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

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| Secretary of Labor,<br>Complainant<br>v.<br>E. C. Concrete, Inc.,<br>Respondent. | OSHRC Docket No. 12-2082 |

APPEARANCES:

Amy R. Walker, Esq., U. S. Department of Labor, Office of the Solicitor
Atlanta, Georgia
For Complainant

Michael Fox Orr, Esq., Dawson /Orr, Jacksonville, Florida
For Respondent

BEFORE: Administrative Law Judge Ken S. Welsch

## DECISION AND ORDER

E.C. Concrete, Inc. (ECC) is in the business of commercial concrete work in Jacksonville, Florida. On August 1, 2012, at a project to expand the Omni Amelia Island Plantation Resort, Fernandina Beach, Florida, two ECC workers were struck and injured entering Building B when approximately six shoring beams fell off the 7th floor. An ECC crew on the 7th floor had placed the beams on top of a shoring scaffold which tipped over when the crane's hoisting chains became entangled with the scaffold's cross brace. Manhattan Construction "Florida" Inc. (MCF), as the construction manager, had contracted ECC to perform the concrete work. As a result of the accident, a Safety Engineer (SE) with the Occupational Safety and Health Administration (OSHA) initiated an inspection on August 1, 2012.

ECC and MCF were issued serious citations on September 19, 2012. The citation issued to ECC alleges serious violations of 29 C.F.R. § 1926.501(b)(1) (item 1) for failing to protect employees exposed to a fall hazard by a fall protection system; 29 C.F.R. § 1926.501(b)(4)(ii) (item 2) for failing to protect employees by placing a cover over a floor hole to prevent a tripping

hazard; 29 C.F.R. § 1926.501(c)(3) (item 3)[1] for failing to protect employees on the ground from falling objects during overhead concrete work by the use of barricades; 29 C.F.R. § 1926.502(d)(11) (item 4) for allowing an employee to use a lifeline wrapped around a concrete column that was not protected from cuts or abrasions; and 29 C.F.R. § 1926.701(b) (item 5) for allowing employees to work near unguarded rebar. The citation proposes total penalties of $14,280.00. ECC timely contested the citation.

A consolidated hearing with the serious citation issued to MCF (Docket No. 12-2083) was held on March 26 - 28, 2013 in Jacksonville, Florida.[2] The parties stipulated to jurisdiction and coverage (Tr. 19). The Secretary withdrew item 1, alleged violation of § 1926.501(b)(1) as to ECC. The parties' post-hearing briefs were filed on June 3, 2013.

ECC denies the alleged violations. ECC disputes whether the cited standards were violated, its knowledge of unsafe conditions and the employees' exposure to the alleged hazards. With regard to item 5, ECC alleges a greater hazard defense in that it was more hazardous to cap the vertical rebars before removing the fallen scaffold from hanging off the floor.

For the reasons discussed, the alleged violations are vacated and no penalties are assessed.

**The Accident**

ECC, a commercial construction concrete contractor, is located in Jacksonville, Florida. ECC employs approximately 30 - 40 employees and has been in business since 1992. According to ECC, it is the only concrete company in northeast Florida capable of performing multi-story concrete work (Tr. 412, 422-423).

On January 15, 2012, ECC began the concrete work for a project to expand the Omni Amelia Island Plantation Resort, Fernandina Beach, Florida (Tr. 380). MCF, the construction manager, had contracted ECC to, in part, "provide the concrete forming, concrete pumping and placing, concrete finishing for the Hotel Buildings A, B, C, D and F" (Exhs. C-13, Ex A, p. 2). ECC completed its concrete work in February 2013 (Tr. 423).

[1] An alleged violation of § 1926.501(c)(3) (item 3) is the only item cited by OSHA against MCF. The Court's Decision and Order involving MCF is also issued this date.

[2] Although initially designated for simplified proceedings under 29 C.F.R. **§** 2200.200 *et seq*., the case was converted by the court without objection by the parties to conventional proceedings by Order dated March 29, 2013, because of the complexity of the issues and the length of the hearing (Tr. 490).

