



Brad Seiberlich, a first-year electrical apprentice; and Tommy Light, a backhoe operator/laborer. Their assignment was to bolt the “top,” or closed, end of a 30-inch long steel bracket in an inverted “U” shape to the underside of a metal plate attached below the switch’s cross bar, which was about ten feet off the ground on top of the support column. On the cross bar, the three phases, “A,” “B,” and “C,” of the 09 switch were spaced 36 inches apart.

According to Northrup, after the crew arrived for work at 7:00 a.m., he sent Light and Marks to pick up the steel bracket at NLL’s office in Chesapeake, Virginia. While they were gone, Northrup and Seiberlich entered the substation. Northrup climbed up a twelve-foot-high fiberglass ladder that he had set up at the 09 switch, with Seiberlich at the bottom of the ladder. Northrup took measurements from below the cross arm to determine where to drill the holes in the bracket. Northrup testified that, while on the ladder, he “removed the existing bolts that were in the switch and installed the longer ones” that would be used to install the bracket.

Then, the steel bracket arrived at the site, and the crew took it inside the “control house” structure and drilled holes in it for the bolts to go through. While the drilling was being completed, Northrup went outside to look at the work area. Light, the backhoe operator/laborer, came out and asked Northrup what they were doing. According to Northrup, he told Light that they were going to mount the steel bracket under the cross arm and also told him, “The thing is hot, do not get up.” Light then left, and Northrup positioned an 8-foot wooden step ladder directly underneath where the bracket was to be placed, a location very near and to the side of the 12-foot fiberglass ladder. After returning with the bracket, Light handed one end to Northrup and took the other himself. As Light climbed the fiberglass ladder, which was nearest to him, Northrup climbed the wooden step ladder. Light had on cotton gloves and was not wearing a hard hat or other protective clothing. Northrup was wearing a hard hat.

Holding the bracket above their heads, with about twelve inches between them, Northrup and Light lined up the holes in the bracket with the bolts sticking down through the metal plate. Northrup testified that, while Light was still holding the bracket above his head,

Northrup rested his end of it on the top of his head and used his fingers to place and tighten a lug nut and washer on the bolts near him. According to Northrup, because the bolts were not tight enough, he asked Seiberlich to get a socket, ratchet, and extension that could fit into the six-inch opening under the bracket. Northrup testified that as he was stepping down off the wooden step ladder, he heard an arcing sound. He closed his eyes and jumped off the ladder, and he saw Light on fire on the ground.

In their testimony, the other crew members, electrical apprentices Marks and Seiberlich, corroborated Northrup's sequence of events leading up to the accident. Marks testified that, when the accident occurred, he was holding Light's ladder and looking up at Light and "saw a bright flash of light, fire, it was so bright I had to turn away." Marks stated that when he did finally look up again, he saw Light falling off the ladder with his clothing on fire. Seiberlich testified that he was at the truck looking for the socket when he "heard a big arc, big bang," and he saw Light falling off the ladder.

On the morning of the accident, the 09 switch was "open," meaning that the energized switch blades on the "line" or "live" side were elevated and not connecting with or transmitting power to the unenergized "load" or "dead" side. The line side where laborer Light was located on the twelve-foot fiberglass ladder was "live" or "hot" because it was energized up to the top of the B phase insulator's ten porcelain rings and the switch blades. By contrast, the circuit above the cross-bar on the side where Northrup was positioned on the eight-foot wooden step ladder was "dead," because the load side cables and terminations were not energized.

Based on these facts, the Secretary alleged that NLL violated 29 C.F.R. § 1926.957(a)(3), which provides:

**§ 1926.957 Construction in energized substations.**

(a) *Work near energized equipment facilities.*

....

(3) Extraordinary caution shall be exercised in the handling of busbars, tower steel, materials, and equipment in the vicinity of energized facilities. The requirements set forth in § 1926.950(c) [minimum working distances for different voltage ranges], shall be complied with.

It is undisputed that the voltage at the 09 switch was 34,500 volts, or 34.5 kilovolts, alternating current, phase to phase. Based on the incorporation by reference of 29 C.F.R. § 1926.950(c) and its Table V-1 into the cited standard, the minimum working distance from energized parts at that voltage is “2 ft. 4 in.” or 28 inches.

*Elements of Violation and Burden of Proof*

To establish a violation of the standard, the Secretary must show by a preponderance of the evidence that (1) the standard applies, (2) the employer violated the terms of the standard, (3) its employees had access to the violative condition, and (4) the employer had actual or constructive knowledge of the violative condition. *E.g.*, *Gary Concrete Products, Inc.*, 15 BNA OSHC 1051, 1052, 1991-93 CCH OSHD ¶ 29,344, p. 39,449 (No. 86-1087, 1991). It is undisputed that section 1926.957(a)(3) applies in this case. *See generally* 29 C.F.R. § 1926.950(a). The other three elements of the Secretary’s case, however, are to some degree at issue.

I. *Did the Secretary Prove that NLL Violated the Terms of the Cited Standard?*

In addition to requiring that employers maintain a minimum clearance distance of 28 inches from a part energized at this voltage, the standard separately requires that employers exercise “extraordinary caution” in the handling of materials and equipment “in the vicinity of energized facilities.” For the following reasons, we conclude that the Secretary proved by a preponderance of the evidence that both provisions of the standard were violated.

A. *Was Supervisory Employee Northrup Closer than 28 Inches to Energized Parts?*

Northrup testified that, after the accident, he measured the distance between the top of the bracket, then positioned under the metal plate, and the closest energized part, on the B phase insulator, as “like twenty-eight” inches. His measurement is consistent with the measurement of 28 inches taken by the Navy’s J. Thomas Eason, who investigated the accident for the Resident Officer in Charge of Construction (“ROICC”) of the Naval Facilities Engineering Command (“NFEC”). While other evidence indicates less distance, we will use Northrup’s measurement because it gives the employer the benefit of any doubt.

Because the top of the metal plate was higher than the top of the bracket, the heads of the bolts resting above the metal plate were closer than 28 inches from the nearest

energized part. Helmut Brosz, the Secretary's expert witness, testified that an employee removing the old bolts or inserting the longer bolts would come up to 5-1/2 inches closer to the nearest energized part. NLL did not rebut this testimony. Webster Chandler, NLL's expert witness, acknowledged at the hearing that the bolts would have to be put in from the top down, thus requiring one hand to be above the bracket.

We find, as the judge did, that this evidence establishes that Northrup came closer than 28 inches to the nearest energized part before the steel bracket was first brought to the site that morning from NLL's office by Light and Marks, and that NLL violated the terms of the cited standard. *See, e.g., Access Equipment Systems, Inc.*, 18 BNA OSHC 1718, 1722 n. 8, 1999 CCH OSHD ¶ 31,821, p.46,778 n.8 (No. 95-1449, 1999) (violation of standard not dependent on accident).<sup>1</sup>

*B. Was Backhoe Operator/Laborer Light Closer than 28 Inches to Energized Parts?*

*Crew Members' Testimony.* Job superintendent Northrup and electrical apprentices Marks and Seiberlich testified at the hearing that they never saw backhoe operator/laborer Light go above the bracket or cross arm, which would have brought Light closer than 28 inches from the nearest energized part, according to Northrup's measurement discussed above. Northrup also testified that Light never tightened the bolts, and he never saw Light use the crescent wrench. Marks, who was holding the fiberglass ladder for Light, was the only crew member who testified that he actually observed Light, from his position below him, at the time of the accident.

The judge rejected the testimony of the crew members on this point. She found their testimony not credible based on her observation of their demeanor at the hearing. The judge also found that the three crew members' testimony was inconsistent with their prior statements given to government investigators. J. Thomas Eason, who, as noted above,

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<sup>1</sup>Because we find noncompliance with the terms of the standard based on Northrup coming closer than 28 inches to the energized part and, in addition, on other evidence discussed below, we need not address the judge's findings regarding the presence of materials on the face plate. *See, e.g., Access Equipment*, 18 BNA OSHC at 1720 n.4, 1999 CCH OSHD at p. 46,775 n.4.

worked for the Navy's ROICC, NFEC, conducted interviews within about thirty minutes of the accident. Eason testified that the surviving crew members told him that Light was bolting the bracket just prior to the accident. We note that, as discussed above, bolting would require having at least one hand above the bracket, which is contrary to the crew members' testimony that they never saw Light go above the bracket. The judge also mentioned that the interview notes of OSHA Compliance Officer Thomas Edwards, which were introduced into evidence by NLL, stated that Marks told Edwards two days after the accident and again about a month later that Light and Northrup were both doing bolting, and that Marks had seen Light trying to use the crescent wrench to tighten the bolts before setting it down on the main switch support.

The Commission gives great deference to the judge's credibility findings, for it is the judge who has lived with the case, heard the witnesses, and observed their demeanor. *E.g.*, *C. Kaufman, Inc.*, 6 BNA OSHC 1295, 1297, 1977-78 CCH OSHD ¶ 22,481, p. 27,099 (No. 14249, 1978). Here, the judge noted the demeanor of these witnesses while they testified before her, and she gave a number of reasons, supported in the record, for her determination that Northrup, Marks, and Seiberlich were not credible. NLL has not shown a valid reason why we should overturn the judge's credibility findings, and our review of the record has not revealed any adequate reason for doing so. We therefore accept the judge's credibility findings. *See Hamilton Fixture*, 16 BNA OSHC 1073, 1085, 1993-95 CCH OSHD ¶ 30,034, pp. 41,180-81 (No. 88-1720, 1993), *aff'd without published opinion*, 28 F.3d 1213 (6th Cir. 1994).

In response to NLL's argument that the crew members' statements in the CO's notes were hearsay, we note, as the judge did at the hearing, that the crew members' prior inconsistent statements were admissions of employees concerning a matter within the scope and time of their employment and are therefore not hearsay under Rule 801(d)(2)(D) of the Federal Rules of Evidence. *See, e.g., Regina Constr. Co.*, 15 BNA OSHC 1044, 1047, 1991-93 CCH OSHD ¶ 29,354 CCH OSHD p. 39,467 (No. 87-1309, 1991). Moreover, while a compliance officer's notes might have inherently less probative value than an employee's own credible testimony, the employees' testimony here was explicitly discredited, and the

compliance officer's notes were introduced into evidence by NLL itself. *See id.* at 1049, 1991-93 CCH OSHD at p. 39,468.

*Expert Testimony.* Each party called an expert witness on the issue of whether Light came closer than 28 inches from the nearest energized part. The Secretary's expert was Helmut Brosz, who is a registered forensic engineer and Director of the Institute of Forensic Electropathology.<sup>2</sup> Electropathology is the study of death in human and animal tissue from the effects of electricity. Hired by the Navy to investigate the accident, Brosz reconstructed the incident at the site less than a month after it happened, with NLL's expert present. Brosz testified that the equipment at the scene exhibited the indelible marks that result from contact with an electrical arc. He opined that the imprint from a cotton glove on the fourth porcelain ring up from the bottom of the B phase insulator indicates that Light contacted that ring with the wrist of his right hand, while the impression of Light's thumb and forefinger on the cross bar surrounded by burn marks show that Light was holding the cross bar with his gloved left hand. As shown in a photographic exhibit, in an effort to re-create Light's position at the time of the accident, an associate of Brosz climbed the line-side ladder and positioned himself as Brosz described.<sup>3</sup>

According to Brosz, the electrical current ran from Light's wrist through his right arm, across his chest to his left arm, then to his left hand on the cross bar, and finally to ground through the grounded mast, or support column. Brosz explained how this is consistent with the entries in Light's medical report that he suffered electrical burns, which led to tissue necrosis and ultimately kidney failure. Brosz explained that Light suffered thermal burns when he caused an arc blast by touching this B phase insulator. This created a ball of hot,

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<sup>2</sup>This Institute, which has a working relationship with the University of Toronto, Canada, has a very large data base on electrical accidents worldwide, including slides, videotapes, photographs, case studies, and printed materials.

<sup>3</sup>NLL's expert, Webster Chandler, testified that he took this position and found it very awkward. We note, however, that a comparison of the photographic exhibits showing different aspects of his position, with the photographic exhibit of Brosz's associate during his reconstruction, suggests that Chandler did not assume the same position in exactly the same location.

expanding, conductive gas about four feet wide that engulfed the A and B phases, spaced 36 inches apart on this vertical break three pole switch, and caused several faults before it became nonconductive within a fraction of a second.

We find that the Secretary has made a prima facie showing that Light actually contacted the insulator based on Brosz's testimony, which is consistent with the physical evidence. *See, e.g., Okland Construction Co.*, 3 BNA OSHC 2023, 2024, 1975-76 CCH OSHD ¶ 20,441, p. 24,406 (No. 3395, 1976) (reasonable inferences can be drawn from circumstantial evidence).

