COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

LOUISVILLE GAS AND ELECTRIC COMPANY	)	
	)	
	)	CASE NO. 98-184
ALLEGED FAILURE TO COMPLY WITH ADMINISTRATIVE REGULATIONS 807 KAR 5:006, SECTION 24, AND 807 KAR 5:041, SECTION 3	)	

O R D E R

Louisville Gas and Electric Company ("LG&E"), a Kentucky corporation which engages in the distribution of electricity to the public for compensation for lights, heat, power, and other uses, is a utility subject to Commission jurisdiction. KRS 278.010.

KRS 278.280(2) directs the Commission to prescribe rules and regulations for the performance of services by utilities. Pursuant to this statutory directive, the Commission promulgated Administrative Regulation 807 KAR 5:041, Section 3, which requires electric utilities to maintain their plant and facilities in accordance with the standards of the National Electrical Safety Code (1990 edition) ("NESC"). It further promulgated Administrative Regulation 807 KAR 5:006, Section 24, which requires all utilities to adopt and execute a safety program appropriate to their size and type of operations.

Commission Staff has submitted to the Commission a Utility Accident Investigation Report dated November 20, 1997, appended hereto, in which Commission Staff alleges:

1. On July 7, 1997, Walter Lovelace was injured as he repaired LG&E electric distribution facilities in Louisville, Kentucky.

2. At the time of the incident, LG&E had dispatched Lovelace and two other LG&E line technicians, Don Shipley and Gary Razor, to 3413 Bonaventure Boulevard, Louisville, Kentucky, to repair a pad mounted transformer. It had advised the line technicians that an elbow had blown off the bushing in Transformer No. 18. Upon arriving at the scene, the three line technicians switched the feed to Transformer No. 19 to return that transformer to service. They did not de-energize the 7200 volt primary feed to Transformer No. 18. After switching the feed to Transformer No. 19, Lovelace grabbed the blown elbow on the underground primary feed to Transformer No. 18 and received an electric shock.

3. At the time of the incident, Lovelace was not wearing or using the protective equipment which had been provided to him.

4. At the time of the incident, Lovelace was in charge of the work site and supervising the repair and maintenance activity.

5. As a result of his contact with the 7200 volt energized feed line, Lovelace suffered burns to his hands and forearms and required hospitalization.

6. NESC Rule 420H requires persons to use the personal protective equipment, protective devices, and special tools provided for their work.

7. NESC Rule 421A1 requires the person in charge of a work site to adopt such precautions as are within the individual's authority to prevent accidents.

8. NESC Rule 421A2 requires the person in charge of a work site to see that the safety rules and operating procedures are followed by those under his direction.

9. NESC Rule 441A1 prohibits an employee from approaching within certain distances an exposed line or part which is operating at certain voltages unless the line or part is de-energized, the employee is insulated from the energized line or part, the energized line or part is insulated from the employee, or the employee is insulated from all conducting surfaces other than the one upon which the employee is working.

10. LG&E's internal work rules and procedures require all employees to wear their personal protective equipment and to always assume that electrical equipment and conductors are energized until proven to be de-energized.

11. Lovelace violated NESC Section 420H when he failed to wear his protective rubber gloves when attempting to repair the pad mounted transformer.

12. Lovelace failed to see that all safety and operating procedures were observed at the work site. His failure is a violation of NESC Rule 421A which requires a person in charge to adopt such precautions as are within his authority to prevent accidents and to see that the all safety rules and operating procedures are observed by those under his direction.

13. Lovelace violated NESC Section 441A when he failed to wear his protective rubber gloves when attempting to repair the pad mounted transformer.

14. At the time of the incident, Lovelace was an employee of LG&E and acting in the scope of his employment.

Based on its review of the Utility Accident Investigation Report and being otherwise sufficiently advised, the Commission finds that prima facie evidence exists that

LG&E has failed to comply with Administrative Regulations 807 KAR 5:006, Section 24, and 807 KAR 5:041, Section 3.

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

1. LG&E shall appear before the Commission on July 29, 1998 at 9:00 a.m., Eastern Daylight Time, in Hearing Room 1 of the Commission's offices at 730 Schenkel Lane, Frankfort, Kentucky, for the purpose of presenting evidence concerning the alleged violations of Administrative Regulations 807 KAR 5:006, Section 24, and 807 KAR 5:041, Section 3, and of showing cause why it should not be subject to the penalties prescribed in KRS 278.990(1) for these alleged violations.

2. LG&E shall submit to the Commission within 20 days of the date of this Order a written response to the allegations contained in the Electrical Utility Accident Investigation Report.

3. The Utility Accident Investigation Report of November 20, 1997, a copy of which is appended hereto, is made part of the record of this proceeding.

4. Any motion requesting an informal conference with Commission Staff to consider any matter which would aid in the handling or disposition of this proceeding shall be filed with the Commission no later than 20 days from the date of this Order.

Done at Frankfort, Kentucky, this 27th day of April, 1998.

PUBLIC SERVICE COMMISSION

Chairman

Vice Chairman

Commissioner

ATTEST:

Executive Director

APPENDIX A

AN APPENDIX TO AN ORDER OF THE KENTUCKY PUBLIC SERVICE COMMISSION IN CASE NO. 98-184 DATED APRIL 27, 1998

UTILITY ACCIDENT INVESTIGATION REPORT

Utility:	Louisville Gas and Electric				
Reported By:	Larry Miller				
Dates & Times					
Accident Occurred:	07/20/97 - Approximately 7:04 p.m.				
Utility Notified:	07/20/97 - Approximately 7:15 p.m.				
PSC Notified:	07/20/97 - 8:02 p.m.				
Investigated:	07/21/97				
Written Report Rcvd:	07/25/97				
Location of Accident:	3413 Bonaventure Boulevard, Louisville, Kentucky 40219				
Description of Accident:	Mr. Walter Lovelace was injured while working on the underground primary feed to a pad mounted transformer installation. Mr. Lovelace, Lead Line Technician and two fellow crew members, Don Shipley and Gary Razor, both Line Technicians, were dispatched to 3413 Bonaventure Boulevard to work a reported outage on an underground pad mounted transformer installation. Mr. Lovelace inadvertently made contact with an energized 7200 Volt underground primary feed to Transformer No. 18 during the work process. Mr. Lovelace was the Lead Line Technician at the accident site and was not wearing or using protective equipment at the time of the accident.				
Victims:					
Name:	Walter Lovelace	**Fatal:**	No	**Age:**	49
Addr./Empl.:	1502 English Station Road, Louisville/Louisville Gas and Electric				
Injuries:	Burns to both hands and forearms.				

Witnesses:	**Name**	**Address/Employment**
	Don Shipley - Line Technician (A)	Louisville Gas and Electric
	Gary Razor - Line Technician (A)	Louisville Gas and Electric
Sources of Information:	**Name -**	**Address/Employment**
	Larry Miller	Louisville Gas and Electric
	Don Shipley	Louisville Gas and Electric
	Gary Razor	Louisville Gas and Electric

	Dave Ridge		Louisville Gas and Electric		
	Dave Britt		Louisville Gas and Electric		
Probable Violations:	NESC, 1990 Edition, Section 42 & 44, Rules for Supply Employees. Rule 420H. Tools and Protective Equipment; Rule 421.A.1 & 2. General Operating Rules; Rule 441A. Approach to Energized Conductors or Parts.				
Line Clearances At Point of Accident:	**Measured**	**Minimum Allowed by NESC**	**Applicable NESC Edition[1] 1990**	**Volt.**	**Constr. Date**
Underground Pad Mounted Transformer Installation:	N/A	N/A	1990	7200	1979
Date of Measurement:	N/A				
Approximate Temp.:	80°F				
Type of Facilities:	7200 Volt underground primary feed to pad mounted transformer. Last inspected on 08/28/95.				
Investigated By:	John W. Land				
Signed:	John W Land				

Attachments A. Louisville Gas and Electric's Accident Report
B. Photographs of Accident Site

[1] Current edition adopted by the Commission. If clearances are not in compliance with the current edition, then the edition in effect when the facilities were last constructed or modified would apply.

Attachment A

Louisville Gas and Electric's Accident Report

Louisville Gas and Electric Company
220 West Main Street
P.O. Box 32010
Louisville, Kentucky 40232

INVESTIGATION REPORT

ELECTRICAL CONTACT
Type of Report

97-E-021A
Report Number

A L Miller
Investigator

JULY 21, 1997
Date of Incident

Reference: **Electrical Contact**

Location: **3413 Bonaventure Blvd.**
Louisville, KY. 40006

Case Summary:

Addendum:

On Sunday, July 20, 1997, at 19:50 hours, I arrived at the above address to investigate Walter Lovelace's accident, and met with the following Louisville Gas and Electric Company employees.

Fred Krebs -- Manager ESD Service Center
Tony Highland. -- Sr. Distribution Operations Supervisor
Terry Tomes -- Line Construction and Maintenance Supervisor
Dominic Simms -- Line Technician - Trouble
Jerry Belcher -- Line Technician - Trouble
Steve Jones -- Senior Mechanic - Equipment Shop
Gary Darnall -- Mechanic Helper - Equipment Shop

Addendum:
On Monday, July 21, 1997, at 09:00 hours, I met with John Land, (Investigator with Public Service Commission) at the above address to investigate Walter Lovelace's accident.
The following Louisville Gas and Electric Company employees were also met with at the above address.

Mike Engleman	--	Sr. Corporate Attorney
Doug Blakeman	--	Director Electric Service Delivery
Fred Krebs	--	Manager ESD Service Center
Dave Ridge	--	Distribution Operations Supervisor
Steve Tacket	--	Line Construction & Maintenance Supervisor
Chuck Carlton Jr.	--	Health & Safety Specialist III
Tony Bullock	--	Production Support Leader and Union Representative
John Probst	--	Line Technician A and Safety Committee Chairman
Ron Hasch	--	Job Coordinator- Distribution Operations
Gray Razor	--	Line Technician A
Don Shipley	--	Line Technician A

After leaving the above address we went to LG&E's South Service Center on Jennings Lane to view the pad mount transformer that was removed from the above address Sunday, July 20, 1997. Then we went to LG&E's East Service Center on Highway 22.

The followings LG&E employees were met with at South Service Center:

Mike Engleman	--	Sr. Corporate Attorney
Doug Blakeman	--	Director of Electric Service Delivered
Dave Britt	--	Group Leader - Transformer Services Operations
Chuck Carlton	--	Health & Safety Specialist III
Mike Hale	--	Mechanic A - Equipment Shop
Richard Bullock	--	Operator - Plant and Union Stewart
Al Judd	--	Operator - Yard and Union Safety Representative
John Probst	--	Line Technician A

The following LG&E employees were met with at East Service Center:

Fred Krebs	--	Manager ESD Service Center
Steve Tacket	--	Line Construction and maintenance Supervisor
Chuck Carlton	--	Health and Safety Specialist III
Bob Webb	--	Sr. Technical Training Instructor
Chuck Huber	--	Sr. Technical Training Instructor
Al Judd	--	Operator - Yard and Union Safety Representative

LG&E EM

LOUISVILLE GAS AND ELECTRIC COMPANY
Post Office Box 32010
Louisville, Kentucky 40232
LG&E Fax: 627-2583
Confirmation: 627-____

Date 7-25-97

Attention Martha Morton, Manager
Electric Branch
PSC

Company

City and State

Fax Number 1-502-564-1582 Confirmation Number

From George Siemens

Number of Pages, INCLUDING Cover Page 4

Subject

Message

George R. Siemens, Jr.
Director
External Affairs
LG&E Building
12th Floor
502-627-2323
502-627-2930 FAX

July 25, 1997

VIA FAX

Ms. Martha Morton, Manager
Electric Branch
Kentucky Public Service Commission
P.O. Box 615
Frankfort, KY 40602

RE: Electrical Shock - 3413 Bonaventure Blvd.
Louisville, KY - July 20, 1997

Dear Ms. Morton:

Attached is an "Investigation Report" on the above incident which was prepared by Larry Miller. This is filed in compliance with the seven-day reporting requirement.

A hard copy of this report, along with photographs taken at the scene, will be forthcoming.

If you need additional information concerning this incident, please feel free to contact me at (502) 627-2323.

Sincerely,

Attachment

Louisville Gas and Electric Company
220 West Main Street
P.O. Box 32010
Louisville, Kentucky 40232

INVESTIGATION REPORT

ELECTRICAL SHOCK
Type of Report

97-E-021
Report Number

A. L. Miller
Investigator

July 20, 1997
Date of Incident

Reference: **Electrical Shock**

Location: **3413 Bonaventure Blvd.**
Louisville, KY. 40219

Case Summary:

On Sunday, July 20, 1997, at approximately 19:15 hours, I received a call from Electric Trouble Department about an employee receiving an electrical shock. At 19:50 hours, I arrived at the above address and met with several LG&E employees. I was informed Walter A. Lovelace was working on the underground primary feed to a pad mounted transformer when he received the electrical shock.

Walter Lovelace, Lead Line Technician, was dispatched to 3413 Bonaventure Blvd. and was advised there was an elbow blown off the bushing in transformer no. 18. Walter Lovelace and fellow crew members, Don Shipley and Gary Razor, both Line Technicians, arrived on the site and switched the feed to transformer no. 19 to get it back on the line and failed to de-energize the feed to transformer no. 18. Mr. Lovelace received the 7200 volt shock when he grabbed the blown elbow on the normal underground primary feed to transformer no. 18 that is feed from transformer no. 11. Mr. Lovelace was wearing light weight leather gloves and kneeling on a rubber blanket at the time.

At 19:04 hours, Gary Razor reported the accident to Electric Trouble Department and requested the E.M.S. Misters Shipley and Razor began CPR on Mr. Lovelace. E.M.S. arrived on the scene and transported Mr. Lovelace to the University Hospital at approximately 19:35 hours.

Mr. Lovelace received burns to both hands. He was released from the hospital Thursday, July 24, 1997.

At 20:02 hours, I notified Mr. John Land's answering machine and then I called Ms. Martha Morton, both with the Public Service Commission. Ms. Morton was informed the transformer and the elbow on the conductor would have to be changed out to get the customers back on line. She said to change the equipment out and John Land would meet with us Monday morning, July 21,1997.

Photographs were taken Sunday night and Monday morning at the accident site.

On Monday, July 21,1997, at approximately 09:00 hours, Mr. John Land arrived to investigate the accident.

Photographs and additional materials to follow under separate cover.

