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SECRETARY OF LABOR, Complainant, v. WASTE MANAGEMENT OF PALM BEACH, DIVISION OF WASTE MANAGEMENT, INC., OF FLORIDA, Respondent.	Docket No. 93-128

NOTICE OF COMMISSION DECISION

The attached decision by the Occupational Safety and Health Review Commission was issued on August 4, 1995. **ANY PERSON ADVERSELY AFFECTED OR AGGRIEVED WHO WISHES TO OBTAIN REVIEW OF THIS DECISION MUST FILE A NOTICE OF APPEAL WITH THE APPROPRIATE FEDERAL COURT OF APPEALS WITHIN 60 DAYS OF THE DATE OF THIS DECISION.** See Section 11 of the Occupational Safety and Health Act of 1970, 29 U.S.C. § 660.

FOR THE COMMISSION

August 4, 1995
Date

Ray H. Darling, Jr.
Executive Secretary

Docket No. 93-128

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SECRETARY OF LABOR, Complainant, v. WASTE MANAGEMENT OF PALM BEACH, DIVISION OF WASTE MANAGEMENT, INC., OF FLORIDA Respondent.	OSHRC Docket No. 93-128

DECISION

BEFORE: WEISBERG, Chairman; MONTOYA, Commissioner.

BY THE COMMISSION:

This case presents the issue whether Waste Management of Palm Beach, Division of Waste Management of Florida ("WM") violated section 5(a)(1), 29 U.S.C. § 654(a)(1),[1] the "general duty clause," of the Occupational Safety and Health Act of 1970, 29 U.S.C. §§ 651-678 ("The Act"), by reinforcing with plate steel the otherwise flexible main boom of a crane-like device mounted on a garbage truck. Following a fatal accident in which the entire device separated from the truck and crushed an employee, the Occupational Safety and

[1]Section 5(a)(1) provides:

> Each employer— (1) shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees.

Health Administration ("OSHA") inspected WM's workplace. As a result of that inspection, OSHA issued a citation and alleged that WM's unauthorized reinforcement of the truck boom was a violation of section 5(a)(1).

Administrative Law Judge Nancy J. Spies determined that the Secretary of Labor ("Secretary") failed to establish the existence of a hazard or recognition thereof. For the following reasons, we reverse the judge's decision and affirm the citation. The parties stipulated that if the citation were affirmed, the Secretary's proposed $3500 penalty would be appropriate. We agree, and hereby assess that amount.

I. Background

WM operates a solid waste collection business in which its employees drive a number of trucks equipped with a Petersen Trash Loader ("PTL") installed between the cab and tilting bed of the truck. The PTL is a hydraulic crane-like device, manufactured by Petersen Industrial Machines, Inc. ("Petersen"), that is fitted with a bucket designed to pick up large refuse items not suitable for a conventional garbage packer. The PTL's flexible main boom was designed and manufactured by Petersen to absorb the shock associated with normal use of the trash loader.

One of WM's trucks fitted with a PTL, Unit 684, developed cracks on its main boom that prompted WM, on May 22, 1990, to reinforce it with a process called "fishplating," whereby steel plates extending the length of the boom were welded onto it. There is no record evidence that WM sought or received approval from Petersen concerning this modification to the PTL. On June 13, 1992, while working with Unit 684, WM employee James Wallace was killed when the torque tube, the device by which the PTL is attached to the truck, broke, causing the PTL to separate from the truck and the head assembly to fall on him.

II. Analysis

To establish a violation of section 5(a)(1), the Secretary must prove that: (1) a condition or activity in the employer's workplace presented a hazard to employees, (2) the cited employer or the employer's industry recognized the hazard, (3) the hazard was causing or likely to cause death or serious physical harm, and (4) feasible means existed to eliminate or materially reduce the hazard. *Waldon Healthcare Ctr.*, 16 BNA OSHC 1052, 1058, 1993

CCH OSHD ¶ 30,021, p. 41,151 (No. 89-2804, 1993) (consolidated). At issue here is whether a hazard existed and whether it was recognized. The parties do not dispute that a collapse of the PTL's boom is likely to cause death or serious physical harm, or that it would have been "feasible" to replace the boom or seek prior manufacturer approval of any modifications.

