COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

DUKE ENERGY KENTUCKY, INC.	)	
	)	
_____	)	CASE NO. 2014-00165
	)	
ALLEGED FAILURE TO COMPLY WITH KRS 278.042	)	
	)	

ORDER

Duke Energy Kentucky, Inc. ("Duke Energy"), a Kentucky corporation which engages in the distribution of gas and electricity to the public for compensation for light, heat, power, and other uses, is a utility subject to Commission jurisdiction.[1]

KRS 278.042 requires the Commission to ensure that each electric utility constructs and maintains its plant and facilities in accordance with accepted engineering practices as set forth in the Commission's administrative regulations and orders and in the most recent edition of the National Electrical Safety Code ("NESC").

KRS 278.030 requires every utility to furnish adequate, efficient, and reasonable service. KRS 278.260 permits the Commission, upon its own motion, to investigate any act or practice of a utility that affects or is related to the service of a utility. KRS 278.280(1) further permits the Commission, after conducting such investigation and finding that a practice is unreasonable, unsafe, improper, or inadequate, to determine the reasonable, safe, proper, or adequate practice or methods to be observed and to fix same by Order.

[1] KRS 278.010(3)(a).

Pursuant to 278.280(2), which directs the Commission to prescribe rules and regulations for the performance of services by utilities, the Commission has promulgated Administrative Regulation 807 KAR 5:006, Section 25, which requires all utilities to adopt and execute a safety program. 807 KAR 5:006, Section 25(1) requires each utility to establish a safety manual with written guidelines for safe working practices and procedures to be followed by utility employees. Here, Duke Energy has adopted the Duke Energy Safe Work Practices Manual ("Duke Energy Safety Manual").

Commission Staff submitted to the Commission an Incident Investigation Report ("Report") regarding this incident, which is attached as an Appendix. The Report alleges that on November 18, 2013, Lawrence "Kevin" Dudley, a Duke Energy employee, sustained injuries while patrolling a transmission circuit that had locked out due to a storm at approximately 5:00 a.m. in the area of 5940 Lieberman Road in Covington, Kentucky. One four-person work crew was tasked with this assignment. The work crew at the incident job site included employee-in-charge Jason Seiter, victim Lawrence "Kevin" Dudley, Cindy Greive, and Danny Morris. In their statements, all of the crew members except Mr. Dudley admitted that there was no job briefing form filled out for this assignment.[2] While assessing the circuit in the area of the incident, the crew discovered a broken transmission/distribution pole with a line down. All four of the crew members assessed the damage, determined a method of accessing the downed pole/line, and discussed what was needed to make the repairs. Duke Energy stated that the crew was approximately 12 to 14 feet from the nearest conductor during this discussion. After this discussion, Mr. Seiter, Ms. Greive, and Mr. Morris turned to walk

[2] Mr. Dudley said in his statement that he had no knowledge of the event.

back to their vehicles. As they were walking away, they heard and saw a flash over their shoulders from an arc. They turned to see the victim, Mr. Dudley, lying under the distribution conductors. The distribution circuit became de-energized after Mr. Dudley made contact with the conductors. After the crew determined Mr. Dudley was clear of the conductors, they pulled Mr. Dudley further from the conductors and immediately called 911. Mr. Dudley was transported to University Hospital in Cincinnati, Ohio, where he was treated for second- and third-degree burns to his left wrist, right shoulder and right arm. Mr. Dudley was released from the hospital ten days later, on November 28, 2013, and is expected to fully recover from his injuries

Based on Commission Staff's investigation of the incident, as set forth in the Report, the information provided by Duke Energy in its seven-day summary report (Attachment A to the Report), Commission Staff alleges that Duke Energy has violated multiple provisions of the NESC and of its safety manual. The 14 alleged violations can be structured into three areas:

1. Failure to observe proper safety procedures on the job site to ensure the safety of all individuals involved.

   a. NESC, Part 4, Section 42, Rule 421.A.2 – General Rules for Employees – General Operating Routines – Duties of a first-line Supervisor or person in charge – This individual shall: See that all safety rules and operating procedures are observed by employees under the direction of this individual.

   b. NESC, Part 4, Section 42, Rule 421.A.6 – General Rules for Employees – General Operating Routines – Duties of a first-line Supervisor or person in charge – This individual shall: Conduct a job briefing with the employees involved before beginning each job. A job briefing should include at least the following items: procedures, personal protective equipment requirements, energy source controls, hazards associated with the job, and special precautions.

c. NESC, Part 4, Section 42, Rule 420.C.4 – General Rules for Employees – General – Safeguarding Oneself and Others – Employees who work on or in the vicinity of energized lines shall consider all of the effects of their actions, taking into account their own safety as well as the safety of other employees on the job site, or on some other part of the affected electric system, the property of others, and the public in general.

d. Duke Energy Safety Manual, Electrical Safety for Transmission and Distribution, Job Briefing, #1 – Job briefings are required to be performed at the start or resumption of each work activity.

e. Duke Energy Safety Manual, Electrical Safety for Transmission and Distribution, Job Briefing, #2 – The supervisor, crew leader, or employee-in-charge along with crew members will hold a job briefing to review work procedures, hazards associated with the job, special precautions, energy source control, and personal protective equipment.

2. Failure to wear proper personal protective equipment ("PPE") and suitable flame resistant clothing.

a. NESC, Part 4, Section 41, Rule 410.A.3 – Supply and communications systems – Rules for employers – General requirements – General – The employer shall insure that an assessment is performed to determine potential exposure to an electric arc for employees who work on or near energized lines, parts, or equipment. If the assessment determines potential employee exposure, clothing made from acetate, nylon, polyester, or polypropylene shall not be worn, unless arc rated.

b. NESC, Part 4, Section 42, Rule 420.H – General Rules for Employees – General – Tools and protective equipment – Employees shall use the personal protective equipment, the protective devices, and the special tools provided for their work. Before starting work, these devices and tools shall be carefully inspected to make sure they are in good condition.

c. NESC, Part 4, Section 42, Rule 420.I.1 – General Rules for Employees – General – Clothing – Employees

shall wear clothing suitable for the assigned task and work environment.

d. Duke Energy Safety Manual, Electrical Safety for Transmission and Distribution, Personal and Electrical Protective Equipment, #9-h – Dielectric footwear shall be worn while at or below ground level whenever danger from step or touch potential exists. Dielectric footwear shall be worn: While scouting, troubleshooting, or walking lines during outage restoration.

e. Duke Energy Safety Manual, Electrical Safety for Transmission and Distribution, Apparel and Jewelry, #1 – All employees working within 10 feet of exposed, energized conductors or equipment shall wear flame resistant clothing. Shirts and pants worn underneath shall be 100% natural fiber. Protective arc rating shall be at least 4.2 cal/cm2.

3. Failure to observe the required MAD to energized lines or parts.

a. NESC, Part 4, Section 44, Rule 441.A.1 (Table 441-1) – Additional Rules for Supply Employees – Energized conductors and parts – Minimum approach distance to energized lines or parts – General – Employees shall not approach or bring conductive objects within the minimum approach distance listed in Table 441-1 or Table 441-4 or distances as determined by an engineering analysis to exposed parts unless one of the following is met: (P-280 for complete rule) – Table 441-1 AC live work minimum approach distance – 12.5kV – 0.750 volts to 15 kV – Phase to Phase: 2'3" – (P-284 Table 441-1).

b. Duke Energy Safety Manual, Electrical Safety for Transmission and Distribution, Working On or Near Exposed Energized Parts, General, #3 – When working around exposed energized parts, employees shall use proper protective equipment and work practices and comply with minimum approach distances.

c. Duke Energy Safety Manual, Electrical Safety for Transmission and Distribution, Working On or Near Exposed Energized Parts, General, #4 – Avoid positions where a shock or slip could expose the body to equipment at a potential different from the body.

> d. Duke Energy Safety Manual, Electrical Safety for Transmission and Distribution, Minimum Approach Distance, #1 (Table 1) – Employees shall not approach or take any conductive object closer to exposed energized parts than the minimum distance shown in Table 1 unless the employee is: insulated from the energized part by wearing rubber gloves and/or sleeves that are rated for the voltage. OR – The energized part is insulated with line hose or rubber blankets. OR – Doing live-line bare-hand work – AC Minimum Approach Distance from Live Parts – 1.1kV to 15.0 kV – 2' 1".

Based on its review of the Report and being otherwise sufficiently advised, the Commission finds that prima facie evidence exists that Duke Energy has failed to comply with KRS 278.042, the most recent edition of the National Electrical Safety Code, and the Duke Energy Safety Manual. We further find that a formal investigation into the incident that is the subject matter of the Report should be conducted and that this investigation should also examine the adequacy, safety, and reasonableness of Duke Energy's practices related to the construction, installation, and repair of electric facilities.

The Commission, on its own motion, HEREBY ORDERS that:

1. Duke Energy shall submit to the Commission within 20 days of the date of this Order, a written response to the allegations contained in the Report.

2. Duke Energy shall appear on Tuesday, September 9, 2014, at 10:00 a.m. Eastern Daylight Time, in Hearing Room 1 of the Commission's offices at 211 Sower Boulevard in Frankfort, Kentucky, for the purpose of presenting evidence concerning the alleged violations of KRS 278.042, the most recent edition of the National Electrical Safety Code, and the Duke Energy Safety Manual, and show cause why it should not be subject to the penalties prescribed in KRS 278.990(1) for these alleged violations.

3. At the scheduled hearing in this matter, Duke Energy shall also present evidence on the adequacy, safety, and reasonableness of its practices related to the construction, installation, and repair of electric facilities as they relate to the facts of this case and whether such practices require revision as related to this incident.

4. The September 9, 2014 hearing shall be recorded by videotape only.

5. The Report in the Appendix is made a part of the record in this case.

6. Any requests for an informal conference with Commission Staff shall be set forth in writing and filed with the Commission within 20 days of the date of this Order.

By the Commission

ENTERED
MAY 27 2014
KENTUCKY PUBLIC
SERVICE COMMISSION

ATTEST:

Executive Director

APPENDIX

APPENDIX TO AN ORDER OF THE KENTUCKY PUBLIC SERVICE COMMISSION IN CASE NO. 2014-00165 DATED MAY 27 2014

Steven L. Beshear
Governor

Leonard K. Peters
Secretary
Energy and Environment Cabinet

Commonwealth of Kentucky
Public Service Commission
211 Sower Blvd.
P.O. Box 615
Frankfort, Kentucky 40602-0615
Telephone: (502) 564-3940
Fax: (502) 564-3460
psc.ky.gov

David L. Armstrong
Chairman

James W. Gardner
Vice Chairman

Charles Borders
Commissioner

ACCIDENT INVESTIGATION STAFF REPORT

Report Date: January 17, 2014

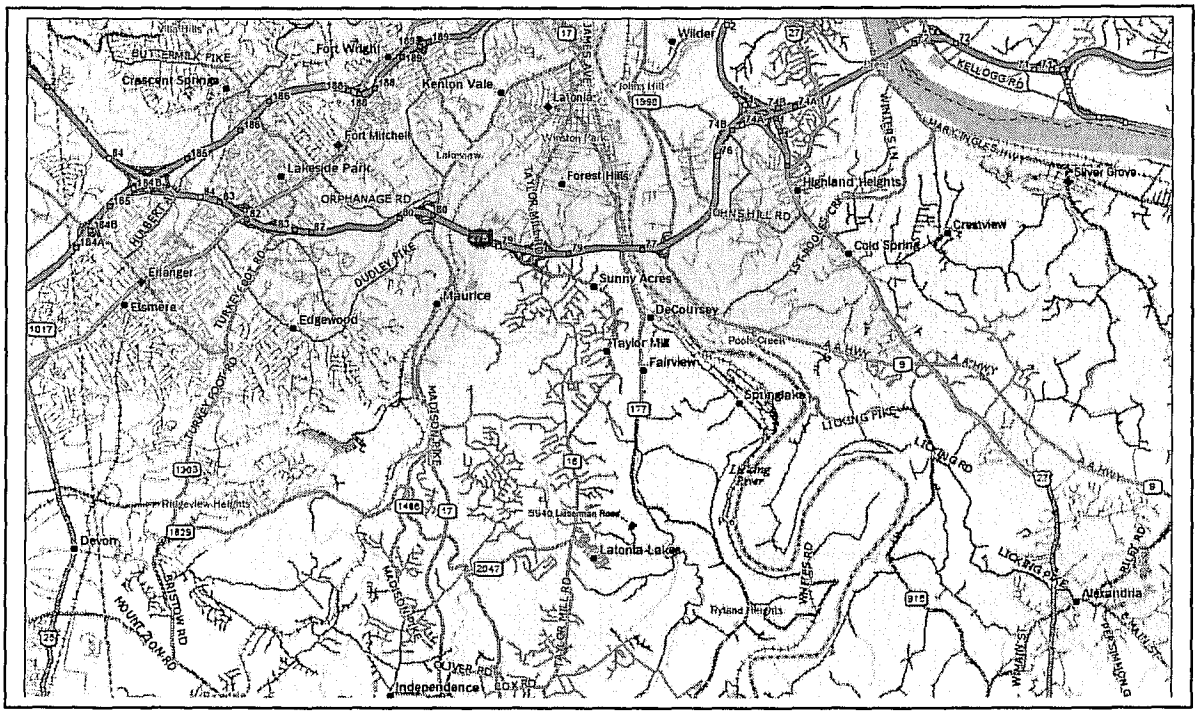
Accident Date: November 18, 2013

Serving Utility: Duke Energy

Accident Location: 5940 Lieberman Road, Covington, Kentucky

Accident Victims: Lawrence (Kevin) Dudley

PSC Investigator: Steve Kingsolver



Utility:	Duke Energy (Duke)
Reported By:	Jeff Dierker Duke Safety Department
Incident Occurred:	Approximately 5:00 AM, November 18, 2013
Utility Discovered:	Approximately 6:35 AM, November 18, 2013
PSC Notified:	Approximately 7:22 AM, November 18, 2013
Report Received (E-mail):	Approximately 7:40 PM, November 26, 2013
Report Received (Mail):	December 2, 2013
Meeting with Duke: **(Additional Information)**	Approximately 9:00 AM, December 16, 2013
Incident Location:	5940 Lieberman Road Covington, Kentucky