To rebut this showing, NLL relies on its expert, Webster Chandler, a certified professional electrical engineer, who has been a consultant for many years designing electrical systems and investigating over a hundred electrical accidents. Chandler testified that Brosz's theory is not consistent with the medical report, which refers to an entry wound on the left hand, but does not refer to an exit wound. Chandler also opined that, if the accident had happened as Brosz described it, Light would have been killed instantly.

Brosz responded in his rebuttal testimony that, while the injury on the left hand was much more pronounced and would therefore immediately catch the eye of an emergency practitioner, the right hand received a different type of electrical burn, consisting of less visible, small pin holes.<sup>4</sup> Brosz also explained that such high voltage as Light encountered does not kill as fast as lower voltage, which puts the heart of the person contacting it into fibrillation. He stated that high voltage seizes the chest muscles and prevents the heart from fibrillating.

Chandler's testimony also included his own theory of what occurred. He assumed Light's legs to have been at the eye level of Marks and Seiberlich, based on their testimony, which the judge discredited. Chandler therefore assumed that no part of Light rose above the bracket. Chandler accounted for the thermal burns that Light suffered as being the result

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<sup>4</sup>Brosz added that, with alternating current, as in this case, there really is no such thing as an "entry" and "exit" wound anyway, because the current enters one moment and exits in the next sixtieth of a second, and then enters again through what it has just exited.



of an arc-over, or short circuit, that involved all three phases and could have been caused by switching surges, which occur when circuit breakers are operated in certain sequences on a power distribution system. He acknowledged, however, that they are “clearly abnormal conditions.” According to Chandler, the arc-over between the phases created a fireball that engulfed Light and caused thermal burns. Chandler also gave general testimony that, in addition, electric current flowed through Light and caused electrical burns.

Disputing Chandler’s arc-over theory, Brosz explained that it would have been “absolutely impossible” for the accident to have happened as Chandler described; it would have required much higher voltages for such an arc to have been drawn through the air. If a switching surge occurred, the overvoltage would be no more than two times the rating, and the surge would have to travel thousands of feet through underground cable and all manner of equipment to manifest itself where Light was located, and “it just doesn’t happen.” Brosz also testified that for Light to have had current flowing through him under Chandler’s theory, Light would have had to have been “within inches of” the insulator at the time of the arc-over, yet Chandler assumed that Light’s head was below the bracket and thus more than two feet away. According to Brosz, the only possible way that Chandler’s phase-to-phase fault theory could have happened is if the switch had been directly hit by lightning, an event that is not alleged to have occurred here.

We find, moreover, no merit in Chandler’s claim that Brosz’s analysis is flawed because of his failure to mention the Supervisory Control and Data Acquisitions (“SCADA”) Report or test the switch to prove that it was not defective. At the hearing, Brosz explained that the SCADA Report would not always show whether the fault was a result of a surge phase-to-phase or phase-to-ground, because in a case like this, there would not have been enough ground current going through Light to have tripped a circuit breaker or any relay. NLL did not rebut this explanation. Although Brosz’s “Preliminary Report” mentioned that it would be premature to draw a conclusion as to the cause of the accident until the switch had been tested, Brosz testified that he was satisfied with his opinion as to what occurred. He believed that the Navy initially had wanted him to test the switch, but the Navy sought no further testing after he submitted the “Preliminary Report.” Moreover, the record

establishes that NLL had the switch in its possession before the hearing and could have tested it and introduced the results at the hearing. It offered no such proof.

In our view, based on the expert testimony noted above, Brosz's theory that Light contacted the insulator is strongly supported by the physical evidence and was not invalidated by Chandler's testimony. Only Brosz's theory provides an unrebutted explanation of how both the thermal burns and the electrical burns occurred. Brosz systematically considered the evidence at the site to develop his theory, and he used his expert knowledge in electropathology to rebut Chandler's testimony. Brosz also raised questions about Chandler's theory that were not explained by NLL. We agree with the judge that the evidence adduced by NLL does not adequately rebut the Secretary's showing. We find that the Secretary has therefore proven by a preponderance of the evidence that the terms of the cited standard were violated<sup>5</sup> because Light actually contacted the energized insulator ring and so came closer than 28 inches from the energized part.

### C. *Did NLL Exercise "Extraordinary Caution"?*

In addition to finding a violation of the standard based on Light and Northrup violating the 28-inch minimum safe distance, the judge also found noncompliance with the second sentence of the standard: "Extraordinary caution shall be exercised in the handling of . . . materials, and equipment in the vicinity of energized facilities." The judge viewed "extraordinary caution" in terms of the actions that the experts testified could have been

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<sup>5</sup>NLL contends that the judge erred in relying on the "speculative theory" of the Government's expert as to the physical conditions on the day of the accident, because "[n]o part of the Secretary's burden can be left to speculation or conjecture," citing *Ocean Electric Corp. v. Secretary of Labor*, 594 F.2d 396, 401 (4th Cir. 1979). The passage NLL quotes from *Ocean* does not set forth a stricter standard of proof for the Secretary's case than the well-settled preponderance of the evidence. See, e.g., *Trinity Industries, Inc.*, 15 BNA OSHC 1788, 1789, 1991-93 CCH OSHD ¶ 29,773, p. 40,493-94 (No. 89-1791, 1992); *Astra Pharmaceuticals Prods.*, 9 BNA OSHC 2126, 2129, 1981 CCH OSHD ¶ 25,578, pp. 31,899-900 (No. 78-6247, 1981), *aff'd in pertinent part*, 681 F.2d 69 (1st Cir. 1982). The quotation is actually a sentence from an unreviewed Commission judge's decision in *Shea-Ball, a Joint Venture*, 10 OSAHRC Rep. 719, 723 (No. 5390, 1974) (ALJ), cited by the court in *Ocean Electric*, only for the proposition that the Secretary has the burden of proof with respect to knowledge of the violation and its foreseeability. We have found no legal authority that would preclude the Secretary from relying on expert opinion testimony to meet her burden of proof.

taken to protect employees from the electrical hazard, in addition to maintaining the minimum clearance distance. We agree with the judge's analysis.

It is clear from the record, as the judge found, and NLL does not really dispute, that there were numerous methods of protection that NLL could have used to protect Light and other employees. Both Government expert Brosz and NLL's expert Chandler testified that the accident could have been prevented by deenergizing the 09 switch. Brosz explained that this would have meant deenergizing the line side, where Light was working, as well as the load side, where Northrup was located.

The record shows that, although NLL could not on its own deenergize the switch, it could have easily arranged for the line side to have been deenergized, like the load side, and was even instructed to do this. Jeffrey Wray, of the Navy's ROICC Office, to whom NLL made deenergization requests over the course of the project, testified that about a week before the accident, as Wray was on his way out the door, Northrup "said something about working . . . the line side of the switch energized" for the bracket installation. Wray testified that he turned and told Northrup "hell no" and advised him that the switch could be isolated, and thus the line side deenergized, in 45 minutes. According to Wray, the clearance was "just too close."<sup>6</sup>

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<sup>6</sup>The judge credited Wray's testimony. She specifically discredited Northrup's testimony that Wray had not instructed him to deenergize the whole switch. The judge referred to this as "a similar finding" to her earlier determination that Northrup's testimony as to Light's location "was not fully credible." NLL takes exception to the judge's credibility determination in favor of Wray, noting that Wray did not mention such instructions when Navy personnel interviewed him and others immediately after the accident. NLL argues that Wray knew the change order work remained and testified that he planned to inspect the afternoon of the accident. NLL also relies on the memorandum by the Navy's Contracting Officer Lcdr. W.M. Sheedy, wherein he states that he was "unaware of any direct discussions regarding an outage for the work being accomplished at the time of the accident."

We find insufficient reason to disturb the judge's evaluation of the credibility of these witnesses. She "has lived with the case, heard the witnesses, and observed their demeanor." *C. Kaufman*, 6 BNA OSHC at 1297, 1977-78 CCH OSHD at p. 27,099. NLL's objections to the judge's findings are unpersuasive. *See, e.g., Hamilton Fixture*, 16 BNA OSHC at 1085, (continued...)

The judge also referred to other safety precautions discussed by Brosz at the hearing, which included using a bucket truck with an insulated boom, wrapping the phase insulators in rubber blankets, requiring all crew members to wear rubber gloves, and training employees in the hazards of high voltage, including identification of what is live and what is deenergized, the minimum clearance distances, and appropriate personal protective measures, such as wearing “Nomex” clothing, which does not burn like cotton.<sup>7</sup> In our view, implementation of some of these methods involves such basic safety considerations as to be an exercise of mere ordinary caution. Nonetheless, despite the grave hazard to which these employees were exposed, NLL took *no* safety precautions whatsoever. Its noncompliance with the standard’s requirement to use “extraordinary caution” is beyond question.

In summary, we conclude that the Secretary has established by a preponderance of the evidence that NLL failed to meet the terms of the standard in the following three ways. Job superintendent Northrup came closer than 28 inches from energized parts when he was taking out the old bolts and installing the new, longer ones before the bracket even arrived at the site. Backhoe operator/laborer Light contacted the energized insulator ring. NLL failed to exercise “extraordinary caution” when it permitted the bracket installation to proceed in the absence of line side deenergization without the use of any other protective measures.

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<sup>6</sup>(...continued)

1993-95 CCH OSHD pp. 41,180-81. We first note that it was Northrup’s responsibility, not Wray’s, to ensure the safety of the NLL crew. Wray testified that he was not familiar with the work to be performed that particular day, for the last time he talked to Northrup was the week before. We further note that Sheedy’s memorandum does not directly conflict with Wray’s testimony. Sheedy qualifies the statement by limiting it to his own awareness at the time. He also refers to discussions regarding an “outage,” which is a different procedure than the switch “isolation” that Wray mentioned to Northrup. An “outage” requires fourteen days advance notice to accomplish and would be needed for work directly on the switch itself. For the bracket installation here, which involved no such work, “isolation” of both sides of the switch was sufficient protection and could have been done in 45 minutes. Thus, we agree with the judge and dismiss as not credible Northrup’s testimony that he had never been instructed to deenergize the switch.

<sup>7</sup>Brosz also testified that “it would be prudent” for employees to keep at least 28 inches away from any part of the insulator, even its lower rings, which were energized at a lower voltage.

## II. *Did the Secretary Prove Employee Access or Exposure?*

The Secretary can prove employee access or exposure by showing that employees were in a zone of danger while in the course of their assigned working duties, personal comfort activities on the job, or normal means of ingress and egress to their assigned work. *E.g., Capform, Inc.*, 16 BNA OSHC 2040, 2041, 1993-95 CCH OSHD ¶ 30,589, p. 42,356 (No. 91-1613, 1994). We conclude that, contrary to NLL's arguments, the Secretary established employee access or exposure to the hazardous condition. By contacting the energized insulator Light was clearly exposed to hazardous high voltage. Even before that, Light's work on the bracket placed him in the zone of danger. The bracket installation work was so close to the energized parts that minimal upward movement, inadvertent or otherwise, would have placed some part of Light's body closer than 28 inches from the energized parts. In addition, superintendent Northrup had access to the hazard when he came closer than 28 inches from energized parts in taking out the old bolts and placing in the new ones. *See, e.g., CMC Electric, Inc.*, 18 BNA OSHC 1737, 1741, 1999 CCH OSHD ¶ 31,817 (No. 96-169, 1999), *aff'd in relevant part*, 221 F.3d 861 (6th Cir. 2000).

## III. *Did the Secretary Prove Employer Knowledge?*

In order to establish a violation, the Secretary must prove that the cited employer had actual or constructive knowledge of the violative conditions; in other words, she must show that the employer knew, or with the exercise of reasonable diligence could have known, of the cited condition. *E.g., Pride Oil Well Service*, 15 BNA OSHC 1809, 1814, 1991-93 CCH OSHD ¶ 29,807, p. 40,583 (No. 87-692, 1992); *A.P. O'Horo Co.*, 14 BNA OSHC 2004, 2007, 1991-93 CCH OSHD ¶ 29,223, p. 39,128 (No. 85-369, 1991). Under Commission precedent, a supervisor's knowledge can be imputed to his or her employer. *Id.*

### A. *Did the Secretary Prove that Foreman Northrup Had Knowledge of the Violative Condition?*

We conclude that the Secretary established that job superintendent Northrup had actual knowledge of the violative conditions. Early on the morning of the accident, Northrup's own work, lifting out the old bolts and putting in the new ones, brought him

closer than 28 inches from the energized part of the insulator, in violation of the terms of the standard. Northrup also knew of his own failure to take extraordinary precautions when performing that work, and knew that no such precautions were taken with respect to Light's work either. Under Commission precedent, his actual knowledge would be imputable to NLL.