On August 1, 2012, an ECC crew was on the 7th floor of Building B constructing the shoring system to support the concrete pour for the 8th level roof (Tr. 381). The tables supporting the 7th floor were still in place and extended beyond the concrete floor an additional 3 - 4 feet (Tr. 509). The shoring system used by ECC was rented and constructed in accordance with specifications provided by Aluma Systems Engineering (Exh. R-6; Tr. 424-425). ECC had assembled and placed shoring scaffolds parallel to and approximately 6 feet from the perimeter of the floor (Tr. 205). Each shoring scaffold weighed approximately 400 pounds and was rectangular in shape (approximately 4 feet wide, 7 feet long) with four vertical legs (10 feet high) and cross-braces (Exhs. C-6; Tr. 505-506, 525).[3]

At approximately 9:00 a.m., the ECC crew had placed a bundle of six, 17-foot long, aluminum shoring beams on top of a scaffold with the assistance of the crane located on the ground (Tr. 315, 508, 514). The beams were hoisted from the center of the 7th floor and placed on the scaffold. Each beam weighed approximately 60 pounds (Tr. 322, 579). After completing the hoist, the crane's hoisting chains used to lift the beams on top of the scaffold, became entangled with the scaffold's cross brace, causing the scaffold to be lifted off the floor and tipped over onto the floor's perimeter. The scaffold did not fall off the floor, but the aluminum beams on top did fall; injuring two ECC employees accessing Building B on the 1st floor entrance (Exhs. C-1, C-3; Tr. 44). This was the main entrance into the building and it was not barricaded to prevent access (Tr. 97). The guardrail system around the perimeter of 7th floor had been removed along the front of Building B where the crew was placing the beams on top of the scaffolds (Tr. 319-320).

After OSHA was notified of the accident, the SE arrived at approximately 10:00 a.m. to initiate an inspection (Tr. 31). The injured employees had been removed from the worksite and the fallen scaffold had been secured to the floor's edge (Tr. 164, 348). The SE held an opening conference and travelled to the 7th floor where the ECC crew was attempting to remove the fallen scaffold hanging over the edge (Tr. 153-154). He interviewed employees, took photographs, and gathered other information and documents. As a result of the OSHA inspection, ECC was issued a serious citation on September 19, 2012.

[3] During the hearing, there was discussion by counsel whether a shoring frame was also a scaffold. The court throughout this decision refers to the frame as a scaffold for consistency (Tr. 338). ECC officials in their interviews referred to the frames as scaffolds (Exhs. C-16, C-17; Tr. 45-47, 364-365).

The parties have agreed on the following stipulations (Exh. ALJ-1).

1. Manhattan was the construction manager on the subject project. ECC was a subcontractor who performed concrete work.
2. An incident occurred on the morning of August 1, 2012, in which approximately 5 to 6 aluminum beams fell and injured two workers.
3. On August 1, 2012, [the SE] arrived at the worksite and conducted an investigation.
4. On August 1, 2012, ECC was working as a concrete subcontractor on the seventh-floor deck of Building B at the worksite pursuant to its contract with construction manager, Manhattan.
5. On August 1, 2012, ECC was in the process of assembling and placing engineered shoring on the seventh-floor deck of Building B to support concrete to be poured on the next deck of Building B pursuant to plans and specifications provided by nonparty Aluma Systems Engineering.
6. [The SE] was the only OSHA employee to perform an inspection of the worksite.
7. [The SE] confined his August 1, 2012, investigation to Building B.

**Discussion**

The Secretary has the burden of proof.

> 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.,* 16 BNA OSHC 2131, 2138 (No. 90-1747, 1994).

The Secretary has withdrawn item 1 of the citation. ECC denies the remaining alleged violations.

There is no dispute that the fall protection standards at 29 C.F.R. § 1926.501 and § 1926,502 and the concrete construction standards at 29 C.F.R. § 1926.701 applied to ECC concrete shoring work on August 1, 2012.

