

LARGE FILING SEPARATOR SHEET

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APPLICATION & SCHEDULES

American Electric Power
Subsidiaries Columbus Southern Power Company and Ohio Power Company, DBA as AEP Ohio
Summary of Compliance with Ohio Administrative Code
Chapter II Section (B) (9) (e) (v)
Executive Summary Applicant Utilities'
Management Policies, Practices and Organization Schedule S-4.2
Administrative and Corporate Support Services

Safety & Health

SFR Reference

(B)(9)(e)(v) Safety

I. Policy and Goal Setting

The AEP corporate environmental, safety and health philosophy and policy are as follows:

ES&H Philosophy

No aspect of operations is more important than the health and safety of people. Our customers' needs are met in harmony with environmental protection.

ES&H Policy

AEP is committed to social responsibility and sustainability. AEP is proactive in its efforts to protect people and the environment by committing to:

- Maintain compliance with all applicable ES&H requirements while pursuing the spirit of ES&H stewardship;
- Ensure that people working for or on behalf of AEP understand and integrate ES&H responsibilities into their business functions;
- Support continual improvement of environmental performance and pollution prevention; and
- Hazard elimination through employee involvement and continual health and safety improvement.

Goals

AEP's goal is "zero harm." The company has programs and specific measures in place to avoid injuries. A highly skilled workforce that actively pursues zero harm and is deeply committed to mutual care and peer protection is the key to success. AEP's Human Performance Initiative (HPI) is dedicated to eliminating hazards and human errors that cause accidents.

In addition to AEP employee goals, AEP set a contractor recordable injury goal for the first time in 2009 that is tied to company executives' compensation, and contractors outperformed it. This goal applies only to contractors working directly for AEP.

Zero harm includes no harm to the public. Although it is more difficult to reach the public with safety information, AEP has initiated a significant outreach and education campaign that the company believes will move it closer to its goal.

In conjunction with its policy, AEP sets annual and long-term safety goals that will be discussed further in Section II.

II. Strategic and Long-Range Planning

Path to Excellence

AEP set a "Path to Excellence" to achieve top quartile performance of Edison Electric Institute peer companies for safety and health, based on recordable and severity rates. It is a measurable goal, and compensation is tied to performance toward this goal.

To reach the goal of zero harm, the company must have the right policies, procedures, tools and training, as well as a culture that encourages peer coaching, incident reporting, information sharing and corrective and preventive actions.

A zero harm environment is reinforced with programs such as peer-to-peer coaching, incident reporting, pre-job briefings and clear, unmistakable messages about safety. The HPI is one of AEP's most important safety and health efforts. It is directed toward building best practices, reducing errors and preventing those that do occur from causing injuries.

III. Organization Structure

The AEP safety and health team is a dedicated group of professionals with a depth of knowledge and experience in all areas of occupational safety and health, public and contractor safety, industrial hygiene, ergonomics and more. Staff consists of safety and health specialists who hold professional degrees and certifications in many areas, including nursing, occupational health, industrial hygiene and public safety. Many of the safety and health staff are certified safety professionals. Industrial hygiene staff members are certified industrial hygienists. The safety and health organization is shown in **Exhibit III.1 S&H Organization**. This organization is assigned at the corporate level to provide support to the various business units and operating companies, including AEP Ohio.

IV. Decision-Making

The organization's top management appoints a specific management representative(s) who, regardless of other responsibilities, have defined roles, responsibilities and authority for:

1. ensuring that decisions take into account:

- AEP ES&H Policy;
- significant environmental aspects;
- safety and health hazard(s) and risk(s);
- environmental, safety and health legal and other requirements;
- technological options;
- financial and business requirements;
- views of relevant interested parties;
- operational requirements and constraints;
- results of internal audits or regulatory inspections;
- any other such factors; and

2. reporting to top management the results of decision making and ES&H performance, as well as recommendations for improvement.

V. Ring Fencing

The principles of ring fencing in utility regulation were codified in various provisions of the Public Utility Holding Company Act of 1935, (PUHCA). American Electric Power Company, Inc., (AEP), was a registered public utility holding company under the PUHCA until that act was repealed in 2005. The separation of regulated utility functions from non-regulated businesses required by PUHCA and prevailing throughout the AEP system has not been altered or diluted as it relates to AEP Ohio since the repeal of PUHCA. As a result, AEP Ohio, as constituent public utilities within the AEP system, continues to benefit from the ring fencing protections set forth in the PUHCA. In practical terms, this means that AEP Ohio:

1. has not made any investment in any entity engaged in a non-regulated business;
2. has not made loans or extended credit to AEP or to any affiliate engaged in a non-regulated business; and
3. has not guaranteed the indebtedness or the obligations of AEP or any affiliate engaged in a non-regulated business.

AEP Ohio consists of two separate legal entities, Ohio Power Company and Columbus Southern Power Company. Each AEP Ohio utility is a registered issuer under federal securities acts; each has independent access to public capital markets through which each continually raises capital. Each AEP Ohio utility is independently rated by the nationally recognized statistical credit rating agencies. Each AEP Ohio utility is managed by a board of directors that is responsible for authorizing action, including the acquisition or disposition of material assets, issuances of securities, and declaration of dividends, in such a way as to preserve the credit ratings and creditworthiness of each entity.

On June 2, 2010, the Commission approved AEP Ohio's corporate separation plans, filed June 1, 2009, and specifically found that the corporate separation plans were adequately implemented by AEP Ohio in accordance with Section 4928.17, Revised Code, Chapter 4901:1-37, O.A.C., and the orders of the Commission. (Opinion and Order in Case No. 09-464-EL-UNC). With its corporate separation plans, AEP Ohio has in place structural safeguards to ensure the independent functioning of the companies and their affiliates in a manner which is consistent with the Commission's Code of Conduct and which rejects cross-subsidization. The companies' accounting protocols, approach to financial arrangements, adherence to the Cost Allocation Manual requirements, employee education and training and internal compliance monitoring each support the goals and policies set out in Section 4928.02, Revised Code.

VI. Controlling Process

AEP uses many programs, practices and procedures to ensure employees work safely. Managing Environment, Safety and Health (MESH) (risk assessment and hazard analysis, a safety and health event management system), Safety and Health Event Management System (SHEMS), HPI, contractor safety, and safety and health audits are the tools used to strengthen AEP's safety culture, prevent accidents, reduce effects when accidents happen and work toward zero harm.

MESH

AEP is moving toward conformance with two international standards for environmental (ISO 14001) and safety and health (OHSAS 18001) management systems with an initiative known MESH. MESH takes a *proactive, systematic approach to managing environment, safety and health*. OHSAS 18001 mirrors the ISO standard but focuses on occupational safety and health. The standard is intended to help an organization manage and control occupational health and safety risks.

MESH teams ensure safety progress through formal goal-setting and documentation. The teams meet regularly to manage and improve the environment, safety and health issues that are most pressing at AEP facilities. These include evaluating ways to reduce risk, improving employee competency through

training, developing procedures for the safe management of hydrogen, reducing worker exposure to fugitive dust and asbestos, and improving housekeeping and job safety analysis.

SHEMS

SHEMS, launched in January 2008, helps AEP make better decisions based upon accurate performance data. Through it, the company is able to identify trends, develop leading indicators, reduce errors and put more emphasis on hazard recognition and risk mitigation.

Human Performance Initiative (HPI)

Because everyone makes mistakes, the focus of the HPI is to reduce mistakes and create controls so errors don't cause injuries. AEP is working with Performance Improvement International (PII) to help reduce the frequency and severity of human errors through the use of tools and techniques that teach employees to take deliberate actions to prevent injuries from occurring.

PII assessed AEP's safety culture, performed a common cause analysis and conducted field evaluations at 14 district offices to observe employees at work. PII identified 15 distribution work processes that need additional barriers to help prevent errors from becoming injuries. High-risk jobs require a minimum of three barriers to reduce the likelihood of a significant event occurring.

Operational controls are necessary for controlling processes and activities associated with significant environmental aspects or safety and health hazards where the absence of these controls could lead to deviations from the AEP ES&H policy, company objectives and targets or legal requirements.

Operational processes are examined and scrutinized using gap analyses, risk assessments, job hazard analyses or other managerial practices to determine 1) the current level of controls and 2) the need for additional controls.

Controls are applied using the following hierarchy:

- elimination – remove the hazard from the workplace;
- substitution – substitute the hazard with a less hazardous material;
- engineering controls – design modifications or safety devices (e.g., ventilation systems, pressure relief valves);
- administrative controls – warning signs, alarms, rules, procedures, training, human performance tools, etc.; and
- personal protective equipment – last line of defense; various types of equipment and hazard-specific

Contractor Safety

Contractor safety is a major focus of AEP's safety efforts. Starting in 2009, AEP set a recordable injury goal and put systems in place to measure the safety performance of contractors. Performance is tied to incentive compensation for senior officers. AEP has thousands of contractors working at its facilities each year, most of them involved with construction and tree trimming.

AEP is participating in an Edison Electric Institute task force to develop model contractor safety program guidelines. The goal is to create consistent safety and health expectations and practices that will result in fewer injuries and fatalities throughout the industry.

A set of contractor oversight fact sheets and safety program review documents have been developed for numerous topics. Examples are asbestos, confined space, electrical, forestry, hearing, fall protection, welding, drug and alcohol programs, rescue and station entry. These are designed as a reference tool for

AEP employees expected to perform oversight evaluations. While not all inclusive, these fact sheets provide information about a particular subject and can be used to address that topic at the work site or to evaluate the contractor's overall safety program. **Exhibit VI.1** is an example of an oversight fact sheet and program review document.

Safety and Health Audits

Safety and health audits enhance compliance and work to minimize harm to employees and the public through the observation of work practices, work site inspections and records review. In 2008, AEP conducted audits at seven operations centers and five power plants. Best practices are shared across the company as part of the audit program.

The AEP Safety and Health Manual serves as a guide to employees throughout the System in the prevention of accidents and injuries. Pocket versions of the manual are provided to all personnel. In addition, employees may access the manual on AEP's internal safety website. The safety and health manual is shown in **Exhibit VI.2 – Safety and Health Manual**.

VII. Internal and External Communications

Electricity can be one of the most productive forces on earth. It also can be one of the most deadly. AEP wants all employees, customers and the general public to work with electricity in a safe manner.

Internal

AEP employees receive rigorous safety training that is continuously reinforced through job safety briefings, careful review of work procedures, hazards and risks, and information sharing to ensure proper protective actions are taken.

The AEP safety and health organization communicates internally through numerous venues. The safety and health leadership team, as well as the business unit managers, have weekly staff calls to discuss current activities within each organization. Twice per year, the safety and health organization meets to discuss changes to regulations, corporate policies and strategic planning, etc. In addition, regular communication is conducted via email, AEP's internal corporate and operating company websites; AEP-TV, safety newsletters and the internal safety and health website.

AEP's public safety performance, as well as its public safety outreach efforts, is summarized for internal audiences in the S&H Annual Report, and for external audiences in AEP's Corporate Accountability Report.

Additional relevant information includes:

- **Exhibit VII.1 2010 Public Safety Plan**
- **Exhibit VII.2 2009 Public Safety Annual Report**
- **Exhibit VII.3 Public Safety Resource List**

External

For its customers, AEP works hard to communicate the importance of being safe around electricity through child safety education programs, advertising that reminds customers how they can be safe around electricity, and a broad library of safety information available to the public on each AEP operating company website, including AEP Ohio, which the public can access at www.aepohio.com. AEP uses paid advertisements, the news media, videos, online learning tools, training sessions and social networks to educate the public about electrical safety. **See Exhibit VII.4 for examples of external communications.**

In addition, AEP's Corporate Accountability Report provides a summary of AEP's annual safety performance with respect to company goals and informs stakeholders of current safety programs and initiatives being developed. The 2010 Corporate Accountability Report is shown as Exhibit 11 in Schedule S-4.1 of this management report.

Public Safety Communications

To help reduce the number of public electrical contacts and fatalities, a comprehensive communications plan was put in place to make important electrical safety information available to at-risk audiences.

AEP's public safety communications plan focuses on these audiences:

- commercial contractors;
- first responders;
- general public;
- educators and children; and
- employees and AEP contractors.

Because there is communication to both internal and external audiences, various communication channels are used to reach these audiences.

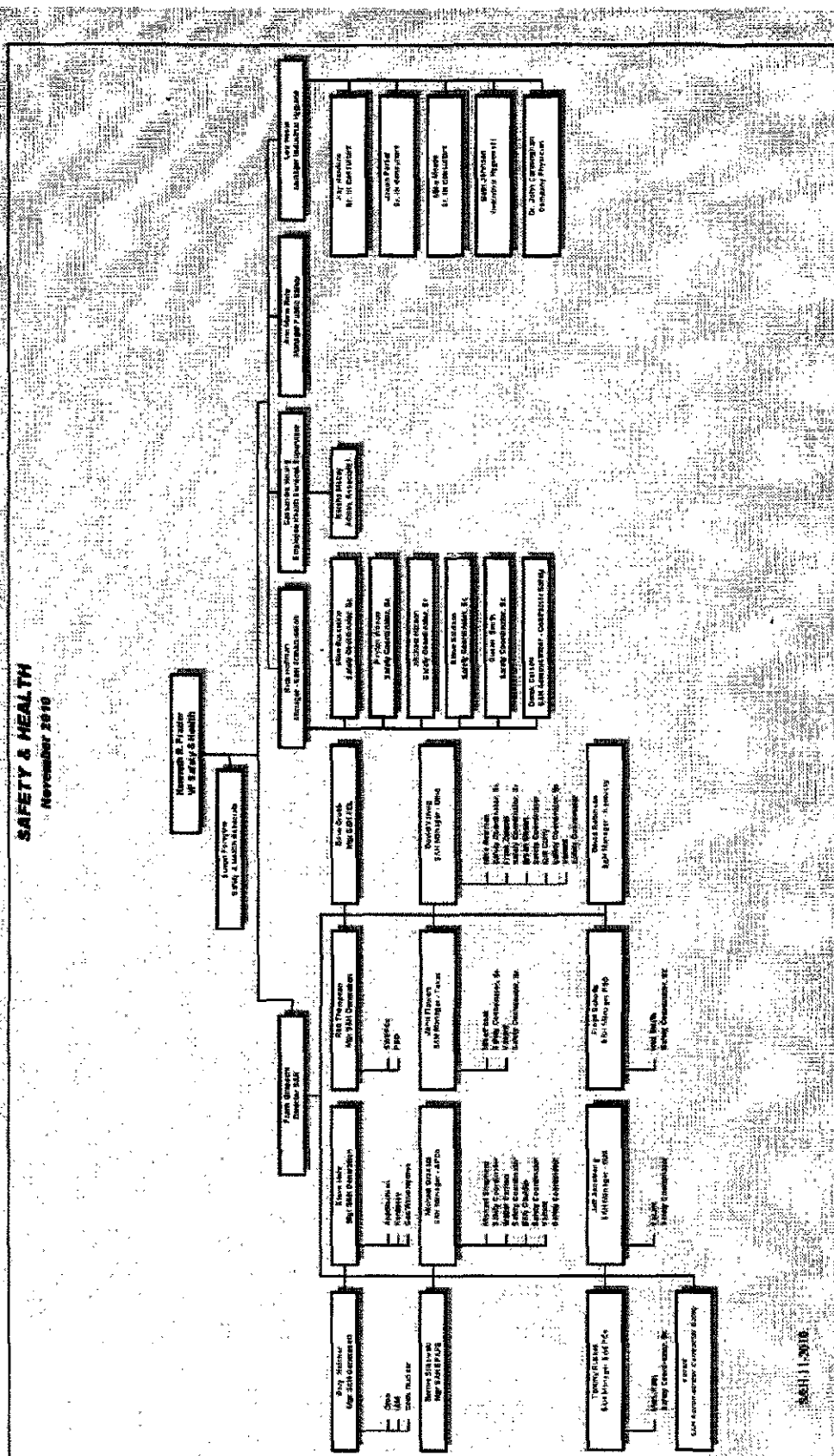
Topics of communication include, but are not limited to:

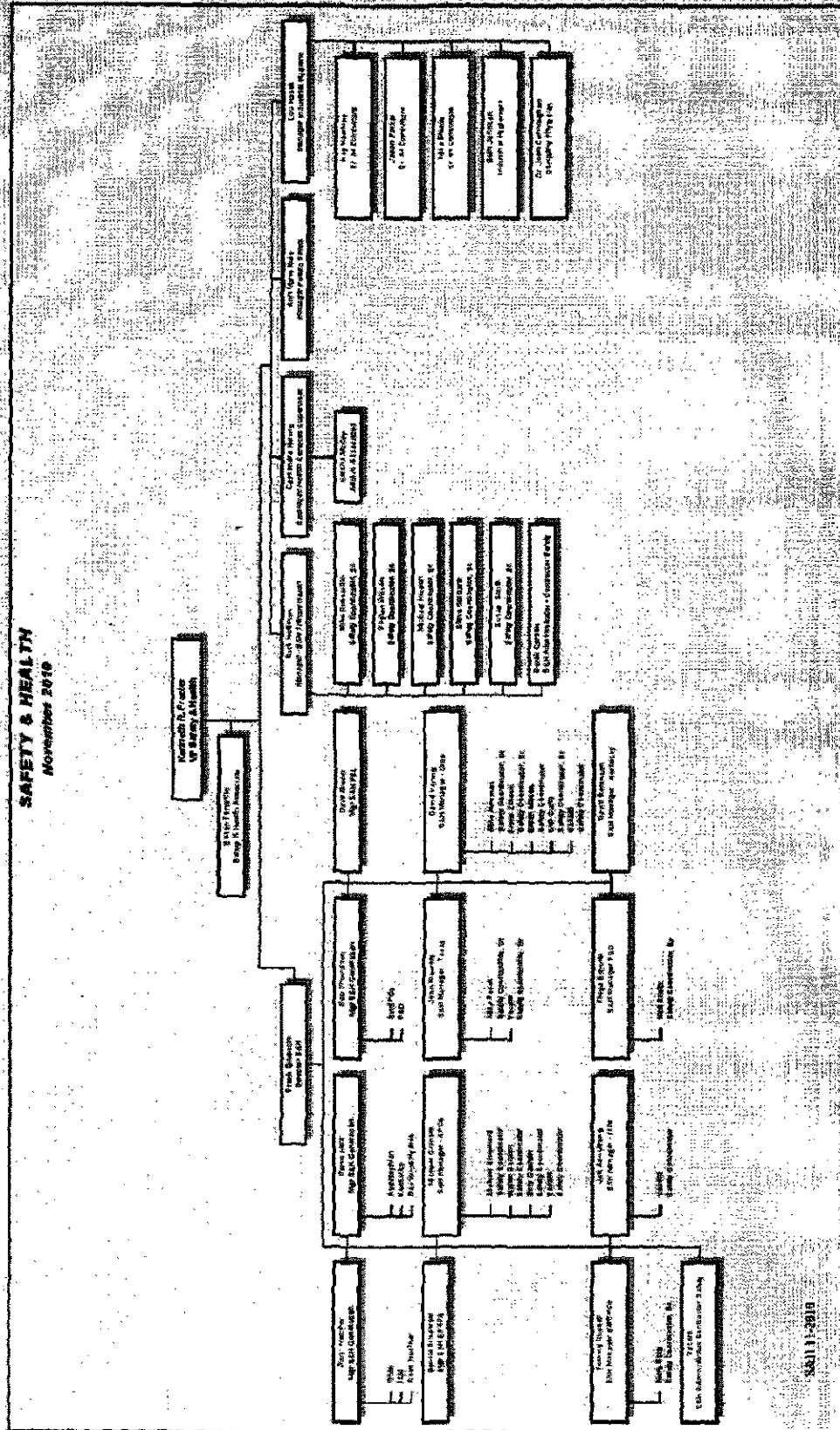
- overhead line safety;
- downed power line safety;
- live wire dangers;
- 811 – Call Before You Dig;
- copper theft;
- electrical safety for contractors;
- electrical safety for first responders;
- electrical safety at home; and
- power outage safety.

AEP and its operating companies, including AEP Ohio, have developed numerous public safety resources related to the topics above to help educate employees, customers and the general public about the potential dangers of electricity. Methods of communication include, but are not limited to:

- websites – safety information is found on all operating company sites, such as the following link to AEP Ohio's safety information: <https://www.aepohio.com/safety/>;
- videos – the company has numerous videos that can be ordered for free through operating company websites, such as <https://www.aepohio.com/safety/dvd/>. These also are available to employees via AEP's and its operating companies' internal websites;
- fact sheets – one-page fact sheets about many electrical safety topics are available online for viewing, downloading and printing;
- Electrical Safety E-Learning – this is a self-study, interactive module featuring video clips, knowledge checks and matching exercises that can be accessed online by anyone through AEP's and its operating companies' websites, such as this link to AEP Ohio's website: <https://www.aepohio.com/safety/eLearning.aspx>;
- social media – public safety messages are posted on sites such as facebook, twitter and YouTube;
- Electric Universe – is a website that focuses on resources for teachers and students;
- television, radio and print ads; and
- partnerships with industry organizations – AEP has teamed up with organizations such as Edison Electric Institute (EEI) and the Energy Education Council (EEC) to promote and publicize the company's public safety resources.

Exhibit III.1 – S&H Organization





ASBESTOS FACT SHEET

SCOPE

Whenever the scope of the work including, but not limited to the following occurs; an asbestos exposure assessment shall be made prior to the work commencing:

- demolition or salvage of structures where asbestos is present;
- removal or encapsulation of materials containing asbestos;
- construction, alteration, repair, maintenance, or renovation of structures, substrates, or portions thereof that contain asbestos.

DEFINITIONS

ACM- asbestos containing material

PACM- presumed asbestos containing material

PROCEDURE

Ideally, responsible facility personnel shall make this assessment at the planning stage of the work and arrange for any precautions or abatement.

Communication of any asbestos hazard is the responsibility of the facility owner. Prior to the work, the presence, location, and quantity of ACM or PACM shall be determined. This shall be done in writing or consist of personal communication.

If there is documentation that the area does not contain asbestos, that shall be communicated as well. Whenever there is an unknown, the material shall be sampled and results received prior to work beginning. **NOTE:** word of mouth is **not** documentation!

While work is underway and suspect material is found (newly discovered), the employees working at the site shall not cause further disturbance and immediately report it to the appropriate Company representative.

The AEP Asbestos Management Policy is available on the HR/Safety web site.

ASBESTOS

Does the program ensure that no employee is exposed to an airborne concentration in excess of OSHA's PEL's?

Y___ N___ NA___

-1926.1101(c)(1)(2)

Does the program address Regulated areas and their establishment and does it address demarcation, access, respirator use prohibited activities, and use of competent person?

Y___ N___ NA___

-1926.1101(e)

Does the program address exposure assessments and monitoring? Basically, this requires an initial exposure to assess the level of control required for the work to be done. It should cover period monitoring for Class I and II operations, when monitoring can be terminated and any additional monitoring requirements.

Y___ N___ NA___

-1926.1101(f)

Does the program outline the various methods used to comply with the requirements? This can include engineering controls such as HEPA equipped vacuums, wet methods, and clean up.

Y___ N___ NA___

-1926.1101(g)(1)

For Class I jobs that require removal of more than 25 linear or 10 square feet and a negative assessment has not been produced, specific information regarding regulated area and specific control methods are referenced?

Y___ N___ NA___

-1926.1101(g)(4)(5)(6)

Does the program address specific work practices, engineering controls for all Class II work?

Y___ N___ NA___

-1926.1101(g)(7)(8)

Does the program address specific work practices, engineering controls for all Class III work?

Y___ N___ NA___

-1926.1101(g)(9)

Does the program provide for the use of respirators and state when required?

Y___ N___ NA___

-1926.1101(h)

Does the program provide for the use of protective clothing and state when required?

Y___ N___ NA___

-1926.1101(i)

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Does the program establish specific requirements on hygiene facilities and practices when they are required (Class I work)?
-1926.1101(j)

Y___ N___ NA___

Does the program address training for all employees likely to be exposed in excess of a PEL and for all employees who perform Class I-IV work?
-1926.1101(k)(9)

Y___ N___ NA___

Does the program provide for medical surveillance and state when required?
-1926.1101(m)

Y___ N___ NA___

Does the program outline recordkeeping requirements?
-1926.1101(n)

Y___ N___ NA___

Does the program address the duties and qualifications of any required competent person?
-1926.1101(o)

Y___ N___ NA___

Does the program include or reference Appendix A?
-1926.1101 Appendix A

Y___ N___ NA___

Are all demolition or removal notices required for by state or federal agencies given within required time limits (may vary by state).

Y___ N___ NA___

Is disposal plan in accordance with AEP Environmental requirements?

Y___ N___ NA___

INTRODUCTION

INTRODUCTION

**NOTE: Blank pages have been deleted -
pages I-2, G-2, E-2 and D-2**

INTRODUCTION

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Policy of the Company

POLICY:

"No operating condition or urgency of service can ever justify endangering the life of anyone."

At all times our first thought and primary consideration is safety for all employees, for customers, and for the general public. Accidents injure people, damage equipment, destroy materials, and cause needless personal suffering, inconvenience and expense. To this end, we will constantly work toward:

1. Maintenance of safe and healthful working conditions.
2. Consistent adherence to proper operating practices and procedures designed to prevent injury and illness.
3. Conscientious observance of governmental and company safety regulations.

GOALS:

1. To be a world-class electric utility leader in safety and health.
2. To set the standard in preventing employee and public accidents.
3. To provide continuous improvement in safe and healthful working conditions as well as the safe and healthful utilization of System products and services.

OBJECTIVES:

1. Create a culture of shared commitment to a safe, healthful, productive, and profitable operation of our business. Involve all employees in an environment of trust, respect and mutual interest in the personal and economic security provided by a safe and healthy workplace.
2. Fully integrate safety and health into the operations process by designing safety into our facilities and into our work procedures.
3. Integrate accountability for safety and health leadership completely into the management function. Thus, viewing performance in safety and health as a measure of management capability and assessing it as such.

RESPONSIBILITIES:

1. **Business unit executives** are ultimately responsible for the safety and health performance of their organizations.
2. **Managers** are responsible for assuring safe and healthful work conditions and practices in the areas under their jurisdiction.
3. **Department heads** are responsible for the prevention of accidents in their departments. They are directly responsible for assuring safe and healthful working conditions and practices for all employees under their supervision.

- 4. Supervisors** are responsible for the prevention of accidents in their work group, including:
- Responsibility for the proper training, including hazard recognition and safety and health procedures, of the employees reporting to them.
 - Responsibility to assure that employees are knowledgeable and use required Personal Protective Equipment (PPE) in accordance with safety and health rules and practices.
 - Enforcement of company rules and governmental regulations regarding safety and health in a fair and firm manner.
 - Investigation of any incident and preparing appropriate accident reports.
- 5. Safety and health personnel** have the responsibility to provide advice, guidance and any such aid as may be needed by management in preventing accidents, including
- Developing injury/illness prevention methods, procedures and programs.
 - Providing advice and counsel regarding regulatory compliance.
 - Communicating accidents and loss control information to those directly involved.

- Reviewing and analyzing incident reports and identifying trends that can be utilized to prevent future accidents.
 - Maintaining safety and health records and statistics.
- 6. Employees** at all levels of the organization are expected to be personally involved in the safety and health aspects of the work. Therefore, employees are responsible for:
- Exercising maximum care and good judgment in preventing accidents.
 - Protecting the safety and health of fellow workers.
 - Immediately reporting unsafe or unhealthful conditions.
 - Complying with company rules and governmental regulations regarding safety and health.

Purpose and Scope

This manual is for your guidance in the prevention of accidents, which may result in injury to you, your fellow employee, the public, or damage to company equipment or property. It applies to employees at work; however, many of the instructions also will help prevent injuries and suffering outside of working hours.

This manual cannot cover all conditions that may arise when work is in progress. Everyone is expected to be alert and to exercise good judgment when circumstances arise that are not specifically covered. In all instances, when the job is not completely understood, employees shall obtain specific instructions from their supervisor before proceeding with their assigned work.

Whenever any rule, procedure or recommendation contained in this manual conflicts with any state or federal law or regulation, such state and/or federal law or regulation shall take precedence if more stringent. No specific exemptions will apply to these rules unless first approved by the business unit head after reviewing with Corporate Safety & Health.

Safety manuals and codes prescribe minimum requirements and cannot be a complete working guide. Additional safety practices will be incorporated when they are considered necessary or desirable. Above all, employees are encouraged to submit safety suggestions.

In order to take full advantage of new developments and improved practices, it is desirable to try new equipment and new methods. This manual shall not be interpreted to restrict such progress. However, caution and exercise of good judgment are necessary to develop new and better practices. After such practices have been demonstrated to be useful and can be performed safely, they may be adopted when approval has been obtained from the safety group and the appropriate business unit executive(s).

Fundamentals of Safety & Health

Accident prevention can be accomplished only through wholehearted cooperation of all members of the organization. Everyone shares a common function—to be personally responsible and accountable to do the job safely.

Employees who continually learn proactive measures and continually strive to improve work procedures will maintain a degree of safety. Using engineering/administrative controls, proper safeguards and protective equipment while avoiding shortcuts and makeshift work methods will yield safe results.

Safety & health is an integral part of the operation and it must begin in the planning stage of the operation. Good operation is safe operation. Safety, efficiency and productivity are all a part of a job well done.

Accidents do not just happen. Accidents are the natural result of unsafe conditions or unsafe behaviors, usually a combination of both.

By learning to proactively recognize and correct these behaviors and conditions, the chance of something occurring is reduced or eliminated.