Incident Description:
This accident took place on November 18, 2013, at approximately 5:00 AM. The victim in this accident is Lawrence (Kevin) Dudley. He is an employee of Duke Energy and is classified as Lineperson A. The victim received second and third-degree burns to his left wrist, right shoulder, and right arm. The victim was released from the hospital on November 28, 2013, and is expected to make a full recovery. The victim was part of a four-man crew directed to patrol a transmission circuit that had locked out because of a storm in the area. This transmission circuit had a 12.5kV distribution circuit attached to the same poles as a parallel circuit or under build. The voltage level of this distribution circuit was confirmed with Duke Energy on January 13, 2014. The transmission circuit did lockout or became de-energized, but the distribution circuit did not lockout and continued to be energized. The crew patrolling these circuits found a broken pole. All four of the crew members were at the location of a broken pole discussing what was needed to make the repairs. After this discussion, three of the crew members turned to walk back to their vehicles. These three crew members heard and saw the flash from the arc and tumed to see the victim, the fourth crew member, lying under the distribution conductors. The distribution circuit became de-energized after the victim made contact with the conductors. The crew members stated that they were approximately 12-14 feet away from the energized distribution circuit conductors during their assessment. There were no witnesses to this accident and the victim does not recall what took place to cause him to make

contact with the energized distribution circuit conductors. The energized distribution circuit conductors were measured by Duke Energy for vertical clearance from ground after the accident. Information provided by Duke Energy concerning this accident states that the victim and all other crew members were not wearing the required dielectric footwear, the victim was wearing a polyester tee shirt at the time of the accident, the victim did not maintain minimum approach distance from the energized distribution circuit conductors, and there was not a job briefing completed before this job was started.

All the information in this accident report was provided by Duke Energy. An onsite accident investigation was not conducted on this accident. I met with Duke Energy on December 16, 2013 to gather additional information not provided in their summary report to the Commission. Duke Energy employees that attended this meeting are as follows:

James Mclean, Duke Legal Department
Jeff Dierker, Duke Safety Department
Ken Toebbe, Duke Area Manager
Christian Nichols, Duke Safety Department
Craig Helsinger, Duke Transmission Field Supervisor

Victim:	**Name:**	**Position:**	**Employer:**
	Lawrence (Kevin) Dudley	Lineperson A	Duke Energy

Witnesses:	**Name:**	**Position**	**Employer:**
	None		

Employees at job site but did not witness accident:

Name:	**Position**	**Employer:**
Jason Seiter (Employee in Charge of this Job Site)	Senior Lineperson A	Duke Energy
Cindy Greive	Lineperson A	Duke Energy
Danny Morris	Senior Lineperson A	Duke Energy

Note: Statements from the 4 employees listed above are made part of the Utility Additional Information

Information From: Name:	**Position:**	**Employer:**
James Mclean	Legal Department	Duke Energy
Jeff Dierker	Safety Department	Duke Energy
Ken Toebbe	Area Manager	Duke Energy
Christian Nichols	Safety Department	Duke Energy
Craig Helsinger	Transmission Field Supervisor	Duke Energy

Line/Equipment Measurements/Clearances

Line Clearances At Point of Incident:	Measured:	Minimum Allowed by NESC:	Applicable NESC Edition 2012*:	Voltage:	Construct Date:
Primary (B Phase) to Ground Elevation:	4' 0"	18'-6"	2012 EDITION	7.2kV	UNKNOWN
Primary (C Phase) to Ground Elevation:	3' 4"	18'-6"	2012 EDITION	7.2kV	UNKNOWN

*** If clearances were not in compliance with the current edition, then the edition in effect when the facilities were last constructed or modified would apply.**

Temp & Weather: Mid to Upper 50's, Rain

Measurements Made By: Duke Energy

FINDINGS:

It is the investigator's opinion that Duke Energy did not meet or exceed the following requirements set forth in the Commission's Regulations, the National Electrical Safety Code (NESC), and the Duke Energy Safety Manual.

RELEVANT CODES, STATUTES, REGULATIONS, OR SAFETY MANUAL ISSUES THAT ARE PERTINENT TO THE INVESTIGATION

278.042 Service adequacy and safety standards for electric utilities
National Electrical Safety Code

(1) For the purposes of this section, "NESC" means the National Electrical Safety Code as published by the Institute of Electrical and Electronics Engineers, Inc.
(2) Except as otherwise provided by law, the commission shall, in enforcing service adequacy and safety standards for electric utilities, ensure that each electric utility constructs and maintains its plant and facilities in accordance with accepted engineering practices as set forth in the commission's administrative regulations and orders and in the most recent edition of the NESC.

Effective: June 24, 2003
History: Created 2003 Ky. Acts Ch. 84, sec. 1, Effective June 24, 2003.

2012 National Electric Safety Code:
See 2012 NESC Code to view each rule in its entirety.

National Electrical Safety Code-1

Part 4: Work Rules
Section 42: General rules for employees
#421: General Operating Routines
A: Duties of a first-line Supervisor or person in charge
This individual shall:
#2: See that all safety rules and operating procedures are observed by employees under the direction of this individual.
#6: Conduct a job briefing with the employees involved before beginning each job. A job briefing should include at least the following items: procedures, personal protective equipment requirements, energy source controls, hazards associated with the job, and special precautions.
(P-272)

National Electrical Safety Code-2

Part 4: Work Rules
Section 42: General rules for employees
#420: General
H: Tools and protective equipment
Employees shall use the personal protective equipment, the protective devices, and the special tools provided for their work. Before starting work, these devices and tools shall be carefully inspected to make sure they are in good condition.
(P-270)

National Electrical Safety Code-3

Part4: Work Rules
Section 44: Additional rules for supply employees
#441: Energized conductors and parts
A: Minimum approach distance to energized lines or parts
#1: General
Employees shall not approach or bring conductive objects within the minimum approach distance listed in Table 441-1 or Table 441-4 or distances as determined by an engineering analysis to exposed parts unless one of the following is met:
(P-280 for complete rule)

Table 441-1 AC live work minimum approach distance
12.5kV
0.750 Volts to 15 kV – Phase to Phase: 2' 3"
(P-284 Table 441-1)

National Electrical Safety Code-4

Part 4: Work Rules
Section 41: Supply and communications systems – Rules for employers
#410: General requirements
A: General
#3: The employer shall insure that an assessment is performed to determine potential exposure to an electric arc for employees who work on or near energized lines, parts, or equipment.
If the assessment determines potential employee exposure, clothing made from acetate, nylon, polyester, or polypropylene shall not be worn, unless arc rated.
(P-262)

National Electrical Safety Code-5

Part 4: Work Rules
Section 42: General rules for employees
#420: General
I: Clothing
#1: Employees shall wear clothing suitable for the assigned task and work environment.
(P-270)

National Electrical Safety Code-6

Part 2: Safety Rules for the Installation and Maintenance of Overhead Electric and Communication Lines
Section 23: Clearances
#232: Vertical clearance of wires, conductors, cables, and equipment above ground, roadways, rail, or water surfaces
Table 232-1: Vertical clearance of wires, conductors, and cables above ground, roadways, rail, or water surfaces
Section 4: Other areas traversed by vehicles, such as cultivated, grazing, forest, and orchard lands, industrial sites, commercial sites, etc.
Section: Open supply conductors, over 750V to 22kV: - 18.5'
(P-97)

National Electrical Safety Code-7

Part 4: Work Rules for the Operation of Electric Supply and Communication Lines and Equipment
Section 42: General Rules for Employees
#420: General
C: Safeguarding Oneself and Others

#4: Employees who work on or in the vicinity of energized lines shall consider all of the effects of their actions, taking into account their own safety as well as the safety of other employees on the job site, or on some other past of the affected electric system, the property of others, and the public in general.
(P-269)

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807 KAR 5:006. General rules.

RELATES TO: KRS 65.810, 74, 96.934, 220.510, 278, 49 C.F.R. Part 192, 49 U.S.C. 60105
STATUTORY AUTHORITY: KRS 278.230, 278.280(2), 49 C.F.R. 192
NECESSITY, FUNCTION, AND CONFORMITY: KRS 278.230(3) requires every utility to file with the commission reports, schedules, and other information that the commission requires. KRS 278.280(2) requires the commission to promulgate an administrative regulation for the performance of a service or the furnishing of a commodity by a utility. This administrative regulation establishes requirements that apply to electric, gas, water, sewage, and telephone utilities.

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807 KAR 5:006 General Rules
Section 24: Safety Program

Section 24: Safety Program: Each utility shall adopt and execute a safety program, appropriate to the size and type of its operations. At a minimum, the safety program shall:
(1) Establish a safety manual with written guidelines for safe working practices and procedures to be followed by utility employees.
(2) Instruct employees in safe methods of performing their work.
(3) Instruct employees who, in the course of their work, are subject to the hazard of electrical shock, asphyxiation or drowning, in accepted methods of artificial respiration.

Duke Energy Safety Manual
(November 18, 2013 Accident) (Victim: Dudley)
See Duke Energy Safety Manual to view each rule in its entirety.

Duke Energy Safety Manual-1

Section: Electrical Safety for Transmission and Distribution
Heading: Job Briefing
#1: Job briefings are required to be performed at the start or resumption of each work activity.
#2: The supervisor, crew leader, or employee-in-charge along with crew members will hold a job briefing to review work procedures, hazards associated with the job, special precautions, energy source control, and personal protective equipment.
(P-35)

Duke Energy Safety Manual-2

Section: Electrical Safety for Transmission and Distribution
Heading: Personal and Electrical Protective Equipment
#9: Dielectric footwear shall be worn while at or below ground level whenever danger from step or touch potential exists. Dielectric footwear shall be worn:
H: While scouting, troubleshooting, or walking lines during outage restoration
(P-37)

Duke Energy Safety Manual-3

Section: Electrical Safety for Transmission and Distribution
Heading: Working on or Near Exposed Energized Parts
#3: When working around energized parts, employees shall use proper protective equipment and work practices and comply with minimum approach distance.
#4: Avoid positions where a shock or slip could expose the body to equipment at a potential different from the body.
(P-38)

Duke Energy Safety Manual-4

Section: Electrical Safety for Transmission and Distribution
Heading: Minimum Approach Distance
#1: Employee shall not approach or take any conductive object closer to exposed energized parts than the minimum distance shown in Table 1 unless the employee is:
> Insulated from the energized part by wearing rubber gloves and/or sleeves that are rated for the voltage. OR
> The energized part is insulated with line hose or rubber blankets. OR
> Doing live-line bare-hand work.
Table 1: AC Minimum Approach Distance from Live Parts
1.1kV to 15.0 kV - 2' 1"
(P-39)

Duke Energy Safety Manual-5

Section: Electrical Safety for Transmission and Distribution
Heading: Apparel and Jewelry
#1: All employees working within 10 feet of exposed, energized conductors or equipment shall wear flame resistant clothing. Shirts and pants worn underneath shall be 100% natural fiber. Protective arc rating shall be at least 4.2 cal/cm2.
(P-40)

Investigated By:	Name:	Company:
	Steve Kingsolver	KPSC

Signed: Steve Kingsolver

Date: 1-17-14

Attachments:

A. Utility Incident Report
B. Utility Additional Information

Attachment A

Utility Incident Report

Kingsolver, Steve (PSC)

ɔm: Dierker, Jeff <Jeff.Dierker@duke-energy.com>
Sent: Tuesday, November 26, 2013 7:40 PM
To: Kingsolver, Steve (PSC)
Cc: McLean, James E; Toebbe, Ken C
Subject: Duke Energy Employee Electrical Contact
Attachments: img-Y26200048-0001.pdf

Steve, attached is a copy of the incident report for the employee electrical contact that occurred at approximately 5:00 a.m. on 11/18/13 at 5940 Lieberman Rd., in Covington Kentucky. A letter has also been mailed to your office in Frankfort, Ky.

