UNITED STATES OF AMERICA
OCCUPATIONAL SAFETY AND HEALTH REVIEW COMMISSION

Secretary of Labor, Complainant v. Loren Cook Company, Respondent.	OSHRC Docket No. **04-2179**

Appearances:

Oscar Hampton, Esquire and Leigh Burleson, Esquire, Office of the Solicitor, U.S. Department of Labor, Kansas City, Missouri
For Complainant

Douglas B. M. Ehlke, Esquire, Ehlke Law Offices, Federal Way, Washington
For Respondent

Before: Administrative Law Judge Ken S. Welsch

DECISION AND ORDER

Loren Cook Company (Cook), manufactures metal parts for commercial and industrial fans at its facility in Springfield, Missouri. Occupational Safety and Health Administration (OSHA) compliance officer Robert Vezeau conducted a complaint inspection of Cook's facility on October 4, 2004. Although he found no basis for the complaint that prompted the inspection, Vezeau observed what he considered a violation of 29 C.F.R. § 1910.212, the machine guarding standard.

On November 4, 2004, the Secretary issued Cook a one-item citation alleging a repeat violation of § 1910.212(a)(1), for failing to provide machine guarding on certain semi-automatic spinning machines. Cook contested the citation and the proposed penalty of $17,500.00. The repeat classification is based on a citation issued in February 2004, for a violation of the same standard. The parties resolved that citation by an informal settlement agreement.

The court held a 13-day hearing in this matter during May and July, 2005, in Republic and Springfield, Missouri. The parties stipulated jurisdiction and coverage. They filed post-hearing briefs. Cook opposes the citation on several grounds, but its central argument is that guarding the cited spinning machines is both technologically and economically infeasible.

For the reasons discussed below, the court determines Cook established guarding the spinning machines was infeasible. Item 1 of the citation is vacated and no penalty is assessed.[1]

Facts

Cook manufactures fans and blowers for commercial and industrial use at its plant in Springfield, Missouri. Cook employs approximately 400 employees, who work in three shifts, five days a week. The plant comprises two buildings. Building 2 hold six semi-automatic spinning machines and approximately fifteen manual spinning machines. The six semi-automatic spinning machines are located in a line and designated as machines #1 through #6. Cook purchased the machines in the late 1980s or the early 1990s from a company called Leifeld. The machines come in various models; Cook owns the models PNC 150, PNC 350, and PNC 750 (Exhs. C-5, C-6, C-7, R-20).[2] Cook produces approximately 70% of its product parts on the semi-automatic spinning machines.

In order to manufacture a part on a semi-automatic spinning machine, an employee places a disc of metal (a blank) against a mandrel (also referred to as a chuck). A roller forces the blank against the mandrel with hydraulic pressure as the machine spins at a controlled rpm. The spinning process causes the blank to flow and change shape. A trimming tool trims excess material from the blank as it spins, producing metal chips and shavings.

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[1] Cook made motions prior to, during, and after the hearing. The motions are disposed of as follows:

- Motion for Summary Judgment — DENIED
- Motion to Exclude as Speculative the Testimony of Andres — DENIED
- Request to Take Judicial Notice of Code of Iowa (2005) — GRANTED
- Motion to Seal Exhibit C-19, related transcript pages, and identified portions of Respondent's Brief and Statement of Facts — GRANTED

[2] The citation originally alleged: "six spinning machines (Leifeld brand Type PNC 150 units) in the spin shop area were not provided with machine guarding." At the hearing, the court granted the Secretary's motion to amend the citation to read, "Two spinning machine lathes (Leifeld Brand Type PNC 150) in the spin shop were not provided with machine guarding" (Tr. 60). The PNC machines at issue were designated as machines #3 and #4. Later in the hearing, witness testimony established machine #3 was actually a PNC 750 model, and machine #4 was a PNC 150 model. The citation was again amended by the Secretary. Regardless of the model, the spinning machines operate and function the same.