Louisville Gas and Electric Company
220 West Main Street
P.O. Box 32010
Louisville, Kentucky 40232

INVESTIGATION REPORT

ELECTRICAL SHOCK
Type of Report

97-E-021
Report Number

A. L. Miller
Investigator

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Date of Incident

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Fax Message From:

Jul 25 '97 14:21

Name: LG&E EXEC OF 12th FL.
Fax Number: 1-502-627-2930

[ ]

LG&E SM

LOUISVILLE GAS AND ELECTRIC COMPANY
Post Office Box 32010
Louisville, Kentucky 40232
LG&E Fax: 627-2583
Confirmation: 627-____

Date 1-25-97

Attention Martha Morton, Manager
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Post Office Box 32010
Louisville, Kentucky 40232
LG&E Fax: 627-2583
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July 25, 1997

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If you need additional information concerning this incident, please feel free to contact me at (502) 627-2323.

Sincerely,

Attachment

Louisville Gas and Electric Company
220 West Main Street
P.O. Box 32010
Louisville, Kentucky 40232

August 5, 1997

Ms. Martha Morton, Manager
Electric Branch
Kentucky Public Service Commission
P. O. Box 615
Frankfort, KY 40602

RE: Electric Shock - 3413 Bonaventure Blvd.
Louisville, KY - July 20, 1997

Dear Ms. Morton:

Attached is the additional information requested relating to the incident indicated above.

If you need any additional information, please let me know. I can be reached at (502) 627-4883.

Very truly yours,

Gregory B. Fergason
Regulatory Affairs Coordinator

Attachment

T & D TRAINING
COURSE RECORD SHEET

NAME: W.A. LOVELACE EMPLOYEE NUMBER: 2497

CLASSIFICATION: SENIOR CABLE SPLICER

TRAINING SESSION	TIME	DATE TAKEN	REMARKS
Trouble shooting Overhead Lines	4 HRS.	11-14-94	COMPLETED
Trouble shooting, Overhead Transfer	4 HRS.	11-14-94	COMPLETED
Grounding Comm. Equip	6 HRS	11-15-94	COMPLETED
Hurtman Rescue	2 HRS.	11-15-94	COMPLETED
Basic Rigging for Equipt. Transfer + Maintenance	8 HRS.	11-16-94	COMPLETED
SEC TYE ARRESTER	4 hr.	11-17-94	COMPLETED
INSTALLATION OF VARIOUS SWITCHES	4 hr.	11-17-94	COMPLETED
CONDUCTOR SIZES & WIRE SPLICING	3	11-17-94	COMPLETED
GEENGOISFA	8	10-14-96	Passed
FALL Protection	2	6-12-97	Passed

T & D TRAINING
COURSE RECORD SHEET

NAME: WALT LOVELACE EMPLOYEE NUMBER: 2497

CLASSIFICATION: PHASE II INSTRUCTOR

TRAINING SESSION	TIME	DATE TAKEN	REMARKS
GETGGØ1PRO	2 Hrs	5-24-73	AERE11 Use of Propane / Devices
GET GGØ2 HRD	4 Hrs	5-24-93	BSHØ73 URD Hardware / Material
GETGGØ3 SPL	6 Hrs	5-24-93	AERC16 Secondary Cable Splicing
GETGGØ4TRM	8 Hrs	5-25-93	AERBØ7 Inst / Replace of Termin.
GETGGØ5 ELD	8 Hrs	5-26-93	AERBØ2 URD Electrical Diagrams
GETGGØ6 SWL	8 Hrs	5-26-93 5-27-93	AERAØ7 Switch Logic / Emerg. Procedures
GETGGØ7 TRP	8 Hrs	5-27-93 5-28-93	AERB11 Advanced Trans. Principles
GETGGØ8 TEM	1 Hrs	5-28-93	Installation of Temp Ser

COMPLETED

T & D TRAINING
COURSE RECORD SHEET

[redacted]

NAME: W.A. LOVELACE, SR. (WALT) EMPLOYEE NUMBER: 2497

CLASSIFICATION: SENIOR CABLE SPLICER

TRAINING SESSION	TIME	DATE TAKEN	REMARKS
GET001	1½ HR	6-26-91	COMPLETED
GSS003	8 HR	3.12.92	COMPLETED
GEGNO?????3	3	5-26-92	COMPLETED
GEENGØ2 CPR	4	3/12/93	COMPLETED
GEENGØ4 BIP	4	3/12/93	COMPLETED
BESNGCU?KA	40	7/12-16/93	COMPLETED
GEENGØ1 SFA	8	3/23/94	COMPLETED
~~GEENGØ1 SFA~~	~~8~~	~~10/14/96~~	~~PASSED~~
~~FALL PROTECTION~~	~~2~~	~~6/12/97~~	~~PASSED~~

T&D TRAINING
COURSE RECORD SHEET

2497

NAME W. A. Lovelace EMPLOYEE NUMBER [redacted]

CLASSIFICATION SENIOR Cable Splicee X

TRAINING SESSION	TIME	DATE TAKEN	REMARKS
Mini - Digger	3½	9-15-87	
head buster	½	9-15-87	
5'-0" RULE	1 HR	5-13-88	PSC
Locket Truck	1½ HR	5-7-88 6-7-88	
HA-	1 HR	5-88	
NUS 1.1	4HR	11-1-88	
NUS 2.1	4 HR	11-1-88	
RM-II	8	01-15-89	VCPL
RM-II		01-15-89	Success-ful
SFA	8HR	03-08-89	CPR-84 FA-88
AEOC16	7 HR	1-16-90	83% Q OK
AEOC17	8 HR	1-17-90	75% F
AEOC19	5 HR	1-17-90	86% Q OK
AEOC18	4HR	1-18-90	100% Q OK
AEOC20	8 HR	1-19-90	82% Q OK
GSS020	4HR	2-15-90	80%
GSS022	4HR	2-15-90	COMPLETE
GSS020	4HR	2-7-91	80%
GSS-025	4HR	2-7-91	COMPLETED
GSG008	24HR	6-5-91 THRU 6-7-91	COMPLETED (APS)

EMPRP1 LOUISVILLE GAS & ELECTRIC CO. DATE 07/21/97
EMPLOYEE COURSE LISTING TIME 14:50:32

EMP	NAME	COURSE	CLASS_TITLE	CLASS DATE	CLASS STATUS	CLASS HOURS
2497	W A LOVELACE SR	GDGNGFACIL	GDGNGFACIL	96/12/18	C	3.50
2497	W A LOVELACE SR	GEENG01SFA	STANDARD FIRST AID	96/10/14	C	8.00
2497	W A LOVELACE SR	GDGNG00091	BASIC FACILITATION	96/09/13	C	8.00
2497	W A LOVELACE SR	GEENGSHORT	TAKING SHORTCUTS	96/08/29	C	.50
2497	W A LOVELACE SR	GEENGSVISN	SAFETY VISION	96/08/29	C	.50
2497	W A LOVELACE SR	GEENGSTRES	STRESS AND SAFETY	96/07/31	C	1.00
2497	W A LOVELACE SR	GDGNG00090	PROCESS IMPROV. - FACILITATORS	96/06/11	C	20.00
2497	W A LOVELACE SR	GGENG00032	PARKING AND BACKING	96/05/01	C	1.00
2497	W A LOVELACE SR	GEENGSLIPS	SLIPS, TRIPS, AND FALLS	96/03/01	C	1.00
2497	W A LOVELACE SR	AEDC01	PROTECTIVE EQUIPMENT	95/12/11	C	4.00
2497	W A LOVELACE SR	AETCGBM	BASIC MATHEMATICS	95/12/11	C	6.50
2497	W A LOVELACE SR	AETCSUTWR	USE OF TWO-WAY RADIOS	95/12/11	C	3.00
2497	W A LOVELACE SR	AETCGCUCST	CARE/USE CABLE SPLICER TOOLS	95/12/11	C	4.50
2497	W A LOVELACE SR	AETCGWCTM	WIRE/CABLE-TYPES & MATERIALS	95/12/11	C	4.00
2497	W A LOVELACE SR	AETCGTF	TRANSFORMER FUNDAMENTALS	95/12/11	C	3.50
2497	W A LOVELACE SR	AETCGLTP	LEVELING TRANSFORMER PADS	95/12/11	C	4.00
2497	W A LOVELACE SR	AETCGISBMC	INSTALLATION SPLICE BOX/MOLES	95/12/11	C	3.50
2497	W A LOVELACE SR	AETCGLA	LIGHTNING ARRESTERS	95/12/11	C	4.00
2497	W A LOVELACE SR	AETCGI	INSULATORS	95/12/11	C	2.50
2497	W A LOVELACE SR	AETCGFF	FUSES AND FUSING	95/12/11	C	7.00
2497	W A LOVELACE SR	AETCGBSRW	BASIC STRINGING / REM'L WIRE	95/12/11	C	8.00
2497	W A LOVELACE SR	AETCGBS	BASIC SERVICES	95/12/11	C	4.00
2497	W A LOVELACE SR	AETCGSTB	SECONDARY TIE BREAKERS	95/12/11	C	5.00
2497	W A LOVELACE SR	AETCGSL	STREET LIGHTING	95/12/11	C	8.00
2497	W A LOVELACE SR	AETCGSCST	SECONDARY CABLE SPLICING	95/12/11	C	6.00
2497	W A LOVELACE SR	AETCGCUSLT	C/U OF SIMPLE LINEMAN TOOLS	95/12/11	C	6.00
2497	W A LOVELACE SR	BEGNGCLASS	"C" CLASS ASSESSMENT PROGRAM	95/12/11	C	8.00
2497	W A LOVELACE SR	GIINGWIN	INTRODUCTION TO WINDOWS'95	95/12/09	C	8.00
2497	W A LOVELACE SR	BXGNLINVES	ACCIDENT INVESTIGATION	95/11/09	C	4.00
2497	W A LOVELACE SR	GEENTRESCU	BUCKET TRUCK RESCUE	95/11/02	C	2.00
2497	W A LOVELACE SR	GEENTEQUIP	PERSONAL PROTECTIVE EQUIPMENT	95/11/02	C	1.00
2497	W A LOVELACE SR	GEUNTHARAS	SEXUAL HARASSMENT	95/10/23	C	.25
2497	W A LOVELACE SR	GEGNGVISIN	SAFETY VISION KICKOFF	95/10/18	C	1.50
2497	W A LOVELACE SR	GEENTTRS05	PCB SPILLS	95/10/17	C	.50
2497	W A LOVELACE SR	GETNTTCB	SEC TIED BREAKERS	95/10/04	C	.25
2497	W A LOVELACE SR	GEENG01SFA	STANDARD FIRST AID	95/09/12	C	8.00
2497	W A LOVELACE SR	GEENGBEHAV	BEHAVIOR BASED SAFETY TRAINING	95/07/12	C	3.00
2497	W A LOVELACE SR	GGENG00009	HAZ COM FLAMMABLE LIQUIDS	95/06/12	C	1.00
2497	W A LOVELACE SR	GXTGLMILLR	NO FALL PROTECTION	95/05/10	C	2.00
2497	W A LOVELACE SR	GCUNG00001	CODE OF BUSINESS CONDUCT	95/05/02	C	1.00
2497	W A LOVELACE SR	GXENLGOVHS	GOVERNOR'S SAFETY & HEALTH CNF	95/04/19	C	24.00
2497	W A LOVELACE SR	GGENG00023	HAZ COM LABELING	95/03/29	C	1.00
2497	W A LOVELACE SR	BEENTALCPO	ALCOHOL POLICY TRAINING	95/03/15	C	1.00
2497	W A LOVELACE SR	GETGHTRAIN	TRAIN THE NUS TRAINER	95/03/02	C	8.00
2497	W A LOVELACE SR	GEENTOXYMO	OXYGEN MONITORING	95/02/15	C	.50

EMPRP1 LOUISVILLE GAS & ELECTRIC CO. DATE 07/21/97
EMPLOYEE COURSE LISTING TIME 14.50.35

EMP	NAME	COURSE	COURSE_TITLE	CLASS DATE	CLASS STATUS	CLASS HOURS
2497	W A LOVELACE SR	BEENGOVERV	1910.269 OVERVIEW	95/02/03	C	2.00
2497	W A LOVELACE SR	GEENGOSHA	OSHA 29CFR. 1910.269 TRAINING	95/01/24	C	16.00
2497	W A LOVELACE SR	GXENLOSHA	TRI-STATE ELEC. SYMPOSIUM	95/01/13	C	8.00
2497	W A LOVELACE SR	GEENGEPGND	EQUIPOTENTIAL GROUNDING METHOD	95/01/11	C	2.00
2497	W A LOVELACE SR	GETGGPHAS3	PHASE 3 TRAINING	94/11/18	C	.01
2497	W A LOVELACE SR	GETGGSPLIC	CONDUCT. SIZES & WIRE SPLIC	94/11/18	C	8.00
2497	W A LOVELACE SR	GETGGSWICH	OPER. & INSTAL. OF VAR. SWITCH	94/11/17	C	4.00
2497	W A LOVELACE SR	GETGGTIEBK	SECONDARY TIE BREAKERS	94/11/17	C	4.00
2497	W A LOVELACE SR	GETGGHRTMN	HURT MAN RESCUE	94/11/16	C	2.00
2497	W A LOVELACE SR	GETGGRIGG	BASIC RIGGING, TRANSF & MOUNT.	94/11/16	C	8.00
2497	W A LOVELACE SR	GETGGGRND	GROUNDING PROCEDURES, COMM. EQ	94/11/15	C	6.00
2497	W A LOVELACE SR	GETGGTRBOH	TROUBLE-SHOOTING O. HEAD LINES	94/11/14	C	4.00
2497	W A LOVELACE SR	GETGGTRBTR	TROUBLE-SHOOTING OH TRANSF.	94/11/14	C	4.00
2497	W A LOVELACE SR	GEENGUPDTE	BLOODBORNE PATHOGENS UPDATE	94/10/19	C	1.00
2497	W A LOVELACE SR	GEENGSOLVE	HAZ-COM HALOGENATED SOLVENTS	94/10/05	C	1.00
2497	W A LOVELACE SR	GDONG00076	ESD TASK FORCE TEAM TRAINING	94/08/18	C	8.00
2497	W A LOVELACE SR	GETNT00001	SAFETY AWARENESS	94/08/03	C	2.00
2497	W A LOVELACE SR	MEENGWPVIL	S-VIOLENCE IN THE WORKPLACE	94/07/18	C	1.00
2497	W A LOVELACE SR	GEUNTFAMLA	FAMILY AND MEDICAL LEAVE ACT	94/06/20	C	1.00
2497	W A LOVELACE SR	GEENG01HAZ	HAZ-COM, WHAT'S IT ALL ABOUT	94/04/20	C	1.00
2497	W A LOVELACE SR	GEENG01SFA	STANDARD FIRST AID	94/03/23	C	8.00
2497	W A LOVELACE SR	GOUNTCOMUN	COMMUNITY RELATIONS	94/02/11	C	.75
2497	W A LOVELACE SR	GEENTJAN1	WINCH LINE SAFETY	94/02/09	C	.50
2497	W A LOVELACE SR	GOGNGMBLK	REGULATORY AFFAIRS INFORMATION	94/02/03	C	1.00
2497	W A LOVELACE SR	GEENT94001	COLD WEATHER SAFETY	94/01/07	C	.50
2497	W A LOVELACE SR	GETNT94002	FAULTED CIRCUIT INDICATORS	94/01/07	C	.50
2497	W A LOVELACE SR	GEGNTCACCT	ESC CLASS OF ACCOUNTS TRAINING	93/12/17	C	1.00
2497	W A LOVELACE SR	GEENGBLOO1	BLOODBORNE PATHOGENS UPDATE	93/12/14	C	1.00
2497	W A LOVELACE SR	GOENGHM181	DOT HM181 SHIPPING PAPERS	93/12/13	C	2.00
2497	W A LOVELACE SR	GEGNGTRS01	TRANSFORMER FIELD TICKETS	93/11/03	C	.50
2497	W A LOVELACE SR	GETNHGIANT	MINI-GIANT TRAINING	93/10/20	C	2.00
2497	W A LOVELACE SR	GETNHMETER	AUTOMATED METER READING	93/09/22	C	1.00
2497	W A LOVELACE SR	BESNGCUPKA	FOREMAN LEADER SKILLS	93/07/16	C	40.00
2497	W A LOVELACE SR	GETGG07TRP	ADVANCED TRANS. PRINCIPLES	93/05/28	C	8.00
2497	W A LOVELACE SR	GETGG08TEM	INSTALLATION OF TEMPORARY SERV	93/05/28	C	1.00
2497	W A LOVELACE SR	GETGG06SWL	SWITCH. LOGIC & ENERG/DE-ENERG	93/05/27	C	8.00
2497	W A LOVELACE SR	GETGG05ELD	URD ELECTRICAL DIAGRAMS	93/05/26	C	4.00
2497	W A LOVELACE SR	GETGG04TRM	INSTALL. & REPLACEMENT OF TERM	93/05/25	C	8.00
2497	W A LOVELACE SR	GETGG01PRO	USE OF PROPANE & PROP DEVICES	93/05/24	C	2.00
2497	W A LOVELACE SR	GEENG02CPR	ADULT CPR RECERTIFICATION	93/03/12	C	4.00
2497	W A LOVELACE SR	GEENG04BIP	BACK INJURY PREVENTION	93/03/12	C	4.00
2497	W A LOVELACE SR	GDGNGBKHST	BLACK HISTORY PRESENTATION	93/02/26	C	1.00
2497	W A LOVELACE SR	GOINGMMIS2	MMIS - MR ISSUE TRAINING	93/02/16	C	4.00
2497	W A LOVELACE SR	GEGNTCACCT	ESC CLASS OF ACCOUNTS TRAINING	93/01/04	C	1.50
2497	W A LOVELACE SR	GEENGBLOOD	BLOODBORNE PATHOGENS PLAN	92/11/17	C	2.00