A. Was the fishplating hazardous?

The alleged hazard is that fishplating the boom of Unit 684 would override the boom's flexing capacity, purposely designed as a shock-absorbing feature, and cause fatigue to transfer to other parts of the PTL, resulting in the breakdown of parts not designed to withstand such fatigue. David Perry, a consulting crane expert specializing in the design, engineering, and safety of cable-fitted hydraulic cranes, testified for the Secretary.[2] Perry testified that boom trucks such as the PTL are a type of crane, and that the two types of cranes have basically the same features: a hydraulic system to rotate the superstructure, and a boom to pick up articles. The only difference he noted was that the "boom truck doesn't have a hoist or winch, a cable, whereas a crane usually does."[3] Perry testified that the PTL's main boom was originally designed with shock-absorbing flexibility to avoid shock and fatigue transfer to other areas of the equipment. He stated that WM's reinforcement of the boom would make it more rigid, undermining its ability to absorb shock, and that without its shock-absorbing capacity, the boom would transfer loads to other areas of the PTL, such as the torque tube. Perry further noted that the excess weight of the reinforcement would diminish the PTL's lifting capacity and overload the crane structure.

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[2]Although he lacks similar expertise with boom trucks, such as the PTL, Perry is familiar with them. During his twenty-two years with Grove Mfg. Co., a manufacturer of mobile hydraulic cranes and personnel lifting equipment, Perry occasionally reviewed the manuals of boom trucks manufactured by a subsidiary company to assure compliance with Grove's requirements.

[3]WM's witness, Larry Jones, testified that boom trucks must be operated differently than cable-fitted cranes because of the differences in the swing-action of their booms. Jones, however, gave no testimony concerning the effect of fishplating on either type of equipment. Moreover, even WM twice referred to the PTL as a crane in its Answer to the Secretary's Complaint, an apparently common sense description.

Judge Spies declined to give "overriding credence" to Perry's opinion, based on her view that his crane expertise was not sufficiently related to the PTL and he was ignorant of the conditions prevailing at the time of the accident. We find, however, that the PTL was sufficiently similar to the type of equipment to which Perry's expertise pertains to accord significant weight to his opinion concerning whether the fishplating was hazardous. Moreover,"it is the hazard, not the specific incident that resulted in injury . . . that is the relevant consideration in determining the existence of a recognized hazard." *Kelly Springfield Tire Co.*, 10 BNA OSHC 1970, 1973, 1982 CCH OSHD ¶ 26,223, p. 33,113 (No. 78-4555, 1982), *aff'd*, 729 F.2d 317 (5th Cir. 1984).

While the Commission will "give deference to findings that are based on credibility determinations," it need not defer to a judge's finding based on factors other than demeanor or those peculiarly observable by the hearing judge. *All Purpose Crane, Inc.*, 13 BNA OSHC 1236, 1239, 1986-87 CCH OSHD ¶ 27,877, p. 36,550 (No. 82-284, 1987). *See also Falcon Steel Co.*, 16 BNA OSHC 1179, 1190, 1993 CCH OSHD ¶ 30,059, p. 41,338 (No. 89-2883, 1993) (consolidated); *Kelly Springfield Tire Co., Inc. v. Donovan*, 729 F.2d 317, 322 n.6 (5th Cir. 1984)(finding Commission not bound even by administrative law judge's credibility determinations). Here, there is no indication from Judge Spies that her rejection of Perry's opinion was based on his demeanor, or any other factor concerning him that was uniquely observable by her. Accordingly, we find no reason to defer to Judge Spies' determination to discount Perry's testimony.

Perry's opinion was consistent with that of Charles Denaburg, a consulting metallurgical engineer specializing in failure studies and analysis, who testified for WM. Denaburg testified that as a result of a manufacturing and design defect, Unit 684's torque tube suffered from a fatigue-induced crack, and had at some time been strengthened to overcome the fatigue problem. This caused the fatigue to transfer to the next weakest point, ultimately causing failures in the boom, provoking WM to reinforce it with steel plates. Commenting that this fishplating was an "excessive fit," Denaburg stated that by fixing the boom, WM forced the fatigue back down into the torque tube, "ultimately creating the failure again." Denaburg further noted that the weight of the fishplating would "enhance or create a shorter time to

failure" of the defective torque tube. The testimony of both experts, therefore, supports the conclusion that some of the stress on the torque tube would have been borne by the boom had the boom not been fishplated.[4]

Even the manufacturer of the PTL acknowledged and promoted the shock-absorbing function of the main boom. Petersen explained in its specification literature that the main boom is designed to "allow a shock absorbing flexing action." In its marketing brochure, Petersen emphasized that the shock-absorbing feature of the twin-boom design would absorb shock loads rather than "transmitting them and sending shock forces throughout the loader and truck causing rapid wear, breakdowns, and slower operating cycles."