The Secretary also showed that Northrup had constructive knowledge because he could have known, with the exercise of reasonable diligence, that Light could have come closer than 28 inches from the energized equipment. Reasonable diligence involves several factors, including an employer's "obligation to inspect the work area, to anticipate hazards to which employees may be exposed, and to take measures to prevent the occurrence." *Frank Swidzinski Co.*, 9 BNA OSHC 1230, 1233, 1981 CCH OSHD ¶ 25,129, p. 31,032 (No. 76-4627, 1981). Other factors indicative of reasonable diligence include adequate supervision of employees, and the formulation and implementation of adequate training programs and work rules to ensure that work is safe. *See N & N Contractors, Inc.*, 18 BNA OSHC 2121, 2123, 2000 CCH OSHD ¶ 32,101, p. 48,239 (No. 96-606, 2000), *aff'd*, No. 00-1734 (4th Cir. May 9, 2001, as amended July 16, 2001).

Northrup knew that the switch was energized up to 34,500 volts, knew that Light was a backhoe operator/laborer rather than a trained electrician, and even warned, "The thing is hot, do not get up." Nonetheless, Northrup permitted Light, just a short time later, to ascend the ladder on the energized line side of the switch while holding a metal bracket. Northrup himself was working from the other ladder on the unenergized load side no more than 30 inches away from Light. Northrup had a duty to anticipate that Light's proximity to highly energized parts while balancing on a step ladder and holding an end of the 30-inch steel bracket above his head placed him in the zone of danger of the energized parts. As mentioned earlier, the Secretary's expert Brosz testified that "it would be prudent" for employees to stay 28 inches away from *any* part of the insulator. The degree to which Northrup fell short of reasonable diligence or prudence here is highlighted by his decision to get off his ladder while leaving a much less knowledgeable employee still on the other ladder and in the zone of danger, when it would have been relatively easy to protect Light

by one of the methods discussed above.

We therefore conclude that the Secretary has established that a reasonably diligent employer whose employee was working in such close proximity to high-voltage energized parts would have identified the hazard and taken adequate steps to address it. We find that, in failing to take such action, Northrup failed to exercise reasonable diligence.

*B. Did the Judge Properly Impute Superintendent Northrup's Knowledge to NLL?*

Under applicable Fourth Circuit precedent,<sup>8</sup> the Secretary has the burden of showing that Superintendent Northrup's conduct in violation of the standard was reasonably foreseeable and preventable in order to impute his knowledge of the violative conditions to NLL. *N & N Contractors, Inc. v. OSHRC*, No. 00-1734 (4th Cir. May 9, 2001, as amended July 16, 2001); *L.R. Willson and Sons, Inc. v. OSHRC*, 134 F.3d 1235, 1240 (4th Cir. 1998), *cert. denied*, 525 U.S. 962 (1998); *Ocean Electric Corp. v. Secretary of Labor*, 594 F.2d 396 (4th Cir. 1979). *See L.R. Willson and Sons, Inc.*, 18 BNA OSHC 1698, 1699, 1999 CCH OSHD ¶ 31,796, p. 46,621 (No. 94-1546, 1999) (on remand). *See also Kerns Brothers Tree Service*, 18 BNA OSHC 2064, 2069, 2000 CCH OSHD ¶ 32,053, p. 48,005 (No. 96-1719, 2000) (applying similar requirement of Third Circuit).<sup>9</sup> To establish "reasonable

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<sup>8</sup>Either party can appeal this case to the Fourth Circuit because the violative condition and the employer's principal office are in Virginia. See section 11(a) & (b) of the Occupational Safety and Health Act of 1970 ("the Act"), 29 U.S.C. § 660(a) & (b). NLL may also appeal to the D.C. Circuit. See section 11(a) of the Act, 29 U.S.C. § 660(a). Where it is highly probable that a Commission decision would be appealed to a particular circuit, the Commission has generally applied that circuit's precedent in deciding a case, even though it may differ from the Commission's precedent. *E.g.*, *Kerns Brothers*, 18 BNA OSHC at 2067, 2000 CCH OSHD at p. 48,003. We therefore apply Fourth Circuit precedent here.

<sup>9</sup>NLL claims that its superintendent's actions, like those of the foreman in *Ocean Electric*, were so idiosyncratic and unforeseeable as to be unpreventable. But as NLL itself recognizes, the foreman in *Ocean Electric* "accidentally left the door open on a switch gear unit, in violation of company policy." By contrast, NLL's superintendent made a series of conscious decisions: not deenergizing the switch; failing to provide his crew with, and require the use of, appropriate personal protective equipment; failing to give them adequate instruction with respect to the danger of high-voltage energized parts or the need to maintain a minimum safe distance; assigning the least qualified employee to perform the most  
(continued...)

foreseeability,” the Secretary must show that there were inadequacies in the employer’s safety program, training or supervision, based on whether the employer ““has established workrules designed to prevent the violation, has adequately communicated these rules to its employees, has taken steps to discover violations, and has effectively enforced the rules when violations have been discovered.”” *Pennsylvania Power and Light Co.*, 737 F.2d 350, 358 (3d Cir. 1984) (emphasis omitted)(citation omitted), *cited with approval in L.R. Willson and Sons, Inc. v. OSHRC*, 134 F.3d 1235, 1240 (4th Cir. 1998), *cert. denied*, 525 U.S. 962 (1998).

In this case, the Secretary asserts that she sought evidence of NLL’s safety training and enforcement in her interrogatories during discovery, but NLL provided only “scant” information in response, in the form of a letter to the Navy’s ROICC, NFEC, describing the safety program that NLL would implement for the contract, which the Secretary introduced into evidence. We agree with the Secretary’s argument that any deficiencies in NLL’s response should be taken as establishing that there was no such evidence, not that the Secretary failed to carry her burden. *See Ocean Electric Corp.*, 594 F.2d at 403 n. 4 (recognizing the Secretary’s dilemma, stating, “There is no reason, of course, that, when a question concerning the adequacy of a training program is under consideration by the Secretary, he may not require the employer to produce all relevant information as in any other civil case”).

NLL has a rule in the safety program noted above, stating that it will “[e]stablish a safe zone area between the work area and the energized parts of the substation so that all live circuits and parts clear the designated work area *by at least 5 feet.*” (Emphasis added). However, NLL’s president Ronald Neighbors told the compliance officer that this clearance rule was “meant to keep other people out of the substation” and was applicable to “outside people,” *not* NLL employees. In other unrebutted statements to the compliance officer, contained in the compliance officer’s interview notes introduced into evidence by NLL,

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<sup>9</sup>(...continued)

dangerous work; and violating the minimum safe distance himself. His actions were not “an isolated incident of unforeseeable or idiosyncratic behavior.”



Neighbors acknowledged that there is “[n]o company policy established for minimum distances to maintain from energized lines,” rather “it’s up to the supervisor to determine [the] safe distance needed . . . .” The compliance officer testified that, consistent with his notes, Neighbors told him that Light had received no training in high voltage other than at weekly toolbox safety meetings.

Because the only specific distance rule that NLL provided in meeting its discovery obligations was the five-foot rule, and NLL did not rebut the statements from Neighbors, we find that the Secretary established that NLL had not given any instructions to Northrup as to minimum clearance distances for employees to keep from high-voltage energized parts. *Compare L.R. Willson*, 18 BNA OSHC at 1698-1699, 1999 CCH OSHD at p. 46,621 (specific instructions to supervisor earlier in day from top manager at site). We therefore find that the Secretary has shown that Northrup’s failure to maintain the minimum distance himself or to ensure that his crew members did was reasonably predictable and preventable.

We also find that Northrup’s failure to take ordinary precautions, much less extraordinary ones, when working in the vicinity of energized parts was reasonably predictable in light of the lack of clear guidance in NLL’s safety program. NLL stated in a letter to the Navy that its general safety policy under the contract was to comply with the provisions of the “occupational safety and health act” and enforce “Federal standards for safe practices.” Yet most of NLL’s specific work rules are apparently geared toward electrical employees working *on* electrical equipment. One rule provides that “all equipment as well as circuits to be worked on” shall be deenergized and personnel protected by clearance procedures and grounding. Another rule lists the various forms of insulating equipment to be provided “as necessary” to “[p]ersons working on electrical distribution systems.”

Although these rules may satisfy some elements of an adequate safety program, the record does not show whether they even applied to the bracket installation work at issue here.<sup>10</sup> Even assuming the rules would apply, they fail to provide any guidance relating to

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<sup>10</sup>In vacating Citation 1, Item 2, alleging a willful violation of 29 C.F.R. § 1926.416(a)(4), which is not on review, the judge found that Light, in performing his work in holding up the  
(continued...)

the circumstances under which these precautions must be taken. In fact, NLL president Neighbors implied that use of available insulating blankets was left completely to a supervisor's discretion. Nor is there any evidence that the "safety policy" and rules were effectively communicated to Northrup or other employees, that NLL monitored Northrup or other employees for compliance with them, or that any type of enforcement ever occurred. Moreover, evidence of NLL's safety program and rules, including their communication and enforcement, is within NLL's own control, and the Secretary properly requested its production. Responsibility for any evidentiary deficiencies on these points, therefore, rests with NLL. *See CF&T Available Concrete Pumping*, 15 BNA OSHC 2195, 2197 n. 6, 1991-93 CCH OSHD ¶ 29,945, p. 40,937 (no text of footnote 6) (No. 90-329, 1993). In these circumstances, we find that the Secretary has established that NLL did not implement adequate measures to protect its employees from the hazards associated with working in the vicinity of high voltage electrical equipment.<sup>11</sup> Accordingly, we conclude that the Secretary has shown that superintendent Northrup had actual and constructive knowledge of the violation, that his conduct was foreseeable and preventable, and that his knowledge is therefore properly imputed under applicable Fourth Circuit precedent.

#### IV. *Was Light's Conduct Unpreventable?*

We next turn to NLL's argument that backhoe operator/laborer Light's conduct was

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<sup>10</sup>(...continued)

bracket, was not working *on* equipment that had a source of electric potential.

<sup>11</sup>NLL argues that OSHA had found its safety program adequate. This claim apparently refers to the compliance officer's note referring to the written program, which appeared to have a five-foot rule. As explained by NLL management, however, the rule was not for employees. NLL has not introduced evidence that it had instructed Northrup prior to the accident to take any measures, such as requesting the 45-minute switch isolation or using insulated blankets, to protect the employees working in the vicinity of energized parts. Even assuming its safety rules concerning work on electrical systems could be construed as applicable here, NLL did not establish that the rules were adequately communicated or enforced. None of what NLL relies on rebuts the Secretary's showing. *Compare Kerns Brothers Tree Service*, 18 BNA OSHC at 2069-72, 2000 CCH OSHD at pp. 48,005-07 (evidence of employer's training and enforcement show noncompliance was not reasonably foreseeable, applying Third Circuit test).

unpreventable. To establish the defense of unpreventable employee misconduct, the evidence must show that the employer (1) had a work rule designed to prevent the violative condition, (2) adequately communicated that work rule, (3) took reasonable steps to discover violations of the rule, and (4) effectively enforced the rule when it was violated. *E.g.*, *Capform, Inc.*, 16 BNA OSHC at 2043, 1993-95 CCH OSHD at p. 42,357; *see Forging Industry Association v. Secretary*, 773 F.2d 1436, 1450 (4th Cir. 1985) (en banc), *citing Ocean Electric*, 594 F.2d at 398. Even if the defense had been timely raised,<sup>12</sup> we agree with the judge that the evidence does not establish that laborer/backhoe operator Light's conduct was unpreventable. Even the first element of the defense is not established because, as discussed above, NLL did not have a clearance work rule that, as interpreted and enforced by NLL management, was designed to prevent the violative condition. Even assuming that it had an adequate work rule, there was no evidence that it was specifically communicated or effectively enforced, nor that NLL took reasonable steps to detect violations of it.

