over an area of the mine (the interior of Titan's calincer where the scaffold was constructed). I conclude, however, that Godines' and Carlson's failed attempts to stop K&G's refractory work on the scaffold support the reasonable inference that Respondent did not control the interior area of the calincer or supervise the process of removing and replacing the refractory brick. *See* discussion *infra* Section III.A.

> We assume that Ames is correct in its argument that no-fault liability under § 110(a) would be unreasonably expansive if it made *all* independent contractors—including those who were "operators" solely by virtue of "performing services" at a mine—liable for *all* safety violations, even violations completely outside the scope of a given independent contractor's work. But the argument doesn't get Ames anywhere, given the Secretary's resting on the proposition, adopted by the Commission, that Ames is liable simply for "an unsafe condition that occurred in connection with an activity for which it had supervisory responsibility."

676 F.3d at 1109 (internal citations omitted). The court found that four uncontested propositions easily supported the conclusion that Ames supervised the unloading process: (1) Kay was escorted to the delivery drop-off location by Ames' crew per agreement with MSHA; (2) Kay was left with an Ames employee (Florez) and told to "wait right here" while the other Ames crew members retrieved a forklift; (3) truck drivers like Kay typically loosen the straps on the truck but "the remainder of the process is left to the contractor who is in charge of the site"; and (4) Ames had the authority to stop work that created a danger to employees or property and to ensure unsafe conditions were corrected. *Id.* (quoting *Ames,* 32 FMSHRC at 349).

In this case, the Secretary argues that just as Ames was responsible for supervising the unloading process at issue in *Ames*, "[Respondent] was responsible for supervising the scaffold." Specifically, the Secretary asserts that Respondent owned the scaffold, was responsible for daily shift inspections, and had stop-work authority over use of the scaffold. Sec'y's Resp. to Respt's Bench Memo at 4.

Although Brand's retention of ownership of the scaffold may be indicative of supervision or control, ownership alone is neither necessary nor sufficient to establish strict liability under the Mine Act. As the D.C. Circuit has found, "strict liability means liability without fault. It does not mean liability for things that occur outside one's control or supervision." *Secretary of Labor v. Nat'l Cement Co.*, 573 F.3d at 795.

Brand's April 19, 2016 proposal only references the construction and dismantling of the scaffold, not its maintenance or use. The proposal defines the scope of work as follows:

> [Respondent] will erect and dismantle systems scaffold at the above project. [Respondent] will build systems scaffold inside the Calincer [sic], approximately 28' Diameter [sic] by 95' high with 15 working elevations and a stair for access. [Respondent] will also build a systems scaffold approximately 6' by 6' by 30' high from the Kiln [sic] rider to access the lower part of the Calciner [sic] cone.

R. Ex. 21 at 1. Brand's proposal also stipulates that

> Brand shall provide services as outlined in the attached proposal. In the performance of these services, Brand shall supervise the work of its own employees and agents, only. Brand shall not supervise, direct, or control the work

> of others or have a right to controls the means, methods, techniques, or sequences of engineering, design, or construction by others.

Id. at 4.

Carlson, Respondent's project manager, confirmed the scope of work outlined in Brand's project proposal: once construction is finished and the initial inspections are complete, Respondent "hand[s] it over [to] the client." Tr. 412. Smith, Respondent's project superintendent, confirmed that he conducted an inspection with representatives of both Titan and K&G immediately prior to the completion of the scaffold's construction and before surrendering possession to Titan.[22] Tr. 290. Carlson testified that although Respondent continues to conduct inspections of the scaffold's components to ensure that "if anyone pulls anything out, we [] replace it," the client is renting the scaffold and "basically owns it." *Id.*[23] I find Carlson's testimony to be consistent with the plain language of the proposal:

> [Titan] is responsible for all loss or damage to all materials and equipment in its possession or control. The materials and equipment shall be deemed to be in the possession of [Titan] for all purposes of this Agreement from the time it is received by [Titan] until the time that the materials or equipment has been returned to Brand's yard.

Id. Although Carlson generally admitted that Brand was responsible for replacing missing parts on the as-built scaffold, nothing in the record indicates that Respondent was responsible for any additional maintenance activities, such as housekeeping or debris removal. Thus, while Respondent retained ownership of the scaffold, the record indicates that Titan took possession of the scaffold after its construction and contracted with K&G so that K&G would use the scaffold in its refractory work. The plain language of Brand's proposal itself and the fact that Brand retained ownership of the scaffold do not support the Secretary's argument that Respondent also supervised or controlled the use of the scaffold during K&G's refractory removal.