**Serious Citation**

**Item 2 - Alleged Violation of § 1926.501(b)(4)(ii)**

The citation alleges that "[O]n or about August 1, 2012, on the 7th floor of building B, there was a hole in the floor, exposing employees to a trip hazard."

Section 1926.501(b)(4)(ii) provides:

> Each employee on a walking/working surface shall be protected from tripping in or stepping into or through holes (including skylights) by covers.

Prior to the accident, the ECC crew was on the 7th floor erecting the shoring scaffolds to support the concrete pour for the roof. There is no dispute the 7th floor constituted a "walking/working" surface. *See* § 1926.500(b) *Definitions* which includes floors and formwork. Also, at the time of the OSHA inspection, there was an uncovered hole in the concrete floor. A "hole" is defined as "a gap or void 2 inches (5.1 cm) or more in its least dimension, in a floor, roof, or other walking/working surface." *See* § 1926.500 *Definitions*.

The hole observed on the 7th floor was approximately 12 inches wide, 20 inches long, and 8 inches deep (Exh. C-6; Tr. 374). The hole exceeded 2 inches in its least dimension and thus constituted a "hole" requiring protection to prevent a tripping hazard. The SE considered the hole a tripping hazard, not a fall-through hazard.

According to ECC, the hole was used for the placement of mechanical equipment. An employee had been working in the hole prior to the accident (Tr. 382). At the time of the OSHA inspection, the crew was attempting to remove the fallen scaffold from the floor's perimeter. The ECC Superintendent knew, or should have known, that the hole was uncovered. It was in plain view. The photograph shows the Superintendent standing within 2 feet of the uncovered hole (Exh. C-6; Tr. 78).

To establish employee's exposure, the Secretary must show the employee had access to the tripping hazard if the employee "either while in the course of their assigned working duties, the personal comfort activities while on the job, or their normal means of ingress-egress to their assigned workplaces, will be, are, or have been in a zone of danger." *Fabricated Metal Products, Inc.*, 18 BNA OSHC 1072, 1073 (No. 93-1853, 1997).

The record fails to establish how long the hole was uncovered. It appears the hole was left uncovered or became uncovered when the scaffold tipped over and the crew was securing and removing the fallen scaffold. The photograph of the hole shows it possibly located inside the

yellow warning tape and underneath a scaffold which would have prevented employees' access (Exh. C-6). The Superintendent is shown standing outside the warning tape. The SE could not remember the location of the hole in relationship to the warning tape and scaffold (Tr. 333).

At the time of the OSHA inspection, the Superintendent testified that he was still "assessing the accident" and that ECC's normal practice was to cover holes with plywood pieces labeled "Hole; Do not remove" (Tr. 375, 385). This was the only uncovered hole observed by the SE. The ECC crew was on the 7th floor for the purpose of removing the toppled scaffold hanging over the floor's edge. The worksite was shut down and the crew was given limited access to remove the toppled scaffold. The accident interrupted ECC's normal work practice.

A violation of § 1926.501(b)(4)(ii) is not established.

**Item 3 - Alleged Violation of § 1926.501(c)(3)**

The citation alleges that "[O]n or about August 1, 2012, employees on the ground level below overhead concrete work were not protected from falling objects by use of a barricade."

Section 1926.501(c) provides:

> When an employee is exposed to falling objects, the employer shall have each employee wear a hard hat and shall implement one of the following measures:
>
> *****
>
> (3) Barricade the area to which objects could fall, prohibit employees from entering the barricaded area, and keep objects that my fall far enough away from the edge of a higher level so that those objects would not go over the edge if they were accidentally displaced.

There is no dispute that the ECC crew was erecting shoring on the 7th floor, above the elevated 1st floor entrance which was not barricaded to prevent access or otherwise protected from falling objects (Exhs. C-1, C-5; Tr. 87). The 1st floor entrance was the main access into Building B. ECC's Superintendent knew the 1st floor access was not barricaded and he was aware employees used the entrance (Tr. 372-373).