With no specific work rule, the matter was left to the supervisor's discretion. He gave no instructions as to specific distances to keep from energized parts. Northrup admitted to the compliance officer that he had not discussed safe clearance distances with the crew. Instead, Northrup told Light only that: "The thing is hot, do not get up." We find that those words were not specific enough to address the condition at issue. *See, e.g., Union Electric Co., Geraldine District*, 11 BNA OSHC 1280, 1281, 1983-84 CCH OSHD ¶ 26,487, p. 33,682 (No. 77-3049, 1983) (instructions with no specific clearance distances from energized parts found inadequate where section 1926.950(c) cited); *The Kansas Power & Light Co.*, 5 BNA OSHC 1202, 1205-06, 1977-78 CCH OSHD ¶ 21,696, p. 26,059 (No. 11015, 1977) (same); *Enfield's Tree Service, Inc.*, 5 BNA OSHC 1142, 1144, 1977-78 CCH OSHD ¶ 21,607, p. 25,935 (No. 9118, 1977) (warnings to "stay clear" or not to work "too close" to the energized area were inadequate where minimum clearance of ten feet specified in standard). Moreover, Northrup's general warning was eclipsed by the fact that a short time

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<sup>12</sup>The Secretary argues that NLL waived the unpreventable employee misconduct defense as to Light because it did not plead it in its Answer, nor did it amend its Answer when it referred to the defense in its prehearing submission.

later he enlisted Light's assistance in a manner that required Light to "get up" near the energized part without further warnings or insulating equipment.

The facts in this case resemble those in *REA Express, Inc. v. Brennan*, 495 F.2d 822 (2d Cir. 1974), cited approvingly by the court in *Ocean Electric*, 594 F.2d at 400. In *REA Express*, supervisory personnel permitted untrained employees to conduct electrical repairs without protective equipment such as rubber gloves or mats. "[T]he repairs were attempted with the full knowledge of REA supervisory personnel in a setting which presented maximum peril and was devoid of rudimentary safety equipment." 495 F.2d at 826. According to the Second Circuit, "This was not a case of idiosyncratic or unexpected employee behavior." *Id.* As with the decedent in the case before us, Light, there was no evidence that the employees in *REA Express* had ever been instructed to handle equipment "which had such a potential for mortal injury." We therefore conclude that NLL has failed to establish the affirmative defense that Light's conduct was unpreventable.

Having rejected the unpreventable employee misconduct defense, we conclude that the Secretary proved a violation of section 1926.957(a)(3) by a preponderance of the evidence.

#### V. Was the Violation Willful?

A violation is willful if it is committed with (1) intentional, knowing, or voluntary disregard for the Occupational Safety and Health Act of 1970, 29 U.S.C. §§ 651-678 ("the Act"), or (2) plain indifference to employee safety. *E.g.*, *George Campbell Painting Corp.*, 18 BNA OSHC 1929, 1934, 1999 CCH OSHD ¶ 31,935, p. 47,390 (No. 94-3121, 1999); *Williams Enterprises, Inc.*, 13 BNA OSHC 1249, 1256, 1986-87 CCH OSHD ¶ 27,893, p. 36,589 (No. 85-355, 1987).<sup>13</sup> "A willful violation is differentiated from a nonwillful one by

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<sup>13</sup>The Commission's criteria for willfulness would not yield a different result here than the slightly different formulation used by the Fourth Circuit in *Intercounty Construction Co. v. OSHRC*, 522 F.2d 777, 780 (4th Cir. 1975), *cert. denied*, 423 U.S. 1072 (1976)(employer willfully violates the Act when it "intentionally disregards the statute or is plainly indifferent to its requirements").

a heightened awareness, a conscious disregard or plain indifference to employee safety.” *Valdak Corp.*, 17 BNA OSHC 1135, 1136, 1993-95 CCH OSHD ¶ 30,759, p. 42,740 (No. 93-239, 1995), *aff’d*, 73 F.3d 1466 (8th Cir. 1996). A violation is not willful if the employer had a good faith opinion that the violative condition conformed to the requirements of the Act. *E.g.*, *Morrison-Knudsen Co./Yonkers Contracting Co.*, 16 BNA OSHC 1105, 1124, 1993-95 CCH OSHD ¶ 30,048, p. 41,281 (No. 88-572, 1993). The test of good faith is an objective one--“whether the employer’s belief concerning the factual matters in question was reasonable under all of the circumstances” and therefore “nonfrivolous.” *Id.* Where that state of mind is shown by the actions of a supervisory employee, it is imputed to the employer, like employer knowledge. *E.g.*, *Access Equipment*, 18 BNA OSHC at 1727, 1999 CCH OSHD at p. 31,821.

We agree with the judge that the violation is properly characterized as willful. The evidence of heightened awareness here is strong. NLL knew that the bracket installation work would require its employees to work in close proximity to high-voltage electrical equipment. It also knew of the need for safe clearance distances, as evidenced by its five-foot rule for “outside people.” The record also shows that OSHA had previously cited NLL for a violation having to do with rubber gloves and mats. On top of this, Northrup had been warned a week earlier by a Navy construction representative not to install the bracket here until the switch could be isolated, a procedure the Navy representative stated could be done in 45 minutes. If this procedure had been done the switch would have been completely de-energized and the hazard removed.

Despite this level of awareness, superintendent Northrup, a trained electrician, who knew the switch was hot and that it carried 34,500 volts of electricity, required Light, “a laborer with no electrical work experience,”<sup>14</sup> to work on the live side of the switch, with no protective equipment, while Northrup worked on the dead side. Assigning Light the most dangerous part of the task is particularly troubling when we consider that he had the least training and experience in electrical hazards, and was not wearing appropriate protective

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<sup>14</sup>NLL’s president Neighbors thus described Light in his un rebutted statement to the compliance officer, recorded in the interview notes.

equipment. Nor was he protected by any other measure. This failure by NLL to take even the most basic measures to protect its employee while placing him in grave danger compels a finding of plain indifference. *See Anderson Excavating and Wrecking Co.*, 17 BNA OSHC 1890, 1892 (No. 92-3684, 1997), 1995-97 CCH OSHD ¶ 31,228, p. 43,789, *aff'd*, 131 F.3d 1254 (8th Cir. 1997) (per curiam). This indifference is underscored by the testimony of Neighbors, NLL's president, that he did not consider incidents involving electric shock to be serious unless they were fatal.

It is also clear that NLL failed to make out the good faith defense to willfulness. NLL had the burden of proving that Northrup had an objectively reasonable good faith belief that the violative conduct conformed to the requirements of the Act. *See, e.g., Morrison-Knudsen*, 16 BNA OSHC at 1124, 1127, 1993-95 CCH OSHD at p. 41,281. We agree with the judge that the defense was not established. As we have discussed above, NLL provided no guidance or training to Northrup or other employees regarding minimum safe distances, and had an inadequate safety program regarding the use of protective equipment. The arguments it makes on review mainly concern the employer knowledge and unpreventable employee misconduct defense issues, all of which have already been resolved against it.

#### VI. *Penalty*

The judge assessed a penalty of \$49,000 for this willful violation, based on the penalty factors set forth in section 17(j) of the Act, 29 U.S.C. § 666(j). The gravity of the violation was, of course, extremely high. The judge gave reductions for size because NLL had 47 employees at the time of the violation, and for history because of no citations within the three prior years. She gave no credit for good faith. NLL does not specifically take issue on review with this penalty assessment. We consider \$49,000 to be an appropriate penalty under the section 17(j) factors, and we assess that amount for the willful violation of section 1926.957(a)(3).

#### *Order*

We find a willful violation of section 1926.957(a)(3) and thus affirm Citation 1, Item 1. We assess a penalty of \$49,000 therefor.

/s/

Thomasina V. Rogers  
Chairman

/s/

Ross Eisenbrey  
Commissioner

Dated: July 20, 2001

SECRETARY OF LABOR,

Complainant,

v.

NORTH LANDING LINE  
CONSTRUCTION CO.,

Respondent.

OSHRC DOCKET NO. 96-0721

Appearances: For Complainant: John M. Strawn, Esq., and Howard K. Agran, Office of the Solicitor, U. S. Department of Labor, Philadelphia, PA.; For Respondent: Guilford D. Ware, Esq. and Martha M. Poindexter, Esq., Crenshaw, Ware & Martin, P.L.C., Norfolk, VA.

Before: Administrative Law Judge Covette Rooney

### ***DECISION AND ORDER***

This proceeding is before the Occupational Safety and Health Review Commission pursuant to Section 10(c) the Occupational Safety and Health Act of 1979 (29 U.S.C. §651, *et seq.*) (“the Act”). Respondent, North Landing Line Construction Co., at all times relevant to this action maintained at a workplace at Substation T-45, Naval Air Station Norfolk, VA., where it was engaged in construction activities. Respondent admits that it is an employer engaged in a business affecting commerce and is subject to the requirements of the Act.

#### **BACKGROUND**

The record reveals that on December 20, 1995, Respondent was in the process of completing the last phase of a contract to replace and upgrade 14 switches at the electrical substation at the Naval Air Station (NAS). An electrical substation is a power distribution center, and the 09 switch was a link to distribute power to portions of the NAS. The voltage for the 09 switch was 34,500 volts (34.5 kV) from phase to phase. The voltage from phase to ground was 19.9 kV. There were three phases (“A”, “B”, and “C”) spaced 36" apart on this vertical break three pole switch. On the morning of December 20 the work to be performed included modification of the 09 switch support, with the bolting of a bracket below the cross arm (See Exh<sup>15</sup>. G-1). The 09 switch was being modified in order to accommodate two runs of 34.5 kV cables with terminations. On December 20 the switch was open, and thus the circuit was energized up to the top of the insulator including the switch blades (live side). The load side cables and terminations were not energized - the jaw side.<sup>16</sup> (Tr. 68-70, 363; Exh G-1). A crew of four had been assigned to perform this modification work. The crew consisted of Darrell Northrop - the foreman and a master electrician, Ronald Marks - a fourth

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<sup>15</sup> The term “Exh.” refers to the trial exhibits.

<sup>16</sup> The transmission of power is interrupted when the switch is open, accordingly the blades would be raised to the elevated point as shown in Exhs. G-5, 6, & 37. To close the switch and thereby allow the transmission of power, the blades would be lowered into the jaws (Tr, 325-327).



year apprentice, Brad Seiberlich - a first year apprentice, and Tommy Light - a backhoe operator/laborer. Mr. Light under the direction of Darrell Northrop climbed a 12- foot fiberglass ladder in order to assist Mr. Northrop in the installation of the bracket beneath the cross arm of the 09 switch. While on the ladder Mr. Light suffered fatal electrical burns to his upper extremities as a result of having come in contact with high voltage.

From December 21, 1995 to January 31, 1996, Compliance Safety and Health Officer (“CO”) Thomas Edwards conducted a fatality inspection of the aforementioned worksite. As a result of this investigation, on May 14, 1996, Respondent was issued a citation alleging two willful violations with a proposed total penalty in the amount of \$112,000.00. By timely Notice of Contest, Respondent brought this proceeding before the Review Commission. A hearing was held in Norfolk, Va. before the undersigned on June 12 - 13, and September 3-4, 1997. The parties have submitted Post-Hearing Briefs and Reply Briefs, and this matter is ready for disposition.

### **SECRETARY’S BURDEN OF PROOF**

The Secretary has the burden of proving his case by a preponderance of the evidence. In order to establish a violation of an occupational safety or health standard, the Secretary has the burden of proving: (a) the applicability of the cited standard, (b) the employer’s noncompliance with the standard’s terms, (c) employee access to the violative conditions, and (d) the employer’s actual or constructive knowledge of the violation (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 EVIDENCE**

The record discloses that the switch was mounted approximately 10 feet above the ground on a single box structural steel column, mounted on a concrete base. The cross arm is a fixed beam perpendicular to the main support beam. The main support beam and cross arm were grounded (Tr.<sup>17</sup> 110-111, 148). There had been a change order in the NAS contract which required that Respondent install the cable support steel/bracket on 09 Switch, and the cables that were to land on that cable support (Tr. 522, 535). At the time of the accident, Mr. Light was assisting Mr. Northrop to install the steel bracket to the underside of the cross arm of 09 switch pedestal. The cross arm was approximately 24 inches or less from the top of the energized B phase insulator (Tr. 316)<sup>18</sup>. The bracket being installed was approximately 5"-6" in height, which would mean the top of the bracket was approximately 28 inches from the top of the insulator.<sup>19</sup> The bracket was being secured to a plate which was welded underneath the cross arm by two nuts and bolts (Tr. 612, 617, 178). The plate was 5/8" with a 5/8" plate above it (Exh. G-39) The bottom of the bracket was approximately

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<sup>17</sup> The term “Tr.” refers to trial transcript.

<sup>18</sup> The three insulators were made of ten porcelain skirts or rings. They conduct electricity and were energized down to the tenth skirt. From the top, each skirt lowered the voltage approximately 2,000 volts. Thus, the top of the insulator was 20,000 kV and the voltage at the bottom skirt was 1,000 to 2,00 volts (Tr. 295-318 and 320).

<sup>19</sup> Mr. Northrop testified that his measurements of the top of the bracket to the closest energized part was 33 inches to the bottom and “like twenty-eight to the top”(TR. 552). See also Exh. R- 5, p. 24 of 30. CO Edwards’ notes indicate that the channel was 5" in height and 6" inches in height. (Exh. R-5, pp. 4, 10 and 24). Mr. Brosz refers to the bracket’s height as 6"(Tr. 699).

