

SAFETY RULES
TABLE OF CONTENTS

	<u>Page</u>
ARTICLE I	
General and Definitions	1
Causes of Accidents	1
ARTICLE II	
Responsibility for Safety	
Employer's Responsibility	1-2
Foremen's Responsibility	2
Employee's Responsibility	2-3
ARTICLE III	
First Aid and Industrial Hygiene	3
ARTICLE IV	
Tools - Protective Devices	3-7
Rubber Protective Equipment	7
Wearing Apparel	7-8
Transportation	8
ARTICLE V	
Power Lines and Equipment	
Employee Qualifications	8
Number of Employees Required To Do Work Safely	8-9
Stringing or Removing Wires	9-10
Procedures for Working 15KV with Rubber Goods	10
Safe Working Practices	10-12
Cell Phones	12
Using Hot Line Tools	12
Foreign Attachments on Poles	12
Explosive Power Tools	12
Aerial Ladders and/or Lift Equipment	13
Pole Loading - Transporting - Installing or Removing	13
Compressed Air Equipment	13-14
Slings and Hooks	14
Welding and Cutting Equipment	14
ARTICLE VI	
Operating - Power Lines and Equipment Clearances	15
Grounding	15-16
ARTICLE VII	
Outside Equipment - Bull Dozers - Trenchers - Payloaders, Etc.	16-17
ARTICLE VIII	<u>Page</u>
Excavating and Shoring	17

ARTICLE IX	
Explosives	17
ARTICLE X	
Aerial Baskets - General	17-18
Travel Procedures	18
Setting Up and Knocking Down at Job Site	18
Working Aloft	18-19
Inspection	19
Maintenance	19
ARTICLE XI	
Underground Distribution	
Introduction	19-20
Definitions	20
Working on UD Systems	20-22
UD #1 - General Rules	20-21
UD #2 - Working Within Pad-Mounted Enclosures	21
UD #3 - Working on Primary Cables and Grounding	21
UD #4 - Moving Energized Cables	21
UD #5 - UD Switches and Fuses	22
UD #6 - Protecting the Public	22
UD #7 - Manholes and Vaults	22
ARTICLE XII	
Spacer Cable	22

ARTICLE I

GENERAL AND DEFINITIONS

Section 1.01 These standards have been compiled for the purpose of making work safer for the employee. They are not for the purpose of penalizing anyone after accidents occur, but are for the specific purpose of pointing out the "safe way" of doing our work before work starts. The attitude toward safety and accident prevention of all employees will have a decided effect upon our safety effort - to prevent people from being injured. No operating conditions or urgency of service can ever justify personal injury or endangering the life of anyone.

Section 1.02 These safety standards should be considered as minimal. When work is performed for customers that have more stringent rules, their rules shall be considered as well as these. The safety rules of the Employers shall also be followed if they do not contradict these rules. When jobs are to be done that present unusual hazards not covered by these rules, the foreman shall discuss the problem with the employees involved and arrive at a method which, in their judgment, will provide the greatest degree of safety.

Section 1.03 The rules that prescribe methods, do so only insofar as they affect safety and are not intended to be a completed description of the procedure for carrying out the work prescribed.

Section 1.04 Should a controversy arise over methods of procedure, safety hazards or interpretations of the rules, the Joint Safety Committee shall call a conference to secure agreement, and to recommend to the parties to this agreement any changes they deem advisable. In the event that the Joint Safety Committee is unable to adjust any matter, they shall refer the same to the Labor Management Committee.

CAUSES OF ACCIDENTS

Section 1.05 Most accidents can be prevented.

Section 1.06 Safety falls into three categories: First - Proper planning of work. Second - Exercise of good judgment. Third - Intelligent supervision.

Section 1.07 Definitions: The terms used in these rules shall be interpreted in the most commonly accepted sense consistent with the electrical industry. (Shall and must) are used to indicate the provisions which are mandatory. (Should) or (it is recommended) are used to indicate the provisions which are not mandatory because of variation in work conditions. However, if applicable, then it should be complied with.

ARTICLE II

RESPONSIBILITY FOR SAFETY

EMPLOYERS' RESPONSIBILITY

Section 2.01 Rubber sleeves will be provided on all line trucks by the Employer. No work on voltages over 500 volts shall be permitted without rubber gloves and sleeves.

Section 2.02 The Employer shall require the Foreman to observe and enforce all safety rules and furnish a copy of these rules to each Foreman which in turn shall be available to all employees. All employees through study SHALL become familiar with, and adhere to these rules.

Section 2.03 The Employer shall appoint only competent employees to supervise other employees and those appointed shall be responsible for the safety of employees under their supervision.

Section 2.04 The Employer shall with the cooperation of his employees, hold weekly safety meetings, (on Company time). A review of accidents occurring should be made, all present should be requested to state in their opinion, what caused the accident and what solutions were needed to prevent repetitions of similar accidents. Minutes should be kept of each meeting.

Section 2.05 The Employer and Union representatives jointly shall investigate all accidents of a serious nature and, where possible, take the proper remedial steps to prevent repetition of similar accidents.

Section 2.06 The Employer shall furnish instructions indicating the proper procedure in emergencies which shall include the names of those individuals to be notified and methods of contacting them.

Section 2.07 No Employer shall furnish or continue to furnish, any equipment, tools or protective devices, where the Employer has actual knowledge that such equipment, tools or protective devices is defective, and the use of the same will subject employees to more than normal hazards.

Section 2.08 The Employer shall furnish a form with the local emergency numbers and job location to the Foreman to place in the vehicles at the start of each job.

Section 2.09 The Employer shall provide some type of communications (radio or cellular phone) for use in emergency situations.

FOREMEN'S RESPONSIBILITY

Section 2.10 Foremen are at all times responsible for the execution of the work in a safe manner and for the safety of all employees working under their direction and for the safety of the general public in connection with the work in which they are engaged.

Section 2.11 Foremen shall instruct their employees as to type and voltage of circuits on or near which they are to work.

Section 2.12 Foremen shall be responsible for the proper use of safety devices and equipment by the employees under their supervision, including barricades, warning flags or signs, red lanterns, or any other device called for to protect their employees or the general public.

Section 2.13 Foremen shall be responsible for the inspection, at least once a month, of all tools and equipment.