Please call me if you have any questions or need additional information.

Sincerely,

Jeff Dierker

Jeffery T. Dierker
Duke Energy
Mgr., EH&S Midwest Field Support
139 East Fourth Street
Cincinnati, Ohio 45202
tel 513.287.1234
: 513.287.3499
jeff.dierker@duke-energy.com

DUKE ENERGY.

Duke Energy
EM740 | 139 East Fourth St.
Cincinnati, OH 45202

VIA EMAIL (Steve.Kingsolver@ky.gov) AND ORDINARY MAIL

November 26, 2013

Mr. Steve Kingsolver
Utility Regulatory & Safety Investigator
Kentucky Public Service Commission
211 Sower Boulevard
P.O. Box 615
Frankfort, KY 40602-0615

Re: Electrical Contact - 5940 Lieberman Road, Covington, Kentucky

Dear Mr. Kingsolver,

We contacted you on November 18, 2013 at 7:38 a.m. to inform you of an electrical contact which involved one employee from Duke Energy. Jeff Dierker, Duke Energy Manager Midwest EHS Field Support was notified on November 18, 2013 at 6:35 a.m. and left a message on Jeff Moore's cell phone at 7:22 a.m. that same morning.

On November 17, 2013 at approximately 9:25 p.m., a Transmission crew of four (two Senior Linepersons A, and two Linepersons A) were called out to assess transmission outages caused by storms in Ohio and Kentucky. The crew consisted of two Senior Lineperson A and two Lineperson A. After completing assessment in one area, the crew was dispatched to assess 69kV circuit identification number 5967. After discussing how they were going to assess circuit 5967, it was decided that two Linepersons would start at each end and meet in the middle. After walking approximately 5 spans, one Senior Lineperson A discovered Transmission/Distribution pole #667/15K711E was broken with a wire down. Senior Lineperson A then called the other crew to give his location and what he had found.

Both crews met at 5940 Lieberman Road in Covington, Kentucky and walked down to assess the damage. The crews stopped approximately 12 to 14 feet from nearest conductor and discussed the possibility of induced voltage from an O.V.E.C line crossing circuit 5967 2 spans down. There was no isolation, there were no grounds, and everything was considered energized. The crew then directed their attention to identifying what materials were needed for repairs, and how to access the broken pole with equipment. After they were finished with assessing the damage, all crew members turned away from the damage and proceeded toward their trucks to report their findings to the Distribution Control Center to await further instructions. This was approximately 5:00 a.m. on November 18, 2013. Three of the crew members heard and saw a flash over their shoulders. As they turned, they saw one Lineperson A involved in the flash. The three crew members quickly determined the injured employee was clear of the conductors, and then they pulled the injured employee further from the conductors. One crew member called 911 while the others restrained the injured employee who was trying to get up. EMS arrived on scene within 10 minutes of the call and transported the injured employee to University Hospital in Cincinnati, Ohio.

The Lineperson A received second and third degree burns to his left wrist, right shoulder, and right arm. The employee was admitted to the hospital and is expected to be released this week.

The injured employee does not remember making contact with the conductors, or how it occurred. The three other crew members turned to make their way back to the vehicles and did not witness the event, or know how contact was made. An investigation is ongoing, and a report should be completed by December 6, 2013. Attached below are a few photos of the incident scene, with brief descriptions of the event.

Incident Location - 5940 Lieberman Rd., Covington, Ky. (see Exhibit A)
Approximate crew location during damage assessment (see Exhibit B)
Approximate location of injured employee after contact (see Exhibit C)

Exhibit A

Exhibit B

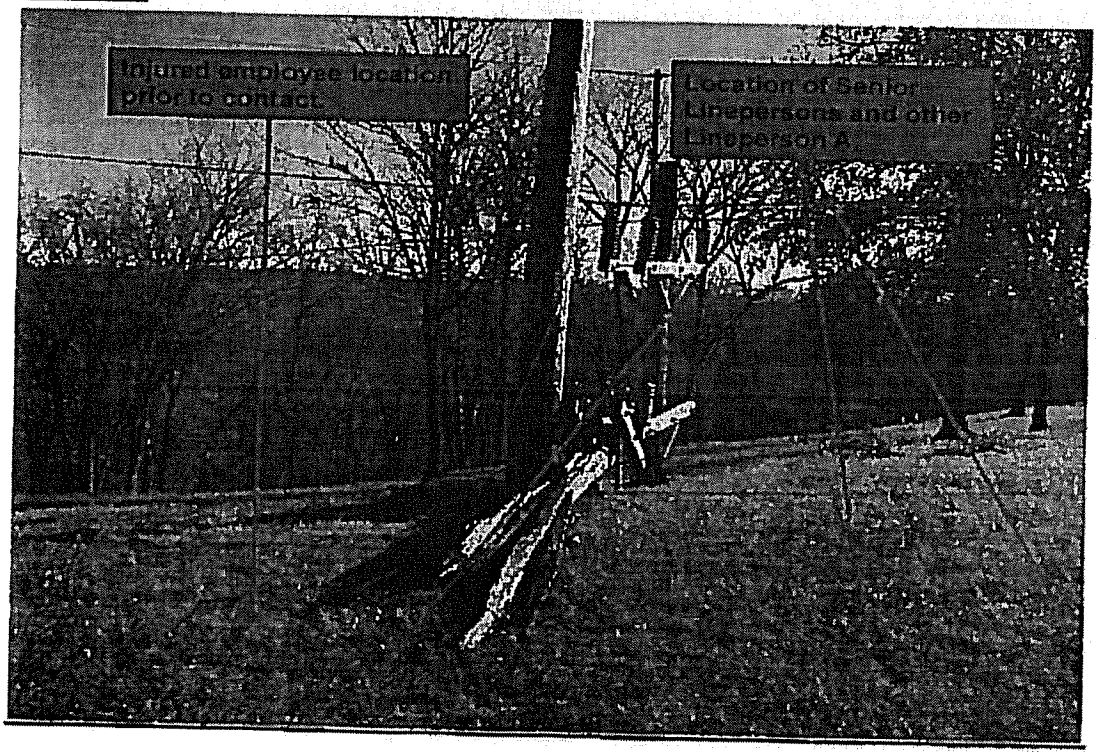

Exhibit C

If you have any questions or concerns, please do not hesitate to contact me at (513) 287-1234.

Sincerely,

Jeffery T. Dierker
Duke Energy Manager
EHS Midwest Field Support

cc: Ken Toebbe
James McLean

Kingsolver

Duke Energy
EM740 | 139 East Fourth St.
Cincinnati, OH 45202

VIA EMAIL (Steve.Kingsolver@ky.gov) AND ORDINARY MAIL

November 26, 2013

Mr. Steve Kingsolver
Utility Regulatory & Safety Investigator
Kentucky Public Service Commission
211 Sower Boulevard
P.O. Box 615
Frankfort, KY 40602-0615

Re: Electrical Contact - 5940 Lieberman Road, Covington, Kentucky

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On November 17, 2013 at approximately 9:25 p.m., a Transmission crew of four (two Senior Linepersons A, and two Linepersons A) were called out to assess transmission outages caused by storms in Ohio and Kentucky. The crew consisted of two Senior Lineperson A and two Lineperson A. After completing assessment in one area, the crew was dispatched to assess 69kV circuit identification number 5967. After discussing how they were going to assess circuit 5967, it was decided that two Linepersons would start at each end and meet in the middle. After walking approximately 5 spans, one Senior Lineperson A discovered Transmission/Distribution pole #667/15K711E was broken with a wire down. Senior Lineperson A then called the other crew to give his location and what he had found.

Both crews met at 5940 Lieberman Road in Covington, Kentucky and walked down to assess the damage. The crews stopped approximately 12 to 14 feet from nearest conductor and discussed the possibility of induced voltage from an O.V.E.C line crossing circuit 5967 2 spans down. There was no isolation, there were no grounds, and everything was considered energized. The crew then directed their attention to identifying what materials were needed for repairs, and how to access the broken pole with equipment. After they were finished with assessing the damage, all crew members turned away from the damage and proceeded toward their trucks to report their findings to the Distribution Control Center to await further instructions. This was approximately 5:00 a.m. on November 18, 2013. Three of the crew members heard and saw a flash over their shoulders. As they turned, they saw one Lineperson A involved in the flash. The three crew members quickly determined the injured employee was clear of the conductors, and then they pulled the injured employee further from the conductors. One crew member called 911 while the others restrained the injured employee who was trying to get up. EMS arrived on scene within 10 minutes of the call and transported the injured employee to University Hospital in Cincinnati, Ohio.

The Lineperson A received second and third degree burns to his left wrist, right shoulder, and right arm. The employee was admitted to the hospital and is expected to be released this week.

The injured employee does not remember making contact with the conductors, or how it occurred. The three other crew members turned to make their way back to the vehicles and did not witness the event, or know how contact was made. An investigation is ongoing, and a report should be completed by December 6, 2013. Attached below are a few photos of the incident scene, with brief descriptions of the event.

Incident Location - 5940 Lieberman Rd., Covington, Ky. (see Exhibit A)
Approximate crew location during damage assessment (see Exhibit B)
Approximate location of injured employee after contact (see Exhibit C)

Exhibit A

Exhibit B

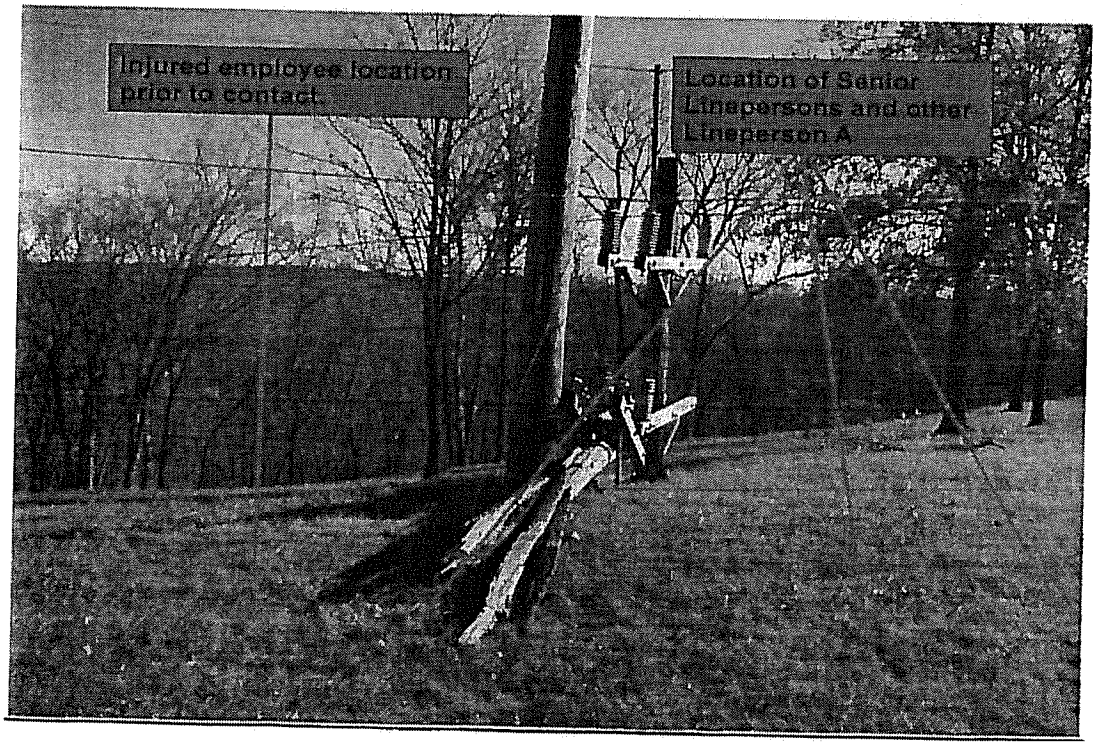
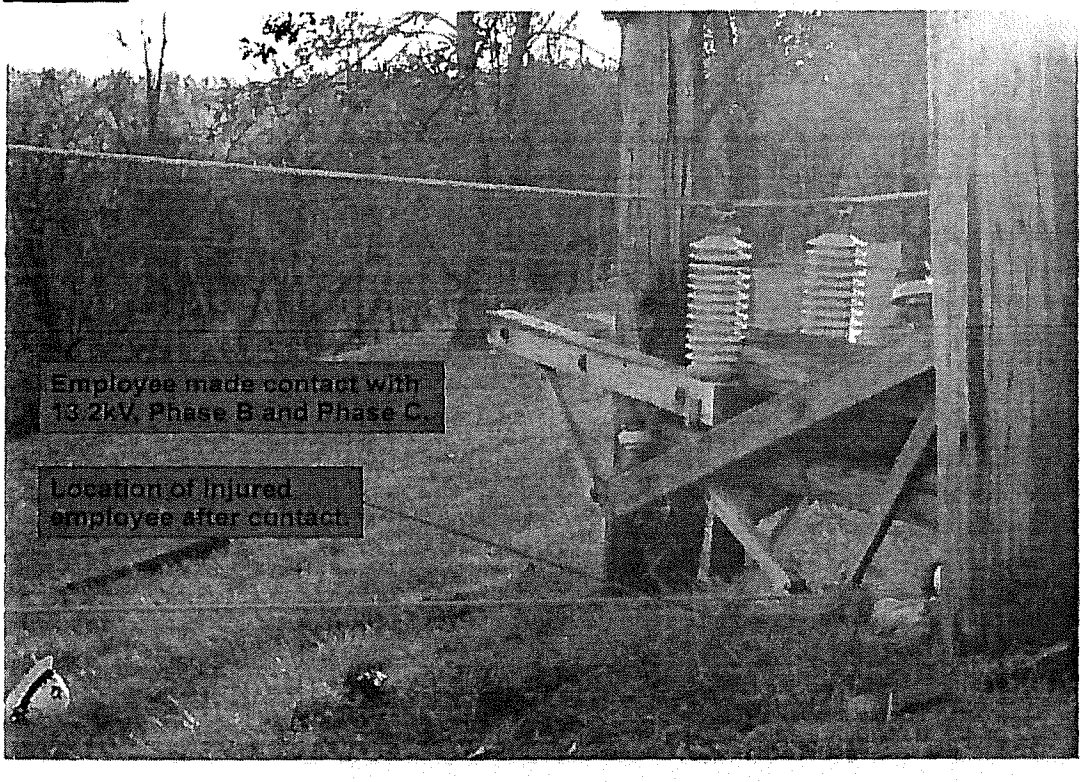