Some examples of unsafe conditions which may cause accidents are:

- 1. Improper guarding** such as unshielded moving parts of machines, un-barricaded floor openings and excavations, un-enclosed high voltage equipment, lack of protective equipment, insufficient warning signs, etc.
- 2. Defective material or equipment** such as mushroom-head chisels, split handles, rotted or broken poles, poorly constructed or weak equipment.
- 3. Hazardous arrangements** such as those due to poor housekeeping, unsafe planning or inadequate workspace.
- 4. Improper illumination** such as insufficient light, unsuitable location producing glare, or objectionable shadows.
- 5. Improper ventilation** such as insufficient change of air or presence of harmful vapor, dust or gas.
- 6. Unsafe clothing** such as neckties, belts or jewelry, especially when worn near machinery.
- 7. Unsafe design and construction.**

Some examples of unsafe behaviors which may cause accidents are:

- 1. Operating without authority or warning** such as closing switches without authority, operating hoists and trucks without warning, failure to place warning signs or signalmen where needed, failure to block or guard equipment against unexpected movement, violating a clearance permit.
- 2. Operating or working at unsafe speed** such as driving too fast, throwing materials or tools to another worker, jumping from vehicles or platforms, running or unnecessary haste.
- 3. Making safety devices inoperative** such as removing guards from machines, using oversize fuses, blocking safety valves, isolating fire protection, blocking control interlocks.
- 4. Using unsafe equipment or using equipment improperly** such as using dull cutting tools, mushroom-head chisels, pipe extensions on wrenches not designed for them, using the wrong tool for the job, or using hands instead of hand tools.
- 5. Unsafe loading, placing or mixing** such as overloading cranes and winches, carrying too heavy a load, leaving objects where they are likely to fall, improper packing, or combining chemicals to form a dangerous mixture.

6. **Taking unsafe position or posture** such as working on live conductors from above instead of below, walking under suspended loads or too close to openings, lifting while in an awkward position, entering areas where there are dangerous gasses or fumes, passing on curves or hills, riding on running boards or other unsafe places on vehicles.
7. **Working on equipment without taking proper precautions** such as cleaning, oiling or adjusting moving machinery, and working on or near live electrical equipment.
8. **Distracting, teasing or startling** such as practical joking, horseplay, quarreling or annoying.
9. **Failure to use protective equipment** such as failure to use insulated gloves, or sleeves around energized equipment, and failure to use goggles, hardhat, respirator, gloves, hearing protection, apron, or leggings when necessary.

Elimination of unsafe conditions and unsafe behaviors is the only sure method to prevent and eliminate accidents.

Definitions of Terms

Adequate oxygen – In a confined space, is air that contains not less than 19.5 percent or more than 23.5 percent oxygen.

Approved – As used in this manual means methods, tools, or equipment authorized for use by the company.

Bare hand method – Performing work when workers are at the electrical potential of energized equipment on which work is being performed, are electrically bonded thereto, and are insulated from everything that is at a different potential.

Barricade – A temporary impediment, such as a rope, tapes, fence, or other approved device, erected to limit the distance anyone can approach a protected area.

Barricaded area – The space within and defined by a temporary impediment, such as a rope, tapes, fence or other approved device.

Barrier – A physical obstruction that is intended to prevent contact with energized lines or equipment or to prevent unauthorized access to a work area.

Bonding – The process of electrically connecting conductive objects together to bring them to the same electric potential.

Bonding cable – Provides electrical connection between two objects. A bonding cable does not have to be insulated and shall be at least No.2

Copper conductor or 1/0 aluminum. A bonding cable is expected to carry fault current.

Competent person (excavation) – A “competent person” for the purposes of the excavation standard is one who has specific training in, and is knowledgeable about, soils analysis, the use of protective systems, and the requirements of the excavation standard.

Confined space – A space that: 1) is large enough that an employee can bodily enter and perform assigned work; and 2) has limited or restricted means for entry or exit; and 3) is not designed for continuous employee occupancy.

Cover – Approved, insulated protective equipment.

Covered – The condition of any conductor(s) or equipment protected from physical contact by workers by means of approved insulated protective equipment.

De-energized – Disconnected from all sources of electricity.

Dead – De-energized, tested, and properly grounded.

Dispatcher or operator – Refers to the region dispatcher, distribution dispatcher, control room operator or shift engineer who has operational supervision over the line, transformer, machine or other apparatus.

Dispatcher's approval or operator's clearance

– Notification from the dispatcher or the operator to the person in charge of performing work that all necessary procedures have been accomplished and that the person in charge may proceed with work on lines or equipment that are under the Dispatcher's or the Operator's control.

Electrical guard – A non-conducting protective surface which limits the distance workers can reach or approach to an energized or grounded part which is at a potential different than themselves. The insulation is provided either by the dielectric of the guard material or a combination of material's dielectric plus air. This may vary depending on the guard's design. Some electrical guard designs are referred to as protective covers.

Electrical insulation – Any non-conducting material that provides adequate dielectric strength to withstand the electrical stresses existing between objects at different potentials.

Enclosed space – A working space such as a vault, manhole, which has a limited means of egress/entry, that is designed for periodic employee entry under normal operating conditions and that under normal conditions does not contain a hazardous atmosphere. But, such space could contain a hazardous atmosphere under abnormal conditions.

Grounding – The process or method of providing an electrical connection between electric equipment and earth, or to some conductive medium that is at earth's potential.

Guarded – Covered, fenced, enclosed, or otherwise protected, by means of suitable covers or casings, barrier rails or screens, mats or platforms, designed to minimize the possibility, under normal conditions, of dangerous approach or accidental contact by persons or objects.
(Note: Wires that are insulated, but not otherwise protected are not considered as guarded.)

Hazard – Any unsafe behavior or unsafe condition that may lead to injury of persons or damage to property.

Insulated hand tool – A tool that is insulated, properly marked and rated for the voltage for which it is to be used.

Hot or live (or “alive”) – Means electrically energized as distinguished from “dead” or “de-energized.”

Insulated – A term used to describe a device or medium isolated from ground or other potential by an insulating material. Wood is not an insulator.

Insulated protective equipment (IPE)

– Protective equipment isolated from ground or other potential by an insulating material.

Insulated working support or insulated tool

– A support or tool insulated from ground or other potential by an insulating material.

Insulating – A term used to describe a device or medium made from a material having the required electrical insulation.

Insulating gloves method – Performing work when workers wear personal insulating protective equipment (PIPE) as insulation between themselves and energized equipment on which work is being performed.

Insulator – A non-conducting support that provides physical separation between equipment that may be at different potentials.

Line of fire – A physical position that lies within the zone where a hazard will exist when stored energy is released.

Live-line tool (or hot stick) – An insulating member in the form of a stick or pole having means on one or both ends for performing work while permitting the worker who holds the tool to remain insulated and at a safe distance from energized equipment.

Live-line tool method – Performing work using live-line tools that insulate workers from energized equipment on which work is performed.

Material safety data sheet (MSDS) – A document that describes a specific material or

substance and contains warnings and required personal protective equipment (PPE).

Near-miss incident – An event that under different circumstances could have resulted in physical harm or property damage.

Nominal voltage (of a circuit or system) – The rated voltage assigned for convenient designation between phase conductors of a three-phase line, or the two conductors of a single-phase line, whether or not one of the conductors is grounded. If not otherwise stated, voltages given in this Manual are nominal values. The actual voltage of a circuit may be higher or lower than the nominal rating.

Personal insulating protective equipment (PIPE) – The insulating, protective equipment worn by a person during work on energized lines or equipment.

Personal protective equipment (PPE)
– Protective equipment worn by a person during work.

Potential – The degree of electrification at a point in an electric circuit with respect to some other point of reference such as earth.

Protected – The condition of a space, conductor(s) or equipment, isolated from approach or physical contact by anyone by means of barriers and/or approved, insulated protective equipment.

Protective equipment – Insulated, insulating, or other approved equipment used to facilitate work on energized lines or equipment.

Qualified person – One who is knowledgeable in the construction and operation of the electric power generation, transmission, and distribution equipment involved, along with the associated hazards. This also includes an employee who is undergoing on-the-job training and who, in the course of such training, has demonstrated an ability to perform duties safely at his or her level of training and who is under the direct supervision of a qualified person.

Shall – Means mandatory.

Should – Means recommended.

Unprotected – The condition of a space, conductor(s) or equipment which is not isolated from approach or physical contact by anyone by means of barriers and/or approved, insulated protective equipment.

Voltage – A measure of the difference in electrical potential between two points in an electric circuit.

Working clearance – The minimum distance that workers shall approach anything that is at a different potential from themselves.

Work location voltage – The higher of the phase to phase or phase to ground voltage at the work location.

AEP Policies and Procedures Reference

Available on AEP Intranet (follow hyperlink):

**[http://hrportraits.aepsc.com/
SafetyPoliciesProcedures2.html](http://hrportraits.aepsc.com/SafetyPoliciesProcedures2.html)**

- Abrasive Blasting Safety
- Anhydrous Ammonia Use
- Asbestos Evaluation Control Process Charts
- Asbestos Implementation Manuals
- Asbestos Management Policy
- Alcohol Program
- Arsenic Exposure Control
- Blood Borne Pathogen Control Program
- Cadmium Exposure Control
- Chlorine Use
- Confined Space
- Control of Hazardous Energy
- Drug Program
- Ergonomics Policy
- Ergonomic Checklist
- Office Ergonomics Policy
- Excavation Policy
- Eye Protection
- First Aid Guidelines
- FR Clothing Policy
- Hazard Communication

- Hazard Assessment-PPE
- Hazardous Waste & Emergency Response (HAZWOPER)
- Hearing Conservation
- Heat Stress
- Hepatitis Guidelines
- Incident Reporting/Investigation Procedure
- Laboratory Chemical Hygiene
- Lead Exposure Control
- Legionella/Condenser Entry
- Medical Surveillance
- Mercury Exposure Control
- Methylene Chloride Policy
- OSHA Guidelines for Inspections
- Process Safety Management
- Public Safety Program
- Respiratory Protection
- RF Radiation Safety Policy
- Scaffolding Safety
- Scaffolding Safety-Suspended
- Silica Policy
- Switching and Tagging Policy
- User's Manual for Accident Reporting System
- Welding, Cutting, and Brazing

GENERAL

GENERAL

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G 1.00 General Safety & Health

1.01 It is every employee's responsibility to know and to follow safety rules, policies, and procedures, making safety & health a fundamental part of their job every day. This includes a definite responsibility of safety & health to yourself, fellow employees, the public, and Company property. Violation of a safety & health rule, policy, procedure, or acting in a manner as to endanger their own or another person's safety or health could result in disciplinary action up to and including discharge.

1.02 No employee shall perform work while under the influence of any substance (alcohol or drugs), which affects the employee's ability to work safely. No person in charge or any other employee shall knowingly permit an employee to go to work who is under the influence of such substance.

1.03 Employees shall be trained in the skills, techniques and equipment as well as the safety procedures required to perform their assigned work. Work shall not be assigned to an employee untrained for the task unless under the direction of a qualified employee.

1.04 If an employee feels they are not qualified or that the job is not safe they have the right and responsibility to stop the job and seek assistance from the person in charge.

1.05 Any employee who suffers an injury or is involved in any incident during work shall

promptly report the incident to their supervisor or person in charge. Employees shall notify the appropriate local emergency phone number, and provide a level of first aid care they are qualified to administer. Otherwise, appropriate medical care shall be provided. Employees shall not place themselves into a situation to become a second accident victim. Any necessary report forms shall be completed.

1.06 (This space intentionally left blank)

1.07 Every employee shall watch for any unsafe condition or act and take corrective action within the job's scope and the employee's capability, or otherwise guard the situation. Employees shall report all unsafe conditions, unsafe acts, near miss, incidents and/or improper condition of equipment to their supervisor or person in charge immediately.

1.08 Any employee observing other employees in a potentially hazardous conditions/acts shall notify the affected employee immediately.

1.09 No employee shall distract the attention of other workers from their jobs until it is definitely determined that no danger will result there from.

1.10 Job briefing(s), including 'self-briefing(s)', shall be conducted for all jobs. The job briefing shall cover the work to be performed and a general plan for doing the job. The briefing shall cover hazards associated with the job, work procedures involved, specific assignments, energy source

controls and Personal Protective Equipment (PPE) requirements and be clearly understood by each worker. Anytime the scope of the work or the employees on a job changes, a new job briefing will be conducted.

1.11 (This space intentionally left blank)

1.12 Effective communications shall be maintained between employees involved in a job task.

Personal Protective Equipment (PPE) and Attire

1.13 Engineering and administrative controls should be instituted to reduce employee exposures wherever possible. Where these controls are not feasible or effective, Personal Protective Equipment (PPE) shall be used whenever directed or whenever it provides greater protection.

1.14 Approved safety glasses with side shields or goggles shall be worn in all production, construction, and maintenance areas or when there is exposure to flying fragments, objects, large chips, particles, sand, dirt, chemicals, optical radiation, electrical hazards or nuisance dust.

Additional information can be found in the AEP Eye Protection Policy.

1.15 Face shields shall be used in addition to safety glasses or goggles when there is exposure to severe impact or chemical hazards to the face.

1.16 Approved hearing protective devices shall be used in areas where noise levels are greater than 85 dbA, in designated areas, whenever required by instructions, or whenever their use will provide greater safety. **Additional information can be found in the AEP Hearing Conservation Policy.**

1.17 Employees shall select appropriate hand protection when exposed to hazards such as those from skin absorption of harmful substances; cuts or lacerations; abrasions; punctures; vibration, chemical burns; thermal burns; and harmful temperature extremes.

1.18 All employees shall wear approved protective headgear whenever they may be exposed to electrical or impact hazards, or other hazards that may cause head injury.

1.19 Employees whose job requires respirator use shall be medically qualified, trained, and fit tested prior to wearing the respirator. **Additional information can be found in the AEP Respiratory Protection Policy.**

1.20 Employees who are exposed to the hazards of flames or electric arcs shall not wear clothing that, when exposed to flames or electrical arcs, could increase the extent of injury.

1.21 Employees shall not wear watches with metal bands, oversized belt buckles, jewelry, or loose clothing, etc., where they may present a physical or electrical hazard.

Worksite Control

- 1.22 Employees shall protect the public at all times when company work is in progress by the use of signs, barricades or personal warning.
- 1.23 Employees shall use the proper clearance procedures before operating or working on any line or equipment.
- 1.24 Open manholes, ditches and excavations shall be barricaded or be effectively covered to prevent pedestrians, animals or vehicles from falling into them.
- 1.25 Broken glass or other sharp objects shall be disposed of properly.
- 1.26 No employee shall enter a customer's yard while the customer holds an animal. The employee shall insist the animal be removed from the yard or otherwise secured.
- 1.27 While working on or near water where a drowning hazard exists, employees shall wear a U. S. Coast Guard approved personal floatation device or suitable protection shall be used such as fall arresting/prevention equipment, cable systems, nets, or hand rails.
- 1.28 (This space intentionally left blank)
- 1.29 Employees shall take proper steps to protect individuals from dangerous atmospheres or other recognized hazards within both confined and unconfined spaces.

Fall Protection

1.30 Employees shall use an approved fall protection system when they are positioned 4 feet or more above the walking/working surface. Exceptions: when qualified climbers are working from ladders, climbing poles/steel structures, or when positioning devices are rigged where employees are protected from free falling.

1.31 Before employees climb poles, ladders, scaffolds, towers or other elevated structures, the pole, ladder, scaffold or tower shall be inspected to be sure they are safe to climb. Scaffolds shall have the inspection tag attached. **Additional information can be found in the AEP Scaffolding Safety Policy.**

1.32 (This space intentionally left blank)

1.33 A harness, with a shock absorbing or retractable lanyard which will not allow a free fall of more than 6 feet, shall be worn when working from an aerial lift.