EMPRP1 LOUISVILLE GAS & ELECTRIC CO. DATE 07/21/97
EMPLOYEE COURSE LISTING TIME 14.50.35

EMP	NAME	COURSE	COURSE_TITLE	CLASS DATE	CLASS STATUS	CLASS HOURS
2497	W A LOVELACE SR	GEENHHVOLT	HIGH VOLTAGE TRAINING	92/10/10	C	8.00
2497	W A LOVELACE SR	GDSNGRH001	ROGER HALE EMPLOYEE MEETING	92/07/27	C	2.50
2497	W A LOVELACE SR	GEENGHIVLT	HIGH VOLTAGE DEMONSTRATION	92/07/07	C	1.50
2497	W A LOVELACE SR	GEGND00003	FIELD AMBASADOR TRAINING	92/05/26	C	8.00
2497	W A LOVELACE SR	GEENG01SFA	STANDARD FIRST AID	92/03/12	C	8.00
2497	W A LOVELACE SR	GDRNG0001	MANAGING CUSTOMER INTERACTION	92/02/19	C	16.00
2497	W A LOVELACE SR	GDUNGCD002	CULTURAL DIVERSITY PHASE I	92/02/06	C	3.00
2497	W A LOVELACE SR	GXGNL00042	CULTURAL DIVERSITY	92/02/06	C	4.00
2497	W A LOVELACE SR	GET002	STANDARDS SEMINAR	91/07/31	C	1.50
2497	W A LOVELACE SR	GET001	HI-POT TEST SEMINAR	91/06/26	C	1.50
2497	W A LOVELACE SR	GSS008	ANALYTICAL PROBLEM SOLVING	91/06/05	C	24.00
2497	W A LOVELACE SR	GDENG40232	DEFENSIVE DRIVING	91/05/21	C	8.00
2497	W A LOVELACE SR	GSS020	ADULT CPR RECERTIFICATION	91/02/07	C	4.00
2497	W A LOVELACE SR	GSS025	BACK INJURY PREVENTION	91/02/07	C	4.00
2497	W A LOVELACE SR	GSS020	ADULT CPR RECERTIFICATION	90/02/15	C	4.00
2497	W A LOVELACE SR	GSS022	HAZARD COMMUNICATION TRAINING	90/02/15	C	4.00
2497	W A LOVELACE SR	AEDC20	STREET LIGHTING	90/01/19	C	8.00
2497	W A LOVELACE SR	AEDC18	BASIC SERVICES	90/01/18	C	4.00
2497	W A LOVELACE SR	AEDC17	BASIC STRINGING/REMOVAL WIRE	90/01/17	F	8.00
2497	W A LOVELACE SR	AEDC19	SECONDARY TIE BREAKERS	90/01/17	C	5.00
2497	W A LOVELACE SR	AEDC16	FUSES & FUSING	90/01/16	C	7.00
2497	W A LOVELACE SR	GSS018	STNDRD FIRST AID/CPR	89/03/08	C	.00
2497	W A LOVELACE SR	BTP002	ORIENTATION TO FCTP	89/03/01	C	1.00
2497	W A LOVELACE SR	AED521	BASIC METERS	89/01/18	C	8.00
2497	W A LOVELACE SR	AEDE01	ORIENTATION TO T&D SYSTEMS &EQ	88/11/01	C	4.50
2497	W A LOVELACE SR	BTS001	SAFETY IN T&D MAINTENANCE	88/11/01	C	4.00
2497	W A LOVELACE SR	BTP001	FIVE FOOT RULE	89/05/13	C	1.00
TOTAL EMP 2497						543.76
TOTAL						543.76

ESD TRAINING
COURSE RECORD SHEET

NAME: DON SHIPLEY EMPLOYEE NUMBER: 3216

CLASSIFICATION: LINETECHNICIAN A

CROSS TRAINING - 1/1997

TRAINING SESSION	TIME	DATE TAKEN	REMARKS
BASIC ELECTRICITY REVIEW	4 HRS	5/14/97	COMPLETED
HIGH VOLTAGE A.C. POWER	4.5 HRS	5/15/97	COMPLETED
ELECTROMAGNETIC INDUCTION REVIEW	4 HRS	5/14/97	COMPLETED
TRANSFORMERS & TRANSF. BANKS	8 HRS	5/12/97 5/13/97	COMPLETED
URD TRANSFORMER II	8 HRS	5/13/97	COMPLETED
SWITCHING LOGIC ENERGIZATION / DE-EN.	8 HRS	5/13/97	COMPLETED
INSTALLATION & REPLACEMENT OF TERM.	8 HRS	5/16/97	COMPLETED
PRIMARY CABLE SPLICING TECHNIQUES	8 HRS	5/16/97	COMPLETED

T&D TRAINING
COURSE RECORD SHEET

3216

NAME O.L. Shipley EMPLOYEE NUMBER 85-997

CLASSIFICATION LINEMAN A.

TRAINING SESSION	TIME	DATE TAKEN	REMARKS
GATEKEEPER	1 HR	1-20-87	
5'-0" RULE	1 HR	3-24-88	PSC COOK TANK 109 NV
NUS 1.1	4 HR	11-1-88	
NUS 2.1	4 HR	11-1-88	
CPR Card B	8 HR	11-23	71%
CPR	8 hr	12/??	74%
SFA	8 HR	03-07-89	CPR-72 FA-100
BM-III W	4 HR	03-27-89	73%
BM-III O	4 HR	03-27-89	Completed
GSS020	4 HR	2-15-90	92%
GSS022	4 HR	2-15-90	COMPLETE
AEOB01	24 HR	5-29/31 90	88%
GSS020	4 HR	2-8-91	80%
GSS025	4 HR	2-8-91	COMPLETED
GET002	1½	7-29-91	C
GET003	1½	8-13-91	COMPLETED
XI0010	1¼	8-13-91	C
GSS003	8 Hr	3-10-92	COMPLETED
GEGN000003	8		O.K. MAY 29 1992

T & D TRAINING
COURSE RECORD SHEET

[redacted]

NAME: Don Shipley EMPLOYEE NUMBER: 35-3216

CLASSIFICATION: Lineman A.

TRAINING SESSION	TIME	DATE TAKEN	REMARKS
GETGG01PRO	2 Hrs	2/22/93	AERE11 USE OF PROPANE DEVICES
GETGG02HRD	4 Hrs	2/22/93	BSH073 URD HARDWARE & MATERIALS
GETGG03SPL	6 Hrs	2/22/93	AERC16 SECONDARY CABLE SPLICING
GETGG04TRM	8 Hrs	2/23/93	AERB07 INST & REPLACE OF TERMIN.
GETGG05ELD	4 Hrs	2/24/93	AERB02 URD ELECTRICAL DIAGRAM
GETGG06SWL	8 Hrs	2/26/93	AERA07 SWITCH LOGIC ENERG PROCED
GETGG07TRP	8 Hrs	2/26/93	AERB11 ADVANCED TRANS. PRINCIP.
GETGG08TEM	1 Hr	2/26/93	INSTALLATION OF TEM SEE
GEENG02CPR	4	3/17/93	COMPLETED
GEENG04BIP	4	3/17/93	COMPLETED
GEGNGAPS	24	2/19/93	COMPLETED
GEENG01SFA	8	3/22/94	COMPLETED
GESNGCUPKA	40	10/17-21/94	COMPLETED
GETNGEXGND	16	2/21-22/95	COMPLETED
GEENG01SFA	8	10-14-96	PASSED

PHASE II TRAINING

EMPRP1 LOUISVILLE GAS & ELECTRIC CO. DATE 07/22/97
EMPLOYEE COURSE LISTING TIME 11.26.54

EMP	NAME	COURSE	COURSE_TITLE	CLASS DATE	CLASS STATUS	CLASS HOURS
3216	D L SHIPLEY	GEENG01SFA	STANDARD FIRST AID	96/10/14	C	8.00
3216	D L SHIPLEY	GETNGNNESC	NESC	96/07/22	C	3.25
3216	D L SHIPLEY	GETNGCAPCN	PROG.CAP.CONT.	96/04/02	C	1.50
3216	D L SHIPLEY	MEDIA	MEDIA TRAINING	96/03/29	C	2.00
3216	D L SHIPLEY	GEENGSLIPS	SLIPS, TRIPS, AND FALLS	96/03/01	C	1.00
3216	D L SHIPLEY	GEENTRESCU	BUCKET TRUCK RESCUE	95/11/02	C	2.00
3216	D L SHIPLEY	GEENTEQUIP	PERSONAL PROTECTIVE EQUIPMENT	95/11/02	C	1.00
3216	D L SHIPLEY	GEUNTHARAS	SEXUAL HARASSMENT	95/10/23	C	.25
3216	D L SHIPLEY	GEGNGVISIN	SAFETY VISION KICKOFF	95/10/18	C	1.50
3216	D L SHIPLEY	GEENTTRS05	PCB SPILLS	95/10/17	C	.50
3216	D L SHIPLEY	GETNTTCB	SEC TIED BREAKERS	95/10/04	C	.25
3216	D L SHIPLEY	GEENG01SFA	STANDARD FIRST AID	95/09/13	C	8.00
3216	D L SHIPLEY	GGENG00009	HAZ COM FLAMMABLE LIQUIDS	95/06/12	C	1.00
3216	D L SHIPLEY	GEENGBEHAV	BEHAVIOR BASED SAFETY TRAINING	95/05/24	C	3.00
3216	D L SHIPLEY	GDGNLVIDEO	CONTINUOUS IMPROVEMENT VIDEO	95/05/01	C	2.00
3216	D L SHIPLEY	GEUNG00001	CODE OF BUSINESS CONDUCT	95/04/21	C	1.00
3216	D L SHIPLEY	GEGNPIRTL	SAFETY INCIDENT AT PIRTLE	95/04/20	C	1.00
3216	D L SHIPLEY	GGENG00023	HAZ COM LABELING	95/03/29	C	1.00
3216	D L SHIPLEY	BEENTALCP0	ALCOHOL POLICY TRAINING	95/03/15	C	1.00
3216	D L SHIPLEY	GETNTEXEMF	OCCUPATIONAL EXPOSURE TO EMF	95/03/08	C	.50
3216	D L SHIPLEY	GETNGEXGND	SAFETY EXCEL. TRAINING	95/02/22	C	16.00
3216	D L SHIPLEY	GEENT0XYM0	OXYGEN MONITORING	95/02/15	C	.50
3216	D L SHIPLEY	BEENGOVERV	1910.269 OVERVIEW	95/02/03	C	2.00
3216	D L SHIPLEY	BETNTGLOVE	RUBBER GLOVE TESTING	95/02/01	C	.25
3216	D L SHIPLEY	GEENGEPGND	EQUIPOTENTIAL GROUNDING METHOD	95/01/11	C	2.00
3216	D L SHIPLEY	GEENGUPDTE	BLOODBORNE PATHOGENS UPDATE	94/11/04	C	1.00
3216	D L SHIPLEY	GESNGCUPKA	LEADERSHIP SKILLS	94/10/21	C	40.00
3216	D L SHIPLEY	GEENGSOLVE	HAZ COM HALOGENATED SOLVENTS	94/10/05	C	1.00
3216	D L SHIPLEY	GETNT00001	SAFETY AWARENESS	94/08/03	C	2.00
3216	D L SHIPLEY	GEUNTFAMLA	FAMILY AND MEDICAL LEAVE ACT	94/06/20	C	1.00
3216	D L SHIPLEY	GEENGFLAME	HAZ COM FLAMMABLE LIQUIDS	94/06/03	C	1.00
3216	D L SHIPLEY	GEENG02HAZ	HAZ-COM, MSDS SHEETS	94/05/02	C	1.00
3216	D L SHIPLEY	GEENG01HAZ	HAZ-COM, WHAT'S IT ALL ABOUT	94/04/20	C	1.00
3216	D L SHIPLEY	GEENG01SFA	STANDARD FIRST AID	94/03/22	C	8.00
3216	D L SHIPLEY	GDGNGMBLK	REGULATORY AFFAIRS INFORMATION	94/02/03	C	1.00
3216	D L SHIPLEY	GEENT94001	COLD WEATHER SAFETY	94/01/07	C	.50
3216	D L SHIPLEY	GETNT94002	FAULTED CIRCUIT INDICATORS	94/01/07	C	.50
3216	D L SHIPLEY	GEGNTCACCT	ESC CLASS OF ACCOUNTS TRAINING	93/12/16	C	1.00
3216	D L SHIPLEY	GEENGBL001	BLOODBORNE PATHOGENS UPDATE	93/12/14	C	1.00
3216	D L SHIPLEY	GDENGHM181	DOT HM181 SHIPPING PAPERS	93/12/13	C	2.00
3216	D L SHIPLEY	GEGNGTRS01	TRANSFORMER FIELD TICKETS	93/11/03	C	.50
3216	D L SHIPLEY	GETNHGIANT	MINI-GIANT TRAINING	93/10/20	C	2.00
3216	D L SHIPLEY	GETNHMETER	AUTOMATED METER READING	93/09/22	C	1.00
3216	D L SHIPLEY	GEENG02CPR	ADULT CPR RECERTIFICATION	93/03/17	C	4.00
3216	D L SHIPLEY	GEENG04BIP	BACK INJURY PREVENTION	93/03/17	C	4.00