33 inches from the top of said insulator (Tr. 317, 552, & 614; Exh. R-5, pp. 4 & 5 of 30). A wrench found on top of a plate which was under the cross arm was approximately to 25.5" from the top of the insulator (Tr. 749-750; Exh. R-5, pp. 25 & 26 of 30)<sup>20</sup>. Also present was a nut and washer on the top surface of the switch support plate was between 26-27 inches from the top of the insulator (Tr. 309, 317-318; Exh 14, 18, 36).

On day of accident, Thomas Eason, Resident in Charge of Construction for the Naval Facilities Engineering Command was one of the first persons to investigate the accident scene. Upon his arrival, he first made sure the power was off and then proceeded to learn from the witnesses where the ladders had been placed. He had the ladders set up and climbed one, and at that time observed a crescent wrench lying on top of the beam of the switch which he photographed (Tr. 67, 72, 87; Exhs. G-1 at "G" and "H"; 13 and 16).

CO Edwards' investigation consisted of site observations and employee interviews, and participation in the site visit by Herman Brosz, a consultant hired by the Navy to investigate what may have caused the accident. His investigative notes reveal that during his interview with Mr. Northrop on December 22, 1995, Mr. Northrop told him that he had used the crescent wrench. Mr. Northrop also indicated to him during this interview that he felt that the work was being done safely for two reasons because any fault that occurred near them would be taken to ground, and this in conjunction with the clearance distance would provide a safe work area (Exh R-5, p. 10 of 30). During the course of a second interview with CO Edwards on January 16, 1996, Mr. Northrop stated that he knew that the crescent wrench was on top of the main support cross arm, but he did not remember who put it up there. (Exh, R-5, p. 12 of 13). CO Edwards' notes of an interview with Mr. Marks on December 22, 1995, reveal that Mr. Marks indicated that Messrs. Light and Northrop were doing the bolting, and that Mr. Light had tried to use the crescent wrench but it was not doing any good so he set it on the main switch support. He stated that the crescent wrench was placed on the support approximately 5 seconds prior to the accident (Exh R-5, p. 17 of 30). He also informed CO Edwards that he did not hear anything about the energized line or distance to keep away. However, during a subsequent interview on January 16, 1996, Mr. Marks stated that he did not remember who had installed the bolts in the bracket. He again stated that Mr. Light had set the crescent wrench up on the cross arm of the main support, and that he had seen Mr. Light trying to use the crescent wrench to tighten the bolts (Exh R-5, p. 18 of 30).

CO Edwards acknowledged during his testimony that Mr. Brosz's theory as to the events which occurred immediately prior to the accident differed from the account which employees at the scene of the accident provided him. He testified that the witnesses' statements would lead one to believe that Mr. Light did not have to work above the bracket. This theory differed from the findings of Mr. Helmut Brosz, who had been retained by the Navy to investigate the accident. Mr. Brosz concluded that Mr. Light performed work above the bracket. In recommending the instant citations, CO Edwards accepted the Brosz theory (Tr. 234)

### **Evaluation of the Expert Testimony**

The parties in this matter each presented an expert witness in support of their positions. Complainant presented the testimony of Helmut Brosz, a registered forensic engineer and a Director of Institute of Forensic Electropathology - an institute which has a very large data base of electrical accidents involving failures of electrical equipment such as insulator failures, electrocutions, and

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<sup>20</sup> The undersigned notes that Mr. Brosz initially testified that the wrench was 22" from the top of the insulator (Tr. 317). He reviewed his notes and corrected his testimony to reflect a measurement of 25.5" (Tr. 740-750). CO Edwards testified that the wrench was approximately 25 inches (24 3/4") from the top of the insulator (Tr. 196).

electrical fires. His consulting firm does, inter alia, investigations of electrical equipment failure and forensic Electropathology - i.e., injuries and death to animals and humans<sup>21</sup> (Tr. 260-264). The Respondent provided the expert testimony of Webster Chandler, a certified professional engineer and a consultant whose firm is involved in the design of electrical systems (Tr. 592). He is familiar with the electrical system in the substations at various naval installations in Norfolk.<sup>22</sup> He also has investigated accidents concerning persons having contact with high voltage power lines via direct contact or through cranes or other apparatus (Tr. 596). Additionally, he is currently an associate member of the National Academy of Forensic Engineers (Tr. 597).

The record reveals that underlying facts which each expert based his opinion differed in one significant aspect. The eye witnesses assert that Mr. Light never rose above the bracket. Mr. Brosz did not believe the statements of the employee witnesses, whereas Mr. Webster Chandler, the Respondent's expert, based his opinion upon the statements and personal interviews with said employees (Tr. 731-732, 602).

It was Mr. Brosz's opinion that had Mr. Light not come close enough to cause a fault or short circuit with the insulator, nothing would have happened, and he was also of the opinion that there was evidence at the scene which lead him to conclude that he had in fact come in contact with the insulator (Tr. 345). It was his opinion that Mr. Light was on the 12 foot ladder, and at some point in time he climbed up on the ladder to three or four rung from the top and with a pencil in his hand, put his left hand on the operating bar and tried to hold onto the insulator. As he touched it current flowed and a short circuit was drawn through his body. His right hand was on the B phase insulator and at that time he drew an arc to his right hand. The current flowed through his hand, chest and tissue of the left arm and as the current went to ground he was throw him from the ladder and the pencil fell (Tr. 334- 335, 338). The phase to ground fault was caused by Mr. Light's body creating the short circuit by which he was electrocuted (Tr. 338-339). An arc blast was caused by Mr. Light touching the "B" phase insulator which created a super heated ball of conductive gas approximately 4 feet in diameter and expanding under the cross arm. This sphere of hot conducting gases enveloped phases A and B and caused numerous faults between the insulators of the three phases and from the tops of the three insulators to the grounded support mast. The conductive gas cooled as it expanded and became nonconductive within a fraction of a second (Tr. 293-294, 311, 331). The medical examination noted that Mr. Light was both electrocuted by high voltage and suffered external burns (Tr. 341-341; Exh. G-26). The examination also showed that Mr. Light had electrical burns and thermal burns (Tr.686-689; Exh. G-26). Mr. Brosz explained that electrical burns are caused by current passing through the body, and thermal burns are caused by external heat such as that produced in an arc blast (Tr. 341-342, 714-717).

During the course of his testimony, Mr. Brosz acknowledged that he heard at the hearing that Mr. Northrop had on a hard hat, however, his review of the interview statements disclosed that Mr.

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<sup>21</sup> Mr. Brosz testified that the study in the field of forensic Electropathology consisted of studying the phenomena of electric current passing through the human body, the affects of electrical accidents on the human body and on electrical equipment and the failure or breakdown or involvement of electrical apparatus (Tr. 262-263).

<sup>22</sup> Mr. Webster testified that his firm did not do any of the design at the subject substation, but did design in peripheral areas that were served from circuit breakers from said substation (Tr. 595).

Northrop did not have on a hard hat.<sup>23</sup> He testified that if he had been bolting this bracket or if he had been holding up the bracket, his hands would have been burned and or his hair singed because he would have been within the sphere of arcing (Tr. 335-336). The flash would have blinded him if he had been looking at Light as the testimony suggest (Tr. 336). He believes Northrop was quite a ways down on the ladder, or not in the position he suggests. It was his opinion that the evidence showed that \*Mr. Northrop and Mr. Northrop did more than work under the insulator, and hands frequently went above the bracket/channel because the two bolts that were tightened required that the hand be within 28 inches of the top of the energized insulator. He believed that Mr. Light was doing a lot more than just holding up the channel - he was working the wrench and marking the holes because he had the pencil (Tr. 337). The arc marks on wrench helped him place it. He testified that there is a lot of current where an arc enters and it melts some of the material of the object, in this instance the wrench, leaving an indelible significant mark (Tr. 279-280).<sup>24</sup> He also observed several other significant marks. He saw a left hand print on the bar shown in Exh G-12 and 14, in his opinion, it is the victim's left hand (Tr. 280). The shadow was produced by holding onto the round 2-inch bar with his gloved left hand (Tr. 280-281, 286-287)<sup>25</sup> He also observed evidence of what he believed was the right hand making contact with the "B" phase insulator (Tr. 295; See Exh G-17 and 19).<sup>26</sup>

The other evidence that he found was a pencil at the base of the switch which he testified was clearly exposed to an arc blast and had been held by a human (Tr. 303). It is his opinion Mr. Light held this pencil in his hand because of the charring present. He testified that whoever had held it had significant charring on the right hand, and no one else at the scene was injured or burned, therefore, Mr. Light must have held the pencil at the time of the accident (Tr. 303-304). It was his theory that at the time Mr. Light was holding the pencil and at the same time he had his hand on the insulator (Tr. 306-307). He believed that he was preparing to mark a hole or something for drilling because the bracket was being held by only two bolts, and he believed that it was the intention to have additional holes (Tr. 340, 734-738).<sup>27</sup> He explained that the pencil had been exposed to the arc blast and the shadows and damage on it were consistent with exposure to and arc blast and it having been held in the hand (Tr. 437). Thus, at the time of the accident, Mr. Light was holding the pencil in his right hand and the left was on the operator rod or cross bar and the right hand was on

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<sup>23</sup> Mr. Northrop testified that he wore a hard hat while on the ladder (Tr. 57).

<sup>24</sup> Mr. Eason also testified that there was a dark mark on the wrench which revealed to him that the wrench had been in contact with an arc or spark (Tr. 98).

<sup>25</sup> Exh. G-27 arc marks on the operating bar (Tr. 286). Exh. G-28 shows left glove hand placed over the arm. It also shows left elbow and arm in close proximity to phase A at time of accident (Tr. 287).

<sup>26</sup> The undersigned's review of the record reveals that CO Edwards' notes of January 4, 1996 contain similar findings with respect to information obtained from John Eason, ROICC. Mr. Eason informed him that his review after the accident revealed that Mr. Light and not Mr. Northrop was installing the bolts and Mr. Northrop was just holding the bracket in place. It was his opinion the "Mr. Light was high enough... to get close enough to the energized bus and cause an arc - that Light was touching the switch arm rod at the time & this caused the burn marks"(Exh. R-5, p. 20 of 30).

<sup>27</sup> Mr. Chandler corroborated the fact that two additional bolts were to be installed at a later time (Tr. 626-627).

the insulator and the wrist was touching the fourth skirt from the bottom at the time of the accident (Tr. 307, 309). There was also one washer and one nut on the top surface of the switch support. Arc marks showed the exact location of the nut and washer at the time of the accident ( Exh G-14 , 18, 30 & 38; Tr. 309-310).

He was certain that the accident occurred the way he described (Tr. 334). The fact that he was not able to test insulator B does not affect his opinion because he saw nothing wrong with it other than the damage sustained during the arcing<sup>28</sup>.

Webster Chandler, a certified professional engineer based his opinion upon what the eyewitnesses told him, and he testified that there was no reason for Light to go into the unsafe zone (Tr. 609). Based upon the statement of the witnesses that Mr. Light's feet or lower part of the legs were at their eye level, he opined that, in that position there was no way Mr. Light could have put himself in an unsafe condition (Tr. 609). Furthermore, he testified that there was no evidence that Mr. Light had ever held the crescent wrench. Although, he acknowledged that the Navy measurements were 33 inches to the bottom of the steel channel being installed and concluded that this put the top of that something greater than 28 inches, he was sure that the crescent wrench really was in the safe zone on top of the mounting plate to which the bracket being bolted (Tr. 609, 614). Mr. Chandler testified that the work being done on December 20 was the first part of a process in which new supports were being installed to support new cables. The preliminary work was to be done on that date, and later the bracket would be secured firmly by the application of two additional bolts. It was Mr. Chandler's opinion that there was nothing that had to be marked on December 20. He pointed out that the crew had bored holes in the top of the bracket to match the four The new switch only required two bolts at the left hand end, the "A" phase end and two bolts at the "C" phase end. The bolts holes for the new switch lined up with two pairs of bolt holes already in that plate (Tr. 613). Thus, in his investigation he found that there would have been nothing to mark with a pencil from above. No marking was necessary to perform the tasks that were going to be performed at a later date (Tr. 615-618, 626-627; Exh G-30 and 39 at #6 and #7). It was his position that there was no reason to mark positions from the top because you had a guide hole from below and you couldn't drill a 3/4 hole from the top. (Tr. 627).<sup>29</sup> He also testified that he had placed himself in the

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<sup>28</sup> Mr. Brosz explained that a broken arm defective insulator has broken skirts, large cracks and a significant amount of contamination on the insulator. This was a new switch and none of that was present (Tr. 346). He testified that Exhs. G- 3, 7, 9 and 10, all photographed on December 21, show no evidence of contamination on the insulators (Tr. 347). Furthermore, if the insulator had been contaminated and a fault had occurred without Mr. Light touching or causing a fault, and if he had been in the proximity of within four feet of the insulator, he would have suffered arc burns but not the tissue necrosis and tissue damage the medical records showed (Tr. 347-348).