Section 2.14 When employees report hazards, foremen and others having authority shall accept the report in a cooperative manner and in no case shall employees be reprimanded or penalized for reporting hazards.

Section 2.15 Foremen shall not permit any intoxicating liquor or narcotics on the job and shall not to his knowledge, allow on the job any employees under the influence of liquor or narcotics.

Section 2.16 It is the responsibility of the Foreman to discuss the local emergency numbers and job location with the employees during the first safety meeting of the job.

EMPLOYEE'S RESPONSIBILITY

Section 2.17 Employees shall study and observe the safety rules with special attention to all safety devices and equipment required and provided for their own protection.

Section 2.18 The use of intoxicating liquors or narcotics on the job is strictly prohibited. Anyone under the influence of liquor or narcotics shall not be allowed on the job.

Section 2.19 It is the duty as well as the privilege of every employee to report unsafe work conditions and/or unsafe work practices. Employees shall report such unsafe conditions in a constructive manner and not with the intent to express contempt for the person in charge of the work being performed. Proposed eliminations of hazardous conditions should be kept on record.

Section 2.20 Employee's shall use all protective devices as required in these rules and shall exercise proper care and treatment of such protective devices as furnished by the Employer.

Section 2.21 Employees shall not throw anything from pole, structure, or any other elevated position to the ground nor permit anything to be thrown to them while on the pole or structure.

Section 2.22 Employees must report all injuries regardless of severity. Report forms furnished by the Employer should be used. A copy of the accident report shall be furnished to the Local Union hall.

ARTICLE III

FIRST AID AND INDUSTRIAL HYGIENE

Section 3.01 First aid requirements shall be in conformance with the most recent standards.

Section 3.02 Employers shall arrange to have as many employees as possible to take a full course in first aid training.

Section 3.03 Each truck shall have a safety kit and it shall be the responsibility of the foreman to maintain an adequate quantity of all first aid supplies in this safety kit. Employees will notify the Foreman if first aid supplies need replenished.

Section 3.04 In addition to the above, all linemen shall be instructed in pole top rescue technique and shall remain proficient in their application. Pole top rescue shall be a topic of a safety meeting at least every 6 months.

Section 3.05 Immediate and proper transportation shall be provided for injured persons requiring the same, and such transportation shall have precedence over all other transportation under the control of the firm or party upon whose operation the accident occurs.

Section 3.06 Drinking water shall be obtained only from approved sources. Water shall be dispensed by a sanitary method.

Section 3.07 Goggles, rubber gloves, respirators, hard hats and other protectors shall not be interchanged among employees unless they have been sterilized.

ARTICLE IV

TOOLS - PROTECTIVE DEVICES

Section 4.01 Foreman shall insist that all employees under their supervision, keep their belts, spurs and straps in good condition.

Section 4.02 All tools shall be stored in a safe and orderly manner. A place to store tools shall be provided by the Employer.

Section 4.03 Hand tools. Employees must not use metal or metal strands, tapes, brass bound rules or wire-bound hose, when working on or near energized equipment or lines.

Section 4.04 The use of hand axes is prohibited on all overhead work.

Section 4.05 Hand tools shall only be used for the purpose for which they were designed.

Section 4.06 All hand tools to be used on energized electrical equipment should be insulated.

Section 4.07 Defective tools shall not be kept on the job, but turned in for replacement or repair.

Section 4.08 Tools shall not be left lying around so that they constitute a tripping hazard.

Section 4.09 Tools not in use shall be returned to their designated storage space.

Section 4.10 Tools shall be placed in tool bag or other suitable container on all overhead work to avoid the possibility of them falling.

Section 4.11 Sharp edge tools shall be covered with protective guards when storing.

Section 4.12 An edged or pointed tool shall not be carried in pockets or belts unless point or edge is fully protected.

Section 4.13 A wrench shall not be used on moving objects or machinery in motion.

Section 4.14 Wrench handles shall not be extended to obtain leverage. Secure a large wrench.

Section 4.15 Adjustable wrenches shall be placed on nuts the right way, that is, jaws facing forward in the direction the handle is to move.

Section 4.16 Cold chisels and chisel bars shall be held with a suitable holder other than hands when being struck by a co-worker.

Section 4.17 Protective goggles shall always be worn when using a cold chisel. Spectacle type safety glasses shall not be considered adequate.

Section 4.18 Shovels, forks, hoes, rakes and picks shall have strong and smooth handles and be placed when not in use where they shall not constitute a hazard.

Section 4.19 Dull, broken end or bent bars shall not be used.

Section 4.20 A bar shall not be left standing upright against a flat surface or laid across a passage way or any other place where it may be tripped over.

Section 4.21 A file shall not be struck with a hammer. Files shall be used as files only.

Section 4.22 A sledge with a rounded face, loose head, or split handle shall not be used. When using a sledge, make certain that other employees are out of reach of back swings.

Section 4.23 Coffing hoist or chain block shall not be used on any energized equipment or conductors.

Section 4.24 Coffing hoist or chain block shall not be used on any transmission pole, tower or structure where the minimum safe working distance cannot be maintained, from energized conductor or equipment when the chain block or coffing hoist is extended to its maximum limits.

Section 4.25 Loads greater than that for which the equipment is designed shall not be applied.

Section 4.26 Electric power tools shall be provided with a suitable grounding device.

Section 4.27 When portable power tools are used, suitable footing shall be provided for the operator.

Section 4.28 Metal ladders, or ladders of continuous vertical metal reinforcement will never be used on energized electrical work.

Section 4.29 Ladders made by fastening cleats across a single rail shall not be used.

Section 4.30 Ladders when defective shall be taken out of service and shall not be used.

Section 4.31 Stepladders shall not be used as straight ladders.

Section 4.32 Only ladders supplied by the Company shall be used.

Section 4.33 When working on a ladder, employees shall tie the top of the ladder to a substantial object unless the ladder is equipped with suitable hooks, to prevent falling.

Section 4.34 An attendant to hold the ladder and watch traffic shall be used in all cases regardless of the length of the ladder, when work is being done in streets, alleys, sidewalks, and other places where the public or workmen are apt to run into the ladder and cause an accident.

Section 4.35 No metal scaffold will be used on energized electrical work.

Section 4.36 Grounding equipment will be used when working on or near de-energized circuits or parts.