EMPRP1 LOUISVILLE GAS & ELECTRIC CO. DATE 07/22/97
EMPLOYEE COURSE LISTING TIME 11:26:54

EMP	NAME	COURSE	COURSE_TITLE	CLASS DATE	CLASS STATUS	CLASS HOURS
3216	D L SHIPLEY	GDGNGBKHST	BLACK HISTORY PRESENTATION	93/02/26	C	1.00
3216	D L SHIPLEY	GETGGPHAS2	PHASE 2 TRAINING	93/02/26	C	.01
3216	D L SHIPLEY	GETGG06SWL	SWITCH. LOGIC & ENERG/DE-ENERG	93/02/26	C	8.00
3216	D L SHIPLEY	GETGG07TRP	ADVANCED TRANS. PRINCIPLES	93/02/26	C	8.00
3216	D L SHIPLEY	GETGG08TEM	INSTALLATION OF TEMPORARY SERV	93/02/26	C	1.00
3216	D L SHIPLEY	GETGG05ELD	URD ELECTRICAL DIAGRAMS	93/02/24	C	4.00
3216	D L SHIPLEY	GETGG04TRM	INSTALL. & REPLACEMENT OF TERM	93/02/23	C	8.00
3216	D L SHIPLEY	GETGG01PRO	USE OF PROPANE & PROP DEVICES	93/02/22	C	2.00
3216	D L SHIPLEY	GETGG02HRD	URD HARDWARE & MATERIALS	93/02/22	C	4.00
3216	D L SHIPLEY	GETGG03SPL	SECONDARY CABLE SPLICING	93/02/22	C	6.00
3216	D L SHIPLEY	GEGNGAPS	ANALYTICAL PROBLEM SOLVING	93/02/19	C	24.00
3216	D L SHIPLEY	GEGNTCACCT	ESC CLASS OF ACCOUNTS TRAINING	93/01/04	C	1.50
3216	D L SHIPLEY	GEENGBLOOD	BLOODBORNE PATHOGENS PLAN	92/11/17	C	2.00
3216	D L SHIPLEY	GEENHHVOLT	HIGH VOLTAGE TRAINING	92/10/10	C	8.00
3216	D L SHIPLEY	GEENGHIVLT	HIGH VOLTAGE DEMONSTRATION	92/07/07	C	1.50
3216	D L SHIPLEY	GEGN000003	FIELD AMBASADOR TRAINING	92/05/20	C	8.00
3216	D L SHIPLEY	GEGNTTHEFT	THEFT PREVENTION	92/04/23	C	.50
3216	D L SHIPLEY	GEENG01SFA	STANDARD FIRST AID	92/03/10	C	8.00
3216	D L SHIPLEY	GDGNG0002	STRESS MANAGEMENT	92/02/13	C	8.00
3216	D L SHIPLEY	GDUNGCD002	CULTURAL DIVERSITY PHASE I	92/02/06	C	3.00
3216	D L SHIPLEY	GXGNL00042	CULTURAL DIVERSITY	92/02/06	C	4.00
3216	D L SHIPLEY	GETNG01	FIRE POWER	91/11/05	C	2.00
3216	D L SHIPLEY	GDENG40232	DEFENSIVE DRIVING	91/08/27	C	8.00
3216	D L SHIPLEY	GET003	RAILROAD CROSSING SAFETY	91/08/13	C	1.50
3216	D L SHIPLEY	XI0010	CAREER PLANNING & ADVANCEMENT	91/08/13	C	1.25
3216	D L SHIPLEY	GET002	STANDARDS SEMINAR	91/07/31	C	1.50
3216	D L SHIPLEY	GET002	STANDARDS SEMINAR	91/07/29	C	1.50
3216	D L SHIPLEY	GSS020	ADULT CPR RECERTIFICATION	91/02/08	C	4.00
3216	D L SHIPLEY	GSS025	BACK INJURY PREVENTION	91/02/08	C	4.00
3216	D L SHIPLEY	AEOB01	INTERMEDIATE ELEC PRINCIPLES	90/05/29	C	24.00
3216	D L SHIPLEY	GSS020	ADULT CPR RECERTIFICATION	90/02/15	C	4.00
3216	D L SHIPLEY	GSS022	HAZARD COMMUNICATION TRAINING	90/02/15	C	4.00
3216	D L SHIPLEY	AEOB21	BASIC METERS	89/03/27	C	8.00
3216	D L SHIPLEY	BTP002	ORIENTATION TO FCTP	89/03/27	C	1.00
3216	D L SHIPLEY	GSS018	STNDRD FIRST AID/CPR	89/03/07	C	.00
3216	D L SHIPLEY	GSS002	CPR TRAINING	88/11/23	C	8.00
3216	D L SHIPLEY	AEOE01	ORIENTATION TO T&D SYSTEMS &EQ	88/11/01	C	4.50
3216	D L SHIPLEY	BTS001	SAFETY IN T&D MAINTENANCE	88/11/01	C	4.00
3216	D L SHIPLEY	BTP001	FIVE FOOT RULE	88/03/24	C	1.00
3216	D L SHIPLEY	GOA001	NEW EMPLOYEE ORIENTATION		W	8.00
TOTAL EMP 3216						334.76
TOTAL						334.76

SIGN-IN SHEET
(Please Print)

Date 5/13/97 Instructor's Name Webb / Haber

Subject Presented Switching - - - Logic

Location ESC Training Hours

Training Meeting Tailgate Meeting Safety Meeting

Supervisor's Name

Last Name/First Name (please print in ink or type)	Signature	Dept./ Empl. #	Please check one BU	IC	MS	NE
Massey M. J.	M. J. Massey	35-3144	✓			
KAUFMAN N. L.	N. L. Kaufman	35-3267	✓			
DEHART H.	H. DeHart	35-2475	✓			
Sleeper D	D. Sleeper	35-3216	—			
DEZARN. Gary	D. Dezarn	34-2419	✓			
CAMBRON T A	T A Cambron	35-1845	✓			
CARPENTER CHARLIE	Charlie Carpenter	34-1770	X			
KEETH ART	Art Keeth	35-2423	✓			
CUNNINGHAM DENNIS	D. L. Cunningham	35-2231	—			
Haber Daniel	D Haber	35-2398	✓			
McMillian J. E.	James E McMillian	35-1352	✓			
D. L. SEXTON	Danny L. Sexton	35-2673	✓			
KEMPER S. D.	Stephen D. Kemper	35-2640	✓			

BU = Bargaining Unit
NE = Non-exempt
MS = Manager/Supervisor
IC = Individual Contributor

Grand Training Session #1 1/1997

ESD TRAINING
COURSE RECORD SHEET

NAME: G. RAZOR EMPLOYEE NUMBER: 3220

CLASSIFICATION: LINE TECHNITIAN A

TRAINING SESSION	TIME	DATE TAKEN	REMARKS
BASIC ELECTRICITY REVIEW	4 HRS	3-3-97	COMPLETED
HIGH VOLTAGE A.C. POWER	4.5 HRS	3-3-97 3-26-97	COMPLETED
ELECTROMAGNETIC INDUCTION REVIEW	4 HRS	3-26-97	COMPLETED
TRANSFORMERS & TRANSF. BANKS	8 HRS	3-25-97	COMPLETED
URD TRANSFORMER II	8 HRS	3-24-97	COMPLETED
SWITCHING LOGIC ENERGIZATION / DE-EN.	8 HRS	3-24-97	COMPLETED
INSTALLATION & REPLACEMENT OF TERM.	8 HRS	3-27-97	COMPLETED
PRIMARY CABLE SPLICING TECHNIQUES	8 HRS	3-27-97	COMPLETED

T & D TRAINING
COURSE RECORD SHEET

[redacted]

NAME: G. RAZOR EMPLOYEE NUMBER: 35-3220

CLASSIFICATION: LINEMAN A

TRAINING SESSION	TIME	DATE TAKEN	REMARKS
GETGGØ1PRO	2 Hrs	5-10-93	AERE11 USE OF PROPANE DEVICES
GETGGØ2HRD	4 Hrs	5-10-93	BSHØ73 URD HARDWARE & MATERIALS
GETGGØ3SPL	6 Hrs	5-10-93	AERC16 SECONDARY CABLE SPLICING
GETGGØ4TRM	8 Hrs	5-11-93	AERBØ7 INST & REPLACE OF TERMIN.
GETGGØ5ELD	4 Hrs	5-12-93	AER3Ø2 URD ELECTRICAL DIAGRAM
GETGGØ6SWL	8 Hrs	5-12 93 5-13-93	AERAØ7 SWITCH LOGIC ENERG PROCED
GETGGØ7TRP	8 Hrs	5-13-93 5-14-93	AERB11 ADVANCED TRANS. PRINCIP.
GETGGØ8TEM	1 HR	5-14-93	INSTALLATION OF TEM SEC
GEENGØ2CPR	4	4/20/94	COMPLETED
GEUNGFAMB2	4	4/20/94	COMPLETED
GESNGCUPKA	40	12/12-16/94	COMPLETED
FALL PROTECTION	2	6-12-97	PASSED
FIRST AID CPR	8	10-9-96	PASSED

PHASE II TRAINING

[redacted]

T&D TRAINING
COURSE RECORD SHEET

3220

NAME G.W. RAZOR EMPLOYEE NUMBER 35-659

CLASSIFICATION LINEMAN A

TRAINING SESSION	TIME	DATE TAKEN	REMARKS
GATEKEEPER	1 HR	1-20-89	
6'-0" Pole	1 Hr.	2-25-88	P.C
Hot-Combo	1 Hr	5-88	
First Aid	8 Hr.	10/88	88%.
NUS 1.1	4 HR	12-7-88	
NUS 2.1	4 HR	12-7-88	
BM-III W	4	3-9-89	87%.
BM-III Q	4	3-9-89	Completed
GSS003	8HR	3-12-90	COMPLETED
GSS020	4HR	2-25-91	COMPLETED
GSS022	4HR	2-25-91	COMPLETED
GEENG02CPR	4	3-30-92	COMPLETED
GEENG04BIP	4	3-30-92	COMPLETED
GEGN000003	8	6-3-92	COMPLETED
GEENG01SFA	8	4-6-93	COMPLETED
~~Fall Protection~~	~~8~~	~~6-12-91~~	~~Passed~~

SIGN-IN SHEET
(Please Print)

Date 3-24-97 Instructor's Name Webb

Subject Presented Switching Logic

Location ESC Training Hours

Training Meeting Tailgate Meeting Safety Meeting

Supervisor's Name

Last Name/First Name (please print in ink or type)	Signature	Dept./ Empl. #	Please check one: BU	IC	MS	NE
Hebenstreit Kenneth	K Thomas R Hebenstreit	3010	✓			
RAZOR GARY	Gary W Razor	3320	✓			
R L HILL	R L Hill	2350	✓			
D.T Vinson	D. T. Vinson	2597	✓			
D.L. EVANS	D. L. Evans	35-3175	✓			
R.L. Crawford	Richard Crawford	35-2814	✓			
F.N. ABELL	F. N. Abell	35-1764	✓			
WEATHERMICHAEL	Michael Weather	35 3366	✓			
Rhodes Kevin	Kevin Rhodes	34 3487	✓			

BU = Bargaining Unit
NE = Non-exempt
MS = Manager/Supervisor
IC = Individual Contributor