Exhibit C



If you have any questions or concerns, please do not hesitate to contact me at (513) 287-1234.

Sincerely,

Jeffery T. Dierker
Duke Energy Manager
EHS Midwest Field Support

cc: Ken Toebbe
James McLean

Attachment B

Utility Additional Information

Final Investigation Report
Employee Injury

Type of Incident: Electrical Contact (SIF)
Date of Incident: 11/18/2013
Time: Approximately 4:58 a.m.
Location: 5940 Lieberman Rd. Covington, Kentucky
Weather: Rain, Mid to Upper 50's

Summary

On November 17, 2013, at approximately 9:25 p.m., a crew of 4 Transmission Linepersons were called out to assess transmission outages during Storm #7 in Ohio/Kentucky. After arriving at the district they split up into two-person crews. Crew "A" consisted of a Senior Lineperson A and a Lineperson A, crew "B" was likewise. They were first dispatched to McMann Circuit 6962 to repair a cross-arm on a radial feed circuit. After completing the repairs, the crews were dispatched to assess circuit 5967. After locating circuit 5967, it was discovered it was a parallel circuit with 12470 under-build identified as White Tower "43". After discussing how they were going to assess circuit 5967 it was decided crew "A" would start at one end of the right-of-way and crew "B" the other, and they would meet in the middle. After walking approximately five spans, Senior Lineperson A from crew "A" discovered Transmission/Distribution pole # 667/15K711E was broken with wire down. Senior Lineperson A then called crew "A" Lineperson and crew "B" giving his location and what he had found.

Both crews met at 5940 Lieberman Rd. and walked down to assess the damage. The crews stopped approximately 12 to 14 feet from the nearest conductor and discussed the possibility of induced voltage on the transmission circuit from an Ohio Valley Electric Corporation (O.V.E.C.) line crossing circuit 5967 two spans down. There was no isolation, nothing was grounded and everything was considered energized, including the distribution under-build circuit.

Summary (continued)

The crew then directed their attention to determining what materials were needed for repairs, and how to access the broken pole with equipment. After they were finished with assessing the damage, all crew members turned away from the damage and proceeded toward their trucks to report their findings to the Distribution Control Center (DCC) to await further instructions.

Three of the crew members heard and saw a flash over their shoulders. As they turned, they saw Lineperson A from crew "B" in the flash. The three crew members quickly assessed the injured employee was in the clear of the conductors, and then pulled the injured employee further from the conductors. One crew member called 911 while the others restrained the injured employee who was trying to get up. EMS arrived on scene within 10 minutes of the call and transported the injured employee to University Hospital in Cincinnati, Ohio.

The employee received second and third degree burns to his left wrist, right shoulder, and right arm.

The employee was released from the hospital on 11/28/13 and is expected to make a full recovery.

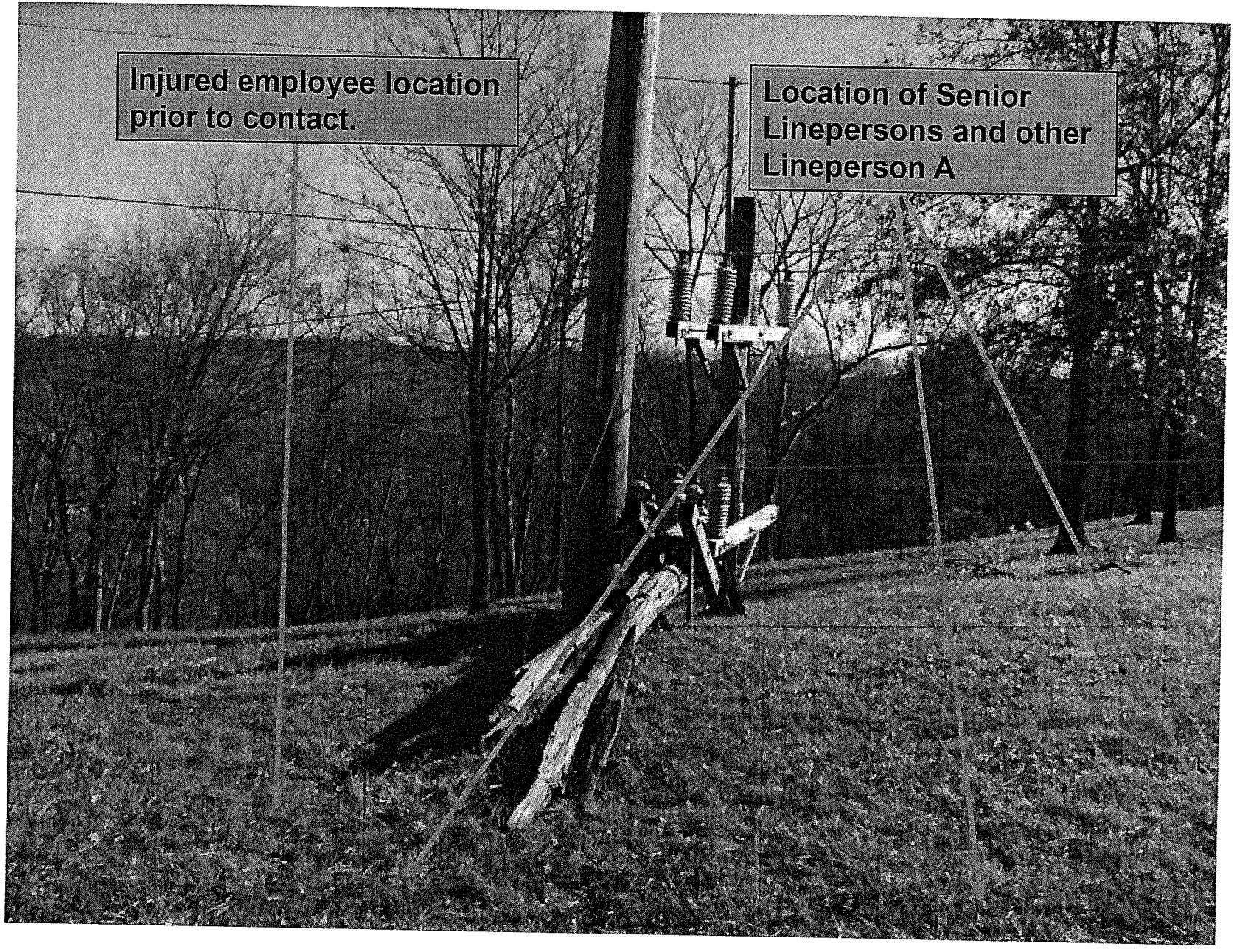
Additional Information

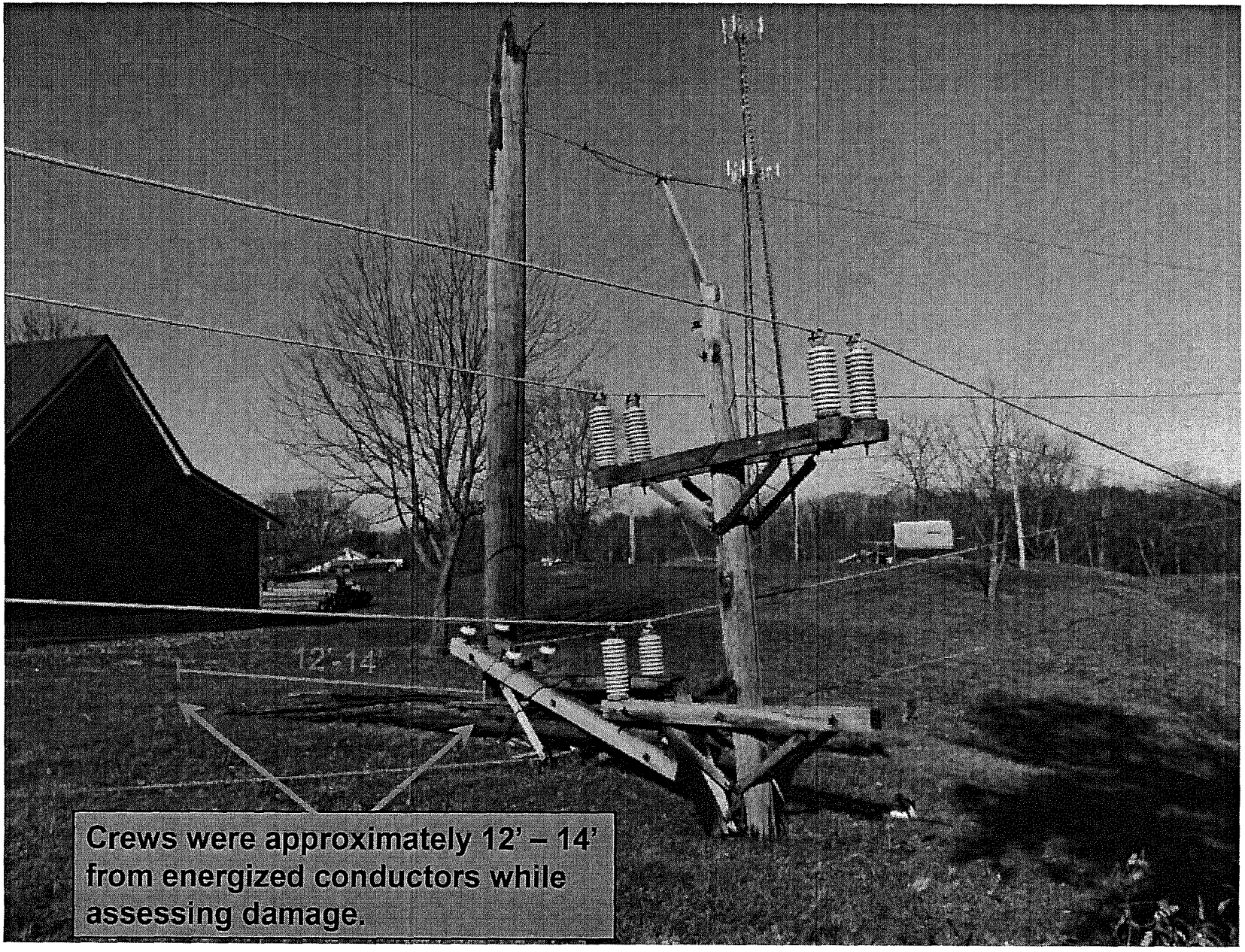
- The broken pole was located on a hill that was sloped in two different directions with uneven terrain, wet grass, and the incident occurred prior to sunrise.
- 5940 Lieberman Rd. is located at the end of a dead end road. The pole with downed conductors were within site of parked crew trucks.
- The injured worker was hired by Duke Energy as Line Apprentice approximately 5½ years ago. Injured worker recently promoted to Lineperson A on 10/30/2013.
- It is unknown why the injured worker moved in the direction he did as the other three crew members started to return to their trucks.
- It is the opinion of the investigation team that slips, trips and falls may have been a contributing factor in this incident.
- A flash occurred at 4:58 a.m. Recloser 540994 phase B&C opened and locked out on White Tower "43".
- Injured employee has a contact point on his left wrist and right shoulder blade.
- No crew members were wearing Dielectric Footwear as required by PD Work Standards, and the injured employee was wearing a synthetic tee-shirt under two layers of FR and one layer of 100% natural fiber clothing.