Section 1926.501(c) requires a showing that employees are exposed to falling objects. If employees are exposed, the employer is required to have employees wear hard hats and utilize one of three abatement measures. The abatement includes using toeboards, screens or guardrails to prevent objects from falling, erecting a canopy structure, or barricading the area to prevent access, as cited in this case.

The guardrails and toeboards around the perimeter of 7th floor above the entrance had been removed (Tr. 319-320). There is no dispute that the two ECC employees entering the building were struck by falling aluminum beams from the 7th floor because a hoist chain accidently caught on the scaffold's cross brace. The scaffold was 5 feet, 8 inches from the floor's concrete perimeter.

The Secretary relies on the contract between MCF and ECC to show knowledge of the hazard. The contract provides:

> "Scaffolds shall be secured to the building structure to prevent tipping or falling when used closer than one and one-half (1½) times the scaffold height to an opening, or the edge of the building (*e.g.*, a scaffold ten feet (10') high within fifteen feet (15') from the edge of an opening, or the building, shall be secured to prevent tipping or falling). Locking the wheels on a mobile scaffold is not sufficient to prevent the scaffold from tipping or falling. (Exh. C-13, EXHIBIT A, p. 8 of 9, #13).

The Secretary also identifies other objects on the 7th floor as potential falling objects including cross braces, wooden boards, and rebar (Exhs. C-6, C-7, C-8; Tr. 89-90, 94). The Secretary claims those objects could have been dislodged by the employees and accidently kicked or knocked off the floor.

Section 1926.501(c) does not require barricades or other abatement measures unless there is a showing employees are exposed to falling objects. The SE based the citation on the placement of the scaffold which was 10 feet in height and 5 feet, 8 inches from the concrete floor's perimeter (Tr. 222). However, the beams did not merely fall over the edge; the scaffold was lifted up and tipped over, thus propelling the beams off the floor (Tr. 44). The scaffold, although it did not fall off the floor, was hanging off the floor.

The record does not establish that ECC should have known with reasonable diligence that the scaffold, beams or other objects posed a falling hazard to employees entering the building. The scaffold weighed approximately 400 pounds and was stable. It was had four vertical legs spread 4 feet apart in width and 7 feet in length. The beams on top were 17 feet long and weighed 60 pounds. The fact the accident occurred does not show that ECC failed to exercise reasonable diligence by not anticipating the beams would fall off the floor. The accident required the hoist chains to unexpectedly entangle with the cross brace which caused the entire scaffold to be lifted off the floor and tipped over (Tr. 524). The ECC and MCF witnesses with extensive experience in the construction industry denied ever hearing of a similar incident

(Tr. 248, 385, 414, 530. 593-594, 642-643). A licensed engineer testified that based on his calculations, the 17-foot beams would fall 18 inches at the most from the base of the scaffold if accidentally dislodged from on top of the scaffold (Tr. 517). The scaffold was not reasonably expected to tip over.

The other objects noted by the Secretary such as cross braces, rebar, and wood pieces located on the 7th floor were also not shown to pose a falling object hazard prior to the accident. The other sources were identified by the Secretary after reviewing the photographs taken by the SE after the accident. According to the SE, he only considered the beams falling objects. He did not measure the location of the other objects to the concrete edge. The record fails to show that the other objects were in the same location prior to the accident or were moved as a result of the accident and urgency in securing and removing the fallen scaffold. The other objects were not shown capable of rolling toward the edge and appear situated far enough from the perimeter to prevent accidental displacement (Tr. 551-552). Also, the SE did not identify that the braces or other objects were over the entrance to the building.

In addition to not showing a 400-pound scaffold and a 60-pound beam were potential falling objects, the SE failed to consider the tables supporting the 7th floor which extended the perimeter 3 – 4 feet beyond the concrete floor (Tr. 208, 223). The SE knew the tables were present but he failed to consider them. Although there were 24-inch gaps between tables where there was a column, the beams and scaffold were 17 feet and 7 feet in length (Exhs. C14, C-15; Tr. 521). The SE failed to recognize that the beams or other objects had to travel beyond the concrete slab (5 feet, 8 inches), beyond the tables (4 feet), and possibly beyond the setback (10 feet), in order to expose employees at the 1st floor entrance (Tr. 651).[4]

Also, vertical rebars (dowels), for a cement wall, were in place along the perimeter of the 7th floor. The vertical rebars were 3 feet high and approximately 20 inches apart (Exhs. C-7, C-15; Tr. 375, 521-522). Such vertical rebars would prevent objects from falling off the floor.