EMPRP1 LOUISVILLE GAS & ELECTRIC CO. DATE 07/22/97

EMPLOYEE COURSE LISTING TIME 11.24.43

EMP	NAME	COURSE	COURSE_TITLE	CLASS DATE	CLASS STATUS	CLASS HOURS
3220	G W RAZOR	GEENG01SFA	STANDARD FIRST AID	96/10/09	C	8.00
3220	G W RAZOR	GEENGSHORT	TAKING SHORTCUTS	96/08/29	C	.50
3220	G W RAZOR	GEENGSVISN	SAFETY VISION	96/08/29	C	.50
3220	G W RAZOR	GEENGSLIPS	SLIPS, TRIPS, AND FALLS	96/03/01	C	1.00
3220	G W RAZOR	GEENTTRS05	PCB SPILLS	95/23/95	C	.50
3220	G W RAZOR	GEENTRESCU	BUCKET TRUCK RESCUE	95/11/02	C	2.00
3220	G W RAZOR	GEENTEQUIP	PERSONAL PROTECTIVE EQUIPMENT	95/11/02	C	1.00
3220	G W RAZOR	GEUNTHARAS	SEXUAL HARASSMENT	95/10/23	C	.25
3220	G W RAZOR	GEGNGVISIN	SAFETY VISION KICKOFF	95/10/18	C	1.50
3220	G W RAZOR	GETNTTCB	SEC TIED BREAKERS	95/10/04	C	.25
3220	G W RAZOR	GEENG01SFA	STANDARD FIRST AID	95/09/12	C	8.00
3220	G W RAZOR	GEENGBEHAV	BEHAVIOR BASED SAFETY TRAINING	95/07/12	C	3.00
3220	G W RAZOR	GGENG00009	HAZ COM FLAMMABLE LIQUIDS	95/06/12	C	1.00
3220	G W RAZOR	GEENTTRS05	PCB SPILLS	95/05/23	C	.50
3220	G W RAZOR	GOGNLVIDEO	CONTINUOUS IMPROVEMENT VIDEO	95/05/01	C	2.00
3220	G W RAZOR	GETNGEXGND	SAFETY EXCEL. TRAINING	95/04/25	C	16.00
3220	G W RAZOR	GCUNG00001	CODE OF BUSINESS CONDUCT	95/04/21	C	1.00
3220	G W RAZOR	GEGNPIRTL	SAFETY INCIDENT AT PIRTLE	95/04/20	C	1.00
3220	G W RAZOR	GGENG00023	HAZ COM LABELING	95/03/29	C	1.00
3220	G W RAZOR	BEENTALCPO	ALCOHOL POLICY TRAINING	95/03/15	C	1.00
3220	G W RAZOR	GETNTEXEMF	OCCUPATIONAL EXPOSURE TO EMF	95/03/08	C	.50
3220	G W RAZOR	BEENGOVERV	1910.269 OVERVIEW	95/02/03	C	2.00
3220	G W RAZOR	BETNTGLOVE	RUBBER GLOVE TESTING	95/02/01	C	.25
3220	G W RAZOR	GEENGEPGND	EQUIPOTENTIAL GROUNDING METHOD	95/01/11	C	2.00
3220	G W RAZOR	GESNGCUPKA	LEADERSHIP SKILLS	94/12/16	C	40.00
3220	G W RAZOR	BXONHCONDR	CONDOR CERTIFICATION	94/11/16	C	9.00
3220	G W RAZOR	GEENGGASES	HAZ - COM GASES	94/11/09	C	1.00
3220	G W RAZOR	GEENGUPDTE	BLOODBORNE PATHOGENS UPDATE	94/11/09	C	1.00
3220	G W RAZOR	GEENGSOLVE	HAZ-COM HALOGENATED SOLVENTS	94/10/05	C	1.00
3220	G W RAZOR	GETNT00001	SAFETY AWARENESS	94/08/03	C	2.00
3220	G W RAZOR	GEUNTFAMLA	FAMILY AND MEDICAL LEAVE ACT	94/06/20	C	1.00
3220	G W RAZOR	GEENG01HAZ	HAZ-COM, WHAT'S IT ALL ABOUT	94/04/20	C	1.00
3220	G W RAZOR	GEENG02CPR	ADULT CPR RECERTIFICATION	94/04/20	C	4.00
3220	G W RAZOR	GEUNGFAMB2	FIELD AMBASSADOR REFRESHER	94/04/20	C	4.00
3220	G W RAZOR	GOGNGMBLK	REGULATORY AFFAIRS INFORMATION	94/02/03	C	1.00
3220	G W RAZOR	GEENT94001	COLD WEATHER SAFETY	94/01/07	C	.50
3220	G W RAZOR	GETNT94002	FAULTED CIRCUIT INDICATORS	94/01/07	C	.50
3220	G W RAZOR	GEGNTCACCT	ESC CLASS OF ACCOUNTS TRAINING	93/12/17	C	1.00
3220	G W RAZOR	GEENGBLOO1	BLOODBORNE PATHOGENS UPDATE	93/12/14	C	1.00
3220	G W RAZOR	GOENGHM181	DOT HM181 SHIPPING PAPERS	93/12/13	C	2.00
3220	G W RAZOR	GEGNGTRS01	TRANSFORMER FIELD TICKETS	93/11/03	C	.50
3220	G W RAZOR	GETNHGIANT	MINI-GIANT TRAINING	93/10/20	C	2.00
3220	G W RAZOR	GETNHMETER	AUTOMATED METER READING	93/09/22	C	1.00
3220	G W RAZOR	GETGGPHAS2	PHASE 2 TRAINING	93/05/14	C	.01
3220	G W RAZOR	GETGG07TRP	ADVANCED TRANS. PRINCIPLES	93/05/14	C	8.00

EMPRP1 LOUISVILLE GAS & ELECTRIC CO. DATE 07/22/97
EMPLOYEE COURSE LISTING TIME 11.24.43

EMP	NAME	COURSE	COURSE_TITLE	CLASS DATE	CLASS STATUS	CLASS HOURS
3220	G W RAZOR	GETGG08TEM	INSTALLATION OF TEMPORARY SERV	93/05/14	C	1.00
3220	G W RAZOR	GETGG06SWL	SWITCH. LOGIC & ENERG/DE-ENERG	93/05/13	C	8.00
3220	G W RAZOR	GETGG05ELD	URD ELECTRICAL DIAGRAMS	93/05/12	C	4.00
3220	G W RAZOR	GETGG04TRM	INSTALL. & REPLACEMENT OF TERM	93/05/11	C	8.00
3220	G W RAZOR	GETGG01PRD	USE OF PROPANE & PROP DEVICES	93/05/10	C	2.00
3220	G W RAZOR	GETGG02HRD	URD HARDWARE & MATERIALS	93/05/10	C	4.00
3220	G W RAZOR	GETGG03SPL	SECONDARY CABLE SPLICING	93/05/10	C	6.00
3220	G W RAZOR	GEENG01SFA	STANDARD FIRST AID	93/04/06	C	8.00
3220	G W RAZOR	GEGNGAPS	ANALYTICAL PROBLEM SOLVING	93/02/25	C	24.00
3220	G W RAZOR	GEGNTCACCT	ESC CLASS OF ACCOUNTS TRAINING	93/01/04	C	1.50
3220	G W RAZOR	GEENGBLOOD	BLOODBORNE PATHOGENS PLAN	92/11/17	C	2.00
3220	G W RAZOR	GEENHHVOLT	HIGH VOLTAGE TRAINING	92/10/10	C	8.00
3220	G W RAZOR	GEENGHIVLT	HIGH-VOLTAGE DEMONSTRATION	92/07/07	C	1.50
3220	G W RAZOR	GEGND00003	FIELD AMBASADOR TRAINING	92/06/03	C	8.00
3220	G W RAZOR	GEENG04BIP	BACK INJURY PREVENTION	92/03/30	C	4.00
3220	G W RAZOR	GDUNGCD002	CULTURAL DIVERSITY PHASE I	92/02/06	C	3.00
3220	G W RAZOR	GXGNL00042	CULTURAL DIVERSITY	92/02/06	C	4.00
3220	G W RAZOR	GETNG01	FIRE POWER	91/11/05	C	2.00
3220	G W RAZOR	GET003	RAILROAD CROSSING SAFETY	91/08/15	C	1.50
3220	G W RAZOR	XI0010	CAREER PLANNING & ADVANCEMENT	91/08/15	C	1.25
3220	G W RAZOR	GDENG40232	DEFENSIVE DRIVING	91/03/27	C	8.00
3220	G W RAZOR	GSS020	ADULT CPR RECERTIFICATION	91/02/25	C	4.00
3220	G W RAZOR	GSS022	HAZARD COMMUNICATION TRAINING	91/02/25	C	4.00
3220	G W RAZOR	GSS003	STANDARD FIRST AID	90/03/12	C	8.00
3220	G W RAZOR	AEOB21	BASIC METERS	89/03/09	C	6.00
3220	G W RAZOR	AEOE01	ORIENTATION TO T&D SYSTEMS &EQ	88/12/07	C	4.50
3220	G W RAZOR	BTS001	SAFETY IN T&D MAINTENANCE	88/12/07	C	4.00
3220	G W RAZOR	GSS001	FIRST AID/MULTI-MEDIA	88/11/17	C	8.00
3220	G W RAZOR	BTF001	FIVE FOOT RULE	88/03/25	C	1.00
TOTAL EMP 3220						287.51
TOTAL						287.51

ELASTIMOLD®

CRIMPING TOOLS & DIES RECOMMENDED FOR ELASTIMOLD ELBOW COMPRESSION CONNECTORS

CAT. NO. 02500	CRIMP BARREL O.D.	CU OR AL CONDUCTOR SIZE AWG OR KCM		T&B	CSA	HOMAC		ALCOA	BURNDY		KEARNEY		BLACKBURN		ANDERSON
				HYDR		UT5	HYDR	12A	MD6,MD7	Y35 Y45*	O	H1,H2	OD58	HYDR	VC–6
		STR. COMPR.	COMPT. SOLID	DIE NO.	DIE NO.	DIE NO.	DIE NO.	DIE NO.	DIE NO.	DIE NO.	DIE NO.	DIE NO.	DIE NO.	DIE NO.	—
180	.625" (15,9mm)	#6	#5	50	22(2) xx	TU	52	B24EA	W243(3) WBG(3) BG Nose(6)	U243(2) UBG(3) U27RT(3)	5/8 Nose or 620	9/16 or 572	5/8	B24EA	** NO DIE REQ'D.
190		#5	#4												
200		#4	#3												
210		#3	#2												
220		#2	#1												
230		#1	1/0												
240		1/0	2/0												
250		2/0	3/0		—										
260	.781" (20,0mm)	3/0	4/0	—	—	—	—	—	W247(4)	U29RT(3) U27ART(3)	—	—	—	—	VC-6 NOT RECOMMENDED
270		4/0	250												

* Requires Adapter No. 6515.
** To be used on aluminum conductor ONLY.
( ) Number of crimps.

Wire brush bared aluminum conductor before inserting into connector.
Rotate each successive crimp 90° or 180°.
xx Overlap crimp.

Mr. Lovelace received burns to both hands. He was released from the hospital Thursday, July 24, 1997.

At 20:02 hours, I notified Mr. John Land's answering machine and then I called Ms. Martha Morton, both with the Public Service Commission. Ms. Morton was informed the transformer and the elbow on the conductor would have to be changed out to get the customers back on line. She said to change the equipment out and John Land would meet with us Monday morning, July 21,1997.

Photographs were taken Sunday night and Monday morning at the accident site.

On Monday, July 21,1997, at approximately 09:00 hours, Mr. John Land arrived to investigate the accident.

Photographs and additional materials to follow under separate cover.

LG&E Louisville Gas and Electric Company

Electric Transmission and Distribution Department

T & D TRAINING

SPECIFIC TEXT

Switching Logic and Energization/De-energization Procedures IV

SLEDP-IV (T&D-R)

1.4 Isolation and Energization of a Section of Primary Cable and Transformer

When isolating a section of primary cable and transformer from a URD circuit a schematic diagram must be used and the primary cable and transformer must be totally removed from the circuit.

To isolate a section of primary cable from a URD circuit, both ends of the primary cable to be isolated must be disconnected or removed from the terminals where they are connected. After the primary cable ends have been disconnected and removed from the terminals, the primary cable must be tested for dead and should be grounded before starting work.

To isolate a transformer from a URD circuit, the primary cables at the transformers on either side of the transformer to be isolated must be disconnected or removed from the terminals where they are connected. After the primary cables have been disconnected or removed from the terminals, test the isolated transformer and the primary cables to make sure that they are de-energized. Testing all primary cables and transformers to be worked on to make sure they are de-energized is extremely important in URD systems. Since URD cables run underground, out of sight, it is not possible to be absolutely sure where they feed from. Although diagrams and tags are important aids in identifying cables and transformers, they may contain incorrect information. The only way to make sure that the right cables have been disconnected is to test them to make sure no voltage is present.

When a section of primary cable and/or a transformer needs to be energized, a worker should make sure that the primary cable and transformer have been terminated.

5-FOOT RULE

EMPLOYEES SHALL NOT APPROACH, OR TAKE ANY CONDUCTIVE OBJECT WITHOUT APPROVED INSULATION, CLOSER TO UNGUARDED, EXPOSED ENERGIZED PARTS THAN SHOWN IN THE FOLLOWING TABLE: UNLESS, THE EMPLOYEES ARE INSULATED FROM THE ENERGIZED PARTS, OR THE ENERGIZED PATS ARE INSULATED FROM THE EMPLOYEES. APPROVED, RUBBER GLOVES AND SLEEVES SHALL BE CONSIDERED ADEQUATE INSULATION OF THE EMPLOYEE FROM THE ENERGIZED PART.

600V THROUGH 13.8 KV

UNDERGROUND CABLE HAS ADEQUATE INSULATION: YOU DO NOT HAVE TO WEAR PROTECTIVE EQUIPMENT, UNTIL YOU GET WITHIN FIVE FEET OF TERMINATION. AT THAT POINT, BEFORE COMING WITHIN FIVE FEET OF TERMINATION, YOU PUT YOUR GLOVES AND SLEEVES ON.

UNDERGROUND TRANSFORMERS

DEAD-FRONT TRANSFORMERS, PADMOUNT.

BEFORE OPENING LID OR DOOR, YOU MUST HAVE YOUR GLOVES AND SLEEVES ON. AFTER INSPECTING, AND EVERYTHING IS OK YOU CAN REMOVE GLOVES AND SLEEVES. USE PROTECTIVE EQUIPMENT NEEDED TO DO YOUR JOB.

LIVE-FRONT TRANSFORMERS

BEFORE OPENING LID OR DOOR, YOU MUST HAVE YOUR GLOVES AND SLEEVES ON. IF VOLTAGE OVER 600V, GLOVES AND SLEEVES ARE REQUIRED. IF YOU ADEQUATELY COVER EQUIPMENT OVER 600V, GLOVES AND SLEEVES CAN BE REMOVED. USE PROTECTIVE EQUIPMENT NEEDED TO DO YOUR JOB.

THE RULE FOR USING GLOVES AND SLEEVES TO OPEN PADMOUNT TRANSFORMERS AND SUB-GRADE TRANSFORMERS IS ABOVE AND BEYOND THE FIVE FOOT RULE.

OVERHEAD LINES AND EQUIPMENT

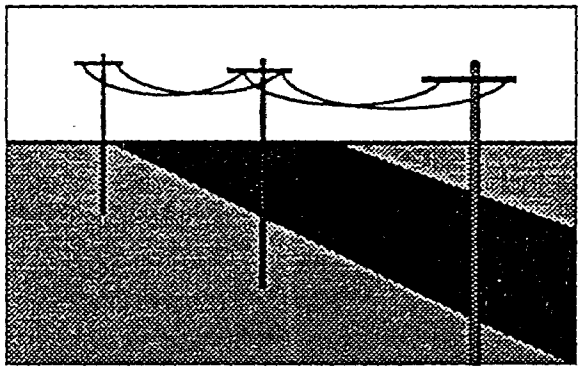
600V THROUGH 13.8 KV - 5-FOOT RULE.

BEFORE COMING WITHIN FIVE FEET OF PROMARY, YOU PUT YOUR GLOVES AND SLEEVES ON. IF YOU HAVE EVERYTHING ENERGIZED COVERED, YOU CAN REMOVE GLOVES AND SLEEVES. USE PROTECTIVE EQUIPMENT NEEDED TO DO YOUR JOB. WORK-RULE 11 COVERS THE FIVE-FOOT RULE VIOLATION.

ESD

JOINT TASK

TEAM



"Working together to deliver the goods."