Cook employs two programmers who have specialized training to program the spinning machines. They develop programs using joysticks. Programming, which is performed at a slower speed (200 to 250 rpm) than the operating phase, requires a great deal of interaction between the programmer and the machine. The machine records the individual motions the programmer performs. Once the programmer completes the programming, an operator (whose training is less specialized than a programmer's) places and removes each newly formed part. The largest part produced on the #3 and #4 machines is 60 inches in diameter.

Most of the metal blanks processed by Cook are aluminum. Generally, the aluminum used is .05 gauge which is very thin. A critical step in the spinning process is lubricating the blank. Lubrication prevents overheating of the blank and galling on the surface where the roller presses on the blank. If the roller grabs the blank, it could cause the blank to rip. Based on its years of experience, Cook uses mutton, a paste-like substance made from sheep, as lubricant for the blanks. As it spins, the operator applies mutton to the blanks using a piece of canvas rolled up into a 12-inch tube and taped with duct tape (Exh. R-14). The operator applies the mutton to the front and back of the spinning blank.

OSHA compliance officer Robert Vezeau watched one operation of the #4 machine. He observed a Cook employee standing next to the non-rotating shaft, approximately 2 feet from the spinning blank.

Subsequently, the Secretary issued the instant citation on November 4, 2004. During an informal conference with the Secretary, Cook furnished the Secretary with a videotape showing a programmer programming the #3 machine (Exh. C-5).[3]

The Citation

> To prove a violation of an OSHA standard, the Secretary must show by a preponderance of the evidence that (1) the cited standard applies, (2) there was noncompliance with its terms, (3) employees had access to

[3] Although Item 1 cites all six spinning machines and included the set up, programming, and operation, Vezeau observed only one operator perform one operation on one spinning machine. He failed to take any measurements or interview the employee he observed (Tr. 145-148). Vezeau was unaware the shaft did not rotate (Tr. 117). Most of the evidence concerning how the machines function comes from the videotape provided by Cook.

> the violative conditions and (4) the cited employer had actual or constructive knowledge of those conditions.

Southwestern Bell Telephone Co., 19 BNA OSHC 1097, 1098 (No. 98-1748, 2000).

Item 1: Alleged Serious Violation of § 1910.212(a)(1)

Section 1910.212(a)(1) provides:

> One or more methods of machine guarding shall be provided to protect the operator and other employees in the machine area from hazards such as those created by point of operation, ingoing nip points, rotating parts, flying chips and sparks. Examples of guarding methods are-barrier guards, two-hand tripping devices, electronic safety devices, etc.

Although Cook claims the Secretary failed to meet her burden on each of the four elements, a fair reading of the record shows these elements are not in serious dispute.

Applicability of Cited Standard

Subpart O addresses "Machinery and Machine Guarding." Section 1910.212(a)(1) addresses "General requirements for all machines." The machines cited in amended item 1, spinning machines #3 and #4, are covered by the cited standard.

Cook argues § 1910.212(a)(1) does not apply to the cited machines because the only hazard identified at the hearing is created by the spinning blank as it is formed into the finished part. The part is the product sold by Cook to its customers. Cook cites *Allis-Chalmers Corporation,* 4 BNA OSHC 1876, 1877 (No. 8274, 1976), in support of its argument that § 1910.212(a)(1) does not apply to the product being manufactured, only to the machine itself. In *Allis-Chalmers,* the Secretary cited the employer for failing to guard the rotating rear tires of assembled tractors being tested. The Commission reversed the administrative law judge, who affirmed the citation, holding:

> The standard at 1910.212(a)(1) is clearly directed towards machines which are or can be used in the manufacturing process. . . . Moreover, each of the sections of subpart O specify safety requirements for machines used in manufacturing processes but none specify such requirements for products as a result of the processes. The tractors in question are not machines which are used in the manufacturing process but rather are the products of the process.