Prior to the accident, the same SE on June 28, 2012 conducted a focused inspection of Building B. During the inspection, he observed no hazards posed by the scaffolds (Tr. 273-274, 289). He recommended no violations. The focused inspection included struck by hazards and hazards of falling objects. The SE had observed ECC's shoring system under similar conditions,

[4] The setback between the edge of the 7th floor and 1st floor deck provided some additional protection from falling objects. It was a narrow setback that extended a short distance to the right of the access ladder (Exhs. C-1, C-5; Tr.. 654-655). The ladder was to the left of the un-barricaded area on the 1st floor (Tr. 324).

but did not find any problems (Tr. 271-275, 635-636). He was unable to testify that a violation would have been found in this case, but for the accident (Tr. 258).

A licensed professional engineer testified as an expert that under foreseeable conditions, there was no employee exposure to a hazard of falling objects posed by ECC's shoring system on the 7th floor. The engineer, with extensive experience in designing and inspecting shoring systems, performed calculations based on the shoring plans including material weights, crane specifications and measurements (Exh. R-5; Tr. 448, 546). He concluded that even assuming the beams were accidentally dislodged or displaced from atop the scaffold, the beams would at most fall 18 inches from the base of the scaffold in the worst case (Tr. 520). The beams, if dislodged, would never, under any reasonable circumstances, travel far enough to fall off the floor. He has never designed a shoring system where he anticipated a crane picking up a scaffold or the beams on top being displaced.

An employer is responsible for hazards normally and reasonably anticipated based on knowledge, experience and expertise of the work being performed. The Secretary must show the existence of conditions likely to lead to the hazard; a potential for falling objects. *Conagra Flower Milling Co.*, 16 BNA OSHC 1137, 1142 (No. 88-1250, 1993).

A violation of § 1926.501(c)(3) is not established.

**Item 4 - Alleged Violation of § 1926.502(d)(11)**

The citation alleges that "[O]n or about August 1, 2012, on the 7th floor of building B, an employee was using a lifeline wrapped around a square concrete column that was not protected from being cut or abraded."

Section 1926.502(d)(11) provides:

> Lifelines shall be protected against being cut or abraded.

While removing the fallen scaffold, an ECC employee was observed wearing a personal fall arrest system that had the lifeline wrapped around a cement column on the 7th floor. The lifeline was made of galvanized steel rope. It was not otherwise protected from cuts or abrasion (Exhs. C-11, C-12; Tr. 116, 376-377). ECC argues the steel rope complied.

During regular operations on the 7th floor, a guardrail system around the perimeter of the floor was used as the fall protection system. However, on August 1, 2012, a section of the guardrail system was removed. There is no showing that ECC employees were near the unguarded perimeter of the floor prior to the accident. The scaffold on which the employees

were loading the beams was approximately 6 feet at its closest point to the concrete perimeter. The crew was loading beams on top of the scaffold obtained from the center of the floor.

During the OSHA inspection, the EEC employees were removing the scaffold from hanging off the floor. The lifeline used by one employee was wrapped around the cement column. The employee was engaged in recovering the fallen scaffold. The galvanized steel rope was identified by a professional engineer as abrasive resistant. He described the steel rope as "seven-by-19 galvanized aircraft cable with a diameter of three-eighths of an inch" (Tr. 535). Although square, the concrete column appears to have rounded corners. There is no evidence the lifeline showed signs of cuts or abrasion.

Although he agreed the lifeline was a steel rope, the SE did not inspect or analyze it. He made no determination as to whether the lifeline was subject to cuts or abrasions. He also did not know how long the lifeline had been in use (Tr. 197-198, 200, 345).