SECTION F

LG&E SM

UNDERGROUND
CONSTRUCTION
MAINTENANCE

TEMPORARY PROTECTIVE GROUNDING PROCEDURES

LOUISVILLE GAS AND ELECTRIC COMPANY
ELECTRIC SERVICE DELIVERY DEPARTMENT

F. UNDERGROUND TEMPORARY PROTECTIVE GROUNDING PROCEDURES

1 ***It shall always be assumed that electrical equipment and conductors are energized until proven to be de-energized.*** Proper administrative clearance shall be obtained and electrical tests shall be made before any work (including the installation of temporary protective grounds) is started. As an additional safeguard, the isolating switches, or other visible line breaks, shall be locked or blocked open and carded before work is started.

2 Hazards for Underground Workers:

Underground systems have inherently greater hazards than overhead systems. Due to the limited ability to visually verify circuit routes, there is a greater reliance on circuit maps. In addition, cable sheaths often develop induced potentials due to close capacitive coupling with energized phase conductors. In underground vaults, manholes and in padmounted equipment, a significant flash hazard exists in the event of a fault at the work location. The use of arc supression blankets shall be used. Also, since the worker is in direct contact with the earth, step and touch potential hazards nearly always exist at the work location under fault conditions.

3. *Tailgate:* **BEFORE** protective grounds are applied or the commencement of any work. The person or persons in charge shall advise **ALL** employees and the general public of all hazards associated with the job. Information conveyed as part of the job briefing shall include but not limited to the following:

a) quantity and location of protective grounds;

b) electric clearances provided,

c) proximity of energized lines or equipment,

d) and special considerations regarding the safe completion of the work,

e) hazards associated with the job,

f) work procedures involved,

g) special precautions,

h) energy source controls,

i) and personal protective equipment requirements.

Note: The above practice shall apply to those employees working alone.

4 Identification

a) Identification of all cables is accomplished by checking the cable tag and the duct position as shown on conduit and cable maps.

b) If the cable tag does not agree with the indicated duct position, trace the cable until identification is positive.

c) Spiking method is used when working the following: All single phase circuits, loop feed systems, when transformers are added to existing systems, two or more cables are in the same ditch.

d) Cables operating at 300 volts or less are to be tested with a voltmeter or other approved test device.

Note: When three-phase underground feeders out of substations are required to be worked on due to routine work or cable failure the supervisor in charge shall contact the load dispatcher in order to get clearance and grounds shall be installed on the circuit at the station by the station operators. When notified by the load dispatcher that grounds have been installed the crew shall be notified by the supervisor to proceed with work starting by stripping cable down to conductor and checking with an approved voltage detector. When testing any multi-cunductor lead primary cable, always do a test on at least <u>two</u> conductors, eliminating the possibility of testing a neutral on a (4) conductor cable. This process is to be done with the use of proper personal protective equipment including gloves and sleeves.

5 Downtown Network

Before cable is cut there must be a ground put on the closest transformer behind where cable is being worked giving the person working on the cable a ground on both sides of the cable once the cable has been cut.

6 When working on a circuit out of Class A or B substation, if work to be done is between switch gear housing and lateral pole, a set of grounds should be installed at the lateral pole. Any three-phase cable taken out of service in order to be worked shall have grounds installed on cable at open locations.

7 Any U.R.D. cable taken out of service in order to be worked on will have grounds installed at nearest open location on both sides of area to be worked on.

Isolating Underground Primary Cable

When isolating a section of Underground(URD) primary cable, the following steps should be followed:

1. Get the proper administrative clearances on outages , *i.e.*, Service Center Supervisor, Electric Trouble Department Supervisor, or Service Center Manager.

2. Review an URD circuit schematic diagram and/or job print of the work location. Compare the URD circuit schematic diagram and/or job print with the actual job site. Ask yourself the questions:

   - Do the feeder phase(s) on the URD circuit schematic diagram and/or job print correspond with the actual findings at the job site? *Is what you expected to find actually what you have?*

   - If a transformer is indicated on the URD circuit schematic diagram and/or job print as the open, is it really the open? *Check and see for yourself!*

   - *Look around!* Are there any other subdivisions, houses, or businesses that may have other URD circuits in the same vicinity as the circuit you are preparing to work on? *NEVER ASSUME! Don't be tricked?*

3. Tailgate all of your findings with the crew(s) performing the work. Your tailgate should include but not limited to the following:

   a) quantity and location of protective grounds
   b) electric clearances provided
   c) proximity of energized lines, cables, and equipment.
   d) any special considerations regarding the safe completion of the work
   e) hazards associated with the job
   f) work procedures involved
   g) any special precautions
   h) energy source controls
   i) personal protective equipment requirements

4. Switch a section of cable out of service using the following rules:

a) *Always wear your Personal Protective Equipment!* (i.e., Hard Hat, Safety Glasses, Dielectric Boots, Insulating Rubber Gloves and/or insulating rubber sleeves(if applicable).

b) Always check all testing equipment before each use to be sure they are operating properly.

c) *Identify the cable*. Check for cable tags(if applicable)on the transformer elbows. They indicate the cable feed direction.

d) *Identify the cable.* If at all possible test the section of cable, to be de-energized to see if in fact it is energized. That way when you de-energize the cable you can test to see if in fact the condition of the cable did change appropriately. This will give you a good indication that the equipment you are working on is the equipment you want to work on! ***Don't be fooled!***

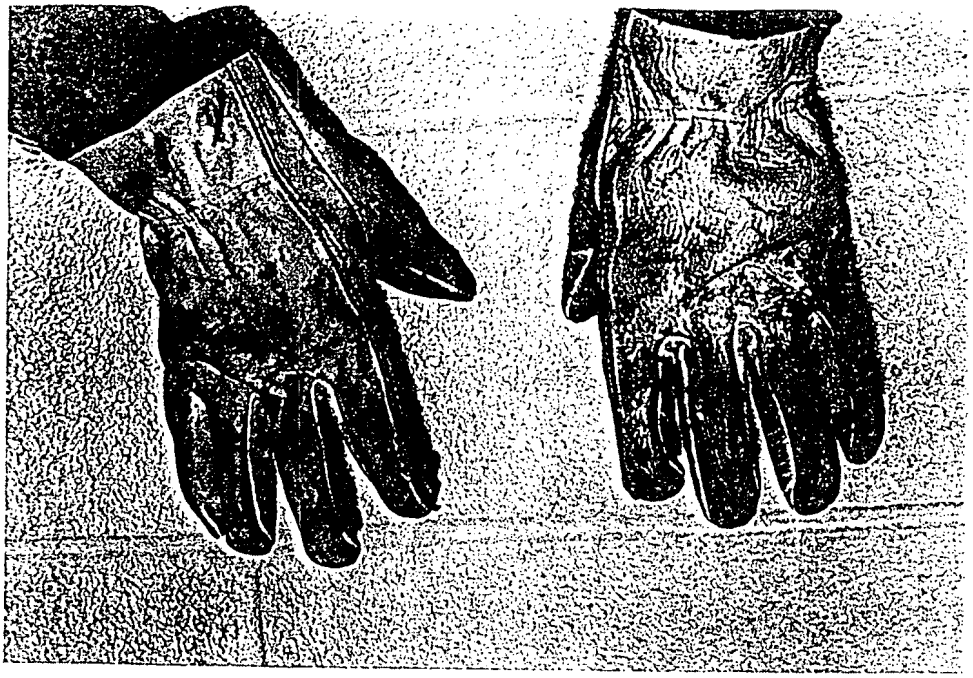
e) ***Always Open Before You Close!*** Never close the open transformer before you open at another location. You could buck phases and cause injury to yourself, your co-worker, and equipment.

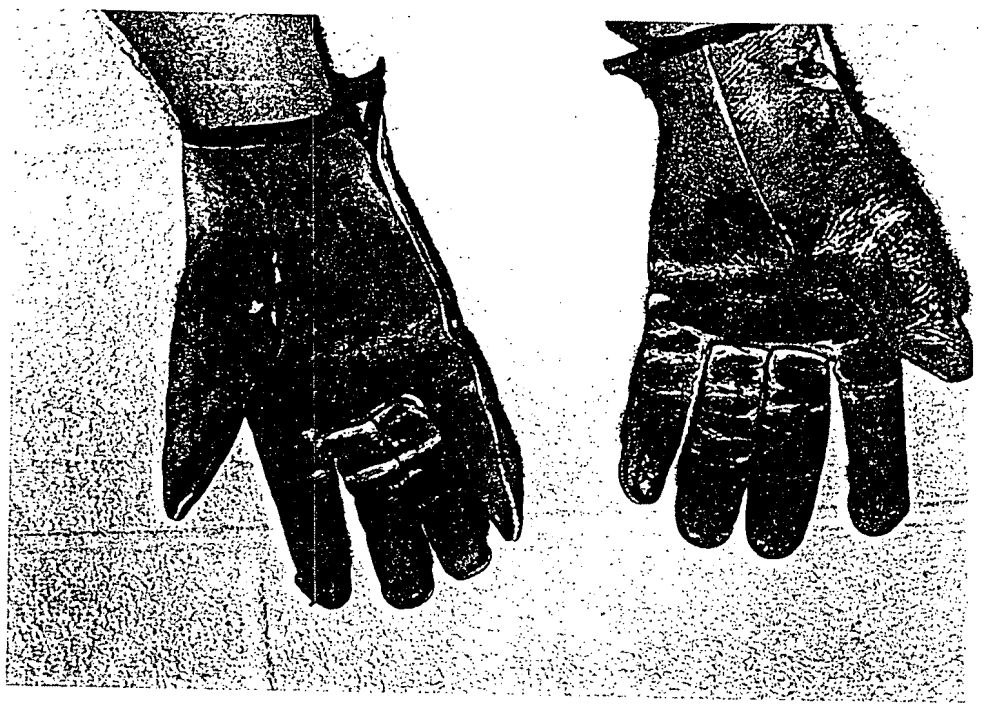
f) A cable can be tested for energization or de-energization by testing the transformer being fed before and after the elbows are pulled and stood-off on adjacent transformers.(these elbows should always be mounted on grounded stand-off bushings to be considered dead.)*If It Is Not Grounded It Is Not Dead!* The secondary can be checked with a "voltmeter". The primaries can be checked by standing off the elbows(load break) on stand-off feed through bushings and testing for voltage with an "A. B. Chance Voltage Tester".

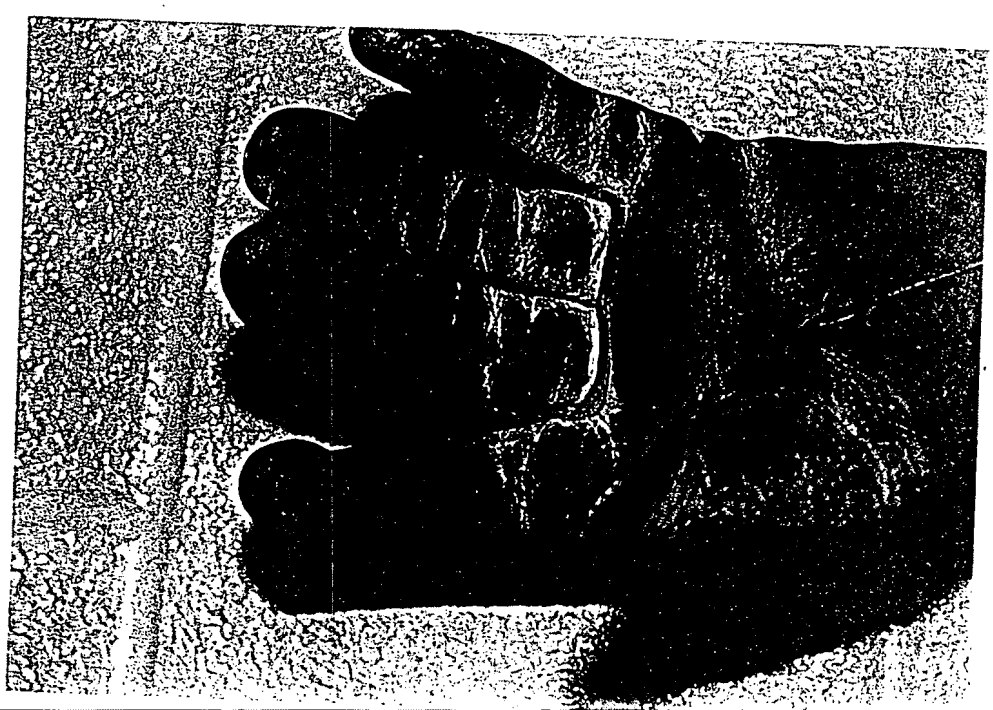
g) A cable can be tested for energization or de-energization by testing the cable before and after de-energization using a "Cable Tester". An example of this is when we splice a cable or terminate a new transformer. The cable may already be exposed by contractors or we may expose it by digging a splice pit. How can we be sure this is the right cable? The best indication is by testing for energization or de-energization before and after de-energization with a "Cable Tester". This way we can monitor the electrical conditions of the cable. If conditions change as we expect them to, we can be better assured the cable is de-energized and we are working on the right cable. *After all testing and conditions have proved out that we very likely have the correct cable,*

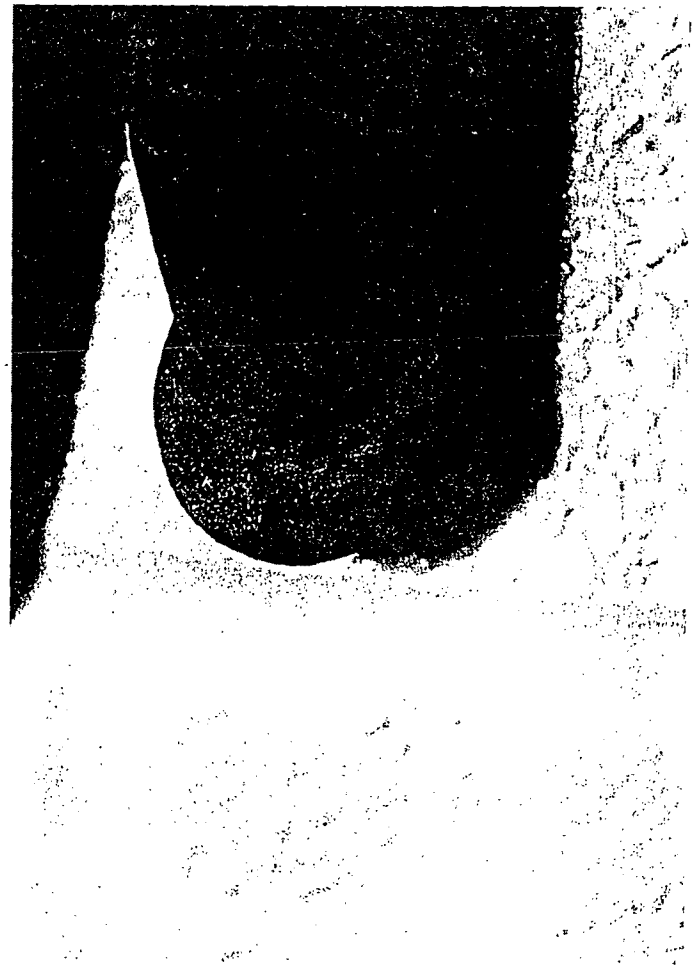
*there is one more last imperative precautionary step to take. **SPIKE THE CABLE WITH A CABLE SPIKER! DON'T ASSUME!***

h) The spiking method is used when working on all single phase circuits, loop feed systems, when transformers are added to existing systems, and when two or more cables are in the same ditch.