Allis-Chalmers is easily distinguishable from the instant case. In *Allis-Chalmers*, the cited hazard was unguarded rotating parts, and the parts cited were the rotating tires of a newly-assembled tractor. The tractor was not being used to manufacture a product; it was the product itself.

In the instant case, the blank is clamped between two parts of the spinning machine, the mandrel and the roller. The hazard results from the action of the machine as it shapes the blank. Cook's interpretation is at odds with § 1910.212(a)(3) (Point of operation guarding). The section provides:

> Point of operation is the area on a machine where work is actually performed upon the material being processed.

The material being processed in this case is the blank. The plain meaning of the standard renders § 1910.212(a)(1) applicable to the cited machines and conditions here.

Noncompliance with the Terms of the Standard

The standard requires guarding to protect employees "from hazards such as those created by point of operation, ingoing nip points, rotating parts, flying chips, and sparks." The only hazard established by the Secretary is the point of operation hazard created by the spinning blank. The Secretary failed to show any other part of the spinning machines presented a hazard requiring guarding. The Secretary tacitly acknowledges the only hazard at issue is the spinning blank. "The rotating blank is a point of operation, 'material being processed', anticipated by the standard . . . ." (Secretary's Brief, p.8.)

The record establishes the blank is unguarded as it spins between the mandrel and the roller.

Employee Exposure

Section 1910.212(a)(1) requires the Secretary to prove the existence of a hazard. She "must show that employees are in fact exposed to a hazard as a result of the manner in which the machine functions and is operated." *Jefferson Smurfit Corp.*, 15 BNA OSHC 1419, 1421 (No. 89-0553, 1991). In order to meet this burden, the Secretary must do more than show that it may be physically possible for an employee to come into contact with the unguarded machinery.

Cook requires its operators and programmers to wear personal protective equipment (PPE) in the form of safety glasses, safety gloves, steel-toed shoes, and hearing protection. The spinning machine must be run during the programming and operation processes. The blank rotates at speeds

of up to 900 rpm, the equivalent of 150 mph. The programmer stands on a platform behind a non-rotating shaft. The rotating shaft moves into place to hold the blank against the mandrel. The programmer sets the tracings and places mutton paste on the blank to keep the metal from overheating. The programmer must maintain a sight line to the area where the roller follows the contour of the mandrel. Other than while applying the mutton paste, the programmer remains approximately 2 feet from the rotating blanks.

Operators also must be close enough to the spinning machine to see, hear, and feel the vibration as the machine forms the blank to detect any irregularities in the metal as it changes molecular structure. The operator needs to be close to the point of operation when lubricating the blank with the mutton paste.

Cook argues its programmers and operators are not exposed to a hazard. The company points out that no Cook employee has ever been injured by the spinning blank point of operation.

> The occurrence or absence of injuries caused by a machine is probative evidence of whether the machine presents a hazard. If, however, the objective facts concerning the operation of the machine show the presence of a hazard, then the existence of the hazard is not negated by a favorable safety record which an individual employer may have experienced.

A. E. Burgess Leather Company, Inc., 5 BNA OSHC 1096, 1097 (No. 12501, 1977), *aff'd*, 576 F2d 948 (1st Cir. 1978).

The objective facts here show the programmer and operator apply the mutton paste directly to the front and back of a piece of metal spinning at 250 rpm and 900 rpm, using a piece of rolled up canvas, approximately 12 inches long. The potential hazard is at the end of the rotating blank when the employee reaches behind the blank to apply the mutton paste (Exh. C-5).

The Secretary has established exposure during those times the employees apply the mutton paste to the spinning blank.

Employer Knowledge

The management personnel at Cook were well aware programmers and operators of the semi-automatic spinning lathe machines were exposed to the point of operation of the spinning blank Senior operators had been training new operators to apply mutton paste in the prescribed manner for years. The Secretary has established Cook had actual knowledge of the unguarded blanks.