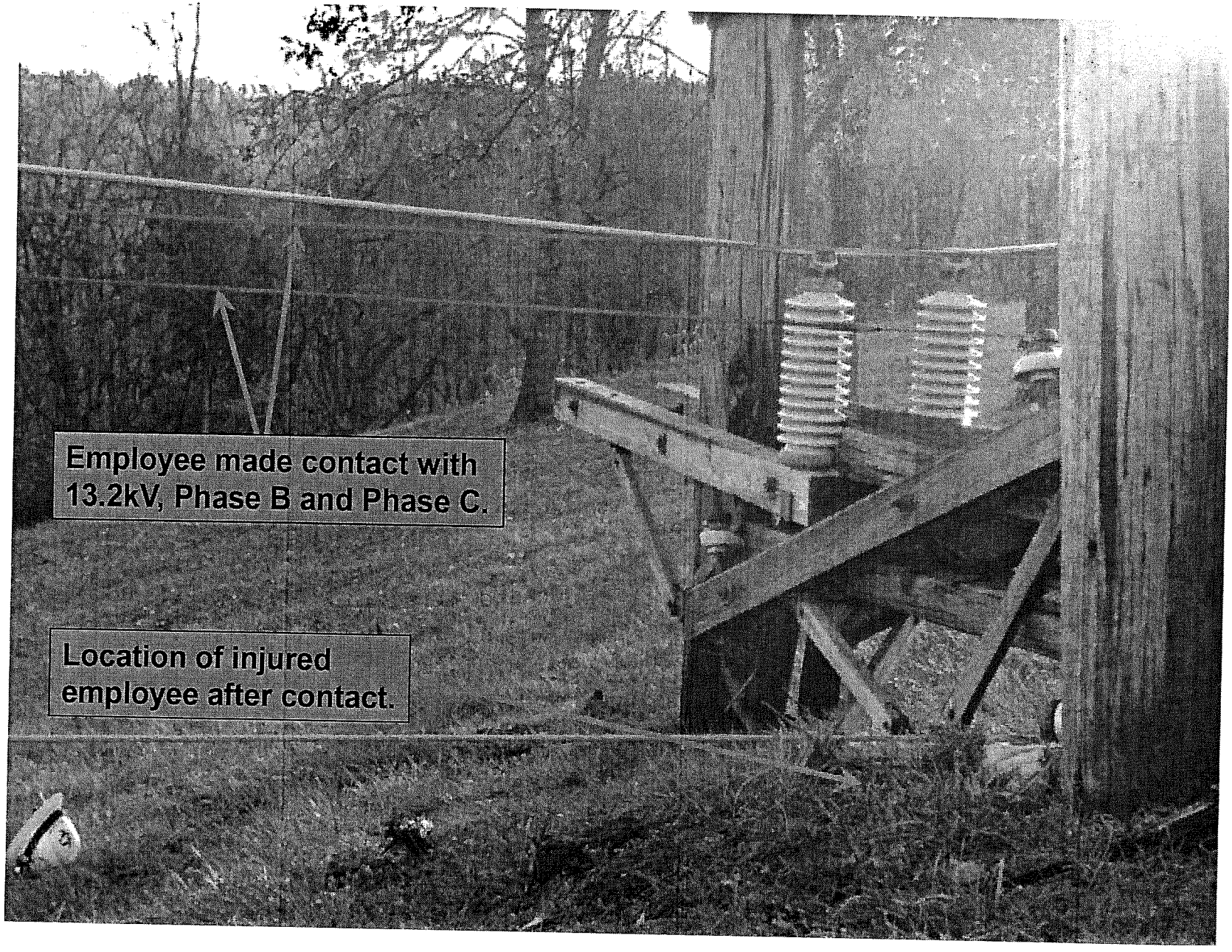
#5940 Lieberman Road, Covington, Kentucky

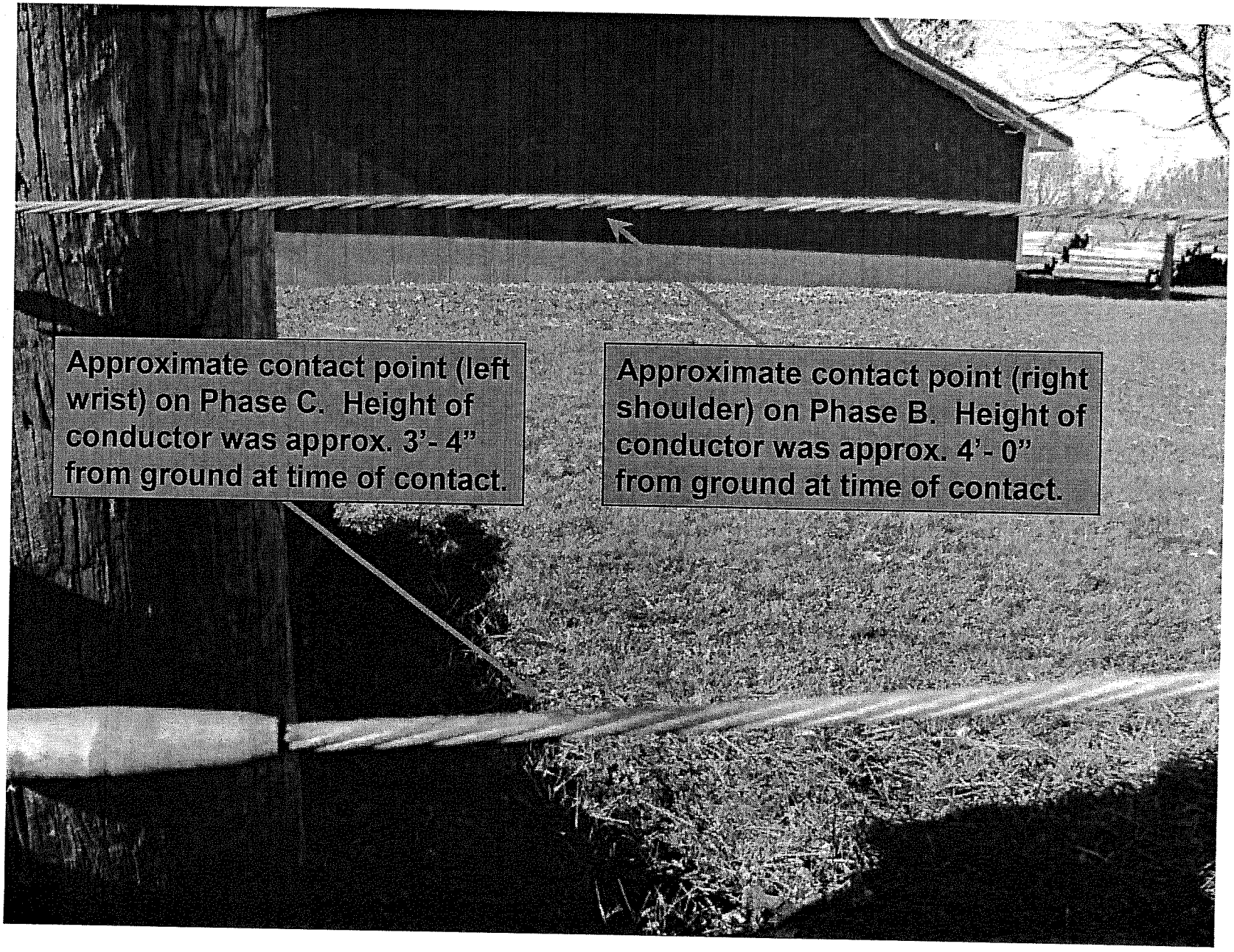
Crews were assessing this downed pole.

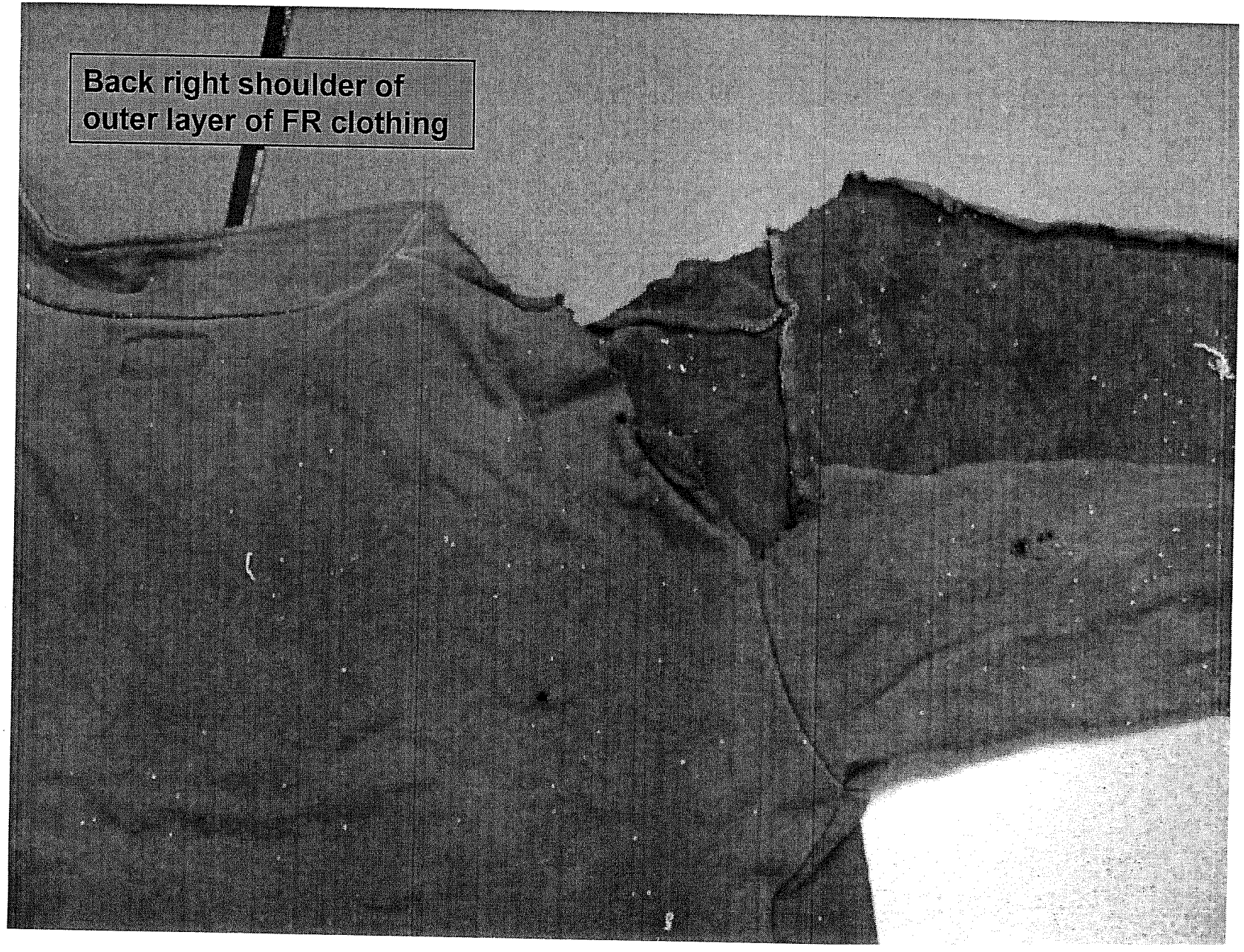
Incident occurred just before 5:00 a.m.