1.34 Fall protection equipment shall be inspected before use each day to determine that it is in safe working condition. Snap hooks shall not be connected to loops made in lanyards, and snap hooks shall not be connected to each other.

1.35 Employees shall continually evaluate their walking/working terrain and properly protect themselves from slips, trips and falls.

1.36 (This space intentionally left blank)

1.37 Employees shall avoid placing themselves or others in the line of fire of any hazard.

1.38 (This space intentionally left blank)

1.39 No employee shall be permitted under a suspended load or structure unless specifically assigned the task.

1.40 (This space intentionally left blank)

1.41 (This space intentionally left blank)

Transportation

1.42 It is the responsibility of employees who operate motor vehicles on company business to be properly licensed as well as know and obey applicable traffic laws covering the territory in which they operate. Employees shall be personally responsible for all fines and other penalties assessed against them.

1.43 Vehicles and associated equipment shall be kept in good operating condition and operated in a safe, courteous manner. Before operating any vehicle, drivers shall make sure, insofar as they can determine, that the vehicles are in proper operating condition.

1.44 While operating a vehicle, employees shall be focused on the task of safe operation of the vehicle and shall not allow other activities to distract their attention from the task of driving, i.e., eating, applying make-up, or operating a cell phone, mobile computer, etc.

1.45 All vehicles shall be kept neat and orderly.

1.46 When dispensing fuel, turn the engine off, take necessary steps to discharge static charges and extinguish all smoking materials.

1.47 Vehicles shall be operated within the legal speed limit at all times and at lower speeds where conditions warrant.

1.48 Seat belts, where provided, shall be properly worn by drivers and passengers whenever the equipment or vehicle is in motion.

1.49 Before crossing railroad tracks, the driver of any vehicle shall take precautions to determine if it is safe to cross. Be sure there is sufficient space on the opposite side of the tracks to receive the vehicle before crossing and do not change gears while crossing the tracks.

1.50 The driver of a motor vehicle shall take all precautions necessary to ensure safe backing operation, which shall include: circling the vehicle to check for any hazards prior to backing or using an observer whenever a second employee is present. Generally, backing motor vehicles should be avoided wherever possible.

1.51 When parking a motor vehicle place the vehicle transmission in gear or transmission position, set emergency brake, turn wheels to curb or otherwise block the vehicle to prevent the vehicle from accidental rolling.

1.52 Before leaving sight of a parked motor vehicle in an unsecured location, the vehicle shall be locked to prevent unauthorized entry.

1.53 Mico brake locks or other supplemental holding devices shall not be used as a parking brake. The devices are to be used only for additional holding in conjunction with the vehicle brakes.

1.54 Where work requires a vehicle(s) to be parked on or near the travel portion of a roadway, proper work zone protection shall be used.

1.55 When work is conducted along public streets or highways, pedestrian and vehicular traffic shall be warned in compliance with applicable Government and/or Company standards.

(See AEP work area protection manual.)

1.56 Trailers, while being towed by a motor vehicle, shall be securely coupled to the motor vehicle and in addition, joined by auxiliary chains or cables to the vehicle. Where required, trailers shall be equipped with brakes and/or proper lighting.

G 2.00 Facilities Safety

2.01 Water, oil or other liquid spilled on floors presents a dangerous slipping hazard, and shall be cleaned up at once.

2.02 Walks, aisles, stairways, fire escapes and all other passageways shall be kept clear of all obstructions, tools or equipment.

- 2.03 Running in aisles, corridors, and on stairways is prohibited. Use the handrail when going up or down stairways.
- 2.04 Unprotected electrical cords, wires or cables shall not be strung across aisles or walkways where people may trip or fall over them.
- 2.05 Use extreme care when opening file cabinet drawers. Opening of over-loaded upper drawers, particularly more than one at a time, may tip over the cabinet. File cabinets shall be loaded from the bottom up to avoid top-heavy tipping.
- 2.06 Desk or file drawers and desk slides shall not be left open while unattended.
- 2.07 The cutting knife on hand-operated cutters shall not be left in a raised position while unsupported; it shall be closed and latched when not in use. Machine-operated cutters shall be properly guarded to prevent inadvertent operation or contact with the cutter.
- 2.08 Chairs, boxes, and other makeshift supports shall not be used to access heights. Only ladders or equipment specifically designed to reach objects overhead shall be used.
- 2.09 Waste materials shall be removed to leave the customer's premises and company equipment in a clean, safe condition.
- 2.10 Storage of materials and equipment shall not block electrical panels, switchboards, and fire protection equipment.

2.11 Floor and/or wall opening hazards shall be constantly attended or appropriately guarded (standard railings, toe boards, cover, barrier).

2.12 All fire exits shall be properly marked and unobstructed. Fire doors and dampers shall not be tied, blocked, or otherwise made inoperative.

2.13 Employees shall be instructed in building emergency evacuation procedures. Fire extinguishers shall only be used by qualified employees.

2.14 Fire hoses and other fire protection equipment shall not be removed from fire stations or used for purposes other than fire fighting or testing.

2.15 Smoking and use of matches or other open flames are not permitted in battery rooms, battery-charging areas, or while inspecting, filling, testing or handling batteries. Electrical equipment used in these areas must be appropriate for the hazard.

2.16 Ignition sources shall be prohibited near explosive and/or flammable materials.

2.17 Where the eyes or body of any person may be exposed to injurious materials, corrosives, chemicals, etc, suitable provisions shall be provided for flushing/drenching within the work area.

G 3.00 Materials Storage and Handling Safety

3.01 All materials shall be stored in a safe manner to prevent falling or collapse. Load limits of storage structures and floors shall be posted and shall not be exceeded.

3.02 Reels, barrels, drums and poles shall be secured to prevent rolling.

3.03 When storage under energized lines is necessary, proper clearance

(Per Table 3.03) shall be maintained.

Table 3.03

Voltage	Distance
69 kV and Below	10 Feet
138 kV	12 Feet
345 kV	16 Feet
500 kV	19 Feet
765 kV	24 Feet
Phase-to-Phase Voltage	

3.04 Flammable liquids shall be kept in approved containers, properly labeled and stored in designated areas away from sources of ignition.

3.05 Flammable liquids or gases shall not be stored under or near Extra High Voltage (EHV-Greater Than or Equal to 345 kV) lines or buses because of the possibility of static arc ignition.

3.06 No hazardous chemical product shall be used at a location without first obtaining the material safety data sheet (MSDS) and approval for the product from the appropriate personnel. **Additional information can be found in the AEP Hazard Communication Policy.**

3.07 Materials shall be handled and stored using safe, ergonomic principles whenever feasible. When lifting or lowering objects, keep the load close to the body, lift with the legs, not with the back and avoid twisting the torso. Obtain assistance or use proper equipment to lift heavy or awkward objects.

3.08 (This space intentionally left blank)

3.09 Bulky objects shall not be carried in such a way as to obstruct the view ahead or interfere with free use of handrails on stairways. Get help where necessary.

3.10 Loads, materials and tools that are being raised or lowered shall be positively controlled.

Exception: When a load or material cannot be positively controlled in it's decent it is the responsibility of the operator(s) to assure all personnel are in the clear.

Utility Pole Handling Safety

3.11 Before starting to unload a carload of poles, steel or other materials, the load shall be thoroughly examined to determine possible unloading hazards. (Assure minimum approach

distances are maintained.) In addition, the car brakes shall be tightly set and the wheels blocked to prevent movement of the car.

3.12 Poles placed on piles or racks shall be securely blocked to prevent rolling or shifting.

3.13 Poles loaded on a truck or trailer shall be securely fastened in at least two places.

3.14 Where objects extend beyond the rear and or sides of the truck, the projecting extremities shall be marked in accordance with applicable regulations.

3.15 Poles being transported along streets or highways shall be plainly marked at the rear with high visibility devices such as flags, lights and placards. State and local regulations covering the movement of loads upon streets and highways shall also be observed. Precautions shall be exercised to prevent blocking of roadways or endangering other traffic.

3.16 Employees shall not remain on a pole pile while poles are being hoisted.

3.17 When a load of poles is within working distance of the ground, install load binders so that they can and will be operated by employees while standing on the ground.

Forklift Safety

3.18 Unauthorized modifications, and/or additions to lift trucks or attachments affecting their capacity or safe operation, shall not be permitted.

3.19 Employees shall not be lifted from one elevation to another by a forklift truck unless it is equipped with proper controls, approved platform, railings, toe boards and securely fastened to the forks.

3.20 No person shall be allowed to stand or pass under the elevated portion of any fork lift truck, whether it is loaded or empty.

3.21 When leaving a power-operated lift truck unattended, the forks or platform shall be fully lowered; the controls shall be neutralized; power shut off, and the brakes set. If parked on an incline, the wheels shall be blocked.

3.22 When ascending or descending grades in excess of ten percent, loaded trucks shall be driven with the load upgrade.

3.23 Brakes shall be set and wheel blocks shall be in place to prevent movement of trucks, trailers or railroad cars while being boarded by lift trucks. Uncoupled semi trailers may require fixed jacks to prevent upending.

3.24 Only approved dock boards or bridge plates of adequate capacity shall be used, and they shall be properly secured before they are driven over.

Compressed Gas Cylinder Safety

3.25 Do not store oxygen cylinders near highly combustible materials, especially oil and grease. When stored they shall be separated from fuel

gas cylinders or combustible materials by a minimum distance of 20 feet or by a 5 foot high noncombustible barrier.

3.26 Gas cylinders shall be properly secured and appropriately labeled. Stored gas cylinders shall have caps or valve protection devices in-place.

3.27 While moving cylinders, except when properly secured on approved cylinder trucks, their caps or valve protection devices shall be in place and precautions taken to prevent their being knocked over or dropped.

3.28 Before dismantling apparatus associated with compressed gas cylinders, the gas pressure shall be relieved from the apparatus.

G 4.00 Tools and Equipment Safety

4.01 The right tools/equipment shall be used for the job. Prior to use, all tools/equipment shall be in good working order. Defective tools/equipment shall be removed from service until properly repaired.

4.02 No interlock machine guards or other safety device shall be removed or modified to defeat its function, except for tests, repair or adjustment of the device.

4.03 Before drilling through paving, walls or floors, check to be sure you will not cut into cables, conduits, or pipes.

4.04 Compressed air or gas shall not be blown at a fellow employee or be used for dusting clothing

or any part of the body. When using compressed air for cleaning purposes, the pressure shall be regulated at 30 psi or less. In some closed systems (coal chutes, etc) this pressure may be increased with appropriate safety relief valve devices and PPE. Approval from the Safety & Health representative shall be obtained before commencing operations involving pressures greater than 30 psi.

4.05 When pneumatic tools are used, all couplings shall be secured with safety clips if so designed. The use of hoses for hoisting or lowering tools shall not be permitted.

4.06 All temporary circuits used to operate hand tools and equipment shall be protected by a circuit-interrupting device.

4.07 All portable electric hand tools used in construction or maintenance work, unless self-contained, shall meet at least one of the following:

- a) Be of the double insulated type, having the tool housing separately insulated from, and in addition to, the insulation of the electrical component of the tool. Such tool must bear the Underwriters' Laboratory label "Double Insulated" permanently on the tool, or,
- b) Be equipped with three-wire cord having the ground wire permanently connected to the tool frame and a means for grounding at the other end, and, be connected to a

power supply fully protected by ground fault circuit interrupters or covered under an assured equipment grounding conductor program.

4.08 Pneumatic and hydraulic tools, used in close proximity to energized lines or equipment, shall have non-conducting hoses, and shall be supplied only with de-moisturized air or insulating fluid.

4.09 Each work location shall have a process in place to document that tools modified or fabricated at the site are evaluated by a qualified person, approved by management, and are determined adequate for the intended use. Pipe or other extensions shall not be used on any tool handle to increase leverage unless the tool is specifically designed for use of such extension and approved by management.

4.10 Only approved equipment shall be used in phasing-out circuits and transformers and in testing for potential.

4.11 Employees shall not use electrical tools where there is a hazard present from flammable fumes, vapors, dusts, or electrical shock.

4.12 When working in boilers, steam generators, condensers, tanks, pressure vessels, and circuit breakers or in damp or grounded area, extension light cords shall conform to Rule 4.07.

4.13 When operating a drill press never hold small work in the hands; always use a clamp, jig or vise.

4.14 Do not load powder-actuated tools until just before use.

4.15 Where furnaces or blowtorches are used, every precaution shall be taken to prevent starting fires and adequate fire extinguishing equipment shall be readily available. Furnaces fueled by gasoline shall not be used.

Cranes, Derricks and Hoisting

4.16 Derricks, cranes and other hoisting equipment shall be inspected at regular intervals. In no case shall such equipment be used until it has been determined that it is free from defects and safe to use. Any hoisting equipment found defective shall be immediately tagged as unsafe and not used until repaired.

4.17 Before operating a mobile crane or derrick, the operator shall sound a warning and accept only one person's signal to start raising, lowering or swinging load. However, the operator shall stop immediately upon a signal from anyone.

4.18 When making lifts, outriggers shall be used to prevent overturning. The outrigger shall rest on a secure and firm surface or cribbing shall be used. The operator shall be certain there is no one in a position to be injured when outriggers are lowered.

4.19 The rating of cables, ropes, slings, chains, hooks rings and clevises used in rigging shall equal or exceed the capacity of the load.

4.20 Ropes, cables, chains, slings, etc. shall be discarded or tagged, removed from use, or properly

repaired, when they have worn or deteriorated to the point where their safe use may be questionable.

4.21 (This space intentionally left blank)

Heavy Equipment

4.22 Before starting the engine of a tractor, bulldozer, etc., the employee shall complete a walk-around inspection and put all controls in neutral or park.

4.23 No one except the operator shall ride on tractors, bulldozers, forklifts, coal haulers or other heavy equipment unless specifically authorized by management to do so.

4.24 When leaving bulldozers, backhoes, trenchers and similar equipment unattended for any reason, all controls shall be placed in neutral, the brake set and all buckets, blades and booms shall be lowered to a resting position on the ground.

Ladders

4.25 All portable ladders, except hook ladders, shall be equipped with suitable safety feet. Where safety feet do not overcome the hazard of slipping, or where the safety feet must be removed, the ladder shall be securely held in place by tying or by a person at the foot.

4.26 The base of a ladder shall not be placed less than one quarter of its working length from a wall or supporting surface and not farther than one-third of the working length unless securely held or tied in place.

4.27 Stepladders shall not be used in a partially opened position.

4.28 Employees shall always face the ladder and use both hands for climbing when going up or down the ladder using each rung. Unless specifically designed otherwise, only one (1) person shall be on a ladder at any time.

4.29 Use the correct size ladders for the job. Ladders shall not be climbed higher than the third rung from the top on straight or extension ladders, nor the second step from the top on ordinary stepladders except when transitioning to a pole or structure from a secured ladder. Ladders used to gain access to roofs or platforms shall extend at least three feet above the roof or platform. The minimum overlap of sections on an extension ladder shall be three feet for ladders up to 36 feet long, and five feet for ladders greater than 36 feet up to 60 feet long.