We conclude that the evidence is sufficient to establish that fishplating the boom of Unit 684 overburdened the PTL. The added weight of the fishplating exceeded the limits of the crane structure and could have hastened the torque tube failure. Moreover, the fishplating undermined the main boom's shock-absorbing function, which could cause fatigue transfer to other parts of the PTL unable to withstand the additional fatigue. Accordingly, we conclude that fishplating the boom of Unit 684 was hazardous.

B. Was the hazard recognized?

In order to establish a violation of § 5(a)(1), the Secretary must also prove that the hazardous condition was recognized either by the particular employer, or its industry. *Waldon Healthcare Ctr.*, 16 BNA OSHC at 1061, 1993 CCH OSHD at p. 41,154. The only testimony on this issue was given by Perry. After explaining that his observation of the boom's design indicated that it was intended to be flexible in order to absorb shock associated with its operation, Perry stated unequivocally that "any time you see reinforcements like this added to a boom, that is a recognized hazard in the industry."

In determining whether a particular condition or practice is recognized as hazardous under section 5(a)(1), the Commission has relied on the testimony of "safety experts familiar with the general workplace condition or practice" being challenged. *Kelly Springfield Tire*

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[4]*Cf. Towne Constr. Co.*, 12 BNA OSHC 2185, 2188 n.7, 1986-87 CCH OSHD ¶ 27,760, p. 36,310 n.7 (No. 83-1262, 1986), *aff'd*, 847 F.2d 1187 (6th Cir. 1988) (evidence of crane boom's structural weakness, alleged to have caused its collapse, found irrelevant to determination of whether load placed on crane boom exceeded limits of OSHA standard).

Co., 10 BNA OSHC at 1973, 1982 CCH OSHD at p. 33,113. In *Kelly Springfield*, the Commission found that a combustible dust explosion in a tire manufacturing plant was a recognized hazard based largely on the testimony of a chemical engineer generally familiar with the hazard of pressure build-up explosions in enclosed spaces. *Id.* Responding to Kelly's argument that the expert had "no experience specifically with the dust collection systems used in the tire manufacturing industry to collect rubber dust from rib buffing," the Commission noted that "recognition of th[e] general principle on the causes of explosions is not confined to any one industry. Instead, the principle is a basic one known to all chemical engineers." 10 BNA OSHC at 1973, 1982 CCH OSHD at pp. 33,112-13. Moreover, "[b]ecause [the expert] was familiar with the type of dust collection system . . . applied to the collection of rubber dust in Kelly Springfield's plant, his lack of experience in the tire manufacturing industry d[id] not detract from the weight . . . afford[ed] his testimony." 10 BNA OSHC at 1974, n.4, 1982 CCH OSHD at p. 33,113, n.4.

Here, the established hazard consists of fishplating the boom of a crane-like device. The industry Perry asserts recognized this hazard is presumably the one to which his expertise relates: crane safety, design, and manufacturing. As a crane expert with vast crane safety experience, we conclude that, like the expert in *Kelly Springfield,* Perry was "familiar with the general workplace condition," and is qualified to offer an opinion on whether fishplating a boom on a crane-like device is a recognized hazard in the industry. 10 BNA OSHC at 1973, 1982 CCH OSHD at p. 33,113.

Although Perry's testimony concerning industry recognition is somewhat conclusory, we find that it is minimally sufficient to establish, prima facie, the recognition element of a §5(a)(1) violation. *Cf. Falcon Steel Co.*, 16 BNA OSHC at 1190-91, 1993 CCH OSHD at p. 41,339 (compliance officers' "meager" testimony concerning practicality of fall protection tie off found sufficient to establish prima facie case). WM, however, might have rebutted the Secretary's showing of industry recognition had it produced evidence that the waste management industry, or other relevant industries, did not, in fact, recognize the hazard alleged here. *Cf. Hamilton Fixture,* 16 BNA OSHC 1073, 1098, 1993 CCH OSHD ¶ 30,034, p. 41,194 (No. 88-1720, 1993), *aff'd without published opinion,* 28 F.3d 1213 (6th Cir. 1994)