The Secretary also argues that Respondent "had control over taking the scaffold out of service, and had control over halting any use of the scaffold by Titan, which would prevent K&G from working while on the scaffold." Sec'y's Post-Hrg. Br. at 15. The record does not support the Secretary's arguments. Unlike the SHEAP at issue in *Ames*, the Secretary fails to point to any document or testimony establishing that Brand had stop-work authority over the use or

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[22] The May 9, 2016 purchase order agreement executed by Respondent and Titan imposes a $5,000 fee for Titan's "28 day equipment rental" of the scaffold. R. Ex. 28 at 1; *see also* Jt. Ex. 1.

[23] Wakefield testified that Titan's safety director David Brader told him that it was Brand's job to erect, *maintain,* and tear down the scaffold. Tr. 48 (emphasis added). As Wakefield admitted that it was a Titan agent that made the statement, rather than Brand personnel, I decline to credit Wakefield's testimony suggesting that Brand agreed to maintain the scaffold after it was erected and turned over to Titan, particularly in light of the contrary language in Brand's proposal.

overloading of the scaffold by K&G. In fact, the record shows the opposite. Although Brand had no stop-work authority, two of Respondent's supervisory personnel nevertheless attempted, without success, to stop work on the red-tagged scaffold because of safety hazards evident during Godine's inspection. Godines red-tagged the scaffold on the morning of the collapse after he noted "a lot of material" and "too much debris" on the first two working platforms and on the scaffold's stairs. Tr. 326-28; 414. As noted, a red-tagged scaffold indicates that the scaffold has failed inspection and is not safe for use. Tr. 412-13; Tr. 572-73. Despite the fact that Godines red-tagged the scaffold during his inspection, K&G employees worked on the scaffold after it had been red-tagged. Carlson, Respondent's project manager, told K&G's employees to stop working on the scaffold until the debris was cleaned up. He was ignored. Tr. 381, 416. The K&G employees told Carlson, "Go to hell gringo, go talk to my boss." *Id.*

Brand and K&G had no contractual relationship, and Brand was not a party to the contract entered into by Titan and K&G for the performance of refractory work inside the calincer. Jt. Ex. 1; Tr. 400. Although Carlson testified that past projects have been structured so that the contractors using the scaffold report to Brand, Titan chose to structure this situation differently and Titan never indicated to Brand that it had supervisory authority over K&G's use of the scaffold. Tr. 400. Carlson testified that Titan never gave him any indication that he had the ability to oversee K&G's employees or to "tell them what to do." Tr. 378. Furthermore, Titan never conducted any pre-shutdown meetings with both Brand and K&G to discuss the use of the scaffold after its construction, or the relative scope of each contractor's authority, despite Brand's requests that Titan do so. Tr. 260-61.

In sum, on this record, I find that Respondent Brand did not have authority to stop K&G's work on the scaffold, as demonstrated by Godines' and Carlson's failed attempts to actually do so. By contrast, in *Ames*, the Kennecott SHEAP granted Ames the explicit authority to supervise the unloading process and stop unsafe work. 32 FMSHRC at 347, 349-50 (Mar. 2010) (ALJ). No such stop-work authority existed here. The lack of stop-work authority over K&G strongly supports my finding that Respondent Brand did not have supervisory authority or control over the scaffold's use or overloading by K&G during the refractory removal process.

The Secretary also argues that Respondent's inspection responsibilities indicate that Respondent had supervision and control over the scaffold. I reject this argument because the violation resulted from K&G's overloading of the scaffold, which was completely outside the scope of Brand's work. *See, e.g.*, *Secretary of Labor v. Nat'l Cement Co.*, 573 F.3d at 795 (strict liability does not mean liability for things that occur outside one's control or supervision); *cf.*, *Ames Constr., Inc. v. FMSHRC*, 676 F.3d at 1109 (assuming without deciding that no-fault liability would be unreasonably expansive if it made all independent contractors performing services at a mine liable for all safety violations, even those completely outside the scope of a given independent contractor's work). Furthermore, while inspection responsibilities may support an inference that an operator or contractor exercises supervision over a process or control of an area of the mine inspected, this argument would only support strict liability in my view if the violation resulted from the failure to inspect or an inadequate inspection.