Fair Notice

Cook argues it did not have fair notice the Secretary could cite semi-automatic spinning machines under § 1910.212(a)(1). Cook also argues the citation lacked particularity and so failed to provide it with fair notice of the facts which formed the basis for the alleged violation. The court rejects both arguments.

The lack of prior citations for violating § 1910.212(a)(1) or the withdrawal of a citation for that standard during an informal settlement agreement does not establish the Secretary has a policy of not citing semi-automatic spinning machines for guarding violations. "The Secretary's failure to issue a citation for a violation of a standard does not immunize an employer from future enforcement of that standard." *Cardinal Industries, Inc.*, 14 BNA OSHC 1009, (No. 82-427, 1989).

Cook's argument concerning the lack of particularity is also rejected, although the company is correct in pointing out the citation was inartfully drafted, requiring two amendments during the hearing. It was clear, however, Cook understood the point of operation of the semi-automatic spinning machines was the focus of the Secretary's case. Cook objects to the Secretary's "moving target" suggestions for abatement but, as discussed below, it was not the Secretary's burden to establish a feasible abatement method.

Burden of Proof for Feasibility or Infeasibility

A point of vociferous debate between the two parties was the allocation of the burden of proof regarding the feasibility of guarding the blanks. Cook contends § 1910.212(a)(1) is a general standard, requiring the Secretary to identify and prove the existence of a feasible compliance method, as in a § 5(a)(1) violation. The Secretary argues § 1910.212(a)(1) provides three suggested abatement methods, which makes it specific enough to shift the burden of proof to the employer, as an affirmative defense.[4]

[4] Several times during the hearing, one of the Secretary's counsel asserted Cook has the burden of proving the "impossibility" of abatement. As the parties well know, the Commission changed the burden from "impossibility" to "infeasibility" in 1986. *Dun-Par Engineered Form Co.*, 12 BNA OSHC 1949, 1956 (No. 79-2553, 1986) *rev'd, and remanded as to allocation of the burden of proof of alternative means of abatement. Brock v. Dun-Par*, 843 F.2d 1135 (8th Cir. 1988).

Cook relies heavily on a Sixth Circuit Court of Appeals case, *Diebold, Inc. v. Marshall,* 585 F.2d 1327, 1333 (6th Cir. 1978). In *Diebold,* the court reversed the Commission's finding of a violation of § 1910.212(a)(1), holding:

> Where a standard imposes a duty without specifying the means of compliance, the Secretary has the burden of establishing the specific and technologically feasible means of compliance as an element of his showing that a violation has occurred.

The Court of Appeals for the Eighth Circuit, in which the instant case arises, holds in *Brock v. Dun-Par Engineered Form Company,* 843 F.2d 1135 (8th Cir. 1998):

> Where a specific duty standard contains the method by which the work hazard is to be abated, the burden of proof is on the employer to demonstrate that the remedy is infeasible under the particular circumstances.

It is noted that after the *Diebold* decision, § 1910.212(a)(1) was amended to identify several means of abatement, i.e. barrier guards, two-handed tripping devices, electronic safety devices, etc. Also since the *Diebold* decision, the Commission has continued to hold that the employer had the burden of proving infeasibility when cited for a § 1910.212(a)(1) violation. *Consolidated Aluminum Corp.*, 9 BNA OSHC 1144, 1156-1158 (No. 77-1091, 1980). The court is required to follow the precedent established by the Commission and the circuit in which the case arises. Accordingly, the burden of proving infeasibility is on Cook, who asserts infeasibility as an affirmative defense.