4.30 Ladder safety devices shall be worn when climbing all fixed ladders without cages (except in lock walls) and greater than 20 feet unbroken length that are not equipped with safety cages.

4.31 Wood ladders should be given a suitable protective coating such as clear varnish or linseed oil. Metallic paint or a paint that hides the grain shall not be used on wood ladders.

4.32 Chain saw-resistant leg protection shall be worn while operating a chain saw during ground operations.

G 5.00 Specialty Operations Safety

Welding and Cutting

5.01 Hot work activities shall be performed in accordance to the AEP Welding, Brazing, and Cutting policy and site-specific hot work process.

5.02 When welding, cutting or brazing, approved welding goggles or helmets with the proper shade lens and approved eye protection shall be worn by welders and helpers.

5.03 When welding, cutting or brazing, adequate ventilation shall be provided to sufficiently reduce the possibility of fire, explosion, or accumulation of hazardous atmosphere and if required, approved respiratory protection shall be worn.

5.04 Safety signs and shields or barricades shall be placed around welding jobs where needed to protect fellow workers or the public from direct rays of electric arc or welding flame. Bystanders shall never look at a welding arc unless their eyes are properly protected.

5.05 When welding or cutting in elevated positions, precautions shall be taken to prevent hot metal from falling onto people or combustible material.

5.06 Where it is necessary to weld in close proximity to high-voltage circuits; solid protective barriers or other means shall be provided to prevent the ionized air or metallic vapor produced by welding from causing a flashover of the circuit.

5.07 Where welding or cutting operations must be performed in an area where they will create a fire hazard, proper authorization/hot work permit shall first be obtained. This authorization shall include designation of the fire prevention/fire watch and protection measures to be taken.

5.08 Never allow grease or oil to come in contact with any cylinder, regulator, valve or connection of gas welding equipment. Oil or grease in the presence of oxygen can cause a violent explosion.

5.09 Never use matches to light a torch. Always use an approved striker.

Excavating

5.10 Employees in an excavation or trench shall be protected from cave-ins or other hazards immediately adjacent to the excavation by an adequate protective system designed by a competent person, except when:

- a) Excavations are made entirely in stable rock; or
- b) Excavations are less than 5 feet in depth and examination of the ground by a competent person provides no indication of a potential cave-in. Additional information can be found in the AEP Excavation Policy.

Additional information can be found in the AEP Excavation Policy.

5.11 Whenever excavating is done in proximity to buried energized facilities or gas lines, it shall be done only by hand digging. When buried facilities are visually located, mechanical excavation can resume.

5.12 Trenches and excavations, in which employees are working, shall be inspected at least daily by a competent person. More frequent inspections shall be made when necessary because of rainstorms, freezing/thawing conditions, and other hazard increasing occurrences.

5.13 Pole holes and footing excavations shall not be left unattended or unguarded in areas where they present a hazard to employees or the public.

Working in Confined/Enclosed Spaces

5.14 Before initially entering a confined/enclosed space for any reason, it shall be assessed for hazards, a work plan devised, necessary clearance obtained, and the atmosphere tested. **Additional information can be found in the AEP Confined/Enclosed Space Policy.**

5.15 Do not leave an internal combustion engine running in an enclosed area without adequate ventilation or without proper venting to the outside (carbon monoxide hazard).

Working with Explosives

5.16 The handling, storing, transporting and firing of explosives shall be done in accordance with Company policy, Local, State and Federal codes and regulations.

5.17 When the size of the job or nature of the operation requires the storage of explosives, they shall be stored in approved magazines in accordance with applicable codes and regulations. The area surrounding a magazine for a distance of not less than 25 feet in all directions shall be kept free of rubbish, dry grass, or other combustible material. Smoking, open flames and combustible materials shall not be stored within 50 feet of magazines.

Communications

5.18 When working on microwave stations' waveguides or antennas, the microwave radio equipment shall be de-energized prior to disassembly of the waveguide or antenna.

Additional information can be found in the AEP Radio Frequency Safety Policy.

ELECTRICAL

ELECTRICAL

ELECTRICAL

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E 6.00 Basic Electrical Safety

6.01 Maintenance, repair and construction work on electric circuits or apparatus shall not be done until proper authorization has been obtained for performing work.

6.02 All circuits and equipment shall be considered energized at full voltage until de-energized, tested and grounded or, where grounding is impractical, other precautions are taken to insure there is no possible energy source, including lightning, induced voltage or customer-owned generation facilities.

6.03 When an employee can go, reach, or take any conductive object within the minimum approach distances from any energized conductor or equipment; the employee shall be properly protected. Reference Table 6.03

Table 6.03

Nominal System kV	Minimum Approach Distance	
(Phase-to-Phase)	Phase-to-Ground Feet-Inches	Phase-to-Phase Feet-Inches
0.05 – 1.0	Avoid Contact	Avoid Contact
1.1 – 15	2 – 1	2 – 2
15.1 – 36	2 – 4	2 – 7
36.1 – 46	2 – 7	2 – 10
46.1 – 72.5	3 – 0	3 – 6
72.6 – 121	3 – 2	4 – 3
138 – 145	3 – 7	4 – 11
161 – 169	4 – 0	5 – 8
230 – 242	5 – 3	7 – 6
345 – 362	8 – 6	12 – 6
500 – 550	11 – 3	18 – 1
765 – 800	14 – 11	26 – 0

6.04 When energized equipment is exposed, a designated employee, barricades or barriers shall be used around the work area to prevent employees who are not working on the equipment, but who are in the area, from contacting the exposed live parts.

6.05 Employees shall not open circuits under load conditions unless the device used to open the circuit is designed to interrupt the current involved or if a non-load break-disconnect device is used, it shall be operated from a remote position where the employee cannot be injured in the event the device fails.

6.06 All insulating protective equipment shall be of approved material, carefully inspected, properly stored and cared for.

6.07 Insulating gloves shall not be worn wrong side out or left in that condition. Blankets and sleeves shall not be stored in a folded or creased position. Line hose and insulator hoods shall be stored in their natural position and shape.

6.08 Insulating gloves, sleeves and blankets shall not be used past the expiration date. Testing shall conform to OSHA and ASTM standards.

6.09 Insulated protective equipment shall be visually inspected daily prior to use. In addition, an air test shall be performed on insulating gloves daily prior to use.

6.10 Protectors and interliners furnished for use with insulating gloves shall be used only with insulating gloves and at no other time.

6.11 When working with Personal Insulating Protective Equipment (PIPE), live-line tools, or bare hand and minimum approach distances specified in Table 6.03 (for bare hand, Table 7.52) cannot be maintained to energized equipment not being worked on, appropriate barriers or cover-up shall be applied to that equipment.

6.12 Anytime equipment (derrick, crane, aerial lift, etc.) is being used near energized lines or equipment and the clearances specified in Table 6.03 cannot be maintained, the mobile equipment shall be barricaded and considered energized. Persons on the ground shall not contact, enter, or leave the equipment until they determine the proper clearance is maintained.

6.13 When working near energized equipment all pulling and tensioning equipment shall be barricaded and effectively grounded.

6.14 Employees who are not qualified electrical workers shall not go, reach or take any conductive object within the approach distances of Table G 3.03 from any exposed, energized conductor or equipment. This includes operating a crane, vehicle or mechanical equipment.

6.14.1 Before moving an unloaded crane or other mechanical equipment in close proximity to overhead electric lines, the boom shall be lowered sufficiently to provide the following clearances:

Voltage	Distance
69 kV and Below	4 Feet
138 kV	6 Feet
345 kV	10 Feet
500 kV	13 Feet
765 kV	18 Feet
Phase-to-Phase Voltage	

6.15 Only those persons who have been qualified, or escorted by a qualified person are authorized to enter a station. All personnel shall notify the proper Dispatching Authority immediately upon entering and leaving any station and report the nature of all work to be performed. When entering stations where work is being performed each employee shall report his or her presence to the employee in-charge to receive information on special system conditions affecting employee safety.

6.16 Gates in station fences shall be kept closed and locked unless under the observation of an attendant. Doors to rooms and spaces, that are not under the observation of an attendant, shall be kept closed and locked except when work is being performed inside.

6.17 When carrying long material in areas where there is a possibility of touching energized equipment; the materials shall be carried below the shoulders.

6.18 (This space intentionally left blank)

6.19 Portable metal ladders or ladders with metal side rails shall not be used near electrical equipment. Conductive ladders may be used for specialty work and must be properly marked.

6.20 Workers shall not leave a service pedestal; a pad-mounted or submersible enclosure containing energized transformers, equipment or conductors, unattended unless it is properly secured.

6.21 When working near energized facilities persons who are not operating excavating equipment, such as backhoes, trenchers, etc. shall not contact the excavating equipment while digging or trenching is in progress. Excavating buckets or blades should be clear of the ditch or trench before employees enter or leave the excavating equipment. Excavating equipment that cannot be cleared from the ditch or trench shall be considered energized until tested to be de-energized.

6.22 Approved work gloves or insulating gloves with protectors, approved eye protection, and clothing as defined in Rule 1.20 shall be worn when installing, connecting, disconnecting, changing or removing: (1) any meters,

(2) instrument transformers or any other metering equipment that are not completely isolated from energized conductors, (3) test links on energized meter test blocks, or (4) test leads to energized metering circuits.

6.23 Before connecting or reconnecting service conductors, a test shall be made to determine which wire is grounded, and it shall be connected to the ground wire of the distribution system.

E 7.00 Advanced Electrical Safety

7.01 When working on equipment and the minimum approach distance in Table 6.03 cannot be maintained, the following shall apply (except when working by the bare hand work):

Table 7.01

50 to 260 Volts	261 to 5000 Volts	5001 to 19900 Volts
Approved rubber gloves or insulated hand tools	Approved rubber gloves or regularly tested insulated tools	Approved rubber gloves and sleeves or regularly tested insulated tools
50 to 5000 Volts		Greater than 5000 Volts
Approved rubber sleeves are required if the upper arm and or shoulder is exposed to potential contact		Approved insulated work surface shall be used in conjunction with the appropriate class gloves and sleeves while working on voltages greater than 5000 volts.
All Voltages Phase-to-Ground		

Note: See Rule 7.03 & 7.04 for working out of an aerial lift device or off a structure.

7.02 The class of rubber gloves and sleeves to be used (unless specifically stated otherwise in this manual) shall be determined by the voltage level at which the circuit is energized as shown below. A higher class of insulated protective equipment may be used if they are available.

Table 7.02

Glove/Sleeve Class	Glove/Sleeve MAX Use Volts
00	500
0	1000
2	17,000
3	26,500
4	36,000

Notes:

1. If system design is Delta, only phase-to-phase voltage will be used in conjunction with Table 7.02 to determine the appropriate class of gloves and sleeves required.
2. If no multi-phase exposure exists or is removed on a grounded Wye circuit through the use of work procedures and proper cover-up, then the phase-to-ground voltage of the circuit can be used in conjunction with Table 7.02 to determine the class of rubber gloves and sleeves required.

7.03 Workers shall wear Personal Insulating Protective Equipment (PIPE) in accordance with Table 7.01 while working from an insulated aerial lift device during the time from when the bucket leaves the cradle until it returns to the fully cradled position unless working by the bare hand method. The glove/sleeve Class to be worn is determined by Table 7.02 according to the highest voltage involved in the scope of the work. PIPE is not required if the scope of the work involves only transmission voltages above 34.5 kv.

Exceptions to 7.03:

- When equipment is de-energized tested and properly grounded.
- If the entire scope of the work involves working with live-line tools.
- When making underground terminations on poles, after the cable has been properly grounded, rubber gloves can be removed after the energized portion of the pole has been covered with protective equipment, providing the minimum approach distances in Table 6.03 have been maintained.
- PIPE may temporarily be removed after the aerial lift device has been moved a minimum of ten (10) feet from any energized equipment. If a qualified observer is present, the observer shall be

notified by the employee of the intention to temporarily remove the rubber gloves. Confirmation must be received from the qualified observer that the rubber gloves are back on prior to moving back into the work zone.

- On new construction (never connected or energized and no possibility for energization or induced voltage) work.

7.04 When workers are climbing poles, Personal Insulating Protective Equipment (PIPE) will be put on prior to approaching within 5 feet of from exposed energized primary (1kV to 34.5kV). The glove and sleeve class to be worn is determined by Table 7.02 according to the highest voltage involved in the scope of the work.

Exceptions to 7.04:

- When equipment is de-energized, tested and properly grounded.
- When using a live-line tool. Table 6.03 distances must be maintained.

7.05 All workers, who are using the operating handles on air break switches and disconnects on energized lines and equipment shall use appropriate Personal Protective Equipment (PPE) and Class 2 insulating gloves. Before operating, the switch and grounding arrangement shall be visually checked. (Workers shall keep the non-insulated parts of their body clear of the switch handle, operating rod and structures.)

7.06 For energized conductors above 600 Volts, the conductor insulation shall not be relied upon for protection. Appropriate Personal Insulating Protective Equipment (PIPE) shall be used when handling energized insulated conductors.

7.07 When working with live-line tools on lines or equipment energized at 345 kV or above, all relevant circuit breakers shall be set on manual operation.

7.08 The insulation of live-line tools and hollow aerial lift arms shall be clean and conform to the following table:

Table 7.08

Nominal System kV	Minimum Insulation	
	Feet	Inches
46 and Below	3	0
72.5	3	6
138	4	0
345	9	4
500	12	4
765	17	0

7.09 Live-line tools shall be wiped clean and visually inspected for defects before use each day. If a defect or contamination that could adversely affect the insulation qualities of the tool is found, the tool shall be removed from service until cleaned and waxed or repaired, refinished and electrically tested before use as required.

7.10 Live-line tools used for primary employee protection shall be removed from service and inspected every two (2) years. Hollow shaft live-line tools shall be electrically tested every two (2) years.

7.11 Live-line tools shall be marked or guarded. For voltages of less than 69kV, the guard or marker clearances may be reduced to, but in no case less than, the distances specified in Table 7.08.

7.12 Conductor support tools such as link sticks, strain carriers and insulator cradles may be used, provided that the clear insulation is at least as long as the insulator string or the minimum distance specified in Table 7.08 for the operating voltage.

7.13 Hot sticks shall be used when operating cutouts and disconnects that are made for hot-stick operation. When expulsion-type fuses are installed on an energized circuit or transformer, the worker shall be clear of the exhaust path of the fuse barrel.

7.14 When two or more employees are working within reach of each other, they shall not work simultaneously on different phases or on items at different potentials.

7.15 Personal Insulated Protective Equipment (PIPE) or live-line tools shall be used when installing and removing cover-up on all energized conductors and equipment, unless the work is to be done by the bare hand method.

7.16 If employees must reach or pass through energized conductors and equipment and the distances specified in Table 6.03 cannot be maintained, those conductors and equipment must be first covered with approved Insulated Protective Equipment (IPE).

7.17 Secondary circuits; guys; ground wires; telephone lines and similar attachments in close proximity at the work area shall be covered with protective equipment.

7.18 When barriers (physical obstructions) are used to prevent accidental contact with energized conductors or equipment, the following minimum air clearance shall be followed, ref. Table 7.18. Line hose, hoods and blankets are not barriers.