Section 4.37 Grounding equipment shall be of sufficient carrying capacity to actuate protective devices such as oil circuit breakers, relays, etc., without destroying the grounding equipment.

Section 4.38 Approved hot line tools shall be used by workmen when doing work on lines in excess of 15,000 volts.

Section 4.39 All hot line tools shall be of an approved type.

Section 4.40 Only hot line tools tested to withstand 70,000 volts per foot for five minutes shall be used for working energized conductor.

Section 4.41 Hot line tools shall not be laid directly on the ground.

Section 4.42 Hot line tools shall have a "Safety Zone Marker" installed on the handle at the point of the minimum safe distance from the hot line end of the tool. This marker shall be a ring, large enough to be felt through gloves and made of fiber, rubber, varnished tape or other insulating material, for the purpose of indicating by feeling and sight the point beyond which an employee shall not move his or her hands while using the tool or energized equipment.

Section 4.43 Hot line tools shall be inspected frequently and shall be transported stored, maintained and used with care. They shall not be used for any other purpose than the line work for which they are intended.

Section 4.44 Hot line tools shall be taken out of service if there is any hazardous defect indicated. They shall be tagged and returned for repair or replacement.

Section 4.45 Hot line tools shall be kept in separate special storage compartments when carried on vehicles, or be contained in protective bags provided.

Section 4.46 Hot line tools shall not be used when rain, fog, or any other factor is sufficient to reduce their insulating qualities to the extent that the employee can feel leakage.

Section 4.47 All rope coming in contact with energized conductors of more than 5,000 volts shall be of approved hot line types, and shall be used solely for hot line work and shall be kept free as possible from dirt and moisture.

Section 4.48 Switch sticks shall be kept dry, clean and in good repair. Switch sticks used for outside switches shall always be returned to a dry place and carefully dried after using, and stored in suitable containers that will keep them dry and free from scratches and abrasions.

Section 4.49 The individual employees shall be responsible for keeping his or her climbing equipment in good condition at all times, and if there is deterioration or damage, sufficient to make it unsafe, it shall not be used until repaired or replaced.

Section 4.50 Climbers and gaffs shall be kept properly sharpened and in good shape, and shall not be used after gaffs are filed and/or worn shorter than 1 1/8".

Section 4.51 Body belt and safety strap hardware must be of standard drop forged material.

Section 4.52 Rope safety strap shall not be used if under 5/8".

Section 4.53 Employees shall not attach metal hooks, metal chains, metal cross-bars or other metal devices to body belts.

Section 4.54 Body belts and safety straps when not in use shall never be stored with sharp edged tools.

Section 4.55 Rope shall be selected of size, strength and condition that will meet the requirements of each job.

Section 4.56 A safety factor of 5 is recommended for all occasions where rope is used.

Section 4.57 Hand lines shall be not less than 1/2" in diameter and shall be maintained in good condition at all times.

Section 4.58 Precautions shall be taken to prevent wet fiber rope from freezing. If it does become frozen, it shall be immediately removed from service and hung up in a warm dry location having good air circulation until dry.

Section 4.59 All blocks shall be in good condition and blocks whose grooves are so small as to cause abrasions in the rope shall not be used.

Section 4.60 Blocks built for wire rope shall not be used for manila rope.

Section 4.61 Every wire rope shall be used and maintained in strict accordance with the recommendations of the manufacturer for working load. Wire rope is not to be used on capstan to raise or lower loads.

Section 4.62 Kinking and untwisting of the wire rope shall be carefully avoided, at no time shall a load be applied to a kinked rope.

Section 4.63 In attaching "u" type cable clamps, the closed or curved end of the "u" shall always be placed in contact with the short or dead end of the cable.

RUBBER PROTECTIVE EQUIPMENT

Section 4.64 Rubber gloves referred to in these rules shall be those guaranteed by the manufacturer to pass a minimum dielectric test of 20,000 volts.

Section 4.65 Before using a pair of rubber gloves or sleeves, employees shall personally inspect each glove or sleeve for defects and give an air test. Defective rubber gloves and sleeves shall not be used.

Section 4.66 All rubber gloves and sleeves shall be tested once every 90 days. Rubber blankets shall be tested at 6-month intervals. An efficient method of numbering and stamping shall be used showing date of last test. Shelf life of gloves and sleeves is 120 days from test date to test date.

Section 4.67 Rubber, fiberglass, or plastic equipment once placed in service, shall be sent to a point designated by the Employer for detailed examination and retesting once every 365 days.

Section 4.68 Approved protectors must be worn at all times over rubber gloves. Rubber glove protectors shall be worn with rubber gloves only and shall not be worn for work gloves. The use of leather protectors without rubber gloves is prohibited. When protectors are worn or snapped they shall be turned in to Employer for new ones.

Section 4.69 Rubber gloves and sleeves when not in use, shall be carried in a suitable bag provided and designated for that purpose.

Section 4.70 A pair of approved rubber gloves, sleeves and bags shall be assigned each employee who is required to work on, or is exposed to, electrical energized parts.

Section 4.71 Any piece of rubber protective equipment shall be sent in for test, if it is suspected of being defective.

Section 4.72 A compartment shall be provided on each truck for storing protective equipment. No other equipment, which can cause damage to the rubber goods, shall be placed in this compartment.

Section 4.73 A separate container shall be provided for rubber blankets, and all blankets must be wiped clean and rolled before placing in a container.

Section 4.74 Rubber gloves must be worn or hot sticks used when removing tree branches or limbs from contact with high voltage conductors.

Section 4.75 No rubber equipment is to be used on any voltage above 15,000 volts except if applied by mechanical means or hot sticks.

Section 4.76 It is recognized that it is undesirable to leave rubber blankets, hose, hoods etc., on energized conductors overnight because it may be corona cut or otherwise damaged. If such protective equipment has been left on conductors overnight or during a storm, it shall be examined for damage before it can be considered as adequate protection.

Section 4.77 Rubber goods shall not be patched.

WEARING APPAREL

Section 4.78 Employees shall wear clothing appropriate to the season and the class of work performed. Employees shall not be allowed to work without shirts and long pants.

Section 4.79 Celluloid sun glasses or hats with celluloid visors shall not be worn by employees on or near electrically energized parts or open flames.