Infeasibility Defense

In order to prove the affirmative defense of infeasibility, the employer must show: (1) the means of compliance prescribed by the applicable standard would have been infeasible, in that (a) its implementation would have been technologically or economically infeasible or (b) necessary work operations would have been technologically infeasible after its implementation, and (2) there would have been no feasible alternate means of protection. *V.I.P. Structures, Inc.*, 16 BNA OSHC 1873, 1874 (No. 91-1167, 1994). The fact compliance is difficult or expensive is insufficient grounds to excuse compliance from the requirement of the standard. *Hughes Brother, Inc.*, 16 BNA OSHC 1830 (No. 12523, 1978). The Commission expects employers to exercise some creativity in seeking to achieve compliance. *Pitt Des Moines, Inc.*, 16 BNA OSHC 1429 (No. 90-1349, 1993).

The evidence during the hearing was primarily devoted to the feasibility of the myriad suggestions proposed by the Secretary's witnesses. Thus, while it is Cook's burden to establish infeasibility, it was the Secretary who proposed the methods of abatement discussed (and dismissed).

The Secretary asked OSHA regional office machine guarding specialist Brian Drake to make suggestions for guarding spinning machines #3 and #4. Drake did not testify at the hearing. His suggestions were, however, the starting point of much of the hearing testimony. Specifically, Drake suggested using a pressure sensitive mat interlocked to the machine motor; an extended paste application stick; or an internal Plexiglass shield between the operator and the point of operation.

The Secretary also hired safety engineer Robert Andres as a consultant to evaluate and suggest abatement methods for guarding the spinning lathe machines. Andres did not consider himself an expert in metal spinning operations or safety. At the time of the hearing, he had never seen a spinning lathe machine. Andres never visited Cook's facility and he never spoke with Cook's programmers or operators.

Andres issued a report on May 20, 2005, in which he recommended abatement methods for the unguarded spinning blanks (Ex. C-15). Andres had considered the methods proposed by Drake. Andres concluded most of Drake's suggestions were unworkable (Tr. 553-554):

> After reviewing all the input documents and looking at the systematic removal of certain suggestions from consideration, I agree with the Loren Cook Company that a safety net or light curtain method of guarding the primary hazard, which is the spinning disc, was not feasible because the disc would not stop fast enough if someone penetrated that type of a barrier.
>
> Other items that had been considered did not seem feasible for various reasons. I ended up with, my conclusion was that the obvious primary barrier for that hazard should be a mechanical or physical barrier.

Later on in his testimony, Andres conceded that the barrier guard he was proposing could not be used while operators were applying the mutton paste: "Not as they are currently doing it, no" (Tr. 652). He conceded as well that the primary hazard is the spinning blank (Tr. 662).

Andres reviewed reports issued by Cook's manufacturing engineers, as well as a videotape of the spinning machines being operated. He agreed with Cook that, "It is not possible to take one guard and cover 100% of the hazards present" (Tr. 551).

Jeff Kallenberger is a manufacturing engineer for Cook. He supervises Ian Quinn and Eddie Thompson. Together, these three engineers spent over 700 hours attempting to design a feasible guard for the spinning blank. They spoke with the programmers and the operators and took measurement of all parts of the machine. They used CAD software modeling to evaluate various proposed abatement methods.

Cook's engineers established the infeasibility of several abatement methods the Secretary no longer seriously pursued by the close of the hearing.[5] The engineers' evaluations of the various other abatement methods are as follows:

1. **Pressure Safety Mats**

The Secretary proposed a 74" pressure sensitive mat that could be placed in front of the spinning machine. If an employee approaches the machine within this distance, all power to the machine will be cut off. Quinn and Thompson, as well as Andres, concluded the safety mat was infeasible (Exh. R-39; Tr. 932, 936, 2143).

2. **Interlocked Plexiglass Sliding Barrier Guard**

Drake recommended using a interlocked plexiglass guard between the programmer and the spinning blank. Andres testified the interlocked barrier guard would interfere with the operator of the machine (Tr. 803). Andres stated the operator could not apply the mutton paste with the door in place (Tr. 876). Thompson and Quinn also found the interlocked door infeasible (Tr. 1945, 2143).