Table 7.18

Nominal System Voltage	Phase-to-Ground inches	Phase-to-Phase inches
15 kV and Below	1	2
15.1 kV to 36 kV	4	7
36.1 kV to 46 kV	7	10
46.1 kV to 72.5 kV	12	18

7.19 (This space intentionally left blank)

7.20 Any time equipment (derrick, crane, aerial lift, etc.) is operated near energized lines, as specified in Table 6.03; employees shall remove necessary rescue gear and fire extinguishers from their storage areas and have them clear of the equipment.

7.21 When raising or lowering poles between or in close proximity to energized conductors and equipment and clearances as specified in Table 6.03 cannot be maintained, the conductors and/or equipment shall be prevented from making an electrical contact with the pole by using electrical guards or other Insulated Protective Equipment (IPE). Above 69kV, clearances set forth in Table 6.03 shall be maintained or lines and equipment shall be de-energized, tested and grounded.

7.22 When raising or lowering poles between or in close proximity to energized conductors and equipment and clearances as specified in Table 6.03 cannot be maintained, all workers who may handle or come in close proximity to the pole shall wear appropriate rubber gloves as specified in Table 7.02 or use clean, dry, non-conductive hand lines or non-conductive tools, rated appropriately for the voltage encountered.

7.23 When two or more employees are to work on the same pole at the same time, each shall reach the working position before the next leaves the ground. They shall descend the pole, one at a time.

7.24 Gaffs shall be kept sharp, in good condition and not cut down to less than the manufacturers specifications (inside measurement), and shall be within prescribed tolerance when measured on the appropriate manufacturer's gaff gauge.

7.25 Climbers shall not be worn by employees while setting poles, or doing other groundwork.

7.26 While guying a pole, pikes may be used if manned. Unmanned pikes alone shall not be relied upon to support a pole while a worker is on it.

7.27 Employees shall not attach or remove guy wires and/or conductors from a pole or structure until they are sure the pole or structure will withstand the altered stress.

7.28 When climbing a pole with energized equipment known or suspected to be defective, Personal Insulating Protective Equipment (PIPE) must be worn ground-to-ground or until the equipment is de-energized, tested and grounded.

7.29 Employees working from poles or other structures shall not pass tools, equipment or material to a worker in an aerial lift while the aerial lift is bonded to an energized conductor or equipment, or while any worker in the bucket is within reaching distance, or the distance specified in Table 6.03 from an unprotected, energized conductor or equipment.

7.30 A system neutral or a station ground wire shall not be opened until the proposed opening has first been jumpered or bypassed. Personal Insulating Protective Equipment (PIPE) and/or live-line tools shall be used when repairing an open neutral or station ground wire.

7.31 Tag lines and hand lines used near energized lines and equipment shall be made of non-conductive material and kept clean and dry.

7.32 Workers stringing, removing or sagging conductors that could become energized, shall use Personal Insulating Protective Equipment (PIPE), barriers, dry non-conductive hand lines or other necessary protective equipment.

7.33 When conductors being installed or removed cross over energized conductors in excess of 600 volts and if the design of the circuit interrupting devices protecting the lines so permit, the automatic-reclosing feature of these devices shall be made inoperative.

7.34 Conductors being strung in or removed shall be kept under positive control to prevent accidental contact with energized lines or equipment.

7.35 Employees working aloft shall avoid positioning themselves on the supporting cross arm or directly under a conductor or pulling line while it is in motion during stringing or removing operations.

7.36 No work shall be done on lines or equipment where dispatcher or operator authorization is required until authorization has been obtained to proceed in accordance with existing operating procedures. If two or more independent crews will be working on the same line or equipment, each crew shall independently comply.

7.37 When taking lines or equipment requiring a dispatcher's or operator's authorization, out of service, it shall first be de-energized by an appropriate switching device. Whenever possible, a visible open will be obtained from all possible energy sources. Lines and equipment taken out of service shall be properly tagged.

7.38 When lines or equipment not under the control of a dispatcher are taken out of service, they shall be de-energized by an appropriate switching device such as an automatic breaker, recloser, sectionalizer, switch or fuse. Any automatic device opened shall be checked open and made inoperative. Lines or equipment shall be disconnected from the electric circuit by a visible disconnecting means. Lines or equipment taken out of service shall be properly tagged.

7.39 All affected workers shall be notified when an operating order (clearance, hold order, non-reclose order) is to be released and shall be in the clear. All tools, temporary grounds and other equipment shall be accounted for before giving-up dispatcher or operator clearance.

7.40 Grounds under the control of the dispatcher or operator shall be removed only under their instructions and before the apparatus is returned to service.

7.41 When lines or equipment that may become energized from any source rated 600 Volts or more to ground have been removed from

service to perform work on them, all phases shall be grounded; or where grounding is impractical, other precautions are taken to insure there is no possible energy source, including lightning and/or induced voltage; or the work shall be performed as though the equipment were energized. Before grounding the phases a test for voltage shall be made. Grounds may be removed for equipment testing purposes, but work on the equipment not associated with test shall be stopped until the equipment is grounded. On lines and equipment rated 34.5kV and above, single-phase grounding at the work location is permitted if the clearances specified in Table 6.03 are met for the phases not being worked on.

7.42 When grounding lines or equipment, the grounding cable shall be connected at the ground end first and to the equipment last. When removed, the grounding cable shall be disconnected from the equipment first and from the ground last. Live-line tools shall be used for making and removing the connection to lines or equipment.

7.43 Whenever possible, a ground shall be placed at the point of work. When grounding at the point of work creates congestion and is a hazard to workers, grounds shall be placed on each side as near as possible to where the work is being performed.

7.44 When working on underground parts energized greater than 5 kV, where contact may be made with energized cables or equipment, workers shall wear appropriate Personal Insulating Protective Equipment (PIPE) and stand on an insulated rubber mat, blanket or platform.

7.45 Rubber gloves rated for the appropriate primary voltage shall be worn when opening any primary underground enclosure such as a pad mount transformer. Rubber sleeves shall be added if the enclosure is known to be of the "live front" type.

7.46 Before connecting portions of an underground open loop, it shall be determined that the separate sections of the loop are of the same phase relation.

7.47 When testing with high-voltage test equipment, the area of the test shall be barricaded with rope, tape or other means to warn personnel.

Bare Hand Work

7.48 The automatic reclosing feature of the circuit-interrupting device shall be made inoperative before working on any energized line or equipment.

7.49 Do not perform work during the progress of an electrical storm in the immediate vicinity.

7.50 Prior to starting work each day, an electrical potential test shall be performed on the insulating support of the aerial lift device. The aerial lift device shall be barricaded and grounded

during the test and bare hand procedure. This test shall be repeated whenever changing to higher voltage circuits and when changed conditions indicate a need for additional test.

7.51 Workers shall attach bonding cable by use of live-line tools to the energized conductor upon which work is to be performed. The connection shall remain attached to the energized conductor until the work is completed.

7.52 Workers bonded to, or in the act of bonding to, or leaving an energized part shall not go or take any conductive object within the distances listed in Table 7.52 from any unprotected grounded structure or grounded equipment or any unprotected energized equipment to which they are not bonded or to which they do not intend to become bonded.

Table 7.52

Nominal System kV (Phase-to-Phase)	Minimum Approach Distance	
	Phase-to-Ground Feet-Inches	Phase-to-Phase Feet-Inches
0.05 – 1.0	Avoid Contact	
1.1 – 15.0	2 – 1	2 – 2
15.1 – 36.0	2 – 4	2 – 7
36.1 – 46.0	2 – 7	2 – 10
46.1 – 72.5	3 – 0	3 – 6
138 – 145	3 – 7	4 – 11
345 – 362	5 – 9	9 – 2
500 – 550	9 – 11	16 – 4
765 – 800	13 – 9	22 – 11

7.53 When working by the bare hand method, buckets of aerial lifts shall not be considered as insulation.

7.54 During bare hand work, clean, dry and approved nonconductive hand lines may be used from conductor to ground. No hand line shall be used between buckets, booms and ground while the aerial lift is bonded to an energized part (this is to prevent accidental separation of the bonding cable).

7.55 Arm leakage current readings shall be taken during each potential test and the leakage current shall not exceed on microampere per kV of line to ground voltage as illustrated in the following table. If the meter shows a gradual increase in current so that within three minutes the current is double the initial value and is still rising, the test shall be discontinued immediately and the cause corrected before repeating the test.

Table 7.55

Nominal System Voltage	34.5 kV and below	69 kV	138 kV	345 kV	500 kV	765 kV
Maximum Arm Current Microamperes	21	42	85	210	318	462

E 8.00 Electrical Equipment Safety

8.01 All non-current carrying metal parts of energized electrical equipment not properly grounded shall be considered energized at the highest voltage to which they may be subjected.

8.02 Cables energized above 600 volts shall not be stepped on even though they are encased in a sheath.

8.03 Energized cables, which are to be moved, shall be inspected for defects prior to being moved. Underground cables rated in excess of 600 volts shall not be bent or re-racked while energized. Cables terminated in separable connectors of the load break type may be moved as required with proper live-line tools to switch an energized circuit, provided proper "parking" stands or other suitable methods are used to insulate the cable end.

8.04 Where a cable in a manhole has one or more abnormalities that could lead to or indicate an impending fault, the defective cable shall be de-energized before an employee may work in that manhole.

8.05 A ladder or other climbing device shall be used to enter and exit a manhole or subsurface vault exceeding 4 feet in depth. No employee shall climb in or out of the space using cables or hangers for footing or support.

8.06 Temporary grounding cable shall be flexible-stranded conductor of sufficient current

carrying capacity to activate protective devices without damage to the cable, but not less than No. 2 Copper. They shall be equipped at both ends with clamps that apply firm pressure, have an adequate ampacity, and one of the clamps being of a type that can be applied with live-line tools.

8.07 Before starting work on transformers, the possibility of unplanned back-feed, abnormal voltage, or other dangerous conditions shall be eliminated.

8.08 Workers shall never open a current transformer secondary when the current transformer is connected to the primary.

8.09 Workers shall not short-circuit secondary circuits of potential transformers when the potential transformer is connected to the primary.

8.10 The transformer case and bushings shall be grounded while oil is being transferred or the transformer is under vacuum.

8.11 Bayonet fuses in transformers shall only be removed and installed with a live-line tool on energized systems. The pressure relief valve shall be operated before removing any oil submersed fuses.

8.12 All capacitors shall be treated as energized until proven otherwise. Before work is performed on static capacitors, they shall be de-energized, tested de-energized after waiting five minutes and all terminals, cases and frames

shall be grounded. Static capacitors not in service shall have a shunt installed between terminals or terminal and case.

8.13 Voltage regulators shall be operated to the neutral position, verified by two (2) approved methods to be in the neutral position and the control circuit made inoperative before they are bypassed.

8.14 Metals and insulating compounds shall be kept in such a manner as to prevent risk to the employees working in manholes or vaults and to vehicular or pedestrian traffic.

8.15 When using solder or compound pots, a barricade shall be erected around the furnace to prevent the pots from being knocked over. Do not place solder or compound pots near a manhole opening.

POWER GENERATION

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POWER GENERATION

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P 1.00 General

1.01 Visitors or unqualified workers shall be accompanied by a qualified employee in the facility and around Company properties.

1.02 All employees entering an attended facility, except employees on regular work shift at such facility, shall immediately report their presence or purpose according to plant procedure. When leaving an attended facility, these employees shall report their departure from the plant site.

1.03 All employees while at a facility shall wear approved personal protective equipment appropriate for that location and work task. Footwear shall meet ASTM F2412 and F2413/ ANSI Z.41 applicable standards with a C-75 rating, and no athletic style shoes shall be allowed. Refer to site-specific hazard assessments.

1.04 It is the policy of AEP to comply with all applicable federal, state and local regulations, ordinances and laws regarding smoking in the workplace. Smoking, as a fire prevention practice, is prohibited in areas where flammable gas/vapor/ dust and air mixtures may potentially exist and any other areas where exposed combustible materials could be ignited. Additional information can be found in various AEP Safety and Health Policies, site-specific guidelines for guidance of smoking, and AEP Employee Handbook.

1.05 Employees shall be trained and educated in the Company's Policies, operating procedures, and emergency measures applicable to the work before commencing such work. If an employee finds a condition that is beyond their ability to handle safely, the employee shall call for assistance.

1.06 Work involving regulated substances such as asbestos, arsenic, lead, mercury, etc. shall be conducted according to established programs.

1.07 While working in areas exposed to falls into water, employees shall wear U.S. Coast Guard-approved personal flotation device (i.e. life jackets, work vest) and have a ring buoy with 90 feet of line present, unless fall protection is utilized for the entire duration of the job. Additional PPE may be warranted and used in accordance with site-specific hazard assessment.

1.08 Whenever it becomes necessary to change the complement of the crew or supervisor during the job, the job shall progress only after the crew and/or supervisor have been fully informed of existing conditions.

1.09 (This space intentionally left blank)

P 2.00 Clearances

2.01 Regardless of the type of system or equipment, when energy control is required, a clearance permit shall be obtained before beginning work in accordance with the AEP Clearance Permit Process.

2.02 The only tags that may be used for energy control are clearance permit tags. Informational tags, "Caution" tags, etc. are not associated with the clearance permit process and are for informational purposes only.

P 3.00 Fall Protection

3.01 Any floor or wall opening that exposes an employee to a 4 foot fall hazard, or greater, shall be guarded in accordance with the Power Generation's Fall Protection Program.

3.02 Whenever exposed to potential fall 6 foot or greater, an approved fall arrest system or other means to protect from falls shall be used in accordance with the Power Generation's Fall Protection Program.

3.02.1 Exception: when climbing, working from, or descending ladders less than 30 feet in height and maintaining a three point contact.

3.03 Fall protection systems or their components subjected to impact loading shall be immediately removed from service and not used again until inspected by a competent person.

3.04 (This space intentionally left blank)

3.05 Fall protection or guardrail system for heavy equipment, trailers, or other vehicles where inspection, servicing, or work activities could contribute to fall greater than 6 foot shall be provided.

P 4.00 Confined Space

4.01 When entering any confined space, employees shall follow AEP Confined Space Procedure.

P 5.00 Manlifts

5.01 Employees/visitors shall be trained in the proper use of belt manlifts before using and shall observe all safety rules.

5.02 When riding belt manlifts, users shall face the belt, stand squarely on a step and grasp the handhold securely.

5.03 Employees shall not carry anything on a manlift step (tools, materials, equipment, etc.) unless it fits securely in a pocket.

5.04 If a manlift stops, it shall not be restarted until everyone is in the clear. All malfunctions shall be reported immediately.

5.05 All guards and gates to access manlifts shall be maintained so as to protect people from falls including maintaining gates in closed position.

5.06 The posted limits shall not be exceeded.

P 6.00 Cranes, Derricks, Hoisting Equipment

6.01 Only qualified, trained, and authorized persons shall operate hoisting equipment.

6.02 No person is permitted to ride the hook, sling or load of any hoisting equipment.

6.03 Load charts shall be maintained in the cab and utilized according to the manufacturer's guidelines.

6.04 Always follow operating and maintenance procedures specified by the manufacturer.

6.05 In addition to annual/periodic inspection requirements, the following checks shall be made daily before using hoisting equipment:

6.05.1 All control mechanisms and limit switches for proper adjustment.

6.05.2 All safety devices.

6.05.3 Deterioration or leakage in air or hydraulic systems.

6.05.4 Hooks, slings and load attachment devices.

6.06 For the first lift of each day, the load shall be test-lifted and the trolley and load brakes checked (load lifted and lowered several inches and move trolley).