(employer evidence negating Secretary's prima facie establishment of violation element sufficient to rebut Secretary's case). It failed to do so. In fact, WM produced no evidence or testimony on this issue at all, leaving Perry's opinion completely unrebutted. Accordingly, we conclude that the Secretary has met his burden of establishing the alleged violation, though just barely. *Cf. CF & T Available Concrete Pumping, Inc.*, 15 BNA OSHC 2195, 2198-99, 1991-93 CCH OSHD ¶ 29,945, pp. 40,938-39 (No. 90-329, 1993) (Secretary's unrebutted evidence "barely adequate" to establish violation).

III. Order

Accordingly, we affirm the citation for a serious violation of § 5(a)(1) of the Act, and assess the stipulated penalty amount of $3,500.

Stuart E. Weisberg
Stuart E. Weisberg
Chairman

Velma Montoya
Velma Montoya
Commissioner

Dated: August 4, 1995

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SECRETARY OF LABOR
Complainant,
v.
WASTE MANAGEMENT OF NORTH AMERICA
Respondent.

OSHRC DOCKET
NO. 93-0128

NOTICE OF DOCKETING OF ADMINISTRATIVE LAW JUDGE'S DECISION

The Administrative Law Judge's Report in the above referenced case was docketed with the Commission on July 8, 1994. The decision of the Judge will become a final order of the Commission on August 8, 1994 unless a Commission member directs review of the decision on or before that date. ANY PARTY DESIRING REVIEW OF THE JUDGE'S DECISION BY THE COMMISSION MUST FILE A PETITION FOR DISCRETIONARY REVIEW. Any such petition should be received by the Executive Secretary on or before July 28, 1994 in order to permit sufficient time for its review. See Commission Rule 91, 29 C.F.R. 2200.91.

All further pleadings or communications regarding this case shall be addressed to:

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If a Direction for Review is issued by the Commission, then the Counsel for Regional Trial Litigation will represent the Department of Labor. Any party having questions about review rights may contact the Commission's Executive Secretary or call (202) 606-5400.

FOR THE COMMISSION

Ray H. Darling, Jr./jw

Date: July 8, 1994

Ray H. Darling, Jr.
Executive Secretary

DOCKET NO. 93-0128

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SECRETARY OF LABOR, Complainant, v. WASTE MANAGEMENT OF PALM BEACH, DIVISION OF WASTE MANAGEMENT, INC. OF FLORIDA, Respondent.	OSHRC Docket No. 93-128

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For Respondent

Before: Administrative Law Judge Nancy J. Spies

DECISION AND ORDER

Waste Management of Palm Beach, Division of Waste Management, Inc., of Florida (WM), contests a citation issued by the Secretary on December 7, 1992, alleging a serious violation of § 5(a)(1). The citation resulted from an inspection conducted by the Occupational Safety and Health Administration (OSHA) on June 16, 1992, in response to the report of an employee fatality.

STIPULATIONS

The Secretary and WM agreed to certain stipulations prior to the hearing. The pertinent stipulations provide ("Pretrial Stipulations of the Parties"):

> 1. Respondent, a division of Waste Management, Inc. of Florida, operates a solid waste collection business that employs approximately 200 employees at its establishment at 651 Industrial Way, Boynton Beach, Florida 33426.
>
> 2. Respondent's employees operate several solid waste collection trucks that have a Petersen Trash Loader installed between the cab of the truck and the tilting bed of the truck.
>
> 3. One such truck, Unit 684, which was operated by James Wallace on June 13, 1992, had installed on it a Petersen Trash Loader that was purchased new in 1988. Until November, 1991, this was numbered as Unit 696.
>
> * * *
>
> 8. On June 13, 1992, in the vicinity of 323 Skyline Drive, Delray Beach, Florida, the torque tube of the Petersen Trash Loader of Unit 684 separated. Respondent's operator-employee, Mr. Wallace, died when the head assembly of the Petersen Trash Loader fell on him.
>
> 9. The Sheriff held Unit 684 at its pound for investigation, and subsequently, released it to respondent, who transported the Unit to its establishment.
>
> 10. On July 7, 1992, a representative from Petersen Industries, Inc., the manufacturer of the Petersen Trash Loader, accompanied by representatives of respondent, and others, had the opportunity to inspect Unit 684 at respondent's establishment. This was the only inspection made by representatives at Petersen prior to delivery of the vehicle to Petersen for repair.
>
> 11. Unit 684 was later transported to Petersen's factory in Lake Wales, Florida for repair.
>
> 12. Compliance Officer Joseph DiMartino of the Fort Lauderdale Area Office of OSHA conducted an investigation of the fatality. The citation issued to respondent after Mr. DiMartino's investigation gave rise to this matter.