3. **Sliding Door**

A barrier door slides in front of the machine, blocking access to the mandrel, blank, and point of operation. When the door is slid out of position, an interlock switch activates and cuts power to the machine. This would prevent set up and programming duties and lubricating the blanks (Tr. 2568).

Andres photographed machines in a plant in North Carolina while visiting it on an unrelated case (Exhs. C-20-25). The North Carolina machines had a guard for the mandrel. The operator lubricated the blanks using a spray applicator (Tr. 2666, 2672). On cross-examination, Andres

[5] These abatements methods include wrist restraints (Exh. R-6); a bridge system over the machine where the operator could sit (Tr. 656, 814, 841); programming from the rear of the machine (Tr. 657); and using a magnifying glass to enhance the image of the gap between the mandrel and the blanks and using a video camera and monitor to view the gap (Tr. 1718, 1719). These methods are rejected because they do not address the lubrication process.

admitted he did not know the size and shapes of the parts of the machine, the function of the machines, how they operated or how they were programmed. (Tr. 2691). The machines shown in Exhibits C-20 through C-25 are not semi-automatic spinning machines, like the ones at issue here. Evidence of the guarding of the North Carolina machines has no probative value to the case at hand.

4. **Sliding Interlocked Barrier Guard**

Leifeld, the company that manufactures the spinning machines at issue, manufactures a sliding door guard for the PNC 150 (Exh. C-9). The door must be closed in order for the spinning machine to be activated (Tr. 359). With the door closed, operators could not load or unload the blanks, lubricate the blanks, or set up the machine (Tr. 360-361). Winfried Walter, who has worked in the metal spinning industry for over 40 years, testified the spinning machines would be inoperable with the door closed (Tr. 1065).

5. **Lubrication**

The loading and unloading of blanks are done when the blank is not rotating. Most functions performed by the programmer and operator do not require them to be within 2 feet of the point of operation. Applying the mutton paste is the one activity that exposes employees to the hazard of amputation of their fingers or hands while the machine is running. The Secretary and Cook's engineers investigated the consequences of changing the manner in which the lubricant is applied. Cook vouches strongly for the superiority of mutton as a lubricant, stating repeatedly that mutton has been used as a lubricant in the craft of metal spinning since the time of ancient Egypt. Mutton presents no environmental hazards, either in its use or its disposal. Cook believes mutton is the ideal lubricant for aluminum, which comprises 80% to 85% of Cook's products (Tr. 1848). Cook contends mutton works best to prevent dry spots, which result in damage to the blanks.

Andres recommended the use of Gleitmo, a thick sticky paste used on stainless steel. Cook's spinning supervisor Jim Pawlikowski tested Gleitmo and several alternative lubricants, including liquid lubricants that can be sprayed onto the blanks (Tr. 2533-2534, 2569). These lubricants did not work as well a mutton, resulting to damage to the blanks. According to Cook, oils and other lubricants do not have the viscosity to remain on the blanks while rotating at 900 rpm.

The most promising method explored by Cook is the use of extended lubrication sticks. The idea is operators use a longer applicator, removing their hands from the zone of danger created by

the spinning disc. Thompson evaluated this alternative method in his report, concluding an extended lubrication stick is not feasible (Exh. R-39, p.2). Thompson performed several tests using 3D models of the machine to analyze the effectiveness of an extended stick. Thompson's evaluations are as follows:

Lubrication Stick Length: Test & Results

Test #1: Standard 12" Lube Stick

The operator was observed lubricating the rotating metal blank with the standard 12" long lubrication stick. The operator was able to maintain complete control over the stick as he ran it back and forth across the face of the blank. By using the 12" stick, the lubricant was applied evenly to the blank.