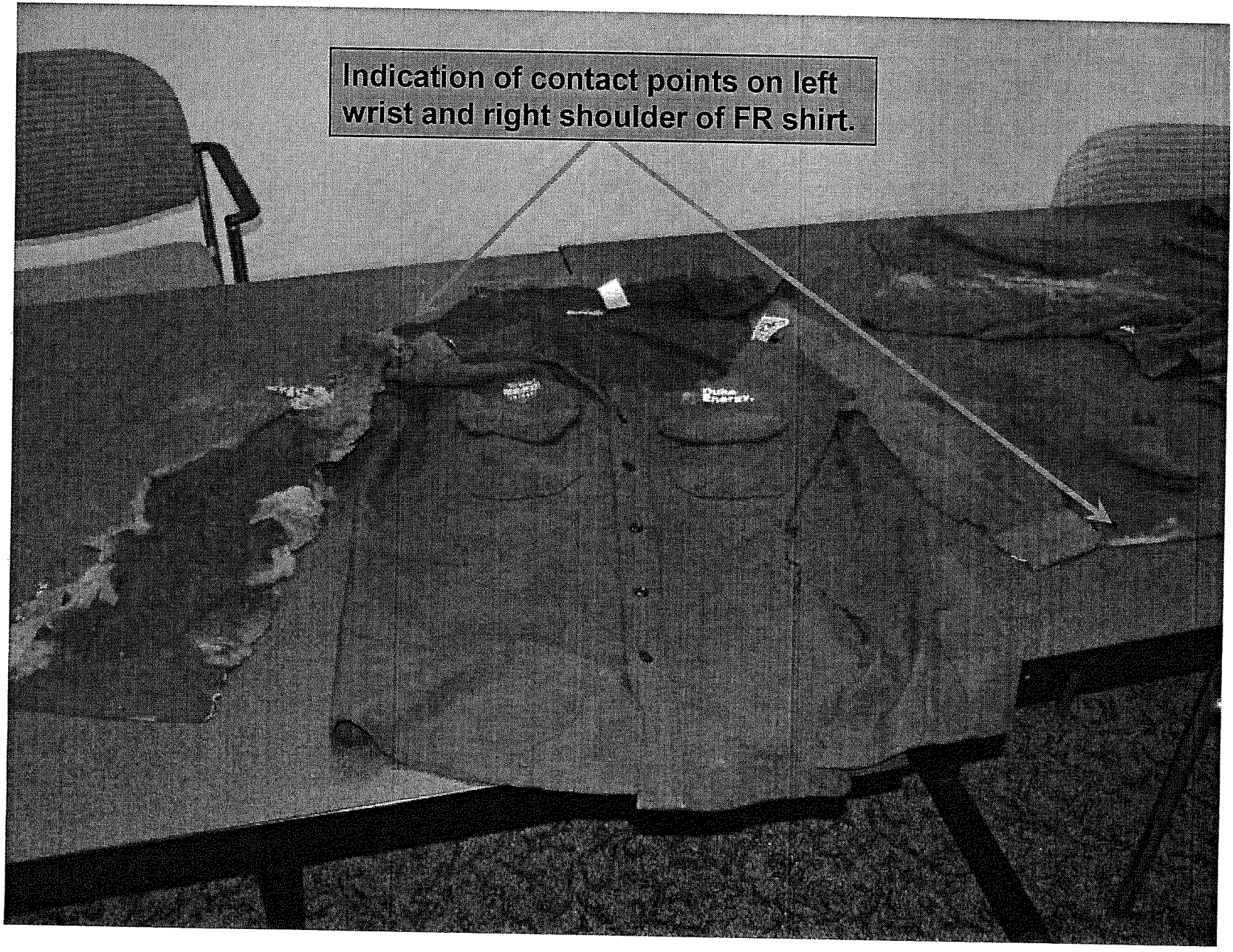

Injured employee location prior to contact.
Location of Senior Linepersons and other Lineperson A

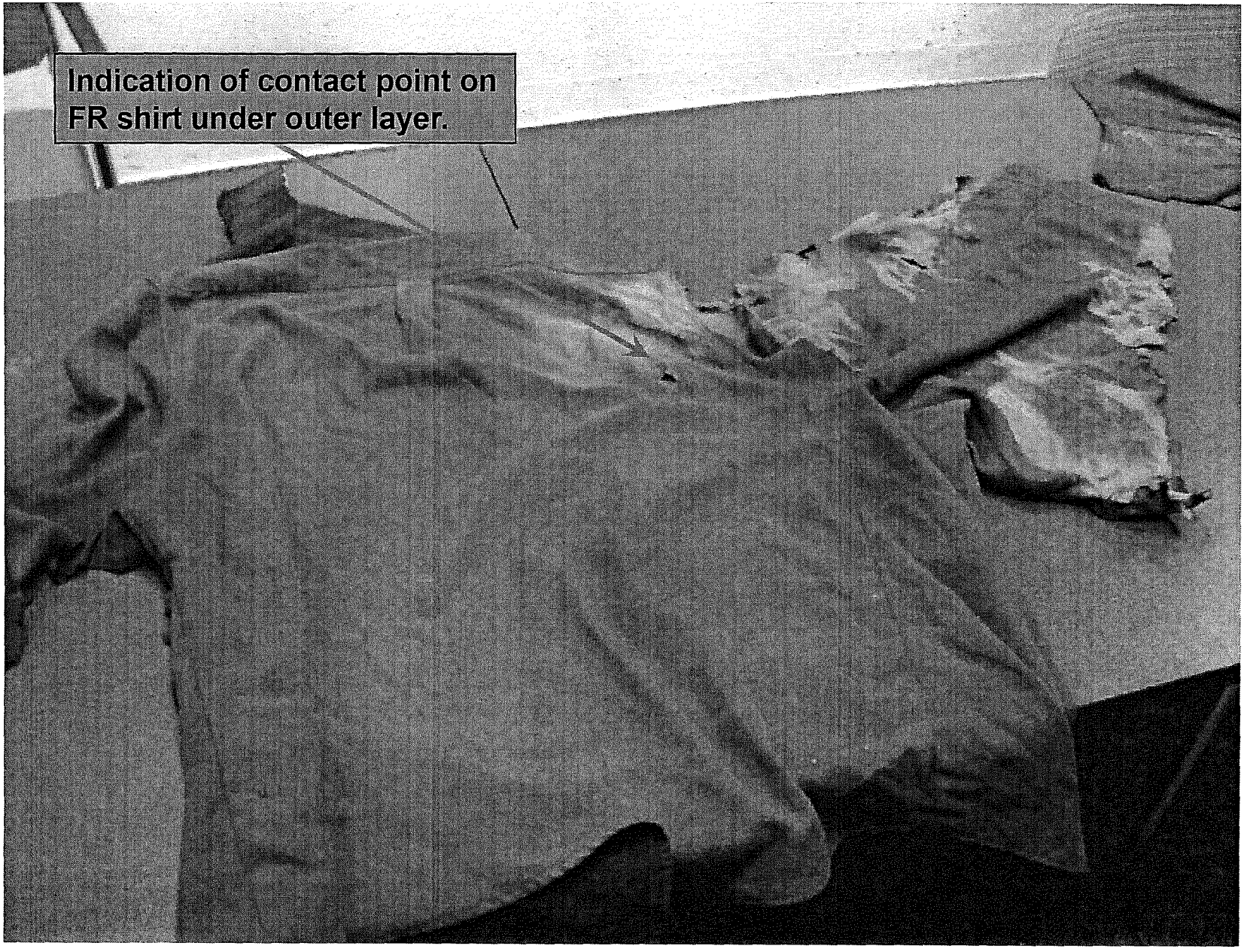

12 - 14'
Crews were approximately 12' – 14' from energized conductors while assessing damage.

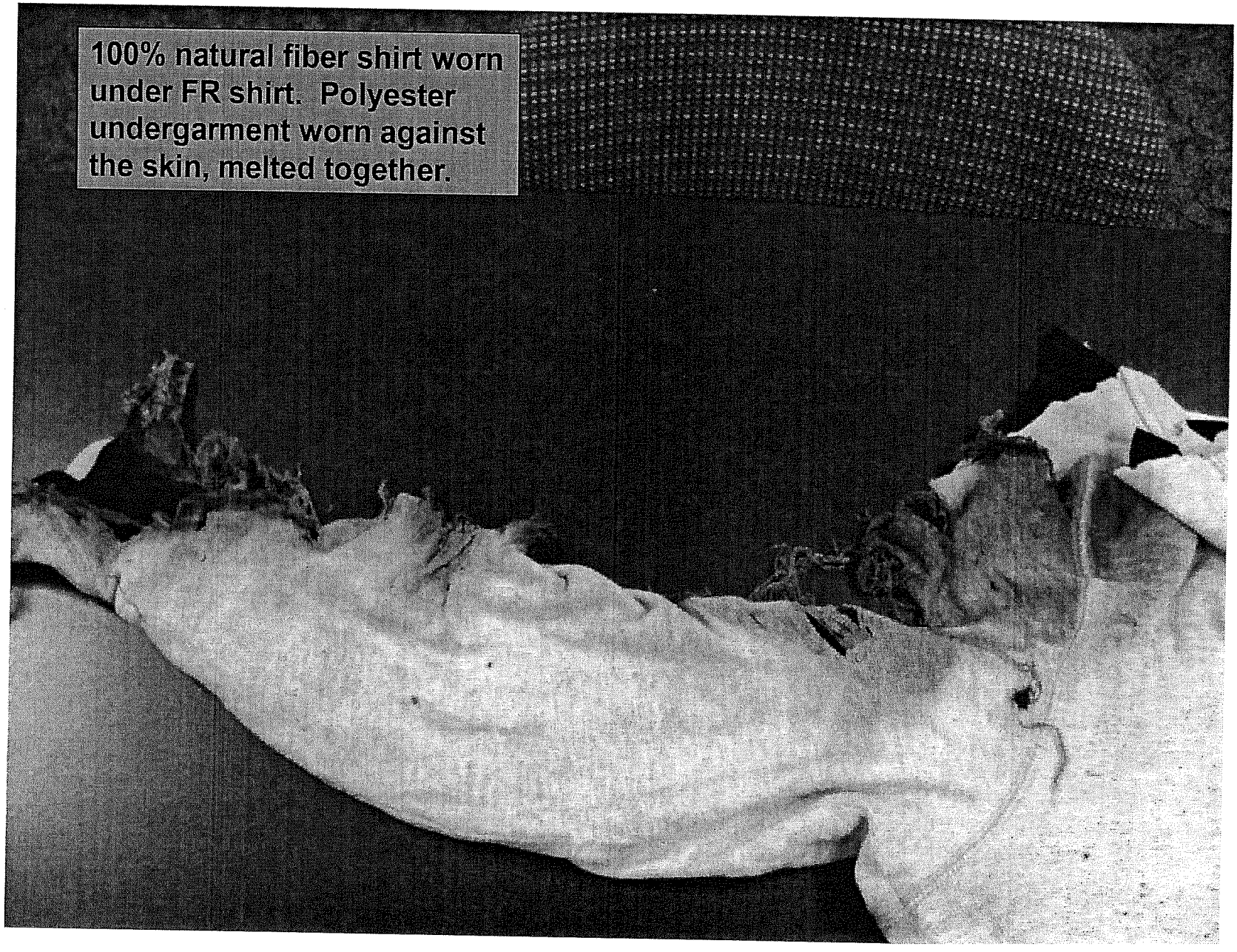

Employee made contact with 13.2kV, Phase B and Phase C.
Location of injured employee after contact.

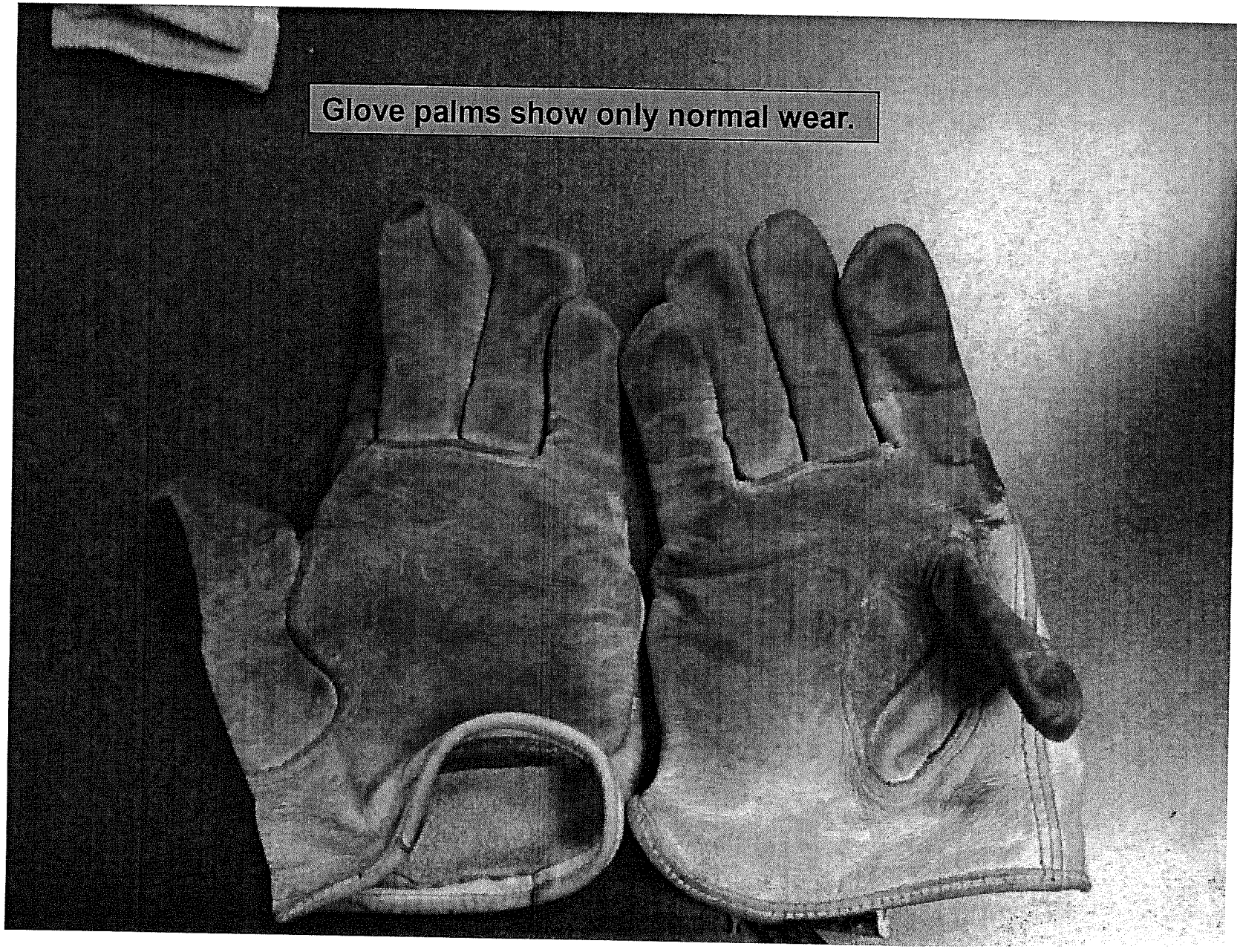

Approximate contact point (left wrist) on Phase C. Height of conductor was approx. 3'- 4" from ground at time of contact.
Approximate contact point (right shoulder) on Phase B. Height of conductor was approx. 4'- 0" from ground at time of contact.