ALLEGED VIOLATION OF THE GENERAL DUTY CLAUSE

Section 5(a) of the Occupational Safety and Health Act of 1970 (Act) provides:

Each employee --

> (1) shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees[.]

To prove that an employer violated § 5(a)(1), the Secretary must show:

(1) that a condition or activity in the employer's workplace presented a hazard to employees; (2) that the cited employer or the employer's industry recognized the hazard; (3) that the hazard was likely to cause death or serious physical harm; and (4) that feasible means existed to eliminate or materially reduce the hazard. *United States Steel Corp.*, 12 BNA OSHC 1692, 1697-98, 1986-87 CCH OSHD ¶ 27,517, p. 35,669 (No. 79-1998, 1986).

Coleco Industries, Inc., 14 BNA OSHC 1961, 1963, 1991 CCH OSHD ¶ 29,200 (No. 84-546, 1991).

In his citation to WM, the Secretary alleged:

(a) On or about June 16, 1992, at 323 Skyline Drive, Delray Beach, FL 33446, the torque tube failed on the "Peters[e]n" truck mounted crane, #684, exposing employees to the hazard of being crushed.

> 1. Among other methods, one feasible and acceptable method to correct this is strict enforcement policy prohibiting the modification of equipment without the specific authorization of the manufacturer.
>
> 2. Prohibit employees from operating equipment after defect is recognized during operating cycles.

In his complaint, the Secretary was more specific in alleging how WM violated § 5(a)(1) (Complaint, ¶ VII(C)):

> Respondent violated § 5(a)(1) of the Act in that on or about June 16, 1992, respondent's employees were allowed to operate a Peters[e]n trash loader #684 mounted on a Mack truck, which trash loader had unauthorized

> modifications and maintenance deficiencies, including modifications such as removal of the speed restrictors that limited lateral movement and lowering of the boom, reinforcement of both sides of the boom with plate steel, changing the overspeed control that diverts the hydraulic oil back to the tank, modification of the stop blocks, and removal of the restrictor from the bucket rotator, and including maintenance deficiencies such as not replacing badly worn pins and bushings, having loose tie-down bolts, having a bent boom tip, having a leaking tip cylinder, allowing excessive wear in the valve controlling the loader swing; and allowing the upper bearing housing bushing to be distorted and melted by welding on the head assembly. Respondent's employees were thus exposed to the recognized hazard of being struck and seriously injured by failure of the lifting device with unauthorized modifications and deficient maintenance.

The Secretary had considerably reduced this laundry list of complaints by the time of the hearing, alleging only that WM (1) removed the trash loader's speed restrictors and (2) reinforced the trash loader's flexible boom with "fishplating" (Tr. 11).

WM argues that it was not in violation of § 5(a)(1) because the Secretary failed to prove (1) that the speed restrictors were removed from the trash loader and (2) that the reinforcement of the boom had a causal effect on the torque tube failure.

FACTS

The Petersen trash loader, dubbed by the manufacturer, Petersen, as a "Lightning Loader," is a hydraulic crane-like device that is installed between the cab and the bed of a dump truck. The trash loader's capacity is 2,000 pounds with the bucket and 3,000 pounds without the bucket (Exhs. J-4, J-5; Tr. 18-19, 78, 99). The trash loader is designed to "pick up brush and refrigerators and whatever someone would leave curbside from their household that you wouldn't put in a garbage packer" (Tr. 18).

The Restrictors

The boom of the trash loader is supported by a vertical torque tube that is turned by a hydraulic motor or swing actuator (Tr. 28-30). The hydraulic lines have "restrictors," which restrict the flow of oil through the hoses. This serves to control the speed at which the various components of the trash loader operate (Tr. 20).

The restrictors are located between various hose fittings and motor fittings and are plainly visible (Exh. C-1; Tr. 30). They control the operation of the bucket, boom, and the boom rotation motor.