Section 4.80 When working on or near electrically energized parts, employees shall not wear loose, dangling watch chains, key chains or unnecessary metal of any kind.

Section 4.81 Approved hard hats will be worn and furnished by the Employer with the proper interliners with no cost to the employee.

TRANSPORTATION

Section 4.82 The operation of motor vehicles and trailers shall be in accordance with the current motor vehicle laws of the State and all local traffic ordinances.

Section 4.83 Employees shall remove climbers before operating or entering any vehicle.

Section 4.84 Employees who are riding inside trucks must stay in the truck while it is in motion.

Section 4.85 Employees shall not ride on trailers, except in case of trailers requiring a man on the trailer to steer or brake it properly.

ARTICLE V

POWER LINES AND EQUIPMENT EMPLOYEE QUALIFICATIONS

Section 5.01 When men are employed to do electrical work, the foreman shall be judge of their qualifications on the job.

NUMBER OF EMPLOYEES REQUIRED TO DO WORK SAFELY

Section 5.02

- a) Two journeymen or a journeyman and a primary apprentice working together on the same pole or fixture, or any other location, shall be required, when performing work on wires or equipment carrying 440 to 15,000 volts, one of whom shall be in a position to render assistance. In no case when working in pairs, shall they work simultaneously on energized wires or parts of different phases or polarities.
- b) When an occasion requires the second employee to assist the first employee, he may do so provided they both work on wires or parts of the same phase or polarity.
- c) While on patrol duty at night, when such patrol necessitates driving of power driven vehicle on either primary or secondary highways, two employees shall be used.

In case of emergency where danger to life or property would be aggravated by delay in waiting for the arrival of the second employee, one employee may clear the hazard by de-energizing the lines and/or equipment, if it can be done without presenting unusual hazards to the employee.

Section 5.03 Employees shall not go or take any cranes, "A" frames, hole diggers, aerial ladders, other such equipment on any conducting object within the following specified distances of any electrical conductor energized at the following voltages , unless protective measures contained in these rules have been complied with.

KV CLEARANCE DISTANCES

Over 2 - 15	2 feet
33	2 feet 4 inches
50	2 feet 6 inches
69	2 feet 9 inches
115	3 feet 2 inches
161	3 feet 8 inches
230	4 feet 4 inches
267	4 feet 11 inches
345	5 feet 6 inches

Formula for minimum clearance distances "basic separation in feet" equals 2 plus 1% of the kilovolts between conductors.

Section 5.04 Rubber gloves, line hose, rubber blankets, and other approved protective equipment may be considered as adequate barriers when used on voltages of less than 15,000 volts between phases.

Section 5.05 The line or equipment shall be de-energized and cleared as outlined in these rules, or approved hot line tools shall be used, if work is done on lines or equipment energized at more than 15,000 volts between phases.

Section 5.06 The clearance provided by an open air switch, disconnect, or jumper installed as a part of approved design, shall be acceptable for work beyond such opening. Employees will remove jumpers whenever possible and use a means of lockout/tagout to show that they are removed (Example: Hold Tags).

Section 5.07 It shall not be permissible to consider one part of a high voltage switch or disconnect as de-energized for the purpose of doing work on it if the remainder of the switch or disconnect remains energized unless suitable barriers are erected.

STRINGING OR REMOVING WIRES

Section 5.08 When stringing or removing wire over or alongside other high voltage conductors, the following practices shall be observed.

- a) Conductors being strung in or removed shall be kept under positive control by the use of adequate tension reels, guard structures, tight line or other means to prevent accidental contact.
- b) Each conductor shall be snubbed or dead ended at both ends before subsequent wires are strung.
- c) Bare wire being installed or removed shall be run through a grounded metal block placed between the reel and the point where it is possible for the wire being strung to contact energized wires.
- d) The reel tender shall be a lineman who is prepared to clear the line in case of emergencies. The reel tender shall stand back to prevent being drawn into the reel by gloves or clothing caught by wire kinks or joints.
- e) The reel tender shall be provided with suitable insulating platform or rubber mats on which to stand and as additional protection, shall wear rubber gloves.
- f) When stringing or removing wire, visual communications or audio communication (radio or telephone) shall be maintained at all times between wire reels and pulling devices.
- g) Power take-up reel shall not be used as capstan.

- h) Guard poles, towers or other guard structures installed for the purpose of protecting workmen, lines, conductors or equipment during the course of construction, shall be installed with the same clearance requirements as required for permanent construction and with strength and safety factors as required to safely support the loads that may normally be imposed on them during their use.

PROCEDURES FOR WORKING 15KV WITH RUBBER GOODS

Section 5.09 The Foreman shall have a tailgate meeting with the crew prior to working voltages up to 15KV with the purpose of reviewing the work to be performed and to revisit the following procedures:

1. Voltages of less than 15KV shall be worked from a bucket truck or a double insulated boom truck.
2. Insulated boom and bucket is to be cleaned and wiped dry prior to use.
3. Ground the vehicle (common neutral, if possible).
4. Hot sticks are to be readily available to complete the work in case of rain.
5. Rubber gloves, sleeves and blankets shall be visually inspected for foreign substance and gloves shall be air tested each day prior to starting work.
6. Sleeves shall be used with rubber gloves.
7. No vehicle parts are to be in contact with any energized conductor.
8. Extreme caution to properly cover all exposed contact areas shall be taken at all times.
9. Maximum field use for gloves and sleeves, 20 KV and above, shall not be more than 90 days until retested.
10. Crew make-up shall consist of a Foreman and at least two (2) Journeyman Lineman, or a Foreman, a Journeyman Lineman and a qualified Apprentice. On jobs requiring a fourth person, this person shall be a Groundman.

SAFE WORKING PRACTICES

Section 5.10 Employees shall not stand on or otherwise be in contact with transformer cases or other similar equipment while working on energized wires or equipment.

Section 5.11 An employee shall protect his climbing and working space at all times.

Section 5.12 It is not advisable for employees to wear rubber gloves or rubber sleeves while climbing poles.

Section 5.13 Employees shall wear rubber gloves and sleeves, when working on or when working within reach of another man who is working on energized conductors of voltage from 500 to 15,000 volts, except when using hot sticks.

Section 5.14 Rubber gloves and sleeves must be worn or hot sticks used when placing or removing protective equipment on or around energized conductors or equipment.