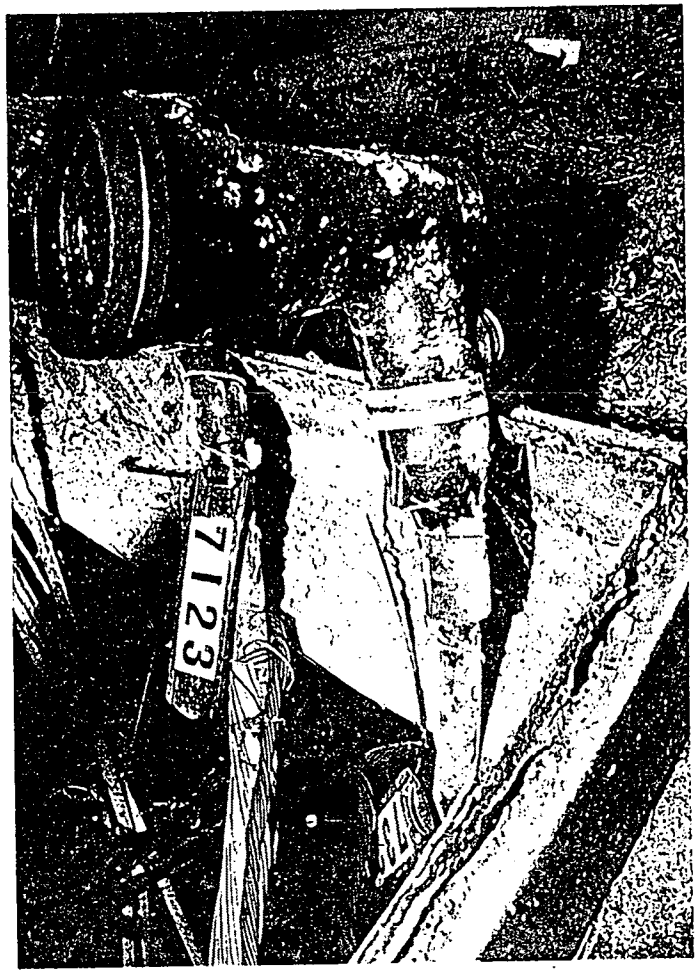




GENERAL ELECTRIC
DISTRIBUTION TRANSFORMER

7200V


7123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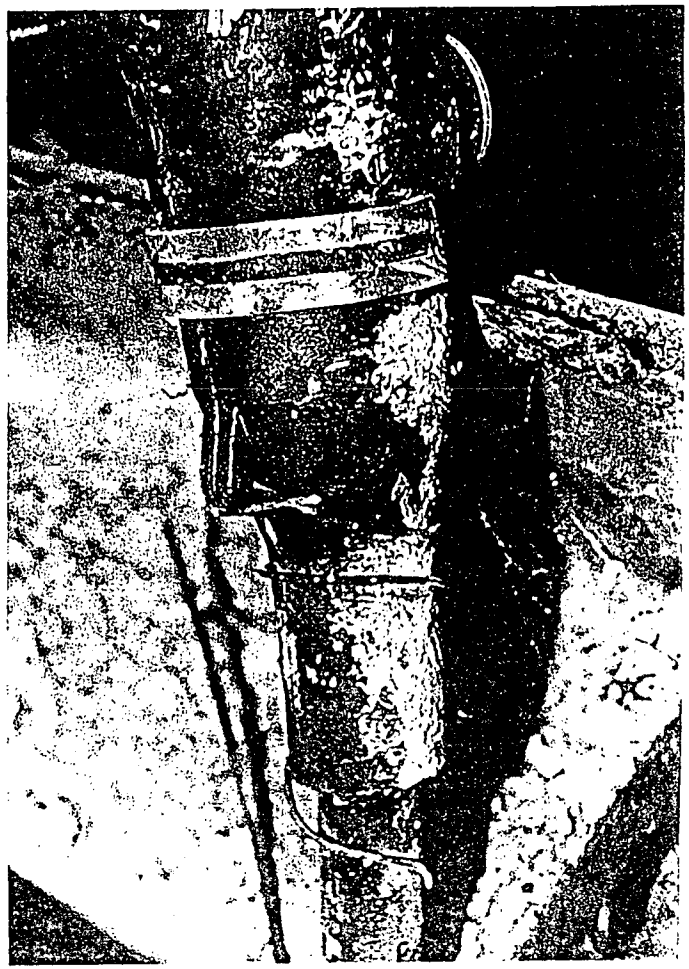


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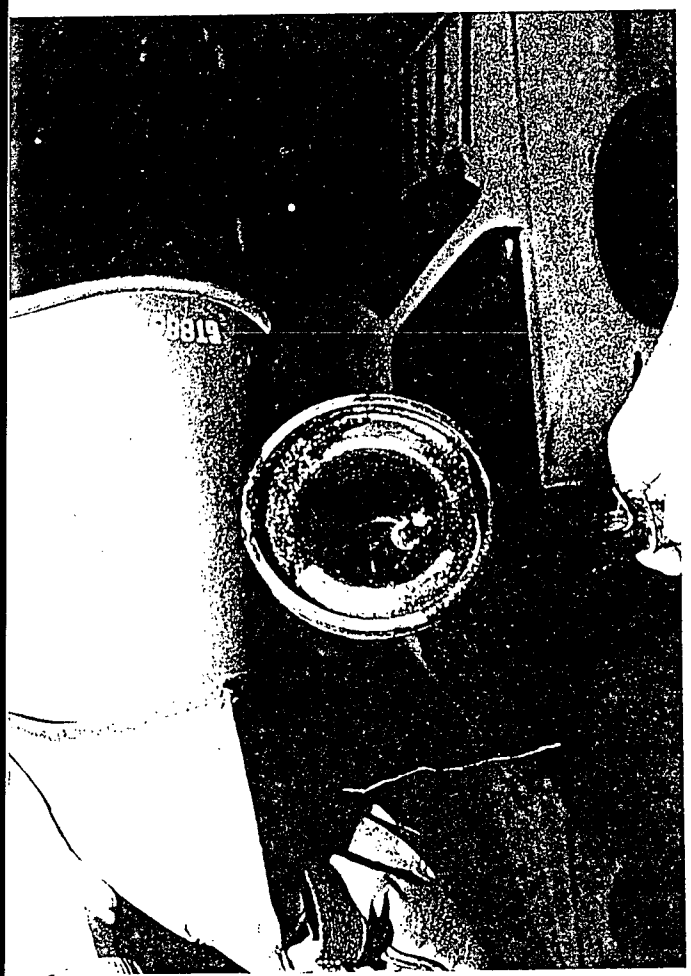

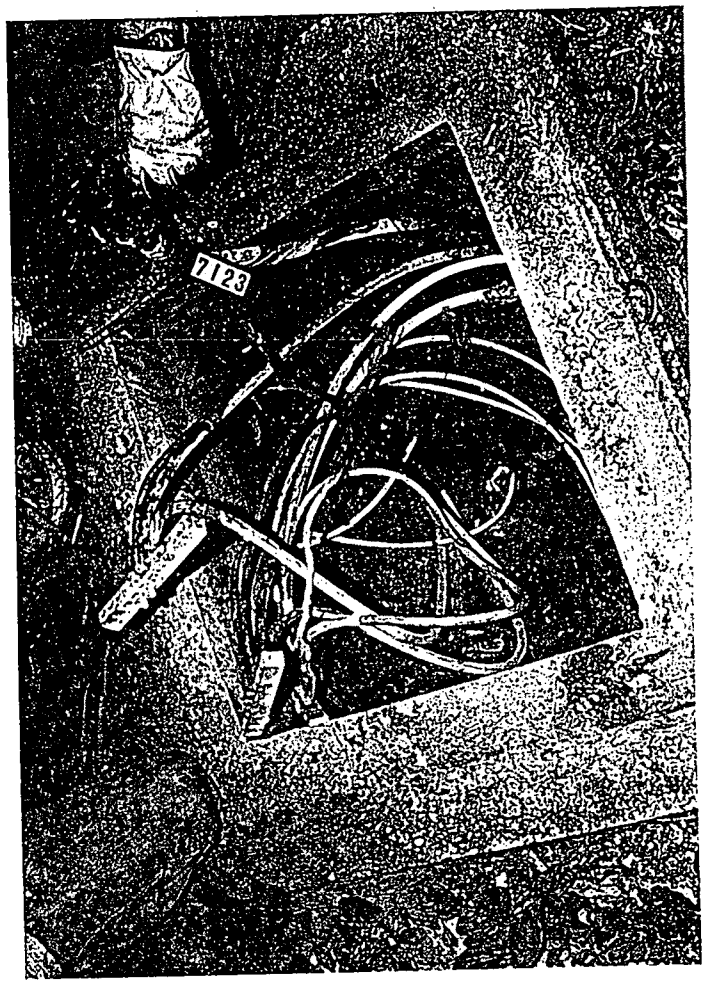
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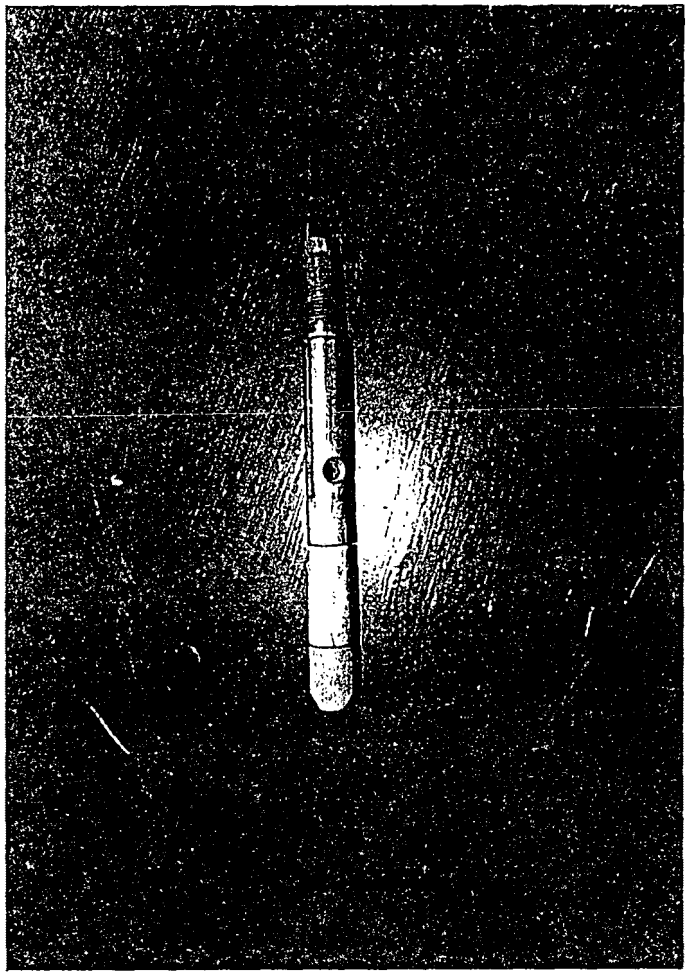
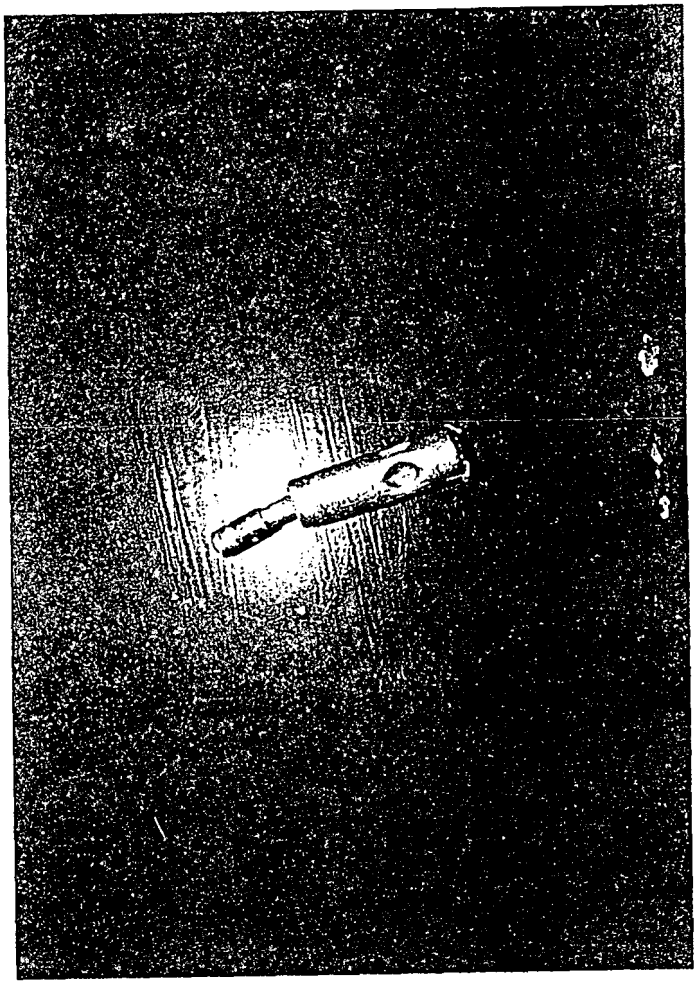
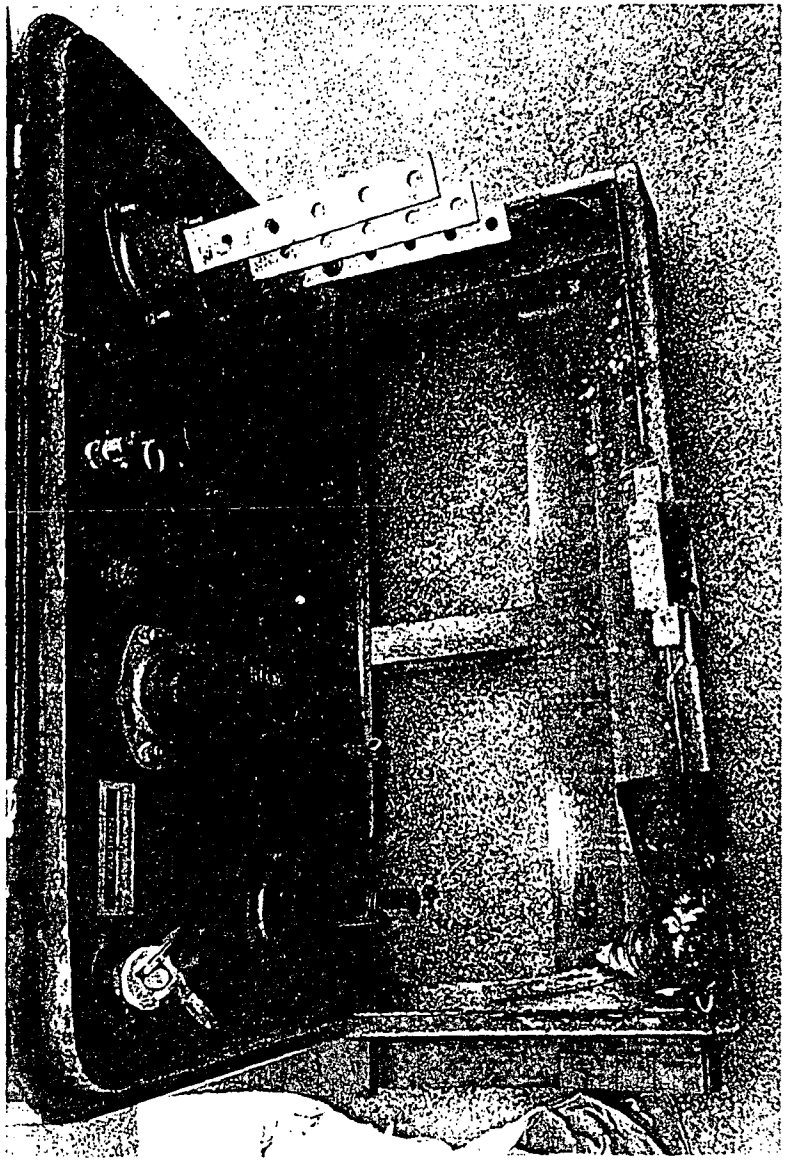