The Reinforced Boom

In May 1990, WM had a welding shop reinforce the boom of Unit 684 with "fishplating," reinforcing both sides of the boom with steel plates (Exh. J-1; Tr. 178-179). The steel was welded onto the boom to reinforce the pin boxes which cracked. These cracks commonly appeared on the trash loaders' booms. The welded steel plates were extended beyond the pin boxes in order to spread the load over the length of the boom. Otherwise, WM would have had to replace the boom every six to eight months (Tr. 179-181).

DISCUSSION

Removal of the Restrictors

Petersen Industries plant manager John Kregl inspected Unit 684 on July 7, 1992, more than three weeks after the accident (Tr. 17-19). He observed that the restrictors had been removed from the swing actuator motor and from the descent control on the main boom (Tr. 24, 26, 37).

David Perry, a consultant called by the Secretary as an expert in the design and manufacture of hydraulic cranes, testified that lowering the boom without the descent restrictor placed more stress on the torque tube. Perry stated that it was a recognized hazard to remove the restrictor from the descent function (Tr. 109).

Because the restrictors were missing from Unit 684 on July 7, 1992, when Kregl inspected the unit, the Secretary infers that WM's employees must have removed the restrictors before the June 13, 1994 accident. The record fails to support the Secretary's inference.

Thomas Gintner, who was WM's maintenance manager at the time of the accident, arrived at the scene of the accident within minutes of its occurrence on June 13, 1992

(Tr. 137-139). He was there from between 8:00 a.m. and 8:30 a.m. and stayed until after 11:00 a.m., when he assisted in removing the boom from Wallace's body (Tr. 140). During that time, Gintner had ample opportunity to observe Unit 684. He testified unequivocally, and without contradiction, that "[a]t that particular time, every restrictor was intact and still on the vehicle . . . . I looked at each one specifically" (Tr. 141).

The Secretary attempts to discredit Gintner by questioning why he would bother to notice such a thing. Gintner's observations do not, however, strain credulity. Gintner was WM's maintenance manager, responsible for "anything that had to do with the maintenance of vehicles" (Tr. 138). It is not unlikely that, left for three hours in the presence of one of WM's wrecked vehicles for which he was responsible, Gintner would note the condition of the vehicles.

Derrick Pruner, one of WM's top swingmen, operated Unit 684 on June 11, 1992, two days before the accident. He testified that the boom operated very slowly, indicating that the restrictors were in place at that time (Tr. 223).

The Secretary has presented no evidence tending to establish that WM removed the restrictors prior to the June 13, 1992 accident. The Secretary's only proof on this issue is that the restrictors were not in place on July 7, 1992, approximately three and a half weeks after the accident. The vehicle was towed from the site of the accident to the Palm Beach County Sheriff's impound for two days, then to a body shop in Fort Pierce for a week or two. After that, it was taken to a storage place in Palm Beach Gardens for a night and then was taken back to WM's facility (Tr. 142-145). Unit 684 was out of WM's possession for much of the time between the accident and Kregl's inspection. An unknown number of people had access to it. The Secretary has failed to prove that it was WM who removed the restrictors and that they were removed at the time of the accident.

Fishplating the Boom

There is no dispute that WM reinforced the boom of Unit 684 with fishplating. Contrary to WM's assumption, the Secretary is not required to prove that the activity complained of resulted in the accident. The issue is whether fishplating (welding steel reinforcement onto the boom) was a hazard and, if so, whether it was recognized. In this

case, however, the Secretary himself focused on the cause of the accident as support for his contention that the fishplating created a hazard.

According to Perry, the Secretary's expert, "anytime you see reinforcements like this added to a boom, that is a recognized hazard in the industry" (Tr. 112). Perry believes that the "boom was originally designed to have more flex in it. It's able to absorb some of the shock loads or high impact loads that would be placed in it in this type of operation and, therefore, not transmitting all those loads back into the torque tube" (Tr. 111-112). By reinforcing the boom, "it makes the boom taking some of the shock or absorbing some of the loads, it's going to transfer these loads to other areas" (Tr. 111). Perry testified that the reinforcement of the boom was "a direct and proximate cause of this accident" (Tr. 116).