In this case, the record indicates that K&G, not Brand, conducted the daily safety-related inspections required by MSHA. In this regard, Wakefield testified that Keith Diffenderfer, K&G

supervisor, told him that the "workplace exams were being done by K&G, and [K&G] depend[ed] on [Brand] to do the technical inspection." Tr. 50; *see also* P. Ex. 3 at 6. This testimony is consistent with the parties' stipulation that "the Calciner P.O. did not require Respondent to perform any inspections . . . . [Respondent's] inspections were limited to an inspection once per shift per ANSI standards." Jt. Ex. 1. In addition, the engineering plans for the as-built 50 psf scaffold indicate that "[u]nless otherwise contracted for, [the] installation, initial inspection after the installation, and subsequent inspections and maintenance of the equipment is the responsibility of the customer." R. Ex. 25. The Secretary has not alleged that Respondent failed to fulfill its contractual inspection responsibilities related to ANSI and OSHA requirements. In fact, Respondent did inspect the scaffold and red-tagged the scaffold before the accident. Respondent, however, had no supervisory responsibility or control over the scaffold's misuse through K&G's overloading, as illustrated by the terms of the proposal stating that "Brand shall not supervise, direct, or control the work of others or have a right to control the means, methods, techniques, or sequences of engineering, design, or construction by others," and by the fact that Titan "possessed" the scaffold after the post-construction handover. R. Ex. 21 at 4. I find that Respondent's actual and unsuccessful attempts to stop work on the scaffold after it was red-tagged by Respondent show that Respondent could not exercise supervision or control over the use or overloading of the scaffold by K&G, although Respondent made repeated requests to Titan and K&G to exercise their supervision or control.

I further note that in *Ames*, Ames argued that its employee Florez did not have the power or authority to stop Orton's employee Kay from beginning to loosen the straps securing the pipes on the delivery truck. *Ames*, 33 FMSHRC at 1613. The Commission rejected that argument based on contrary evidence in the record, but did briefly note that "whether Kay would have refused to obey instructions from Ames' agents is beside the point, because no attempt was made to prevent him from beginning the unloading process, or from encountering any other hazards." *Id.* Here, by contrast, Respondent's agents *did* attempt to prevent K&G's employees from creating a hazard by asking Titan to instruct K&G not to overload the scaffold by storing too much refractory brick on it. R. Ex. 30. Titan responded that K&G had been instructed not to overload the scaffold. *Id.* In addition, after Brand red-tagged the scaffold on the morning of the accident and Brand foreman Godines and project manager Carlson each told the K&G workers to immediately clean up the overloaded piles of brick on the first and second level working platforms, they were rebuffed by K&G workers in no uncertain terms. Tr. 327, 381, 414, 416. When Carlson eventually contacted K&G's regional manager Givens and told him that an immediate cleanup was required before any further work could be done, Givens replied that K&G had "just finished up everything else so they're cleaning up." Tr. 383. Despite Given's assurances that the K&G workers were cleaning up, I have credited Carlson's testimony that the K&G workers were not proceeding to the levels where the debris piles were located and were not engaged in housekeeping activities to clear the overloaded debris on the working platforms. The scaffold collapsed several hours later. Tr. 41. The bottom two working platforms, which were overloaded by K&G, along with the attached stairs and all scaffolding below, collapsed into the bottom of the calciner. Tr. 444-46. These distinguishable and significant facts undermine the Secretary's argument that Brand, like Ames, exercised supervision or control over use of the scaffolding after its construction.

Based on the foregoing discussion, I find that Respondent did not have sufficient

supervision or control over the scaffold's use during K&G's refractory work to subject Respondent to liability under the Act. The record indicates that Respondent's agents repeatedly attempted to exercise supervision or control over K&G's use of the scaffold, but were unable to do so. I therefore find that Respondent is not liable for the overloading and collapse of the scaffold after it surrendered supervision and control over post-contruction use of the scaffold to Titan and K&G.

B. Substantial Construction

Having determined that Respondent did not have sufficient supervision or control over the scaffold's use after its construction to render Respondent liable for the overloading, I now turn to whether Respondent's scaffold was substantially constructed. In relevant part, section 56.11027 states that "scaffolds and working platforms shall be of substantial construction." 30 C.F.R. § 56.11027. The Secretary's regulations define substantial construction as "construction of such strength, material, and workmanship that the object will withstand all *reasonable* shock, wear, and usage, to which it will be subjected." 30 C.F.R. § 56.2 (emphasis added).