Section 5.15 Employees whose duties do not require them to work on or handle electric wires or equipment must maintain a safe distance from such wires or equipment.

Section 5.16 All tools not carried in the lineman's belt, small equipment and material shall be raised and lowered from elevated positions.

Section 5.17 No work shall be performed in inclement weather on high voltage equipment when conditions are such as to increase the hazards, except in emergency work necessary to restore service or demanded by the public interest.

Section 5.18 When working at night, adequate lighting shall be provided.

Section 5.19 When any equipment is being used to raise poles, material, pulling wire, or in any other operation, the operator shall not leave the controls without stopping the machinery.

Section 5.20 While operating any equipment the operator shall receive instructions from only one qualified employee.

Section 5.21 The foreman shall designate who is to give signals as required.

Section 5.22 When a mechanical hole digger is used to dig holes and, during the same operation, is used to set poles in energized primary circuits, the crew shall consist of at least one hot apprentice and two lineman.

Section 5.23 Employees shall not wear climbers, where they are not required.

Section 5.24 When disconnecting capacitor from source of supply, employees shall wait at least five (5) minutes after the capacitor has been disconnected, the capacitor must be permanently short-circuited and/or grounded before being removed or worked on.

Section 5.25 When linemen find pole steps in an unsafe condition, they shall be removed or reattached in a safe position before leaving the pole or structure.

Section 5.26 Employees shall use safety belts when handling wires or apparatus on any pole or structure.

Section 5.27 Safety straps shall not be put around insulator brackets, cross-arm braces, conductors, pin type insulators, or poles above the top cross-arm except where adequate precaution is taken to prevent the belt from slipping over the top of pole. Neither end of safety strap shall be allowed to hang loose in climbing nor descending poles or structures.

Section 5.28 Pulling or slacking on poles or structures shall be done only as directed by the lineman overhead.

Section 5.29 Steel cables shall not be used, except when the cable is rigged below all energized parts on a pole.

Section 5.30 Workmen must not crawl over insulator strings but shall use a platform or other suitable device to work from when making deadends or doing other work beyond strings of insulators at such distance that they cannot reach the work from the pole or fixture. While working on the platform or other device, they must secure themselves with their safety straps or a rope to prevent falling.

Section 5.31 Employees shall not do any work that exposes them to danger due to workman working directly overhead.

Section 5.32 Tools or equipment when not in use shall be kept off poles or structures.

Section 5.33 Insulator washing or cleaning on energized high voltage lines and equipment shall be done only under carefully controlled conditions.

Section 5.34 Before working on secondary leads or service wires on transformer poles, the position of the primary taps or jumpers shall be observed, if they present a hazard, they shall be covered with approved protectors.

Section 5.35 When working above energized circuits 15 KV or over, when men are required to climb through or work above energized circuits and neutral, adequate spreading and/or guarding of the energized conductors shall be done where required if employees could fall into or reach. All energized circuits above 15 KV shall be de-energized or worked with hot line tools.

Section 5.36 No digging shall be done without first contacting the utilities to determine the locations of other underground utilities.

CELL PHONES

Section 5.37 The work we engage in is extremely dangerous, and requires each employee's total attention to the task at hand. In order to eliminate possible safety hazards due to distractions from these devices, we will require each employee to keep any personal communication devices stored in their lunch box during working hours. These devices may be used during scheduled breaks. If an employee must use a device during work hours, they must obtain permission from his supervisor.

USING HOT LINE TOOLS

Section 5.38 Crews working with hot line tools shall be proficient in safe rigging methods of such tools and equipment and be informed of and fully understand the nature of their work. It is required that employees, when assigned to hot line work, be instructed by and work with experienced journeymen prior to engaging in the actual work.

Section 5.39 Each hot stick job must be planned carefully. Three linemen are required on a pole or tower when the lifting is heavy, the job is intricate and does not permit good assistance from the ground or the voltage is 15 KV or above.

Section 5.40 Linemen shall cease using any hot line tool when he can feel voltage on it.

Section 5.41 Only hot line rope shall be used in hot line work.

Section 5.42 Every precaution should be taken to determine that the span and supports thereof are of sufficient strength to safely bear the weight of the employee and their equipment.

Section 5.43 Before an employee climbs a pole, he shall make certain by inspection and testing that the pole to be climbed and adjacent poles on each side are sufficiently safe.

FOREIGN ATTACHMENTS ON POLES

Section 5.43 There shall be no attachments placed on poles except those which are authorized by the utilities involved. When through bolts present a hazard to climbing, they shall be trimmed to a safe length.

EXPLOSIVE POWER TOOLS

Section 5.44 The use and operation of every explosive powered tool shall be in accordance with the practices recommended by the manufacturer of the tool.

AERIAL LADDERS AND/OR LIFT EQUIPMENT

Section 5.45 Direct contact between the boom or ladder of aerial equipment and high voltage is prohibited.

Section 5.46 Before moving the aerial lift into the work position, all controls (ground-level and bucket) shall be checked and tested to determine that they are in proper working order. The location of controls shall afford the operator a clear and unimpaired view of the elevated equipment.

Section 5.47 Employees operating controls shall not stand on the ground.

Section 5.48 All equipment except bucket trucks when moving from one location to another while raised or partially raised shall be limited to the immediate work area.

POLE LOADING - TRANSPORTING - INSTALLING OR REMOVING

Section 5.49 Poles shall be transported by means of an approved pole dolly, pole truck or pole trailer.

Section 5.50 Pole transporting vehicles shall not be loaded beyond rated capacity.

Section 5.51 All pole handling equipment must be maintained in good condition and shall have adequate working capacity.

Section 5.52 All poles shall be secured to the transporting vehicle by suitable binders.

Section 5.53 Red flags and/or red lights shall be fastened to the rear end of the poles being transported.

Section 5.54 A safety cable or chain shall be used on pole vehicle.

Section 5.55 No one shall ride on any pole trailer or similar equipment.

Section 5.56 Rubber gloves shall be worn at all times while handling poles which might come in contact with energized lines. Employees shall not place shoulders, feet or other portions of body, against the poles.

Section 5.57 If a pole is of questionable safety for climbing, it must be guyed for safe climbing before men are allowed to climb.