<sup>29</sup> During rebuttal Mr. Brosz testified that Exh G-8 shows four holes, and although no one agrees where, we all agree two more had to be drilled. However, he believed that it would be difficult to drill from underneath because first you need pilot holes and a 3/4 inch drill is heavy making it an awful job. He testified that to make it easy, one would drill from the top, so you have an advantage of the weight of the drill and all pilot holes that you need to drill prior to that. Additionally, he opined that to drill the hole in line with the two unused holes of Exh G- 8, channel "B" would be difficult. He agreed with Mr. Chandler that drilling the hole on the edge of a piece of metal would be extremely difficult. The option suggested by  
(continued...)

position which Mr. Brosz believed that Mr. Light had been, and found it an extremely awkward position (Tr. 629)<sup>30</sup>. His observations and inspection led him to believe that there was no reason for Mr Light to have gone into the position which Mr. Brosz had positioned him in at the time of the accident.

He believed that there was a phase to phase fault , i.e., a short circuit of some type on that switch that involved all three phases. He testified that it began as phase to phase fault and the ground became involved as shown by the burns on the grounded part (Tr. 646). Along the corrugated part of the insulator on all six insulators there were marks of the type in Exh R-3(d). He found the marks on Insulator “B” - where Brosz found glove marks - were no different than those on the other insulators (Tr. 648).<sup>31</sup>

Mr. Chandler also testified that the Brosz Report was inconsistent with the medical report (Tr. 653). Medical report says there was evidence of an entry wound on the left palm and there was no evidence in report of an exit wound. If it had happened as Brosz said, the wound on the left hand would have been an exit wound and there would have been some evidence of an entry wound on the right hand.<sup>32</sup> Additionally, in his experience if Mr. Light had current of 19,900 or 15, 000 volts pass

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<sup>29</sup>(...continued)

Messrs.. Chandler and Northrop of drilling through these two existing holes from underneath was an option but a difficult one. He testified that the best choice would be to make two fresh holes, and that is what Mr. Light was going to do in his opinion - that’s why he had the pencil in his hand and from up top he would have a good “bird’s eye view” to make sure the was going to mark the spot where he would drill holes (Tr. 734-38).

<sup>30</sup> CO Edwards testified that he had no problem positioning himself into this position (Tr. 222).

<sup>31</sup> Mr. Webster also testified that the SCADA (supervisory control and data acquisition) Report would have provided information and have shown the trouble sensed by the relays and indicate if there was a phase to phase condition or phase to ground condition (Tr. 658). This report shows the operation and tripping times of devices- circuit breakers, and depending upon what relays operate it could show whether a phase to phase or phase to ground occurred. The record however reveals that he did not review such reports. Mr. Brosz testified this information would not have made any difference to him because there was not enough current flowing through the phase to ground fault through Mr. Light to have caused a relay to operate. He also stated that this information did not make any difference for purposes of investigating the cause and origin of the accident. (Tr. 441-444). In view of Mr Webster’s lack of review and Mr. Brosz’s position with respect to these reports, the undersigned accords the testimony concerning the SCADA Report very little weight.

<sup>32</sup> During rebuttal, Mr. Brosz explained that the injury in Mr. Light’s left hand could be deemed an entry or an exit wound because of the speed the current enters and exits - 60 times a second (Tr. 679). He explained that both hands had electrical burns and injuries, and the reason the so-called entry wound on the left hand was so pronounced was because the left hand was firmly grasping the round operating bar - a grounded conducting operating metal rod, whereas the right hand was not holding onto a metallic object but the side of the outer edge of the right hand was in contact with the ceramic insulator, so on that hand while they are electrical burns they are of a different type - smaller pin holes

(continued...)

through him, he would have expected him to have been killed instantly (Tr. 653).<sup>33</sup> He believes when the phase to phase surge occurred a high voltage between phase A and B on this switch ionized the air and caused an arc-over between the phases A and B, and B and C, thus entire switch became a part of a ball of fire. Thus, this arc enveloped the entire switch and the area around it (Tr. 659). A person in this arc would receive thermal burns, heat burns and be involved in current flow through their body (Tr. 659). When asked how such a ball of fire would emanate, he responded that it could have been caused by a number of things - lightening, switching surges when circuit breakers are operated (Tr. 658 ).

The bases for conflicting opinions of the experts revolves around the eye witness that Mr. Light never rose above the bracket. Mr. Brosz finds that in spite of these statements the physical evidence indicates that Mr. Light had to have gone beyond the bracket which was being installed. While Mr. Chandler makes his findings based upon the fact that Mr. Light had no reason to do anything beyond holding up the bracket from below said bracket. In weighing the conflicting opinions of the experts, the undersigned finds that it is necessary to evaluate the credibility of the statements of the eyewitnesses.

### **Eyewitness Testimony**

Darrell Northrop provided a detailed account of the events leading up to the accident. He testified that upon arrival at the job trailer on December 20, he sent Messrs. Marks and Light to Respondent's Chesapeake office to pick up steel for the 09 switch. He then met a representative from Public Works at the substation so that they could open it. Once inside the substation he and Mr. Seiberlich retrieved a 12-foot fiberglass step ladder and went out to 09 switch to begin taking measurements for the steel the others had gone to pick up. He testified that he stood on the ladder and took the measurements from below the cross arm. He testified that the measurements could not have been taken from the top. He explained that if he had taken the measurements from the top he would have been just guessing on where to drill the holes, because the holes would have been down approximately 4 inches which was the cross arm, and approximately another three-eighths to a half-inch, which is the steel strapping was underneath the cross arm (Tr. 538). Thus, the measurements had to have been taken from below. As he took the measurements, Brad Seiberlich stood at the bottom of his ladder. He explained that he removed the existing bolts that were in the switch and installed longer ones. He stated that he had used a crescent wrench to remove the existing bolts (TR. 539). After he took the measurements and removed the bolts, he and Brad went into the substation to warm up and wait for the steel to arrive (Tr. 539). Once the Messrs.. Marks and Light arrive with the steel, he then measured the steel, marked where the holes were to be, and started drilling. When the first couple of pieces had been drilled, he went outside to look at the steel and see how he was going to put up the new piece of steel. Mr. Seiberlich came out with him and was sent to get an 8-foot wooden step ladder (Tr. 540). Mr. Light ("Tommy") came out and asked what they were doing. He testified that he explained to Tommy that they were going to mount the piece of steel on the

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<sup>32</sup>(...continued)  
(Tr. 679-683).

<sup>33</sup> During rebuttal, Mr. Brosz explained that low voltage electrocutions potentially can kill faster because they can put an individual's heart into fibrillation. High voltage electrocutions do not put the heart into fibrillation because the high voltage seizes the chest muscles and prevents the heart from fibrillating - once the current stops the chest contracts and the heart in many instances starts to beat again (Tr. 684-685). He went on to explain that Mr. Light died when his body could no longer deal with the dead tissue.

bottom of the cross arm and the support, and added that “the thing is hot, do not get up”. He also testified that he gave this same instruction to Brad and Ron (Tr. 541). Mr. Light left and Mr. Seiberlich then arrived with the 8-foot step ladder (Tr. 541). He told him that he wanted the ladder right underneath the new piece of channel. Once the ladder was set up, Tommy returned with the piece of steel. Tommy handed him one end of the steel and he took the other, and as Tommy walked up the fiberglass ladder, he walked up the wooden step ladder (Tr. 542). He explained that Tommy was on the fiberglass ladder because it was closest to him. The steel was approximately 30 inches in length, and thus, they could not have been more than 30 inches apart (Tr. 543). They held the steel in their hands above their heads up and lined it up over the bolts that were already sticking down through the switch support. Tommy held it in place while position himself to where he could rest the steel on the top of my head. He then installed the lock nut, lock washer and nut on both bolts finger tight (Tr. 544). Once they were on finger tight, he asked Mr. Seiberlich to go to his truck and get a socket and a ratchet and an extension that could fit up into the 6-inch channel to tighten the bolts. He testified that Tommy never tightened the bolts and he never saw him use the crescent wrench (Tr. 544). He testified that because the top of his head was against the bottom of the steel, Tommy’s head was below his and Tommy’s hands were above his head holding the channel. He explained that once he had finger tightened the bolts, he stepped down off the ladder because his head was right against the steel. (Tr. 545). He was turned around on the 8-foot step ladder with his back to the step ladder and he was facing away towards the ground in the opposite direction when the accident occurred. He heard the arcing and jumped from the ladder. He testified that he never saw Tommy go above the cross arm or channel, and furthermore, it was not necessary for him to go above the cross arm. He testified that if Tommy had gone above the cross arm he would have known it because he was right beside him (Tr.546-548)

Brad Seiberlich’s testimony corroborated the sequence of events as set forth by Mr. Northrop (Tr. 496-501). He also testified that he never saw Mr. Light doing any bolting or use the crescent wrench. Mr. Northrop did the bolting (Tr. 500). While he was holding the ladder, Mr. Northrop was hand tightening the bolts in the piece of steel and when Mr. Northrop could not get the wrench into the channel he sent him to get a socket from his truck. By this time Ron Marks came out, and Ron continued to hold Mr. Light’s ladder while he went to get a socket. He testified that while he held the ladder for Mr. Light, his eyes remained in the area of Mr. Light’s knees and ankles, and Mr. Light’s feet never went above his eye level. Mr. Light’s head remained below the steel they were hanging (Tr. 502). He never saw any part of Tommy’s body rise above the cross arm (Tr. 503). As he was at the truck looking for sockets he heard a big arc, big bang and saw Tommy fall off the ladder (Tr. 503). He also testified that prior to working on the switch, Mr. Northrop told him on numerous occasions that the switch hot and to be careful. (Tr. 506). He also acknowledged that there were no mats to insulate the portion of the switch which was live, and no one was using gloves rated for high voltage because they believed they were in a safe distance (Tr. 49).

Ron Marks’ testimony also corroborated the testimony of Mr. Northrop concerning the events which led to the accident (Tr. 509-510). He testified that when he arrived to hold the ladder, Mr. Light was not doing anything - he was just there waiting for the socket (Tr. 517). He had already lowered his hands from the bracket. When he first came out of the substation, Mr. Light was holding the bracket above his head with his head below the bracket. He also testified that at the time he was holding the ladder, Tommy’s feet were at his eye level (Tr. 511, 517-518). He never saw Tommy rise above the metal bracket being installed and there was no reason for him to rise above that level (Tr. 512). When the accident occurred, he was looking straight up at Tommy. He saw a bright flash of fire light which caused him to see spots and he had to turn away (Tr. 511-512, 517). **Credibility and Evaluation of Expert Testimony**

A determination as to whether Mr. Light rose above the bracket being installed can only be



made after evaluating the credibility of the employee eye witnesses. Once this determination is made the undersigned must find if there is any persuasive circumstantial evidence. The undersigned having observed the demeanor of the eyewitnesses, finds that the relationship which the three eyewitnesses presently have with the respondent had a significant influence with regard to their testimony. Each witness has a significant employment history with the Respondent, and furthermore, Mr. Northrop was and still is the supervisor of Messrs. Seiberlich and Marks.<sup>34</sup> The undersigned also notes that Mr. Seiberlich presently resides with his father, who is the Vice President of Respondent (Tr. 42). Each of these witnesses maintain that Mr. Light never went beyond the bracket which was being installed. The undersigned has evaluated these facts in conjunction with the physical evidence which Mr. Brosz described was present at the scene of the accident, and finds that Mr. Light would have never been fatally injured but for his presence above the bracket. The undersigned finds that their version of the facts support a finding of bias on the part of the witnesses in the interest of their employer, the Respondent. The undersigned also finds that Mr. Northrop's testimony certainly was motivated by a need of self-preservation. For example, CO Edwards testified that at the time of his investigation Mr. Northrop was very concerned about being sued (Tr. 215).