The Secretary appears to recognize a steel rope as an alternative to avoiding rough or sharp surfaces. Subpart M, 29 C.F.R. §1926.500 *et. seq*., Appendix C subsection (h)(5) states that:

> Tie-off where the line passes over or around rough or sharp surfaces reduces strength drastically. Such a tie-off should be avoided or alternative tie-off rigging should be used. Such alternatives may include use of a snap-hook/dee ring connection, wire rope tie-off, an effective padding of the surfaces, or an abrasion-resistance strap around or over the problem surface.

The licensed professional engineer testified that he had used identical steel rope on his projects for fall protection. He conducted a simulation test that mimicked the conditions present on August 1, 2012, by rubbing the steel rope across a concrete edge 500 times without damaging the steel rope, only the concrete. He testified that similar steel rope was frequently used in the construction industry for lifelines because of its high abrasion resistance (Tr. 537-538). The use of the steel rope as part of the fall protection system was in response to the emergency removal of the fallen scaffold.

A violation of § 1926.502(d)(11) is not established.

**Item 5 - Alleged Violation of § 1926.701(b)**

The citation alleges that "[O]n or about August 1, 2012, on the 7th floor of building B, employees were working near rebar that was not guarded to prevent them from the hazard of impalement."

Section 1926.701(b) provides:

> *Reinforcing steel*. All protruding steel, onto and into which employees could fall, needs to be guarded to eliminate the hazard of impalement.

After the accident, the ECC crew was observed by the SE working at the edge of the 7th floor, near uncapped vertical rebars, removing the fallen scaffold hanging off the floor (Exhs. C-7, C-9; Tr. 120-122). The rebars were approximately 3 feet high (Exh. R-1; Tr. 375). The rebars were not capped or otherwise guarded to eliminate an impalement hazard. Although the fallen scaffold was secured, it was hanging off the floor and needed to be removed. The crew was engaged in accident recovery work (Tr. 164, 182-183, 348-349). *R. H. White Construction Co.*, 15 BNA OSHC 1877 (No. 90-271, 1992) ("where the event which occurs is so sudden and unexpected as to deprive the actor of a reasonable opportunity to make a considered decision"). The crew had to remove the scaffold from hanging off the floor before replacing the caps which may have fallen off when the scaffold tipped over. The employees were not working above the uncapped rebars and many rebars were bent over from the fallen scaffold. There is no showing employees were subject to an impalement hazard.

There were thousands of vertical rebars on the project. Because there was a shortage of caps due to the volume of rebar, ECC's practice was to remove caps from areas where no one was working and placing them in an active work zone (Tr. 576- 577). There is no evidence that other rebars around the perimeter failed to have caps except those in the area where the scaffold had tipped over.

The only employees in the area of the uncapped rebars were removing the fallen scaffold (Tr. 120). The employees were not engaged in their normal work activity (Tr. 180). The employees were engaged in recovery work and focused on securing the toppled scaffold to prevent it from falling off the 7th floor. The SE did not know how long the rebars were uncapped and if the accident caused the caps to come off (Tr. 173). The potential hazard of impalement by the exposed rebars was not greater than the threat of a 400-pound metal scaffold falling off the 7th floor.

A violation of § 1926.701(b) is not established.

## 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. Citation No. Item 1, alleging a serious violation of § 1926.501(b)(1), is withdrawn by the Secretary.

2. Citation No. 1, Item 2, alleging a serious violation of § 1926.501(b)(4)(ii), is vacated and no penalty is assessed.

3. Citation No. 1, Item 3, alleging a serious violation of § 1926.501(c)(3), is vacated and no penalty is assessed.

4. Citation No. 1, Item 4, alleging a serious violation of § 1926.502(d)(11), is vacated and no penalty is assessed.

5. Citation No. 1, Item 5, alleging a serious violation of § 1926.701(b), is vacated and no penalty is assessed.

SO ORDERED.

/s/ Ken S. Welsch
Ken S. Welsch
Administrative Law Judge

Dated: September 3, 2013
Atlanta Georgia