Section 5.58 When using cant hooks, never use more than one man to a cant hook and he should handle the hook from the side of the body.

Section 5.59 Two cant hooks shall be used and held, one opposing the other, by one man to keep a pole from turning during setting operations.

Section 5.60 When the erection or removal of poles affects the free movement of traffic, flagmen must be used.

COMPRESSED AIR EQUIPMENT

Section 5.62 Portable air compressor tanks which cannot be properly inspected shall be replaced after a minimum 15 years of service.

Section 5.63 Portable air compressor safety valves shall be tested at least twice a year and tagged with date of test.

Section 5.64 Shut off valves shall not be installed between the air compressor and safety valve.

Section 5.65 Compressed air streams shall not be brought into close or direct contact with any portion of an employee's body.

Section 5.66 Only air hose, valves, and fittings of the proper pressure rating shall be used in connection with air compressors.

Section 5.67 Only safety type couplings shall be used and secured with a cotter pin.

SLINGS AND HOOKS

Section 5.68 Chain slings shall not be used.

Section 5.69 Hooks which have become bent shall not be put back into use.

Section 5.70 Where loads must be picked up in windy weather, two tag lines shall be used on the load.

Section 5.71 Employees shall not ride on loads or work under them while they are lifted.

Section 5.72 Slings shall not be overloaded. Know their safe capacities.

Section 5.73 Loads shall not be applied suddenly to a sling.

Section 5.74 In rigging situations involving cable or cable slings, the usual practice is to employ many types of attachments that brings one section of a cable and/or cable sling into contact with another section, by using a shackle, the tension at these points of contact is greatly reduced, in these situations a shackle shall be used.

WELDING AND CUTTING EQUIPMENT

Section 5.75 All welding and cutting equipment shall be operated by journeymen and all welding and cutting jobs shall have at least two employees.

Section 5.76 When working with welding equipment, approved goggles, helmets, gloves and other protective devices shall be worn. These protective devices shall be periodically inspected and properly maintained.

Section 5.77 A fire extinguisher shall be immediately available at all locations where welding and cutting equipment is in use.

Section 5.78 Green colored hose shall always be used for oxygen, red hose for acetylene, and the two shall not be interchanged.

Section 5.79 Repairing hose with adhesive tape shall not be attempted.

Section 5.80 Gasoline shall be carried in underwriters approved gasoline cans when men are riding in the trucks and shall not be in the portion of the trucks occupied by the employees.

ARTICLE VI

OPERATING - POWER LINES AND EQUIPMENT CLEARANCES

Section 6.01 Clearances on lines and equipment directly under a dispatcher, or person acting in that capacity, shall be requested and executed by observing the following rules.

Section 6.02 Employers shall designate a qualified person to receive all clearances on lines under the control of a dispatcher.

Section 6.03 No switch shall be operated and no clearance tag placed or removed without an order from the dispatcher.

Section 6.04 In all cases, orders must be given directly to the man in charge, by the dispatcher, and such communications must be repeated back word for word to the dispatcher. When requesting clearances on lines over the phone, radio or otherwise, the person requesting the clearance shall obtain the name of the dispatcher and the dispatcher shall obtain the name of the person requesting the clearance.

Section 6.05 Should it be necessary for a person holding a clearance to leave the job, he shall relinquish his clearance to the dispatcher and a new clearance shall be taken by another qualified person.

Section 6.06 In cases where more than one person will require clearance on the lines or parts of equipment, the dispatcher must order complete sets of clearances for each person requesting clearance.

Section 6.07 When two or more crews are engaged in work at any one location, the proper authority may designate one of the foremen to act as foreman of the combined crews for the purpose of obtaining clearances only.

Section 6.08 No work shall be performed on lines or equipment until the dispatcher has definitely granted the clearance and the line has been grounded.

Section 6.09 Where two or more lines are on the same poles or structures, arrangements must be made for simultaneous clearances, unless the person who requested the clearance specifically states that less will be sufficient.

Section 6.10 The person to whom a clearance has been given shall be held responsible for seeing that all protective grounding devices installed by him or by persons under his direction, are removed before clearing the line or equipment to the dispatcher for service.

Section 6.11 After receiving notification from the dispatcher the necessary switching has been done, the person making the request shall take the following precautions before coming in contact with the circuit or equipment.

- a) The circuit or equipment shall be tested by generally accepted methods to make sure it is de-energized.
- b) The circuit or equipment shall be grounded and shorted as prescribed by the grounding section of these rules.

Section 6.12 All lines or equipment shall be considered to be energized until such lines or equipment is cleared and grounded.

GROUNDING

Section 6.13 These grounding rules for overhead lines shall be followed when any line energized at more than 500 volts is removed from service for the purpose of work thereon.

Section 6.14 Grounding devices shall be of the approved type and have capacity great enough to activate protective devices without destroying the grounding devices.

Section 6.15 The grounding set shall be firmly connected to a reliable ground at the ground end first.

Section 6.16 Grounds shall be placed on both sides of the section of line on which work is to be done with the following exceptions.

- a) Where visible openings are within sight of the job, disconnecting the line from its source of power, and no energized high voltage line crosses over or below the line section being worked on and no other source of feed exists to this line section. One ground installation on the side away from a visible opening may be considered to be sufficient protection.
- b) One ground should be sufficient when placed at the point where work is being performed if the line is not to be opened, or if there is no source or supply beyond the ground or no possibility of contact with other energized lines.
- c) On steel tower lines it may be more desirable to install the ground at the tower to be worked on.

Section 6.17 Preliminary testing shall first be done to determine that the line or equipment to be grounded is de-energized.

Section 6.18 Final authority must rest with the foreman who must satisfy himself by testing that the lines to be grounded are de-energized.

Section 6.19 The regular ground set shall be in firm contact with each of the conductors of the circuit to be worked on.

Section 6.20 When removing ground set, it shall be disconnected from the line first and lowered below all energized parts, before the ground end is disconnected.

ARTICLE VII

OUTSIDE EQUIPMENT - BULL DOZERS - TRENCHERS - PAYLOADERS, ETC.

Section 7.01 All equipment shall be maintained in a safe condition at all times.

Section 7.02 The general condition of all equipment shall be checked daily before operations.

Section 7.03 Trained, qualified employees shall be assigned as operators of equipment.