Perry's opinion is not given overriding credence. He is not an expert in the specific industry. His expertise in the crane industry is of a more general nature. The Petersen trash loader was not a crane. Perry admitted that he did not know how Wallace operated Unit 684 (Tr. 125-126), nor did he know the weight of the materials being lifted or the weight of the steel plating on the boom (Tr. 118-119). In addition, Perry based his assessment on his being told the restrictors had been removed from the unit that had experienced torque failure (Tr. 117-118). As noted, *supra*, the Secretary failed to establish that the restrictors were removed. Perry gained his knowledge of the operation of the Petersen trash loader by observing a unit at Petersen's facility. The unit he observed had a different, larger hydraulic motor on its torque tube than did Unit 684 (Tr. 115, 124-125).

An expert's opinion is not necessarily controlling even if it is unrebutted. *United States Steel Corp. v. OSHRC*, 537 F.2d 780 (3d Cir. 1976). *Con-Agra Flour Milling Co.*, 16 BNA OSHC 1137, 1992 CCH OSHD ¶ 30,045 (No. 88-1250, 1993), *aff'd*, No. 93-2547 (8th Cir. May 26, 1994).

WM presented the testimony of Charles Denaburg, a metallurgical engineer (Tr. 227). Denaburg is an expert in fracture studies and failure analyses (Tr. 228). Denaburg examined the actual torque tube that failed on Unit 684 and conducted a failure analysis of it (Tr. 233). He examined photographs taken at the accident site and modifications made to the boom, and he studied the history of other failures in the pin sections of the hydraulic cylinders (Tr. 234-235). Based upon his analysis of all these factors, Denaburg concluded,

"The cause of the failure certainly is fatigue which is a cyclic fracture propagation type stress state that occurs over a fairly lengthy time" (Tr. 235). Denaburg testified that the torque tube failed as the result of a manufacture and design flaw.

Denaburg specifically rejected the Secretary's theory that the boom arm was operated at too rapid a rate when the restrictors were removed. Denaburg analyzed the fracture pattern in the torque tube and found it inconsistent with a fracture caused by shock loading, which was the Secretary's theory (Tr. 244-245). In Denaburg's opinion, the torque tube was under-designed for fatigue (the repetitive lifting to which the loader's torque tube was subjected). When asked if the fishplating played a part in the failure of the boom, Denaburg replied:

> If it had any effect, certainly that effect would be that it would add weight which on a marginal at best design, then certainly it would enhance or create a shorter time to failure. How much shorter, I don't know, but it certainly didn't cause that fatigue crack to propagate because that was there (Tr. 245-246).

The torque tube of the trash loader also failed for users other than WM, both before and after the June 1992 accident, even though the other users had not reinforced the torque tube as had WM (Tr. 47, 63-64). These facts support the conclusion reached by Denaburg that fishplating played an insignificant role in the cause of the accident.

WM welded reinforcements for other parts of the trash loader besides the boom (Tr. 33, 35-36). Reinforcement for the torque tube was not an in-house procedure but was performed by a welding shop (Tr. 179-180). The Secretary does not allege that all reinforcements made to the trash loader were inherently hazardous. Hence, the Secretary emphasized the cause of the accident, which, it is found, does not support the Secretary's position.

Further, WM was not aware that failure of the torque tube could result in its breaking out of its housing. It was the fact that the torque tube actually separated that caused the crushing accident on June 13, 1992. Before that tragic event, breaks in the torque tube merely caused the boom to cease rotating from left to right (Tr. 206-207). Although it was to learn of a similar incident, not even the manufacturer, Petersen, knew prior to the accident that its torque tube could break loose from the trash loader's base

(Tr. 64). Petersen later devised a large safety ring and hook assembly for its trash loader to prevent a broken torque tube from being pulled out of the base (Tr. 65).

To illustrate that modifications to cranes should not be lightly undertaken, the Secretary referenced § 1926.550(a)(16) (requiring manufacturer's approval for additions to cranes which affect capacity or safety). Accepting this fact, however, does not accord the evidence additional weight regarding the particular modification made in this case. Although not appearing to be the best business practice, the addition of welded steel to the torque tube was not shown to be either a hazard or recognized as such by WM or the industry.

The Secretary has failed to establish that WM violated § 5(a)(1) of the Act.

FINDINGS OF FACT AND CONCLUSIONS OF LAW

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

ORDER

Based upon the foregoing, it is hereby ORDERED:

That the citation alleging a serious violation of § 5(a)(1) is vacated.

NANCY J. SPIES
Judge

Date: June 30, 1994