6.07 All rigging shall be inspected for each load to ensure integrity, sufficient strength, proper type, and safe condition. Re-adjust as necessary to insure safety and stability.

6.08 Signals to the equipment operator shall be given by one person trained and designated to perform this task. However, the operator shall obey a "Stop" signal given by anyone.

6.09 Audible signals must be sounded before starting and repeated during travel of the overhead

cranes. Exception: Floor Operated Cranes not equipped with audible signals.

6.10 Employees shall not stand under a suspended load, inside the angle of a winch line, or stand/work near a cable, chain or rope under tension (Line-of-Fire) unless the nature of the work requires it. Only authorized personnel, in compliance with the AEP Barrier Tape and Flagging Policy, shall be permitted in an area where cranes, derricks, or hoisting equipment is in use.

6.11 Employees shall not guide winch lines, ropes or wire cables by hand when standing within reach of the drum or sheave.

6.12 Wire-rope loops shall be made by proper splicing or mechanical clamping of the tail section, wire rope clips shall not be used to form eyes in wire rope bridles or slings. Do not use knots in wire rope for any purpose.

6.13 Never leave the controls of cranes, hoists, derricks or other lifting devices unattended while the load is suspended.

6.14 (This space intentionally left blank)

6.15 Do not use cranes, derricks and hoisting equipment to make a side pull unless specifically authorized by facility management.

6.16 The hoist chain or cable shall be free from kinks or twists and shall not be wrapped around the load. The load shall be attached to the load block hook by means of slings or other approved devices.

6.17 Crane operators shall not move a crane load over workers, and workers shall not walk under a suspended load. When starting the bridge and when the load or hook approaches personnel, the warning signal shall be sounded.

6.18 When it is necessary for the operator to leave a crane while it is still hooked to a load, the load shall be lowered and provisions to prevent unintentional operation shall be implemented.

6.19 The operator of a radio-controlled crane shall operate the crane only when the bridge and hook are in the operator's unobstructed view or otherwise directed by a designated individual as stated in 6.09.

6.20 When a radio-controlled crane is not in use, the control transmitter shall be switched off and provision implemented to secure the control transmitter so as to prevent its operation.

6.21 Before a series of radio controlled crane operations is attempted, a check of all radio control functions shall be made. If a malfunction is observed, the radio control shall not be used and the operator's supervisor shall be notified of the malfunction.

6.22 When radio controls are used on a radio controlled crane, means to prevent the operation of other control devices such as the pendant control box to ensure dual operator control is not possible.

6.23 Before any maintenance work is performed on the radio transmitter, proper equipment clearance shall be obtained.

Gantry Cranes

6.24 The rail clamps and wheel brakes must shall be applied at all times when gantry cranes are not in use.

6.25 Gantry cranes shall be installed with bumpers.

6.26 The rated load of crane, hoist, and load block shall be so marked that it is legible from the ground.

P 7.00 Hydro

The following safety rules are particularly pertinent when working around hydro equipment.

7.01 Boats shall not be operated in the immediate vicinity of spillways and weirs while water is being spilled.

7.02 When the task requires employees to work on the crest or inclined surfaces of a dam or spillway, they shall be protected by approved fall protection with appropriate anchorage points.

7.03 While the trash rake is either raising/ lowering or traversing, the operator should be the only person on the rake-operating platform. All other workers shall stand in the clear or in a position noted in the operating instructions.

7.04 Boats shall not be operated in the immediate vicinity of spillways and weirs while water is being spilled.

7.05 Entry into water passages, such as penstock, spiral case, and draft tube, shall be in compliance with the Access Door Entry Policy.

P 8.00 Chemical General

8.01 Entry into a chemical tank or vessel, shall be made in accordance with the AEP Confined Space Procedure.

8.02 (This space intentionally left blank)

8.03 Chemical spills shall be neutralized and/or absorbed with approved materials. Potential environmental, health and safety consequences shall be considered when containing chemical spills. (HAZWOPER Training, etc).

8.04 When handling acids, caustics or other corrosive, or toxic chemicals, approved gloves, aprons, eye and face protection and appropriate respiratory protection shall be worn as required by the PPE Hazard Analysis.

8.05 When mixing acid or caustic with water, pour the acid or caustic into the water, not the water into the acid or caustic.

8.06 When mixing small quantities of solution that liberate excessive amounts of heat, a heat-resistant container with a capacity at least twice the amount of solution shall be used.

8.07 When handling materials producing toxic or corrosive vapors or gasses, adequate ventilation and proper personal protective equipment shall be used. Contact with skin or clothing and the breathing of vapors must be avoided.

8.08 All small chemical containers, such as bottles or jars, shall be washed thoroughly when emptied. Carboys, steel drums, tank trucks or tank cars shall not be washed but shall be drained of chemicals before returning to the supplier.

8.09 Areas where acid or other chemical cleaning is to be conducted shall be barricaded by suitable means and no smoking or open flames shall be permitted. Where there is a danger of accumulated hydrogen, open flames and smoking are prohibited and spark proof tools must be used.

8.09.1 NOTE: Certain acids in contact with metal produce explosive hydrogen.

8.10 Should any acid, caustic or other chemical come in contact with the eyes, administer first aid as appropriate for the specific chemical.

8.11 Before lifting or moving a carboy or other chemical container examine it carefully to see that it is not in a leaky or defective condition. Check the wire holding the carboy stopper in place to see that it has not corroded and that the stopper is secure. Make all movements slowly to avoid excessive agitation of the chemical.

8.12 Prior to unloading a tank car or tank truck of chemicals, gauge the chemical storage tank to verify if there is adequate space inside the tank to contain the chemical being added without over flowing.

8.12.1 When tank cars or trucks are unloaded, warning signs shall be prominently posted and barricades placed to warn all personnel.

8.13 Bulbs or vacuum lines shall be used for pipetting chemicals.

8.14 Each facility shall have a site-specific procedure for chemical cleaning.

8.15 Emergency eye and body wash stations shall be tested at least monthly when work activities may result in exposure, and before unloading chemicals.

Chemical Storage

8.16 All chemicals of any quantity shall be kept in an approved and prominently labeled container.

8.17 Flammable/combustible liquids, including most aerosols, generally are to be stored in approved flammable liquid storage cabinets or rooms, with doors closed and secured. Containers shall be located away from heaters, steam pipes, or other sources of heat. No more than three (3) storage cabinets are to be in any given storage area.

8.18 (This space intentionally left blank)

8.19 Appropriate warning signs shall be posted around chemical storage areas.

8.20 Acids and caustics or other incompatible chemicals shall not be stored in the same cabinet.

8.21 When pouring/pumping gasoline or other flammable liquids from one container to another, maintain metallic contact between the pouring and receiving containers using grounding and bonding procedures.

8.22 (This space intentionally left blank).

Chlorine

8.23 All handling, storing, transporting and use of chlorine shall be done in accordance with the AEP Chlorine Use Policy.

8.24 Any location using chlorine shall develop written emergency procedures and shall be reviewed on an annual basis with all applicable employees.

8.25 Only HAZWOPER educated/trained personnel may respond to a chlorine emergency situation.

8.26 Repair kits approved by chlorine cylinder manufacturer shall be used and stored in the immediate area and should only be used for their intended purpose. Employees shall be familiar with the kits, their usage and limitations.

P 9.00 Coal & Material Handling

Mobile Equipment

9.01 (This space intentionally left blank)

- 9.02 When fuel has been spilled or overfilled onto equipment, it shall be promptly cleaned up.
- 9.03 (This space intentionally left blank)
- 9.04 Before operating mobile equipment, perform a walk around inspection and pre-operational check.
- 9.05 Before starting mobile equipment engines, make sure all controls are in "neutral" or "park."
- 9.06 Maintain a three-point contact when getting on and off equipment. Jumping from vehicles is prohibited.
- 9.07 All mobile equipment shall be operated at a safe speed for existing conditions.
- 9.08 Mobile equipment equipped with hot work equipment (welding, cutting, etc.) and those with hydraulic operated equipment (such as dozers, front end loaders, pans, cranes, etc.) shall be equipped with a fire extinguisher.
- 9.09 Mobile equipment shall be parked on level ground with parking brake applied. Vehicles with engaged (operating) power take offs (PTO's), shall also chock the wheels. Trailers, not connected to a vehicle, shall have wheels chocked.
- 9.10 Before dismounting mobile equipment, hydraulic implements shall be lowered, the brake set, the transmission disengaged, and all controls placed in "park" or "neutral" position.

9.11 Employees operating and riding in vehicles shall be seated and secured by a seat/safety belt.

9.12 (This space intentionally left blank)

9.13 The operator of heavy equipment shall not enter or cross a haul road or highway without first stopping and looking in both directions to determine if it is safe to do so.

Coal Handling

9.15 Smoking, non-dust proof electrical equipment (i.e. lighting, tools, appliances, etc.), and open flames shall not be permitted in areas where there is the possibility of coal dust in suspension or explosion potential.

9.16 Preferred methods to clean in coal handling facilities is washing using water or by vacuum. If compressed air is used, then used in a manner not to create a coal dust in suspension that can result in a dust explosion and must be regulated to less than 30 psig and with a non-sparking tip.

9.17 When in the vicinity of coal pile fires, take care to avoid sinking into the fire area. Coal pile fires may cause voids below the surface. Also, agitating a coal pile fire area can aggravate the fire, causing it to flash. Do not exit the cab of the heavy equipment and keep vehicle door and windows closed.

9.18 When observing how coal is feeding from a surge pile, it should be done from the conveyor structure or other means to avoid exposure to potential risks of entrapment, engulfment, or falls.

Conveyors and Crushers

9.19 Stay clear of conveyors as they may start at any time. An audible alarm or warning shall be sounded prior to starting conveyors.

9.20 Riding on or transporting tools and equipment on a conveyor belt is forbidden.

9.21 Conveyors shall not be operated unless safeguards and/or covers are in place. Pulley guards or covers may be removed for tracking or testing as long as a person is stationed at the site and barricades are placed to prevent inadvertent entry.

9.22 Precautions shall be made to maintain the walkway free from coal, grease, coal dust and loose objects , hoses, to prevent slipping, tripping, and fires.

9.23 Belt conveyors shall be equipped with emergency stop cords for their entire exposed lengths. Emergency stop switches and pull ropes shall be checked at least annually and maintained in good condition.

9.24 Employees shall not break the vertical plane of the conveyor with any part of your body in an attempt to clear a blocked conveyor belt or loosen any material on the conveyor without obtaining appropriate clearances.

9.25 Do not clean around conveyor rollers while belt is in operation.

9.25.01 Exception: When using wash down hose at a safe distance.

9.26 Conveyor may be greased with conveyor operating in accordance with job hazard analysis.

9.27 Conveyor belts shall only be crossed at catwalks going around the head end, tail end or where passageways are provided.

9.28 Do not pass hand tools or equipment such as hose, scraper, shovels, etc., over a belt while conveyor is in motion.

9.29 (This space intentionally left blank)

9.30 Employees shall not work inside pulverized fuel equipment until it has been thoroughly purged or the coal dust has been wetted down with water and a clearance permit and confined space permit is obtained.

Coal Barges and Docks

9.31 All employees engaged in moving, docking or unloading coal barges shall assure common understanding of communication methods and signals (radio, hand, or other method). Appropriate protection to avoid falls due to unexpected movement or bumps shall be made.

9.32 Employees shall not work under a moving clamshell, crane boom or barge unloader bucket.

9.33 Employees shall not enter a barge that is being loaded or unloaded unless in full view and knowledge of the crane operator, signaler or barge unloader operator and then only following the confined space procedure.

9.34 Employees shall carry rigging or other equipment on the outboard shoulder so that it can be dumped overboard in case a bump or sudden movement should cause you to lose balance.

9.35 Employees shall carry a light and watch out for tripping hazards while working on barges and docks at night.

9.36 (This space intentionally left blank)

9.37 Employees shall step over, not on, a line (wire rope, rigging) whether it is in use or not and never stand in the bight of a line.

9.38 Keep hands clear of the bight when placing a line over a timberhead, button, or like device.

9.39 Whenever a line is not within easy reach, it should be retrieved with the aid of a pike pole.

9.40 Employees shall not straddle a ratchet when tightening barge lines and shall operate the ratchet lever from the inboard side whenever possible.

9.41 When equipment is operated on inland waterways, the U.S. Coast Guard "Inland Rules of the Road" shall be observed.

P 10.00 Railway Operations

10.01 The yard supervisor or other designated supervisor shall ensure that all crew members concerned with the operation of plant railroads are qualified for the work assigned and are fully informed of all switching and other work in progress.

10.02 Employees shall not mount/dismount locomotives when in motion, shall not ride between cars or the locomotive and cars, and shall not jump from one car to another or from the locomotive.

10.03 Employees shall not ride on footboards mounted on the front or rear of locomotives. Side mounted footboards offering longitudinal protection and lateral access will be permitted.

10.04 (This space intentionally left blank)

10.05 Before moving a locomotive, the operator shall give a proper warning (car dumper excepted). A warning shall also be sounded when approaching a crossing, when passing cars on an adjacent track, or when passing any structure obscuring the operator's vision.

10.06 Locomotive operators, switchmen or brakemen shall use adequate signaling devices and standard signals when working in conjunction with each other. If a signal is not understood the train shall stop and no further action taken until clarification is made.

- 10.07 (This space intentionally left blank)
- 10.08 When a locomotive is required to pass through the car dumper, the locomotive operator shall obtain permission from the car dumper operator before proceeding through the dumper.
- 10.09 Employees shall not perform work (except testing procedures) on locomotives while they are moving.
- 10.10 Do not operate locomotives at unsafe speeds. Keep the train under control at all times.
- 10.11 Whenever locomotive engines are shut off, the hand brake must be set on the engine or the wheel securely chocked in mechanical retarders.
- 10.12 Employees engaged in switching or dumping cars must not line up draw heads with their feet. and shall not shift draw heads or knuckles while locomotives or cars are in motion.
- 10.13 (This space intentionally left blank)
- 10.14 Employees shall not walk, stand or sit on tracks except when necessary for the proper performance of duty. Only cross tracks at a safe distance from cars or locomotives.
- 10.15 Employees shall not go between cars in motion or go between or crawl under cars on car dumper or shaker tracks for the purpose of crossing the tracks.
- 10.16 Before going under or between cars or engine to make inspection, repairs or adjustments,

blue flag/light shall be displayed at both ends of the equipment to indicate that workers are present and that it is not to be coupled or moved. Where necessary, derailleurs or other similar devices shall be placed to protect the workers and equipment beyond the designated stopping point.

10.17 When shoving cars, the operator shall protect the front end of the train.

10.18 When a car is spotted for unloading, on other than level ground, it shall be held in place by approved blockers in addition to setting the brakes.

10.19 When a string of cars has been separated at a crossing or walkway, they shall not be recoupled unless the switchman or brakeman is at the crossing. Use only approved car movers for moving cars by hand.