Section 7.04 Unauthorized riding on equipment is prohibited.

Section 7.05 The equipment shall be arranged so that the operator has a clear view of all digging, hauling, dumping or dozing operations. If such is not possible, a signalman shall be provided.

Section 7.06 The blade or scoop shall not be used as a brake for going down a slope.

Section 7.07 Pay loaders shall not be used to transport men.

Section 7.08 The engines of all equipment shall be stopped before refueling.

Section 7.09 The designed capacity or any piece of equipment shall not be exceeded under any circumstances.

Section 7.10 On all hoists on which cable drums are used, at least two full wraps of the lifting cable shall remain on the drum at all times.

Section 7.11 Side pulls on hoisting apparatus are dangerous and shall be avoided.

Section 7.12 Gin poles shall be erected and guyed under the direction of a supervisor.

Section 7.13 All loads shall be handled carefully under the direction of one man. Several test lifts, taking the load a few feet in the air, shall be made before attempting the working lift on all gin poles.

ARTICLE VIII

EXCAVATING AND SHORING

Section 8.01 All Excavating and Shoring performed shall be in accordance to OSHA rules and standards.

Section 8.02 The sides of any excavation or trench, five (5) feet or more in depth, in which an employee must work, even in stable soil, shall be supported by adequate shoring or bracing, except where adequate sloping on all sides to prevent cave-ins, or where both the length and the width of a trench exceeds the depth, and the work to be performed is centered in the trench or excavation.

Section 8.03 Ladders or suitable ramps shall be used when going in or out of trenches or excavations in excess of four feet deep.

Section 8.04 Trench bracing or shoring shall not be used as a ladder.

ARTICLE IX

EXPLOSIVES

Section 9.01 All federal and/or local laws shall be followed in accordance with ATF and the IDNR.

ARTICLE X

AERIAL BASKETS - GENERAL

Section 10.01 No procedure herein described shall be in violation of any safe work practice as set forth in other parts of this manual relative to work normally performed from a pole or other structure.

Section 10.02 This vehicle and/or trailed load may become energized (or grounded) when the boom or the basket comes in contact with energized (or grounded) conductors or equipment.

Section 10.03 Neither truck and/or trailed load boom, or basket shall be depended upon to be electrically insulated.

Section 10.04 Rubber gloves and sleeves or hot sticks must be used while working energized lines from insulated buckets.

Section 10.05 An OSHA approved harness and lanyard shall be required for all work performed from an aerial basket.

Section 10.06 Only journeymen or qualified apprentices, who have been trained and authorized, shall be carried aloft, or permitted to operate the boom carrying an aerial basket.

Section 10.07 The manufacturer's load limits of the boom or baskets shall never be exceeded.

TRAVEL PROCEDURES

Section 10.08 Moving the truck into the opposing traffic is hazardous and should be avoided.

Section 10.09 Any backing of the truck shall be done slowly and under the direction of one employee.

Section 10.10 The boom shall be cradled before moving truck.

Section 10.11 Riding in the basket shall not be permitted while the vehicle is being moved.

SETTING UP AND KNOCKING DOWN AT JOB SITE

Section 10.12 The truck shall be legally parked while the appropriate warning signs, lights and barricades are being placed.

Section 10.13 Uniform flashing warning lights shall be used on the vehicle when in operation at the job site.

Section 10.14 There must be available footing for the truck wheels and outriggers, the truck brakes set and rear wheels of truck chocked, if necessary.

Section 10.15 When working on inclined road or street, the truck shall sit approximately level as viewed from the rear and outrigger pads shall be used when necessary.

Section 10.16 Work areas must be barricaded off in populous areas.

Section 10.17 A warm up period is needed at the beginning of each days work.

Section 10.18 When the boom must be maneuvered over a street or highway, a flagman shall be used if necessary.

Section 10.19 Entering the basket shall only be done with the basket resting firmly on the ground or in the traveling position.

Section 10.20 Raising the basket directly above energized lines or equipment shall be kept to a minimum.

WORKING ALOFT

Section 10.21 Baskets should be located under and should not contact any conductors or equipment.

Section 10.22 Energized conductors and equipment shall be covered with protective devices in the same manner as if the work were done from the supporting structure.

Section 10.23 The employees shall not stand on top of the basket, on planks placed across the top of the basket or on ladders placed in or on the basket while performing work.

Section 10.24 The employees shall not belt-in to an adjacent pole, structure, or equipment while performing work from the basket.

Section 10.25 The employees shall not enter or leave the basket by walking the boom.

Section 10.26 Transferring from the basket to a pole or structure, or from a pole or structure to the basket shall not be allowed.

Section 10.27 When the basket is in operation, a second qualified employee shall be present to operate the ground controls if the need arises.

Section 10.28 Climbers shall not be worn while working from aerial basket.

Section 10.29 As a safety measure, in traffic areas, the lower boom shall be raised to a 45 degree or greater angle, before turning or positioning for work.

Section 10.30 No makeshift attachments whatsoever shall be allowed on the basket.

INSPECTION

Section 10.31 Aerial basket equipment shall be inspected daily. Special attention should be given to the following:

- a) Inspect hydraulic hoses and remote controls for twisting, and proper adjustment.
- b) With oil lines under pressure, inspect all hydraulic fittings, pump and cylinders, for evidence of leakage.
- c) Check oil level of hydraulic and remote control reservoirs.
- d) Check for proper operating speed and rate of drift.
- e) Operation of all controls shall be checked through their maximum working range.
- f) Check boom and leveling wire rope cable for frayed strands and correct adjustment.
- g) Check booms for cracked welds or distorted members.

MAINTENANCE

Section 10.32 The manufacturer recommendations shall be adhered to on the following:

- a) Cleaning fiberglass coating.
- b) Lubricating points.
- c) Electrical tests.
- d) Hydraulic fluid.
- e) Only qualified persons designated by the company may repair the hydraulic pressure system.

ARTICLE XI

UNDERGROUND DISTRIBUTION INTRODUCTION

Section 11.01 UD, Underground Distribution, is a general term which covers the necessary facilities to furnish underground service generally to residential and commercial type customers.

Section 11.02 The safe practices, as outlined, are written on a "Shall" or "Should" basis and SHALL be observed in the same manner as the rules in Appendix B.