Back right shoulder of
outer layer of FR clothing

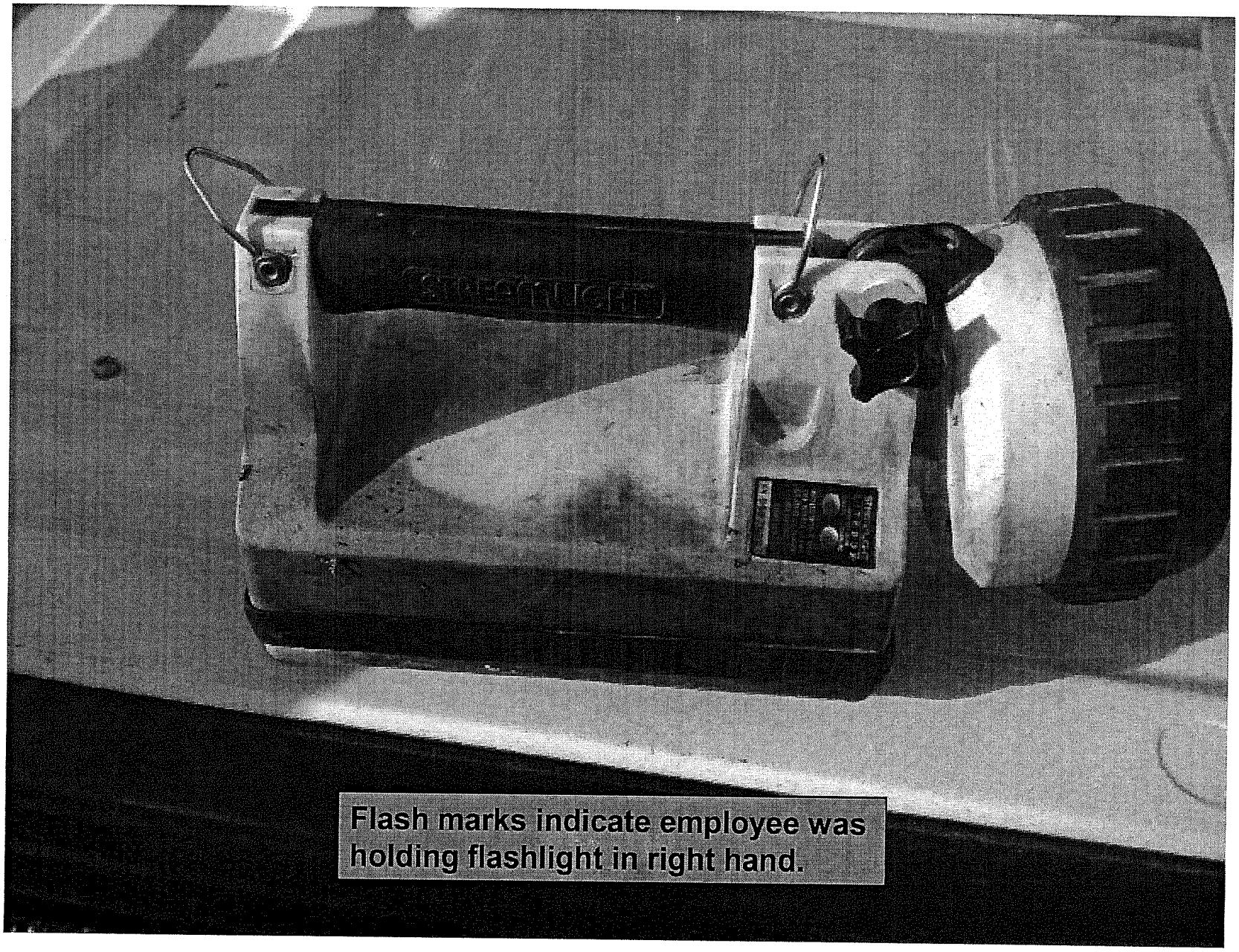

Indication of contact points on left wrist and right shoulder of FR shirt.

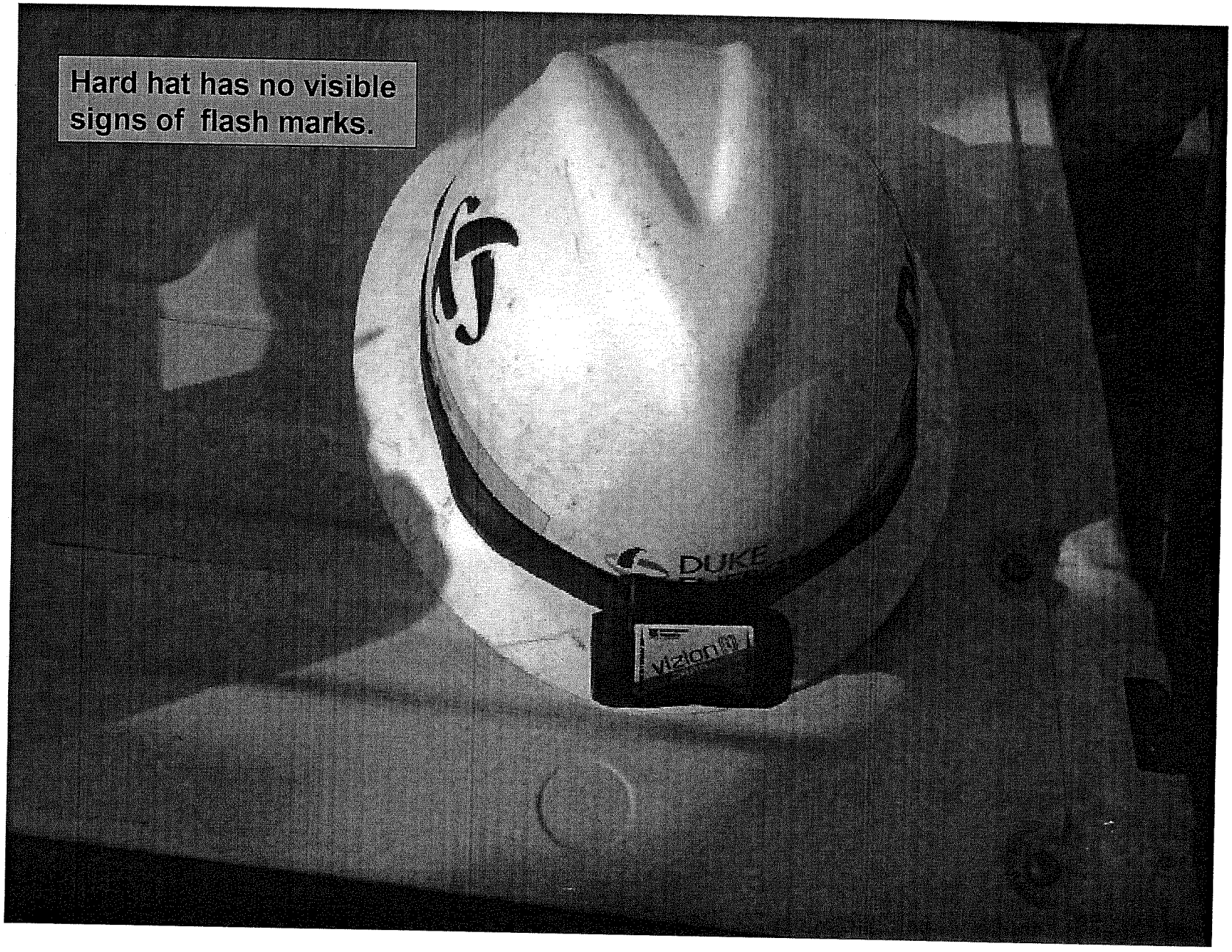

Indication of contact point on
FR shirt under outer layer.

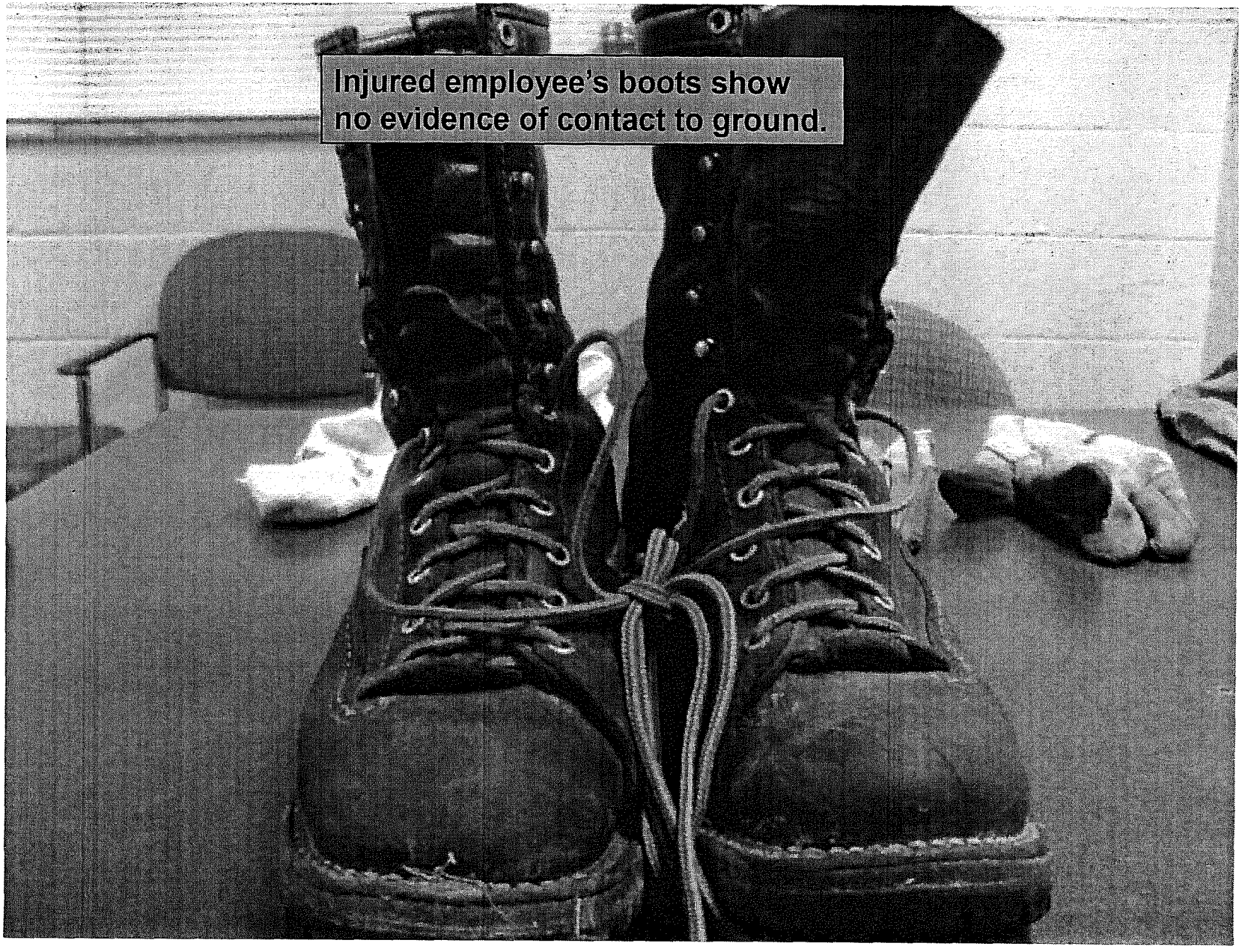

100% natural fiber shirt worn under FR shirt. Polyester undergarment worn against the skin, melted together.