Test #2: 30" Lube Stick

The operator was observed performing the same lubrication test as Test #1, but this time a 30" stick was used. The 30" stick was not long enough for the operator to use while standing outside of the safety mat area, which does not meet OSHA's recommendation. This stick was used to compare any amount of control lost by a stick that was only 2-1/2 times longer than the current [12"] lubrication stick. The operator did not have nearly as much control over the stick as he held it against the rotating part. Also loss of control could lead to potential strains and injuries.

Test #3: 95" PVC Lube Stick

During this test, the operator was given a stick that was of adequate length to keep him out of the simulated safety mat area of 74". With the 95" long stick, the operator had no control of where he applied the lube. The stick was extremely hard to control and was thrown off of the face of the rotating blank several times. The long stick was also very difficult for the operator to hold on to because of the extra force generated by the increased length (leverage), forcing the operator to brace the stick against his hip. After only lubricating 2 parts the operator complained of lower back pain and soreness in his wrist.

Test #4: 95" Wood Lube Stick

This test was identical to Test #3, but we substitute a wood stick for the PVC stick. The results were identical to Test #3...no control and increased forces exerted on the operator causing the before mentioned problems.

Safety Mat and Extended Lubrication Stick Summary:

> With the operator unable to load the part, program the machine, and properly lubricate the part blank the safety mats prove to **NOT** be a technically feasible solution due to the fact that all three of these processes require the machine to be running to complete these steps. Also, the extended lubrication stick is **NOT** technically feasible due to the improper lubrication, lack of control, difficulty to hold on to, and the exposure to injuries such as muscle, back and wrist strains, cuts, abrasions, and punctures.

Other than engaging in speculation, the Secretary failed to offer sufficient evidence to rebut Cook's showing of technology infeasibility.

Economic Infeasibility

Cook also contends it is economically infeasible to guard the spinning blank. Dennis Blake is the vice president of manufacturing at Loren Cook. Over the past 30 years, Blake has gone to numerous spinning companies to look at their operations, equipment and to discuss quality, delivery, and prices (Tr. 1278). Over the past 20 years, Blake has attended machinery trade shows, including those of the Precision Metalforming Association (PMA) to view the newest technology (Tr. 1279). Blake knows the industry practice in supplying spun parts for the fan industry (Tr. 1279).

Cook offers 155 different standard fan and blower products that have 10 to 20 different sizes each, and dozens of configurations. They also do custom products. On the two cited semi-automatic machines, the blanks spun range from 20 inches to 60 inches (Tr. 1292-1293, 1298). The six semi-automatic spinning machines are involved in producing 70% of all products shipped by Cook (Tr. 1294). Cook argues if the semi-automatic machines are down for a period of time, it would devastate its business. In addition to the semi-automatics supplying the majority of Cook's products sold, those products must be spun and shipped expeditiously. Customer orders are time sensitive, one-third of all orders are shipped next day express (Tr. 1298). Cook experienced down time before due to a flood. That down time was only two days, but they lost accounts permanently (Tr. 1347-1348). Cook states it is a complex process to acquire and keep commercial accounts.

Cook operates its six semi-automatic machines approximately 33,300 hours a year. Programming is only performed .093% of the time (31 hours), while operating production is performed 99.907% of the time (Tr. 1339).

Cook also argues that during the time for retrofitting, it would be forced to lay off a number of employees (Exh. C-19). The spinning operators get parts from the shear and the punch - so all of those employees would not be able to produce parts to be run on the semi-automatic machine. Blake testified, "So, the impact is significant, not just to the customer, not just to the Company, but also to the employee." (Tr. 1349). Although the Secretary inquired about renting spinning machines, there is no evidence such machines can be rented. Even assuming a semi-automatic machine could be rented, the connections for all the rollers and mandrels would not be the same; every part would need to be reprogrammed. It may also be necessary to retrofit the rental machine (Tr. 1465-1466).

Blake has experience with retrofitting (Tr. 1340). He contacted retrofit companies specifically for adding a sliding or interlock barrier guard to the semi-automatics (Tr. 1342). He contacted Leifeld, but they do not retrofit. Leifeld recommended a company called Prism, a specialist in retrofitting (Tr. 1343, 1416).