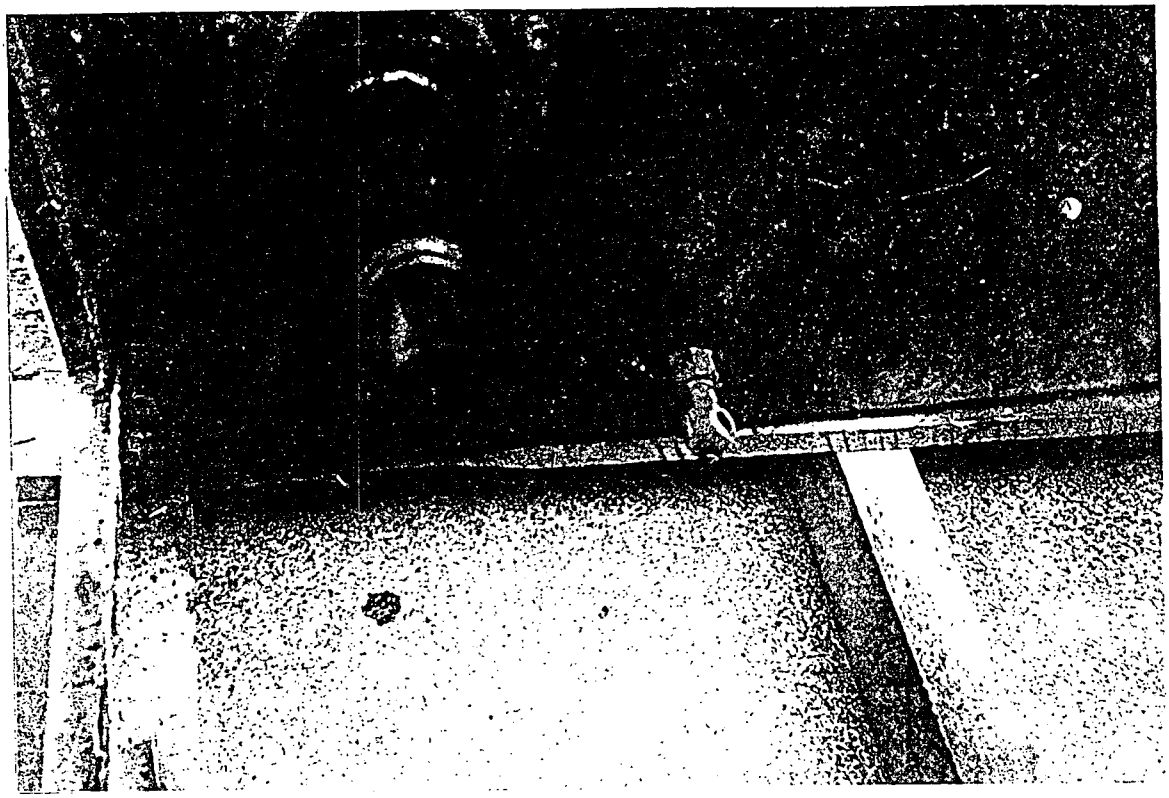


Attachment B

Photographs of Accident Site

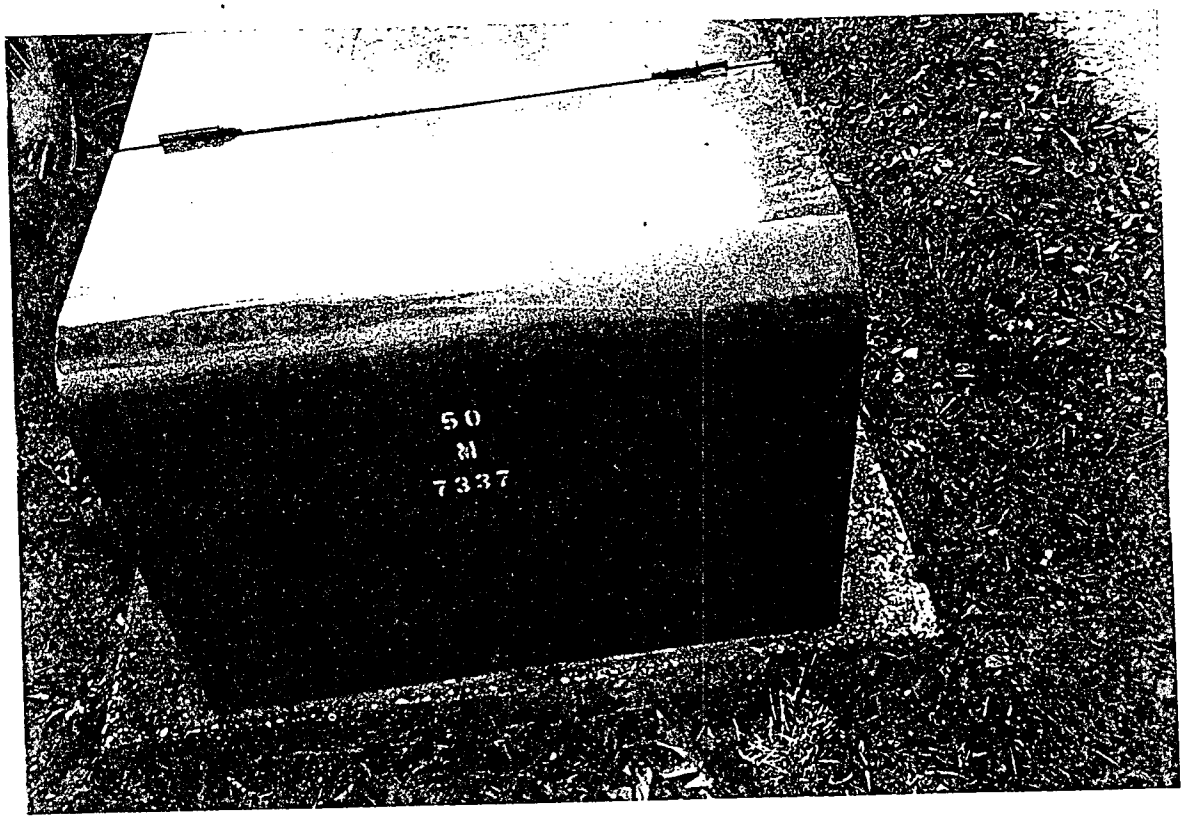


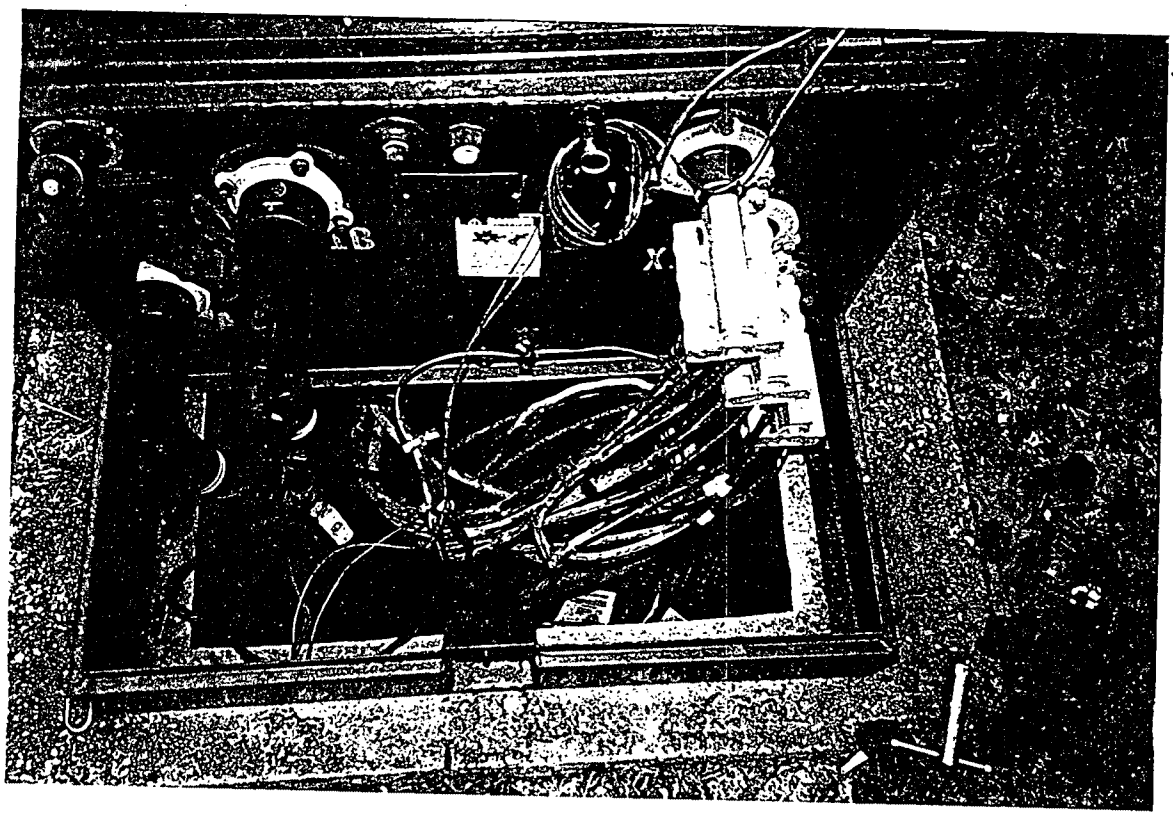

CAUTION

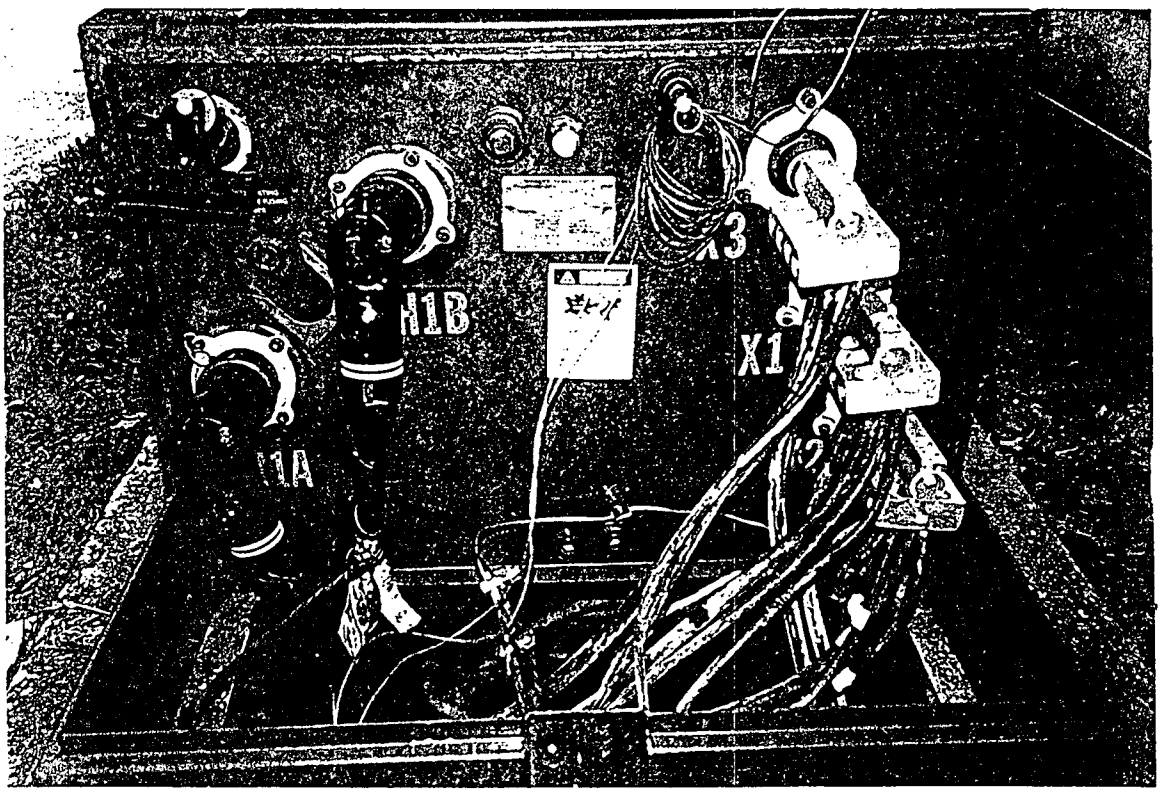



CAUTION


HIGH VOLTAGE
INSIDE
KEEP OUT


50
M
7337




X3
H1B
X1
H1A