Glove palms show only normal wear.


Flash indications on right glove cuff.

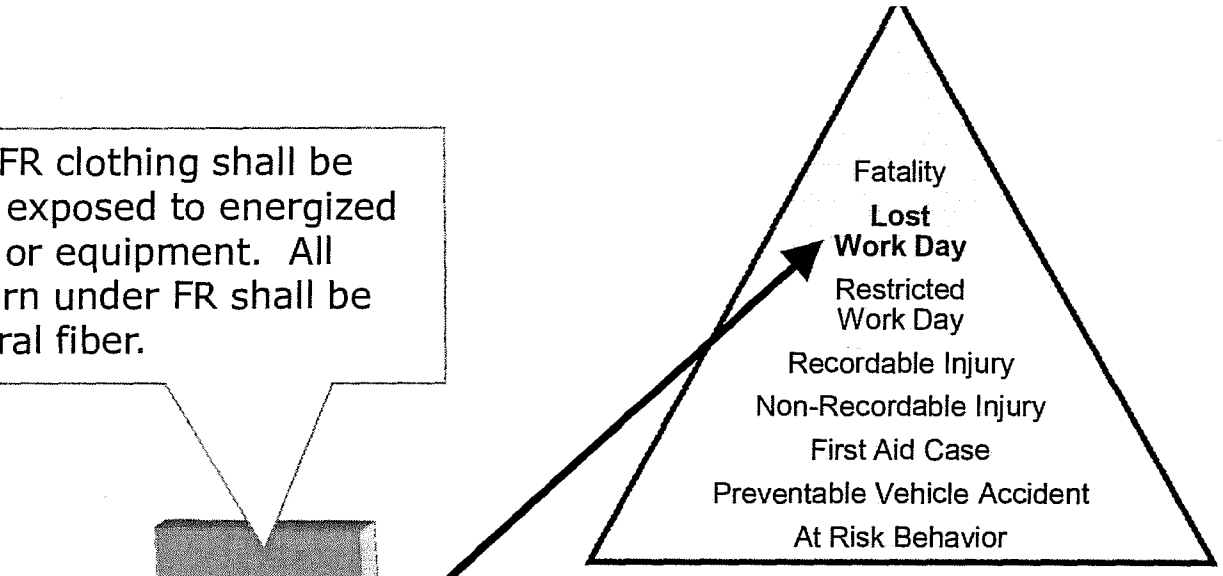

Flash marks indicate employee was holding flashlight in right hand.


Hard hat has no visible signs of flash marks.
DUKE

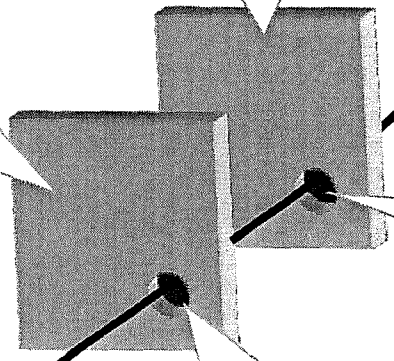

Injured employee's boots show
no evidence of contact to ground.

Defenses

Defense: FR clothing shall be worn when exposed to energized conductors or equipment. All clothing worn under FR shall be 100% natural fiber.



Defense: Maintain minimum approach distance from energized conductors and equipment.



Error: Employee was wearing a polyester undergarment which contributed to the severity of the injuries.

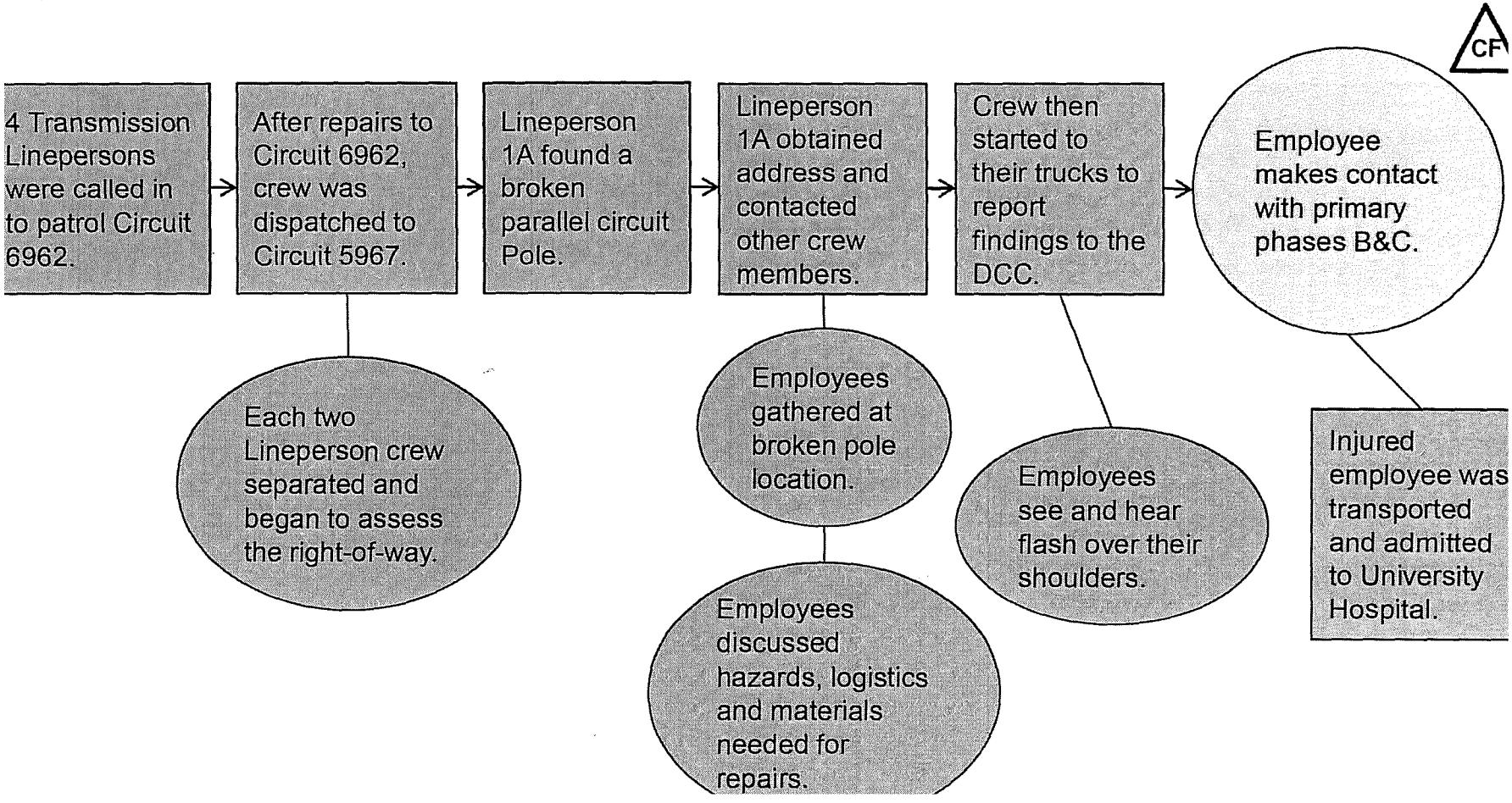
Employee received burns from electrical contact

Error: Employee made contact with energized conductors.

Error

"Swiss Cheese" Model

Timeline


CF
4 Transmission Linepersons were called in to patrol Circuit 6962.
After repairs to Circuit 6962, crew was dispatched to Circuit 5967.
Lineperson 1A found a broken parallel circuit Pole.
Lineperson 1A obtained address and contacted other crew members.
Crew then started to their trucks to report findings to the DCC.
Employee makes contact with primary phases B&C.
Each two Lineperson crew separated and began to assess the right-of-way.
Employees gathered at broken pole location.
Employees discussed hazards, logistics and materials needed for repairs.
Employees see and hear flash over their shoulders.
Injured employee was transported and admitted to University Hospital.

Root Cause Summary Table

Causal Factors	Root Cause Path	Corrective Actions
Employee made contact with energized conductors. Employee wore polyester undergarment.	Human factor issues	Supervisors shall review: • PD WS 2.2.1 on maintaining proper minimum approach distances to energized conductors/equipment. • PD WS 3.2.1 on wearing proper clothing. • PD WS 3.4.2 on wearing dielectric footwear while scouting, troubleshooting, or walking lines during outage restoration. • This investigation report. **Who:** All affected Midwest C&M Transmission employees. **By:** 1/10/2014 **Assigned to:** Ken Toebbe

Transmission Crew Statements
11/18/13 Employee Electrical Contact

On November 20th at 11:00 a.m., Union Representation was offered to Jason Seiter, Cindy Greive and Danny Morris prior to asking questions related to the Duke Energy employee electrical contact that occurred on Nov 18th, 2013. All employees refused Union Representation. These three employees were three of the four-person crew prior to the time of the electrical contact.

Employees were asked the following questions individually by the incident investigative team, which was made up of RCA lead Jeff Brown Corporate EHS, Christian Nicholas Corporate EHS, Mike Turner Oh-Ky C&M Distribution Technical Services Specialist and Craig Helsinger Transmission Supervisor.

Jason Seiter (Senior Lineperson A: Person in Charge) answered the following questions:

- Was there a job briefing form filled out for this task? Answer - No.
- What discussions took place at the scene prior to the incident? Answer - Jason stressed the importance of the 345 kV line that crossed this circuit two spans down and to be aware of the possible static charge induced.
- Location of employees prior to electrical contact. Answer - coincided with the reenactment.
- What PPE did you utilize prior to the incident? Answer - Hard hat, safety glasses, traffic vest since he was walking the right-of-way, FR clothing, lineperson's work boots.
- What PPE was the injured employee utilizing? Answer - Hard hat, FR clothing, safety glasses, lineperson's work boots.
- Was everyone thoroughly clear what the team's next task would be in preparation of grounding and isolating the downed circuit? Answer - Yes, we discussed exactly what our plan was as we turned to walk back to the truck.
- What action did you take once the incident happened? Answer - I immediately called 911, then assisted Cindy and Danny getting Kevin away from the downed structure.

Cindy Greive (Lineperson A) answered the following questions:

- Was there a job briefing form filled out for this task? Answer - No.
- What discussions took place at the scene prior to the incident? Answer - Cindy indicated that Jason discussed the importance the 345 kV line that crossed this circuit two spans down and to be aware of the possible static charge induced.
- Location of employees prior to electrical contact. Answer - coincided with the reenactment.
- What PPE did you utilize prior to the incident? Answer - Hard hat, safety glasses, FR clothing, lineperson's work boots.
- What PPE was the injured employee utilizing? Answer - Hard hat, FR clothing, safety glasses, lineperson's work boots.
- Was everyone thoroughly clear what the team's next task would be in preparation of grounding and isolating the downed circuit? Answer - Yes, we discussed exactly what our plan was as we turned to walk back to the truck. Cindy indicated that Kevin (injured employee) was standing directly behind her and they all had a thorough understanding to treat the conductors as energized and that they were headed directly to their trucks in the opposite direction.
- What action did you take once the incident happened? Answer - I immediately looked over the down structure to ensure Kevin was clear from all energized conductors and then approached him to get him out from the structure.

Danny Morris (Senior Lineperson A) answered the following questions:

- Was there a job briefing form filled out for this task? Answer - No.
- What discussions took place at the scene prior to the incident? Answer - Danny indicated that Jason discussed the importance the 345 kV line that crossed this circuit two spans down and to be aware of the possible static charge induced.
- Location of employees prior to electrical contact. Answer - coincided with the reenactment. They were all in somewhat of a huddle, within approx. 10-12 feet of each other.
- What PPE did you utilize prior to the incident? Answer - Hard hat, safety glasses, traffic vest, since he was walking the right-of-way, FR clothing, lineperson's work boots.
- What PPE was the injured employee utilizing? Answer - Hard hat, FR clothing, safety glasses, lineperson's work boots.
- Was everyone thoroughly clear what the team's next task would be in preparation of grounding and isolating the downed circuit? Answer - Yes, we discussed exactly what our plan was as we turned to walk back to the truck. I was standing about 10-15 feet away looking towards the road trying to figure out how to get equipment back to the scene. I had my back to Kevin (the injured employee) when we decided to walk back to the trucks.
- What action did you take once the incident happened? Answer - I immediately ran over to Cindy and we looked over the downed structure to ensure Kevin was clear from all energized conductors and then Cindy and I started to remove Kevin from the structure.

Lawrence (Kevin) Dudley (Lineperson A)

- When Kevin was asked about the event, he had no knowledge of what occurred. He remembered being on the jobsite, and retrieving the flashlight from the truck just prior to the incident. However, the next detail that he remembers was speaking with paramedics in the ambulance.

Rocco D'Ascenzo
Senior Counsel
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