Cook engineer Kallenberger had discussions with Prism about adding an interlocked door to the semi-automatic machines. Prism's Jeff Ruhl stated that all the controls and electronics must be replaced (Tr. 1786-1787). It costs more to replace old electronics than to replace the whole thing (Tr. 1820).

Cook received a quote from Prism in June 2005, for the known cost of retrofits (Exh. C-18; Tr. 1370-1371, 1410, 1789). According to Kallenberger, Ruhl put 14 items in the quote that are all required to put on the door (Tr. 1791). Retrofitting would include installing new motors for the safety gate to work, changing the scales on the X and Z axis. Blake testified he was told by Prism, "This control on your machine will not work. You can't retrofit that control. You have to put a new control. You have to put new software on the machine, you have to install new relays. You cannot do it any other way." (Tr. 1416). Prism told Blake the machine would need to go back to their facility (Tr. 1417). Prism's estimates to retrofit each of the six semi-automatic spinning machines was in excess of $100,000. The quote does not include (Exh. C-18):

a) rebuilding and replacing servo valve systems
b) doing any mechanical work other than what is described in the quotation, i.e. slideway grinding
c) headstock bearings, etc.
d) any spindle drive work
e) any seal replacement or cylinder work
f) any hydraulic repairs, i.e. pump, motor, valves, etc.

Kallenberger estimated the items listed above would cost an additional $135,000 per machine (Tr. 1793-1794). Thus, the cost of retrofitting each machine would be in excess of $250,000 and each machine would be out of operation while being retrofitted. After all this expense, the retrofitted doors would still have to be open for loading and unloading and for lubrication.

Kallenberger saw the new Leifeld spinning machines at a March 2005 trade show (Tr. 1763). A new spinning machine costs $400,000 to $2 million, depending on the accessories. He also saw a Leifeld employee program the machine. The employee did so by bypassing the door and creating a new program with the door open (Tr. 1771). Kallenberger testified, the Leifeld door would not allow normal work duties to be performed (Tr. 1779). He discussed doors with a Leifeld engineer, who said the doors still need to be opened to allow the operator interaction during the process. All the doors have bypasses on them to allow that operator interaction (Tr. 1764). Kallenberger stated, "If the door is in bypass, that door is totally eliminated and it is worthless. It's as if the door is not there at all" (Tr. 1765). The door would have to be open 95% of the time in order for Cook to have that operator interaction (Tr. 1766).

Dennis Blake also attended the March 2005 trade show, at which time he had a discussion with Leifeld regrading Leifeld doors and interlocks (Tr. 1352-1353). He looked at the new model for 2005, and from his discussions with the Leifeld individuals, the machines cannot be programmed with the doors closed (Tr. 1354). Nor can the paste lubrication be applied with the doors closed (Tr. 1355). The machine was run for Blake at the trade show (Tr. 1373).

Blake calculated a substantial loss of sales for each machine being down (Exh. C-19; Tr. 1345). Blake's calculation included running the other spinning machines on Saturday and Sunday with additional shifts to make up for retrofitting down time of 16 weeks per machine (Tr. 1375, 1380). His calculations did not include the additional cost of overtime or maintenance time (Tr. 1381).

Cook has established it would be economically infeasible for it to retrofit the spinning machines with door guards. It would also be pointless, because the door guards would not protect employees while they performed the one activity identified as hazardous, i.e., applying mutton paste to the spinning blank. Cook has established its affirmative defense of infeasibility, both technological and economic. Item 1 of the citation is vacated.

FINDINGS OF FACT AND CONCLUSION 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:

Item 1 of Citation No. 1, alleging a repeat violation of § 1910.212(a)(1), is vacated and no penalty is assessed.

/s/
KEN S. WELSCH
Judge

Date: June 19, 2006