The undersigned has also evaluated the inconsistencies which the record contains with respect to statements these employees have made concerning the accident. Mr. Eason testified that during the Navy's investigation, these witnesses informed him that Mr. Light had been doing the bolting. Mr. Northrop told him that he had been holding up the bracket (Tr. 103). Mr. Eason's investigation took place immediately following the accident, and he testified that he obtained these statements within 30 minutes of the accident (Tr. 103, 117; Exh. R-5, p. 20 of 30). Additionally, CO Edwards' notes reveal that Mr. Marks initially told him that Mr. Light and Northrop were doing bolting. During his second interview Mr. Marks stated that Mr. Light set the crescent wrench up on the cross arm of the main support, and he stated that he had seen Mr. Light trying to use the crescent wrench to tightened the bolts. Mr. Marks also stated during the course of that time that Mr. Northrop had not said anything to him about the switch being hot, although he knew it was hot (Exh. R-5, pp. 17 & 18 of 30). The undersigned accords significant weight to the contents of these statements because they were made nearer in time to the accident.

It is well settled Commission precedent provides that reasonable inferences can be drawn from circumstantial evidence. *Oakland Construction Company*, 3 BNA OSHC 2023 (No. 3395). The record supports a finding that the crescent wrench and nut and bolt were found in areas above the bracket being installed. The record reveals that the crescent wrench and nuts and bolts were on a plate below the cross arm. The undersigned finds that this would place these items less than 28 inches from the top of the energized insulator. The undersigned finds that in light of the work that was being done and the location of the wrench, which was on the side Mr. Light was working, the preponderance of the evidence reveals that Mr. Light placed the wrench in said location<sup>35</sup>. The

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<sup>34</sup> Brad Seiberlich is presently a third year apprentice with a 3 1/2 year employment history (Tr. 496-497); Ronald Marks is presently an electrician with a 8 1/2 to 9 year employment history (Tr. 507-508); Darrell Northrop is presently a job foreman who has worked with Respondent on and off approximately 14 years (Tr. 520-521).

<sup>35</sup> The undersigned also notes that Mr. Eason testified that from Mr. Northrop's location he could not have pushed it under the cross bar or reached around to put it in that position (Tr. 101). CO Edwards also testified that it would not have been possible to slide the wrench  
(continued...)

Respondent provided no evidence which would have rebutted the Complainant's findings concerning the location of the wrench. The undersigned also notes that CO Edwards' notes of his interview with Mr. Northrop, indicates that Mr. Northrop informed him that he knew that the crescent wrench was put on the main support switch arm but he did not remember who put it up there (Exh. R-5, p.12 of 30). Mr. Northrop should have known if he himself had placed it there. The undersigned also recognizes that Mr. Brosz's explanation that Mr. Light had a pencil in his hand was a factor which he concluded based upon the presence of the charred pencil at the base of the switch (Tr. 435-436). Mr. Brosz acknowledged that no one had mentioned the pencil to him and that it was he who first discovered it during his visit (Tr. 436). The undersigned finds that his explanation for the presence of the charred pencil was consistent with his observations and the work which was being performed the morning of the accident.<sup>36</sup> The record reveals that additional drilling was to be done later, and all of the holes in the steel were not free of interference. This circumstantial evidence supports a finding that the pencil was being utilized during this task. The undersigned further finds that having reviewed all of the physical evidence presented by both parties, that the testimony of the Respondent's witnesses with respect to Mr. Light's location at the time of the accident is not credible.

Accordingly, in light of the fact that Mr. Chandler based his opinion upon the facts as presented by the eye witnesses, his opinion is not well helpful to the undersigned. Mr. Brosz testified Mr. Brosz testified that after hearing the eye witnesses testify at the hearing, he still would not change his findings(Tr. 731-732). He based his opinion upon his review of CO Edwards' notes of the accident, and Edwards showed him where the ladders were located and where various people were located, and after he saw the evidence on the switch he was able to reenact what happened (Tr. 401-405). The undersigned finds that due to his specialized experience and his qualifications as a forensic engineer and the Director of the Institute of Forensic Electropathology established his expert opinion is found to be credible and worthy of conclusive weight. The undersigned is also convinced that a preponderance of the physical evidence as described by Mr. Brosz supports the opinion of Mr. Brosz.<sup>37</sup>

**Citation 1, Item 1: Alleged Violation of §1926.957(a)(3)**

The standard provides in pertinent part:

Extraordinary caution shall be exercised in the handling of busbars, tower steel, materials, and equipment in the vicinity of energized facilities. The requirements set forth in 1926.950(c), shall be complied with.

§1926.950(c), *Clearances* requires in pertinent part that:

The provisions of paragraph (c) (1) or (2) of this section shall be observed.

...

(2)(I) The minimum working and minimum clear hot stick distances stated in Table V-I shall not be violated. . .

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<sup>35</sup>(...continued)

from Mr. Northrop's side to Mr. Light's side (Tr. 236).

<sup>36</sup> The record is void of any other explanation for the presence of the charred pencil. Mr. Northrop's only mention of any work where the pencil would have been used, involved the measuring and marking of the steel where the holes were to be drilled which took place in the substation (Tr. 540).

<sup>37</sup> The undersigned also notes that the switch has remained in Respondent's possession and Respondent has never had any tests performed upon it.

TABLE V-1 - ALTERNATING CURRENT - MINIMUM DISTANCES

Voltage range (phase to phase)	Minimum working and clear hot (kilovolt)   stick distance
2.1 to 15 .....	2 ft. 0 in.
<b>15.1 to 35 .....</b>	<b>2 ft. 4 in.</b>
35.1 to 46 .....	2 ft. 6 in.
46.1 to 72.5 .....	3 ft. 0 in.

...

The citation sets forth that on or about December 20, 1995, an employee working on the energized switch 09 installing a metal bracket violated the minimum working distance required between the employee and exposed energized parts of the switch. The cited standard specifically refers to “construction work in energized substations. “Construction work” as used in subpart V, where the instant standard is contained, includes the erection of new electric transmission and distribution lines and equipment, and the alteration, conversion, and improvement of existing electric transmission and distribution lines and equipment (29 C.F.R. §1926.950). The record reveals that Respondent was involved in the installation, replacement and modification of existing electrical equipment, in particular installation of 14 switches in the NAS Substation Building T-45(Tr. 521-522). Accordingly, the undersigned finds that the cited regulation is applicable.

The Complainant alleges that the instant regulation was violated in two ways: the minimum working distance was not maintained in working near energized equipment, and extraordinary caution was not exercised. (Complainant’s Post-Hearing Brief, p. 20. The Respondent maintains that the Secretary failed to produce evidence that Mr. Light came within the 28-inch unsafe zone, and that the work performed required the installation of a bracket below the cross arm of 09 Switch. (Respondent’s Post-Trial Brief, p. 10). The voltage at 09 Switch was 34.5 kV, and thus a clearance of 2 feet, 4 inches (28 inches) is required. This voltage was measured from the top of each of the insulators. The record establishes that the bottom of the bracket or channel which was being installed was 33 inches from the top of insulator B. It is Respondent’s position that there was no reason for Mr. Light, who was holding one end of the bracket and performing no bolting to come any closer to the 34.5 kV than 33 inches.

The undersigned finds that the Complainant has proven by a preponderance of the evidence that Mr. Light did not remain beyond the 28 inch minimum clearance distance and did rise above the bottom of the bracket. The record establishes that the 28 inch minimum safe distance requirement was violated a number of times. The first was when an employee placed a wrench on the face plate. The wrench was within the 28 inch required clearance - 25.5 inches. Additionally, the record reveals that the 28 inch requirement was not maintained when the first bolt was put into the nut and bolt into the support bracket. Mr. Brosz testimony is illustrative of this violative condition. He explained that the bolts had to be approximately 2 1/2 inches in length, and a portion of the hand is above the head of the bolt by approximately 3 inches to lift it in or out.. Thus, the 2 1/2 inches and 3 inches would bring one within the 28 inch sphere (Tr. 698-699). The preponderance of evidence also establishes that it was likely that a pencil was used to mark a hole. The marking of the hole from above the bracket would also have brought one above the bracket and into the 28 inch clearance distance. The physical presence of the nut and bolt and wrench on top of the face plate within the safe distance indicate that at some point they were put there, and the testimony makes clear that the work being done certainly entailed the use of such tools. Furthermore, this distance was violated when Mr. Light actually came in contact with the B-phase insulator. Additionally, Mr. Northrop

testified that he had removed the bolts and performed measurements prior to Mr. Light arriving at the switch. The work being done would certainly entail the use of such tools.

The undersigned also finds that the record establishes that extraordinary caution was not exercised. During their testimony both experts agreed that the accident could have been prevented by having de-energized the bus.<sup>38</sup> Mr. Brosz provided examples of additional safety precautions. Mr. Brosz suggested that the use of a bucket truck which has an insulated boom. He also suggested the wrapping of the A, B, and C phase insulators in rubber insulating blankets. Another precaution would have been to have all workers wearing rubber gloves. And finally, training could also have been a precaution. He explained that one is trained and warned of the hazards of high voltage and what is live and deenergized, minimum clearances, personal protective equipment<sup>39</sup> and methodology (Tr. 356). Additionally, CO Edwards brought up a very good point when he testified that 28 inches was simply a safe minimum distance. He believed that it would be prudent to have kept at least 28 inches away from any part of the insulator even though the voltage gets lower as one travels down the skirt (Tr. 350). For example, the chart V-I shows that for 2,100 volts to 15,000 volts the minimum safe distance is two feet. Accordingly, extraordinary caution would have been to stay away from the energized parts at the prescribed distances.

In view of the above the undersigned finds that the Complainant had met its burden of proving the Respondent's noncompliance with the standard. The record unequivocally establishes that Mr. Light had access to the violative condition and that his access to this condition proved fatal. The undersigned also finds that the record establishes that Respondent was had knowledge of the cited hazardous condition.<sup>40</sup> The record establishes that Mr. Northrop knew that he was on the "dead" side of the switch and Mr. Light was on the "hot" side. The record also establishes that he

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<sup>38</sup> Mr. Brosz stated that the best way would have been to have totally de-energized the switch and not half as was done here (Tr. 355). Mr. Chandler agreed that if switch 09 had been deenergized prior to employees working on it, the accident would not have occurred (Tr. 671).

<sup>39</sup> He suggested the use of Nomex clothing, which does not burn like cotton clothing (Tr. 358).

<sup>40</sup> To satisfy the element of knowledge, the Complainant must prove that a cited employer either knew, or with the exercise of reasonable diligence could have known of the presence of the violative condition. *Seibel Modern Manufacturing & Welding Corp.*, 15 BNA OSHC 1218, 1221 (No. 88-821, 1991); *Consolidated Freightways Corp.*, 15 BNA OSHC 1317, 1320-1321 (No. 86-351, 1991). In *Pride Oil Well Service*, 15 BNA OSHC 1809 (No. 87-692, 1992), the Review Commission set forth criteria to be considered when evaluating reasonable diligence.

Reasonable diligence involves several factors, including an employer's "obligation to inspect the work area, to anticipate hazards to which employees may be exposed, and to take measures to prevent the occurrence." *Frank Swidzinski Co.*, 9 BNA OSHC 1230, 1233 (No. 76-4627, 1981) . . . Other factors indicative of reasonable diligence include adequate supervision of employees, and the formulation and implementation of adequate training programs and work rules to ensure that work is safe. (citations omitted).

*Id.* at 1814.

was very familiar with a procedure for deenergizing these switches and had previously shut down the power on the south bus which is where 09 Switch was located and had not worked on any other switch while it was hot (Tr. 127, 131-132, 143). Mr. Northrop and other employees testified that Mr. Northrop told them that the switch was energized. However, other than this warning, Mr. Northrop took no other measures to prevent the occurrence of hazards he should have anticipated that his employees were exposed to in spite of his warning. The undersigned finds that a reasonably prudent foreman would have given more instruction to an untrained laborer working in close proximity to such high voltage. The undersigned finds that if he had exercised reasonable diligence he would have anticipated the hazards present while working in proximity of the energized insulator and taken measures to ensure that all hazards were eliminated. Review Commission precedent has established that actual or constructive knowledge of the employer's foreman or supervisor can be imputed to the employer. *Jersey Steel Erectors*, 16 BNA OSHC 1162 (No. 90-1307, 1993). Accordingly, Mr. Northrop's knowledge is imputed to the Respondent. The undersigned finds that Complainant has established a prima facie case of a violation of §1926.957(a)(3).

**Citation 1, Item 2: Alleged Violation of §1926.416(a)(4)**

The standard provides part:

*Work on energized equipment.* Only qualified persons may work on electric circuit parts or equipment that have not been deenergized under the procedures of §1926.417(d)<sup>41</sup> of this section. Such persons shall be capable of working safely on energized circuits and shall be familiar with the proper use of special precautionary techniques, personal protective equipment, insulating and shielding materials and insulated tools.