Section 11.03 Due to the close clearances and the construction of UD equipment, the required necessary safe practices go beyond the provisions of Appendix B which deals with work on energized lines and equipment. Care must be exercised to insure that all supervisors and their employees are aware of this and are instructed in the proper procedures.

DEFINITIONS

Section 11.04 Pad-Mount - Equipment or device - surface mounted -normally worked from ground level.

Section 11.05 Primary Compartment - A compartment containing voltages above 600 volts.

Section 11.06 Secondary Compartment - A compartment containing voltages below 600 volts.

Section 11.07 URD Concentric Cable - A conductor insulated and shielded for operation above 600 volts - around which is wound a neutral of equal capacity, with no over-all covering.

Section 11.08 Power Cable - a conductor insulated and normally shielded, around that is an outer jacket, for operation above 600 volts.

Section 11.09 Secondary cable - a conductor insulated for operation below 600 volts.

Section 11.10 Termination - The ends of a concentric - or power cable; such as:

1. Pothead - A termination, normally outdoor.
2. Stress cone - A termination, normally indoor.
3. Elbow - A fully shielded (also submersible) termination, may be used indoors or outdoors.

Section 11.11 Exposed - A device or conductor is exposed unless it is properly insulated, covered, or barricaded with approved protective equipment.

NOTE: 5000 Volt and above non-shielded insulated cable is exposed and SHALL be covered with approved protective equipment.

Section 11.12 Subsurface - Equipment or device below ground, normally worked from ground level.

Section 11.13 Subway - Equipment or device below ground, normally worked below ground level.

Section 11.14 Fault Closing Devices - A device capable of being closed into a faulted cable or transformer. The device SHALL meet the requirements of the client.

WORKING ON UD SYSTEMS

UD #1 - General Rules

Section 11.15 The employee in charge of the work SHALL review with crewmembers the location of all energized apparatus and cable terminals in the work area.

Section 11.16 Rubber gloves SHALL be worn when opening any pad-mounted enclosures.

Section 11.17 Rubber gloves and approved hot line tools SHALL be used when operating any underground device normally energized above 600 volts and is exposed, including fused, elbows and any disconnecting devices.

Section 11.18 Rubber gloves SHALL be worn and approved, hot line tools SHALL be used to perform discharging and grounding operations.

Section 11.19 When work is to be performed on a de-energized cable in a primary compartment, all exposed energized equipment in that compartment SHALL be covered with approved protective equipment.

Section 11.20 Never under any circumstances should the system neutral conductor be opened.

UD #2 - Working Within Pad-Mounted Enclosures

Section 11.21 Rubber gloves SHALL be worn when working in pad-mounted enclosures on energized equipment and secondary pedestals.

Section 11.22 Approved protective equipment SHALL be used on all exposed terminals energized at 600 volts or less, when working on adjacent terminals energized at 600 volts or less.

Section 11.23 Before performing work on a de-energized secondary terminal of a pad-mounted transformer, the terminals SHALL be tested and grounded.

Section 11.24 All doors to pad-mounted enclosures SHALL be removed or firmly secured while work is being performed.

Section 11.25 The oil compartment cover plate on transformers SHALL NOT be removed.

UD #3 - Working on Primary Cables and Grounding

Section 11.26 Before any work is performed on a high voltage cable requiring that the cable be disconnected, but ungrounded, it SHALL be properly drained of all static charge, as follows:

- a) Properly clear cable from all possible sources of electrical supply.
- b) Check the terminals for normal voltage by use of an approved potential detector device.
- c) Ground the cable, by approved hot line methods, to a solid ground for not less than 2 minutes, then remove ground and proceed with work.
- d) Work involving the testing by AC or DC above normal service voltage, retention of charge may be longer than two minutes and may be re-established after being grounded. Therefore, cable SHALL be checked as in "B" and "C" above, until it is determined that no charge is re-established.

Section 11.27 All cables SHALL be considered as energized until each has been properly tested to be de-energized and discharged and properly grounded.

Section 11.28 Before beginning work on a cable which is de-energized, the cable SHALL be tested and then grounded at the cable terminations on both sides, as close as possible to where the work is to be performed.

Section 11.29 The grounding device SHALL be connected to ground before being connected to the cable. When removing the grounding devices, they SHALL be disconnected from the cable before the ground connections are removed.

UD #4 - Moving Energized Cables

Section 11.30 Cables operating at primary voltages shall not be moved under any circumstances.

UD #5 - Operating UD Switches and Fuses

Section 11.31 Due to loop characteristics of UD Circuits, disconnect blades or fuses SHALL be considered energized when in the open position until tested and grounded.

Section 11.32 Cable faults SHALL be sectionalized only by use of a mounted switch, a mounted fused cutout, or an approved fault-closing device.

Section 11.33 When energizing a section of cable, a mounted switch, or a mounted fuse cutout, or an approved fault-closing device SHALL be used.

Section 11.34 Switches and fuses in pad-mounted equipment SHALL NOT be used to pick up load unless they are rated as load makes devices.

Section 11.35 Switches and fuses used in pad-mounted equipment to interrupt load SHALL be rated as load break devices.

UD #6 - Protecting the Public

Section 11.36 Accessible, energized compartments of UD installations SHALL be closed and locked at all times except when opened for inspection, maintenance use, or other authorized purpose.

Section 11.37 If it should be necessary to leave an energized compartment unattended for even a short period, the compartment SHALL be closed and locked.

Section 11.38 An employee SHALL keep unauthorized persons away from the work area; by Company attendant(s), approved barricades, safety markers, or a combination of these.

UD #7 - Manholes and Vaults

Section 11.39 OSHA Confined Space Guidelines shall be followed while working in manholes a vaults. This information can be found in 1926 Subpart C of the OSHA Standards.

Section 11.40 Employees shall not work in manholes or vaults without another person being available to assist the workmen.

Section 11.41 No employee shall enter a manhole or vault until he has assured himself that there are no dangerous gases present and that proper ventilation has been provided. Tests should be made with suitable devices manufactured for this purpose. No employees shall smoke or bring open flames or torches near open manholes until he is sure that there is no trace of gas present.

ARTICLE XII

SPACER CABLE

Section 12.01 When working spacer cable hot, if it cannot be done in a safe manner, cable will have to be de-energized.