The Secretary argues that the scaffold was not substantially constructed because (1) it was not appropriate for the type of work for which it was employed, and (2) the scaffold's design contained defects that compromised its structural integrity and caused it to collapse at an estimated load of 162-180 psf, less than the required safety factor capacity of 200 psf. P. Ex. 4 at 7, 9-10; Sec'y's Post-Hrg. Br. at 11. Respondent disputes both of these assertions. Respt's Post-Hrg. Br. at 14-19.

1. Appropriateness of Scaffold for Refractory Removal and Replacement

The Secretary argues that Respondent's medium-duty, 50-psf-capacity scaffold was not sufficient for the type of refractory work conducted inside the calincer. P. Ex. 4 at 7. In other words, the 50-psf scaffold was not sufficient to withstand the reasonable shock, wear, and usage associated with the refractory work conducted inside the calincer. The work inside the calincer involved removing the refractory brick that was lining the inside of the calciner and replacing it with new brick. Tr. 42-43; *see also* Jt. Ex. 1, Stip. 11.

Inspector Wakefield testified that for "the scaffolding that was being used and the type of work that was being done, it was too much for that particular scaffolding which ultimately resulted in its collapse." Tr. 97. The Secretary's expert Taylor was also concerned that a scaffold rated for only a 50-psf load would be insufficient to support the weight of the workers, tools, old refractory debris, and new refractory brick that would be placed on the scaffold as the work progressed. Tr. 201-04. Taylor concluded that:

> Work at the calciner involved the removal of build-up, refractory brick, and mortar material. Brand only provided a medium duty scaffold, rated to 50 psf. Due to the need to scale, perform demolition of the existing brick lining, and reline the Calciner [sic] vessel with replacement bricks, it should have been obvious to Brand that the scaffolding would need to hold considerable materials

> in addition to men and tools, as they did not have a convenient means to remove the accumulated materials as the work progressed. Brand should have provided a heavy duty tube scaffolding system. Heavy duty scaffolding has a larger diameter tubing and is therefore rated for heavier loading equal to 75 psf.

P. Ex. 4 at 7 (internal citation omitted).

By contrast, David Glabe, Respondent's expert witness on the appropriateness of the scaffold's design capacity, testified that a scaffold can be designed for any loading capacity so long as the workers using the scaffold understand its loading limitations: "any . . . craft can choose [its] own method for managing materials. . . . in this specific situation, the employees easily could have [used] a Light Duty [sic] scaffold, or even less, just by limiting the amount of load that is placed on the platform." R. Ex. 34 at 3; *see also* Tr. 545. Glabe rejected Taylor's assertion that Brand should have known that a higher capacity scaffold was needed and rebutted Taylor's argument that Brand should have known that significant amounts of debris would be stored on the working platform. Glabe emphasized that Respondent and Titan had communicated regarding debris removal several times prior to the execution of the purchase order. R. Ex. 34; Tr. 562.; *see also* R. Ex. 15 at 2; Tr. 298 (superintendent Smith's testimony regarding communications with Titan about debris removal), 363-65 (project manager Carlson's testimony regarding communications with Titan about debris removal). Taylor admitted on cross examination that he had not reviewed the communications between Respondent and Titan regarding how materials would be removed from the calciner. Tr. 263. Accordingly, Taylor did not account for the chain method of debris removal that had been agreed upon. In addition, Respondent's employees, on at least two occasions, explicitly requested that Titan caution K&G against allowing debris to accumulate on the scaffold. P. Ex. 7 at 1; R. Exs. 9, 11, 13, 17, 19, 29, and 30. Glabe concluded that "the Brand Cuplok system scaffold was an excellent choice for this project." R Ex. 34 at 6. I credit Glabe's significant experience in the scaffolding industry, and concur that the Brand Cuplok system, medium-duty, 50-psf-capacity scaffold was appropriate to withstand reasonable shock, wear and usage during the refractory work that Titan and Brand contemplated K&G would perform inside the calciner.

2. Whether Design Defects Caused the Scaffold to Collapse Under a Load Weighing an Estimated 162-180 psf

As noted above, both ANSI Section 9.1 and OSHA section 1926.451(a)(1) require a minimum safety rating of four, meaning that Brand's 50-psf-rated scaffold should have been able to support a minimum load of 200 psf. ANSI A10.8, § 9.1; R Ex. 32 at 47; 29 C.F.R. 1926.451(a)(1). The Secretary argues that the scaffold collapsed under an actual of load of 162-180 psf due to "design and construction deficiencies." Sec'y's Post-Hrg. Br. at 11. The Secretary further argues that these alleged facts support a reasonable inference that the scaffold was not constructed to be of "such strength, material, and workmanship [as to] withstand all reasonable shock, wear, and usage, to which it will be subjected." *Id.*; Tr. 204. I first address the Secretary's argument that the scaffold collapsed at an estimated load of 162-180 psf, and then the Secretary's arguments regarding design and construction defects.