The citation sets forth that “an employee working on the energized switch 09 installing a metal bracket was not qualified to be working near energized electric circuit parts or equipment.” CO Edwards testified that he recommended this violation because Mr. Light was working on energized electrical equipment, and he was not qualified to do this as a backhoe operator/laborer. He had received no experience in any type of high voltage work and he had not received any specific training for high voltage work other than some toolbox safety meetings (Tr. 198). The Respondent asserts that the citation charges that Respondent had an unqualified person “working near” energized parts or equipment, and thus, the citation as written is contrary to the regulation which prohibits unqualified persons from “working on” energized parts or equipment.<sup>42</sup> The undersigned finds that the language within the citation properly charges Respondent with an unqualified employee “working on” the energized 09 Switch. Subpart K in general covers electrical safety requirements in construction work. The undersigned also finds that the standard is applicable because Respondent was engaged in construction work which involved electrical work.

Subpart K defines the term “equipment” as “[a] general term including material, fittings, devices, appliances, fixtures, apparatus, and the like, used as a part of, or in connection with, an electrical installation; and a “qualified person” is “[o]ne familiar with the construction and operation of the equipment and the hazards involved.” 29 C.F.R. §1926. 449. The Complainant alleges that the manufacturer designated the entire piece of equipment from the top of the pedestal to the top of

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<sup>41</sup> §1926.417(d). *Lockout and tagging.* While any employee is exposed to contact with parts of fixed electric equipment or circuits which have been deenergized, the circuits energizing the parts shall be locked out or tagged or both in accordance with the requirements of this paragraph....

<sup>42</sup> Respondent presented this same argument in a Motion to Dismiss Citation 1, Item 2 filed June 2, 1997. On June 11, 1997 the undersigned denied this Motion.

the insulator the “switch”, and that the definition of equipment is broad enough to encompass everything used in connection with an electrical installation (Tr. 361-362; Complainant’s Post-Hearing Brief, p. 26). Thus, this interpretation would include the bracket as electrical equipment . The record reveals that this switch was designed to feed circuits for the substation (Tr. 70-71). The manufacturer’s drawing, as well as Mr. Brosz’s report, describe the switch arrangement as a S&C Alduti-Rupter Switch-outdoor distribution-three-pole vertical break, integer style, pedestal, with reciprocating-type operating mechanism (Exh. G- 25 & 39). The manufacturer’s drawing identifies the Alduti-Switch as Item No. 1. Its ratings in kV and amperes are identified at Table 1. The dimensions of the mounting the switch are at Table II. The pedestal is separately identified as Item 2. The record establishes that the metal pedestal and cross arm had been grounded and Respondent had installed the grounds (Tr. 110-111,148-149; 552-553). The undersigned finds that these parts were grounded noncurrent-carrying metal parts of equipment which were not connected in an electrical circuit to a source of voltage.<sup>43</sup>

The citation charges the Respondent with having an employee working on the energized 09 Switch. However, the record reveals that Mr. Light was working not on a piece of equipment which had a source of electric potential. Accordingly, Citation 1, Item 2 is VACATED.

### **Affirmative Defenses**

Respondent argues that if Mr. Light rose above the cross arm, it was the result of unforeseeable or idiosyncratic behavior on his part in violation of Respondent’s safety policy. In support of its position, Respondent relies upon *Ocean Electric Corp.*, 594 F.2d 396 (4th Cir., 1979), where the Fourth Circuit held that the company should not be held liable because the action of the foreman was not foreseeable, and that the Secretary had the burden of proving unforeseeable and unpreventable employee misconduct. The undersigned finds that Respondent’s assertion of the state of the law with regard to unforeseeable or idiosyncratic behavior by employees is misplaced. Since the *Ocean* case, the Fourth Circuit has held that the employer must take all reasonable steps to accomplish the standard's requirements, including imposing work rules, communicating the rules to employees, and providing training, supervision and disciplinary action designated to enforce the rules. The Court further recognized that “despite these steps, if an employee disobeys the requirements of the standard, the employer has available the defense of ‘unforeseeable employee misconduct’.” *Forging Indus. Assn. v. Secretary of Labor*, 773 F 2d 1436, 1450 (4th Cir. 1985)(en banc)[12 BNA OSHC 1472]. Furthermore, in the matter of *L. E. Myers Co*, 16 BNA OSHC 1037, 1040, n. 6 (No. 90-945, 1993), the Review Commission identified the Fourth Circuit as one which has held that an allegation of unforeseeable employee misconduct constitutes an affirmative defense to be pleaded and proved by the employer. It is well settled Review Commission precedent that to establish this affirmative defense, an employer must show that “it had established a work rule designed to prevent the violation, adequately communicated those work rules, and effectively enforced those work rules, when they were violated.” *Pride Oil Well Serv.*, 15 BNA OSHA 1809 (No. 87-692), 1992). The undersigned finds that Respondent presented no evidence which would establish any one of these elements.

### **Willful Classification**

A violation is willful if it is committed with intentional, knowing or voluntary disregard for the requirements of the Occupational Safety and Health Act (the “Act”) *L.E. Myers Co.*, 16 BNA OSHA 1037, 1046, (No. 90-945, 1993);(quoting *Williams Enterp.*, 13 BNA OSHA 1249, 1256,(No.

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<sup>43</sup> 29 C.F.R. §1910.269(1)(9) provides that: Noncurrent-carrying metal parts of equipment or devices. . . shall be treated as energized. . . unless the employer inspects the installation and determines that these parts are grounded before work is performed.

85-355, 1987). A willful violation is differentiated from a nonwillful violation by a heightened awareness, a conscious disregard or plain indifference to employee safety. *General Motors Corp., Electro-Motive Div.*, 14 BNA OSHA 2064, 2068, (No. 82-630, 1991) (consolidated); *Williams*, 13 BNA OSHA at 1256-57. A violation is not willful if an employer had a good faith belief that the violative condition conformed to the requirements of the Act. The test of good faith is an objective one - that is, "whether the employer's belief concerning the factual matters in question was reasonable under all of the circumstances." *Morrison-Knudsen Co. \Yonkers Contracting Co.*, 16 BNA OSHC 1105, 1124 (No. 88-572, 1992).

CO Edwards testified that this violation was classified as willful because there was a total indifference to the standard in that the clearance distance was violated, and also the switch was not deenergized or insulated with blankets to prevent contact or proper personal protective equipment was not worn (Tr. 197). Additionally, he found it willful because Mr. Light was classified as a backhoe operator and was not qualified to work on or near energized equipment (Tr. 197). The Respondent asserts that Mr. Northrop did not knowingly and deliberately place Mr. Light in danger and that Mr. Light was merely holding a bracket for Mr. Northrop which did not require him to come within the 28 minimum safe distance area. (Respondent's Post-Trial Brief, p. 32).

The record discloses that Mr. Northrop was fully aware that the top of the insulator was energized. Mr. Northrop, the Navy and utility personnel had coordinated a system for power outages when work was being done on the switches. Normally, when a power outage became necessary, two weeks advance notice was required so that customers could be notified. However, in this instance such notice was not necessary. No customers would be affected by the power outage for this work because they would have been able to tie certain circuits together through a series of isolations (Tr. 125-126, 138). Accordingly, per Mr. Wray's testimony, upon learning from Mr. Northrop he intended on finishing work on the 09 switch hot, he responded "hell no" and informed him that they could isolate the switch within 45 minutes (Tr. 141-142).<sup>44</sup> This conversation took place approximately one week prior to the accident, and in spite of this conversation Mr. Northrop chose to work the switch hot. He testified that he told the employees under his supervision that the "thing was hot, do not get up" (Tr. 541). The record discloses that Mr. Northrop never discussed with his crew the 28 inch safe distance requirement.<sup>45</sup> The record also discloses that other than this warning, no other cautionary measures were taken to for work in the vicinity of the energized insulators. Furthermore, the Respondent was put on notice of the necessity of exercising caution per the manufacturer's drawing which stated "Caution any installation, operation, inspection or maintenance of the equipment covered by this document must be performed by qualified persons who are thoroughly trained and who understand any hazards that may be involved....Before performing the

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<sup>44</sup> Mr. Northrop testified that Mr. Wray had never directed him to deenergize the whole switch prior to performing the change order work (Tr. 551-552). The undersigned has previously noted that Mr. Northrop's testimony was not fully credible and makes a similar finding with respect to this conversation. Mr. Wray's testimony with respect to the methods previously utilized to deenergize switches, and the rather short period of time necessary to deenergized the 09 switch corroborates his testimony.

<sup>45</sup> CO Edwards notes indicate that during his January 16, 1996, interview Mr. Northrop stated that he told everyone the switch was "hot", however he did not discuss distances. CO Edwards also noted that Mr. Northrop also stated that he knew that OSHA required a 28 inch distance, however, he refused to answer whether he knew this information prior to the accident. (Exh. R-5, p.12 of 30).

operation described in this document, the necessary safety procedures relative to this type of equipment must be carried out” ( Exh. G-39; Tr. 361-362). The record reveals that in spite of this warning, no extraordinary caution was demonstrated by Respondent any additional safety procedures for this work. Such measures could have included personal protective equipment, training on the hazards of working near energized equipment, and insulated mats. Mr. Northrop in spite of the warning from Mr. Wray, the cautionary notice by the manufacturer, and his admitted knowledge of the requirements of the standard, he permitted an untrained laborer to work in close proximity of energized equipment. He provided no guidance to Mr. Light with respect to the importance of the safe distance clearance and took no precautionary measures to ensure his safety. The undersigned finds that this conduct was not malicious<sup>46</sup>, however, a plain indifference to employee safety. Furthermore, the undersigned finds that Mr. Northrop’s failure to request a power outage, especially when he had been informed that one could be accomplished within 45 minutes demonstrates further indifference to the requirements of the standard. His actions under the circumstances did not rise to the level of a good faith belief that it was not necessary to comply with the standard.

Review Commission precedent has established that, “[t]he employer is responsible for the willful nature of its supervisor’s actions to the same extent that the employer is responsible for their knowledge of violative conditions.” *Tampa Shipyards, Inc.*, 15 BNA OSHC 1533, 1539 (Nos. 86-360 and 86-469, 1992). For these reasons, the undersigned finds that the violation was properly classified as willful.

The undersigned also finds that this violation was serious. In order to prove a serious violation, the Secretary must show that there is a substantial probability that death or serious physical harm could result from the condition in question. 29 U.S.C. § 666(k). The serious nature of this violation has been established in light of the fact that a fatal accident occurred as a result of the Respondent’s noncompliance with the cited regulations.

### **Penalty**

What constitutes an appropriate penalty is a determination which the Review Commission as the final arbiter of penalties must make. In determining appropriate penalties “due consideration” must be given to the four criteria under Section 17(j) of the Act, 29 U.S.C., §666(j). These “penalty factors” are: the size of the employer’s business, the gravity of the violation, the employer’s good faith and its prior history. *J.A. Jones Construction Co.*, 15 BNA OSHC 2201, 2213-14 (No. 87-2059, 1993). These factors are not necessarily accorded equal weight. Generally speaking, the gravity of a violation is the primary element in the penalty assessment. *Trinity Indus., Inc.*, 15 BNA OSHC 1481, 1483 (No. 88-2691, 1992). The gravity of a particular violation depends upon such matters as the number of employees exposed, the duration of the exposure, the precautions taken against injury, and the likelihood that any injury would result. *J.A. Jones, supra*.

The undersigned finds that the record supports a finding for a high gravity serious willful violation (Tr. 197). The gravity of the violation was high - the severity of injury expected was fatal, and the probability that a fatal injury would occur as a result of the violation was high in light of the fact that a fatality occurred. Accordingly, a gravity-based penalty in the amount of \$70,000.00 was appropriate. The undersigned finds that a penalty adjustment for good faith is not appropriate because of the willful nature and high gravity of the violation. The undersigned finds that the penalty adjustments for size is appropriate (20% - 57 employees )(Tr. 562-563). A credit for a history of no violations during the previous three year period (10%) is appropriate (Tr. 203 250). After considering the above factors and the gravity of each violation, a penalty of \$49,000.00 for this

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<sup>46</sup> The Fourth Circuit has acknowledged that no showing of malicious intent is necessary for a finding of willfulness. *Construction Co. v. OSHRC*, 522 F.2d 777 (4th Cir., 1975)[3 BNA OSHC 1337].



violation is appropriate.

**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 decision, it is ORDERED that, the Citation 1, Item 1 alleging a violation of 29 C.F.R. §1926.957(a)(3) is affirmed as WILLFUL, and a penalty of \$49,000.00 is hereby assessed; Citation 1, Item 2 alleging a violation of 29 C.F.R. §1926.416(a)(4) is VACATED.

/s/  
Covette Rooney  
Judge, OSHRC

Dated: December 4, 1997  
Washington, D.C.