a. *Estimated Load at the Time of Collapse*

The Secretary's expert witness Taylor opined that the scaffold "failed when subjected to loads in the range of 162 to 180 pounds per square foot." Taylor concluded that "[t]he scaffolding was designed for 50 psf and therefore should have been able to support up to 200 psf. However, the scaffolding failed when subjected to a smaller load of 162-180 psf." P. Ex. 4 at 7-9; *see also* Tr. 204.

Respondent argues that Taylor's "assumption that the scaffold failed at 162-180 psf was based on unreliable information and verifiably incorrect data." Respt's Post-Hrg. Br. at 15. Respondent points out that Taylor's 162-psf figure was based on double-hearsay statements from investigatory witnesses recorded in Wakefield's notes. *Id.* at 15. Respondent also emphasizes that the 180-psf figure was based on Taylor's assumption that the debris was uniformly distributed, while the photographic and testimonial evidence establishes that the debris was not evenly distributed over the working platforms. Respt's Post-Hrg. Br. at 10, 15; *see also* Tr. 239-41; P. Ex. 3 at 6.

I agree with Respondent's arguments regarding the unreliability of Taylor's estimate. Taylor drew the upper limit of his estimated actual load range (180 psf) from inspector Wakefield's notes memorializing his post-accident investigation. P. Ex. 4 at 4; *see also* P. Ex. 3 at 7-8. Wakefield identified the source of this information as Titan's engineer Pepper and Respondent's engineer January. Tr. 236, 226. According to Wakefield, when Wakefield met with Titan and Pepper, Pepper used a five-gallon mop bucket of debris from inside the calciner and a photo of debris on one level of the scaffold pre-collapse to do "some weighing and sampling" based on the "the density and the type of brick and some information off the internet" to estimate that the load on the scaffold at the time of its collapse was 180 psf. Tr. 104-108. The Secretary never called Pepper as a witness, and Taylor never tested Pepper's methodology to ascertain its reliability. I find on this record that Taylor's expert testimony based on Pepper's purported single-bucket analysis was grounded on insufficient facts and data and did not apply generally accepted scientific principles or methods to arrive at a reliable estimate of the load at the time of collapse. Rather, Taylor unjustifiably extrapolated from Pepper's untested and dubious methods, guesswork, and speculation to reach an unfounded conclusion. *Cf.*, *General Elec. Co. v. Joiner*, 522 U.S. 136, 146 (1997) (noting that a trial court "may conclude that there is simply too great an analytical gap between the data and the opinion proffered") (internal citations omitted).

In addition, January, the original declarant, refuted Wakefield's hearsay testimony. January testified that he "never once gave an exact number of what the scaffold failed at, at what pounds per square foot." Tr. 425-26. January also testified that his lack of access to the accident site prevented him from being able to make such an estimate. *Id.* I credit January's direct rebuttal over Wakefield's testimony and find that Taylor's 180-psf calculation, based on Wakefield's notes, to be unreliable. In addition, the record evidence overwhelmingly establishes that the refractory brick and debris was not uniformly distributed over the scaffold's working platforms. P. Ex. 3 at 6. Because Taylor based his 162-psf calculation on an erroneous assumption that the load was evenly distributed, I decline to credit the 162-psf figure as well. Taylor did not adequately account for the alternative explanation (supported by the expert

testimony of January, Glabe, and Bishop) that the scaffold collapsed because the asymmetrical overloading caused one of the lower legs to buckle and fail. Tr. 446-47, 498, 510, 568; *see also* P. Ex. 3 at 6; R. Ex. 29. I decline to credit Taylor's opinion, based on double hearsay and unreliable methodology, that Brand's scaffold collapsed at an estimated load of 162-180 psf, and was therefore not substantially constructed.

b. *Design and Construction Deficiencies*

The Secretary argues that Brand's scaffold was not substantially constructed because design and construction defects caused the scaffold to collapse at an estimated load of 162-180 psf, less than the required 4.0 safety rating of 200 psf. Sec'y's Post-Hrg. Br. at 11. In support of that argument, the Secretary offered Taylor's opinion countering Bishop's calculation that 4.3 was the lowest safety factor of any scaffold component. As noted, Bishop's investigation did not uncover any deficiencies in the scaffold's design, and Bishop concluded that the scaffold was substantially constructed because it was rated to carry the 200-psf minimum required by ANSI section 9.1 and OSHA section 1926.451(a). R. Ex. 33 at 19; Tr. 509-10. Taylor reviewed Bishop's report and concluded the following:

> [Bishop's] report found adequate factors of safety in excess of four on each of the individual scaffold components . . . for a 50 psf loading, but failed to evaluate the overall effect of the lateral, eccentric, and unsymmetrical loading unique to the configuration of the Calciner [sic] vessel. Therefore, failure to brace and tie against sway from the lateral, eccentric, and unsymmetrical loadings, and/or lack of substantial support at the bearing plates and butt locations caused a premature collapse of the scaffolding system.

P. Ex. 4 at 7-8. Taylor's expert report and testimony generally concluded, in laymen's terms, that Brand's scaffold was insufficiently braced and insufficiently anchored to the inside of the calincer to support its minimum load capacity of 200 psf. P. Ex. 4 at 5-6. Taylor generally argued that Bishop's investigation failed to recognize deficient bracing and anchoring and therefore failed to account for how such deficiencies affected the transmission of loads through the structure. Tr. 108, 198, 200.

Taylor admitted on cross examination that his opinion regarding additional bracing relied on comparisons between Cuplok systems scaffolding and a competing brand of systems scaffolding called Safway. Taylor also admitted that he was unfamiliar with Brand's Cuplok scaffolding prior to these proceedings. Tr. 226, 272-274. Respondent argues that Taylor's opinions failed to consider the unique qualities of the Cuplok system. Respt's Post-Hrg. Br. at 16-17. Glabe and January, who are both familiar with Safway, each agreed that the three-dimensional, geometric design of the Cuplock scaffold and the rigidity of the Cuplok connections added stability to the as-built scaffold, and that Cuplock scaffolds required less bracing than the Safway systems scaffolding relied on by Taylor. Tr. 437 (January), 548-49, 554-55, 570 (Glabe). I find Respondent's arguments persuasive and credit Glabe's and January's opinions that additional bracing was not required for Brand's Cuplok systems scaffolding.

Taylor also expressed concern about the locations where Brand's scaffold was anchored to the inside of the calciner. Taylor was concerned that the design contained too few anchor points to support the intended load, and that the integrity of the butts, plates, and ties used to anchor the scaffold were compromised by the irregular surface of the existing refractory liner. P. Ex. 4 at 6; Tr. 108, 175, 177-79, 185-89. Bishop testified that his calculations specifically accounted for how the scaffold structure transmitted loads to the anchoring butts, plates, and ties. Tr. 518. Bishop also accounted for the effect of the uneven surface underneath the anchoring points. Tr. 517. In addition, Glabe testified that system scaffolds are "pretty stable structure[s]" designed to "shift loads around." Tr. 571. Both January and Glabe agreed that the anchor points supporting the upper portion of the scaffold above the calciner waist were adequate, as evidenced by the fact that the upper portion of the scaffold survived the collapse. Tr. 439-41, 446-47, 568, 571.[24] Having examined all the record evidence, I credit January's, Bishop's, and Glabe's concurring opinions that the scaffold was securely anchored inside the calciner and was capable of supporting the minimum required load of 200 psf.

3. Conclusion Regarding Substantial Construction

Having reviewed the record evidence and considered the expert witness testimony and reports, I find that the Secretary has not established, by a preponderance of the evidence, that the scaffold collapsed at an estimated load of 162-180 psf. I likewise find unpersuasive the Secretary's argument that design and construction defects compromised the scaffold's structural integrity. I therefore conclude that the Secretary has failed to show that the scaffold was not substantially constructed as required under section 56.11027.

V. CONCLUSION

In summary, I have found that Respondent Brand did not have sufficient supervision or control over the scaffold's use during the refractory removal and replacement process to permit liability for K&G's overloading of the scaffold under the Act. I conclude that the Secretary has not met his burden of proof to establish that the scaffold was not substantially constructed. Having so determined, I need not address the alleged violation's gravity, negligence, or proposed civil penalties.

VI. ORDER

For the reasons set forth above, Citation No. 8907617 is **VACATED.**

Thomas P. McCarthy

Thomas P. McCarthy
Administrative Law Judge

Distribution:

[24] As noted, January, Glabe, and Bishop agreed that the failure occurred when the overloading caused one of the lower legs to buckle and fail. Tr. 446-47, 498, 510, 568.

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