10.20 Companionways and catwalks shall be kept free of tools and materials.

10.20.1 Do not spot cars where they will foul another track.

10.20.2 Emergency safety key-switches and pull-ropes shall be checked frequently and maintained in good condition.

10.20.3 Pulley drives, gearing, motor couplings and idlers at sealing strips must be adequately guarded.

10.21 Uniform hand signals shall be posted and available to all employees and all train

crewmembers shall be thoroughly familiar with such signals.

10.22 If there is a possibility of rollback when cars are spotted, hand brakes shall be set. Where necessary, approved chocks shall be used in addition to hand brakes.

10.23 When controlling the movement of a cut of cars by use of the locomotive brakes, the brakes should be applied gradually to allow the slack to be properly taken up and prevent sliding of the engine wheels.

10.24 The practice of jerking a cut of cars to get it started or fully applying the brakes to stop a cut without allowing the slack to adjust should be avoided.

10.25 Before going between standing engine or cars to couple or uncouple, employees must:

10.25.1 Guard against unexpected movement;

10.25.2 Wait until slack is adjusted;

10.25.3 If cars are on a grade, be sure that they are properly secured.

10.26 Employees shall use a lift lever to uncouple cars. If lift lever is inoperative, give proper stop signal, cross over and use lever on other car.

10.27 A signal to move locomotive or car shall not be given while an employee is between cars or between engine and car.

10.28 When stepping from between cars, be on the lookout for equipment moving on adjacent tracks.

10.29 Do not uncouple an air hose under pressure.

10.30 When operating switches, face in the direction of the train, and keep clear of the movement of the switch lever. The switch points shall be verified for proper operation before instructions for movement are given. Keep hands and feet clear of the switch lever and/or ball.

10.31 (This space intentionally left blank)

10.32 Coal cars shall not be moved when employees are working inside.

10.33 When approaching track crews or other workers, blind curves, roads, walkways or building openings, the engineer shall reduce speed and give warning by whistle or bell.

10.34 Standard "Railroad Crossing" signs shall be erected at all places where plant railroads cross roads and walkways on company grounds.

10.35 Cars left on any track shall be left inside the clearance points and secured by hand brake.

10.36 Before coupling onto or moving cars where loading or unloading operations are performed, be sure that there are no persons in, under, or between the cars, and everything is in the clear.

10.37 Employees shall not sit or step on rails, switches, frogs, guard rails, interlocking devices,

or connections, nor lean against standing cars or engines.

10.38 Employees shall use only authorized paths or routes to yards, shops, stations, etc. Stepping or jumping across ash pits or other openings should be avoided.

10.39 Employees shall keep a safe distance from passing cars to avoid being struck by falling objects or protruding equipment.

10.40 When boarding a locomotive, employees shall use the side or rear steps.

10.41 The following whistle signals shall be employed in the operation of yard locomotives:

10.41.1 Warning - one blast

10.41.2 Move Forward - two blasts

10.41.3 Move Backward - three blasts

P 11.00 Mechanical

11.01 Motors being run shall have a suitable guard over the exposed shaft unless a magnetic center alignment is being performed, and then only when certain precautions are taken such as; barricading area. The motor frame shall be grounded.

11.02 (This space intentionally left blank)

11.03 Before positioning heavy equipment such as a generator field, turbine exhaust hood, or shell on a floor, and any cribbing being used as

support it shall be ascertained that the maximum permissible floor loading shall not be exceeded.

11.04 Striking wrenches shall be firmly held against the nut in the direction it will be driven.

11.05 Deslagging of steam generator/boiler shall be completed as required to ensure safe working conditions prior to commencing maintenance activities.

11.06 Work, such as welding, cutting, and grinding on pressure parts that are being hydrostatically tested above atmospheric pressure, shall be discontinued. Only authorized personnel, covered by the Clearance/Confined Space procedures, shall enter the boiler or steam generator while the test is in progress.

11.07 Whenever electric arc welding is to be done from or near suspension scaffolds or sky climbers special precautions shall be taken.

Additional information can be found in the AEP Scaffolding Safety-Suspended Policy.

11.08 Employees shall use hoses that are in good repair and approved for the intended use.

11.08.1 Air or water hoses may not be used for steam.

11.08.2 Steam hoses must be insulated sufficiently to avoid burns.

11.08.3 Hose pressure limits are to be marked on hoses and shall not be exceeded.

11.08.4 Hoses shall be approved for application. Fire hoses are prohibited in non-fire protection applications.

11.09 (This space intentionally left blank)

11.10 Only non-sparking tools shall be used in hydrogen areas.

11.11 Wash chemical pumps externally or clean them in another approved method before repacking or performing maintenance work.

11.12 When disconnecting, blowing down or draining piping or tubing, employees shall take the appropriate action to prevent fluids from contacting electrical equipment.

11.13 Before removing any covers from pressurized equipment, the internal pressure shall be released so that no pressure differential exists. Bolts, nuts or other fasteners shall be loosened but not removed until it is certain that pressure does not exist.

11.14 Employees shall stay clear of pressurized oil, water, steam or air escaping from ruptured lines or fittings.

11.15 Employees shall wear appropriate personal protection and stand to one side when using an air gun or water jet to clean tubes. No one shall be at the opposite end of tubes being cleaned and the area shall be barricaded.

11.16 Appropriate fall protection or other means shall be used to protect all work areas where

gratings floor coverings, doors, hatches, and similar protection have been removed.

11.17 When working on or above open grating, use a suitable covering to cover the grating in order to prevent tools or material from dropping to a lower level.

11.18 Work shall not be conducted on safety valves that are not isolated while boiler is under pressure except while testing. Employees shall not work near safety valves that do not have appropriate vent lines directed away from work areas.

11.19 (This space intentionally left blank)

11.20 Employees shall not work near the discharge area of a pressurized safety valve.

11.21 Safety valve gags should be removed before firing boiler. Refer to boiler codes for safe operation.

11.22 Before repairing a boiler or other high pressure gauge glass, close the upper and lower shut off valves and open the drain to release the pressure. Before placing a high pressure gauge glass in service, wear appropriate personal protective devices and place yourself so that if the gauge glass should rupture, you would not be in direct line of discharge.

11.23 Employees shall be removed from furnace or ductwork gas passes before starting fans. After fans stabilize, entry into boiler and associated ductwork may occur based on the hazard assessment.

P 12.00 Facility Operation

12.01 All plant safety devices such as safety valves, relief valves, fuel-tripping devices, auxiliary tripping relays, interlocks and alarms shall be tested as required by manufacturer and/or circular letters.

12.02 Only authorized personnel wearing appropriate PPE as determined by the job hazard analysis are permitted to open inspection ports/doors when that steam generator/boiler is in operation. Secure all inspection ports in a closed position before leaving the area.

12.03 (This space intentionally left blank)

12.04 (This space intentionally left blank)

12.05 Water boxes must be isolated, drained and clearance secured before employees enter. Reference the following procedures as applicable: AEP Confined Space Procedures, AEP Access Door Entry Procedure, and Condenser Entry and Legionella Bacteria Exposure Guidelines.

12.06 Any generator or other vessel containing hydrogen shall be purged before entering; first with CO₂, then with air and then the atmosphere shall be tested before entry is made. A sufficient quantity of CO₂ shall be available to the purge header at all times to purge the hydrogen from the generator. **Additional information can be found in the AEP Confined Space Policy.**

12.07 Any generator or other vessel containing air shall first be purged with CO₂ before hydrogen gas is admitted.

12.09. If hydrogen seal oil pressure is lost and cannot be immediately restored, the hydrogen shall be purged from the generator.

12.10 Smoking is not allowed in the immediate vicinity of any hydrogen equipment.

12.11 Hydrogen lines located inside plant building areas shall be marked yellow with black legends.

12.12 Before boilers and auxiliary equipment are closed for operation, they shall be examined to assure that all personnel are out. **Additional information can be found in the Access Door Entry (ADE) procedure.**

P 13.00 Electrical

General

13.01 Maintenance, repair and construction work on electric circuits or apparatus shall not be started until it has been properly assigned, existing conditions determined, safety precautions assured and clearly understood to the extent necessary by each employee. Where instructions must be given by telephone or radio, each speaker shall be satisfied of the identity and authority of the other person.

13.02 Any tank, case, frame or structure associated with an electrical installation that is not grounded during normal operation and not protected by location or barrier, shall be clearly marked "Danger Energized."

13.03 Circuit isolating devices, such as safety switches, that are not capable of interrupting load current shall be clearly marked: "Do Not Open Under Load".

13.04 All employees, who are using the operating handles on air break switches and disconnects on energized lines and equipment shall use protective headgear, insulating gloves and fire retardant clothing, in conjunction with the location's Job Hazard Analysis.

13.05 Safety interlocks, protective devices, and protective schemes shall not be defeated except by authorized personnel as dictated by the Clearance Permit System.

13.06 Before high potential testing, the area around the equipment shall be cleared and barricaded to prevent anyone from entering the area and precautions shall be taken to warn people of the test in progress. The remote ends of cables and buses shall be appropriately guarded. Following testing, the equipment shall be grounded to dissipate any stored charge.

13.07 Test leads and jumpers shall be visually inspected before use and maintained in good repair with no loose connections, deteriorated insulation, or broken or deteriorated wires.

13.08 The ground loop continuity of all 120 volts receptacles shall be verified periodically with a suitable test device and rechecked after any repairs.

13.09 The design of new installations or modifications of existing facilities shall be reviewed for safety by appropriate plant personnel.

13.10 Cabinets housing electrical equipment shall not be used for storage.

13.11 (This space intentionally left blank)

Working on or Near Energized Equipment

13.12 The neutral of any energized piece of equipment that is not grounded or any that is grounded through impedance shall be treated as an energized terminal.

13.13 A system neutral or a ground wire shall not be opened until the proposed opening has first been jumpered or bypassed. A Clearance permit shall be obtained on the equipment before working on the grounds. In emergency situations proper protective equipment shall be used when repairing an open neutral or ground wire.

13.14 (This space intentionally left blank)

13.15 Approved test equipment, including test leads, shall be used for testing energized buses, cables, controls and wiring. All test equipment shall be calibrated in accordance with the manufacturer's recommendation or at least yearly.

13.16 When working on or near energized equipment, employees shall keep the required clearance distance, devote their undivided attention to the work at hand, and unnecessary conversation should be avoided.

13.17 When an employee is required to go, reach, or take any conductive object within the minimum approach distances from any energized conductor or equipment; the employee shall be properly protected:

Table 13.17

Nominal System kV	Minimum Approach Distance	
	Phase-to-Ground Feet-Inches	Phase-to-Phase Feet-Inches
0.05 – 1.0	Avoid Contact	Avoid Contact
1.1 – 15	2 – 1	2 – 2
15.1 – 36	2 – 4	2 – 7
36.1 – 46	2 – 7	2 – 10
46.1 – 72.5	3 – 0	3 – 6
72.6 – 121	3 – 2	4 – 3
138 – 145	3 – 7	4 – 11
161 – 169	4 – 0	5 – 8
230 – 242	5 – 3	7 – 6
345 – 362	8 – 6	12 – 6
500 – 550	11 – 3	18 – 1
765 – 800	14 – 11	26 – 0

13.18 When working on equipment and the minimum approach distance in Table 13.17 cannot be maintained, the following shall apply (except when working by the bare hand work):

Table 13.18

50 to 260 Volts	261 to 5000 Volts	5001 to 19900 Volts
Approved rubber gloves Or insulated hand tools	Approved rubber gloves or regularly tested insulated tools	Approved rubber gloves and sleeves or regularly tested insulated tools
50 to 5000 Volts		Greater than 5000 Volts
Approved rubber sleeves are required if the upper arm and or shoulder is exposed to potential contact		Approved insulated work surface shall be used in conjunction with the appropriate class gloves and sleeves while working on voltages greater than 5000 volts.
All Voltages Phase-to-Ground		

13.19 (This space intentionally left blank)

13.20 Electrical protective insulating gloves shall be carefully inspected and air tested before use. If available use mechanical glove inflators to perform this test.

13.21 Personal electrical insulating equipment (PIPE) including gloves, blankets, live line tools, hot sticks, etc. shall not be used beyond their expiration date.

13.22 Electrical protective insulating gloves shall be stored gauntlet down in designated canvas bag or other approved container so not to be damaged from sharp objects or affected by sunlight.

13.23 Flexible blankets shall not be used on the ground without protecting them from physical damage and moisture by means of a tarpaulin,

canvas or protective mat. Blankets shall be stored in special containers or pouches where they will not be subjected to damage from tools or other equipment.

13.24 When personal electrical insulating protective equipment is to be used to comply with Rule 13.17 it shall be put on before coming within reach of the minimum approach distances as specified in Table 13.18 and removed only when out of reach of the minimum approach distances.

13.25 Personal electrical insulating protective equipment as outlined in Table 13.18, shall be used when installing and removing protective equipment or barriers on all conductors of energized circuits, unless the work is to be done with live line tools.

13.26 When working with electrical insulating protective equipment or live line tools and minimum approach distances specified in 13.17 cannot be maintained to energized equipment not being worked on, barriers providing the clearances, insulation, or guards adequate to withstand the voltage, shall be provided.

13.27 When two or more employees are working within reach of each other, they shall not work simultaneously on different phases or on items at different potentials.

13.28 Hot sticks shall be used when operating cutouts and disconnects that are made for hot stick operation. When expulsion-type fuses are installed

on an energized circuit or transformer, the employee shall be clear of the exhaust path of the fuse barrel. Whenever possible, fused cartridges should be installed or removed with fuse sticks or tongs.

13.29 (This space intentionally left blank)

13.30 When lifting or hoisting equipment is being used in proximity to energized lines or equipment, employees shall avoid contacting, entering or leaving the equipment until they determine the proper clearance is maintained and the proper protective devices are employed. The possible effects of the electric field should be considered when equipment is near voltages of 345kV and above.

13.31 The insulation of live line tools and hollow aerial lift arms shall be clean and dry and shall conform to the following table:

Table 13.31

Nominal System kV	Minimum Insulation	
	Feet	Inches
46 and Below	3	0
72.5	3	6
138	4	0
345	9	4
500	12	4
765	17	0

13.32 Live line tools, insulating working supports and electrical guards shall be wiped clean and visually inspected for defects before each use. If a

defect or contamination that could adversely affect the insulation qualities of the tool is found, the tool shall be removed from service until cleaned and waxed; or repaired, refinished and electrically tested before use as required.

13.33 Live line tools that are susceptible to moisture absorption shall have their surfaces kept sealed or other steps shall be taken to ensure that the tools remain dry.

13.34 Live line tools used for primary employee protection shall be removed from service every two (2) years and checked for the tool's insulation integrity. Hollow shaft live-line tools shall be electrically tested every two (2) years. These tests must be documented.

13.35 Protectors and interliners furnished for use with electrical insulating gloves shall be used only with electrical insulating gloves and at no other time.

13.36 (This space intentionally left blank)

Working on De-Energized Equipment

13.37 When determining the de-energized state of electrical equipment or circuits with a test device, check to see that the test device is working before and after use.

13.38 Temporary grounding cable shall be flexible-stranded conductor of sufficient current carrying capacity to activate protective devices without damage to the cable, but not less than No. 2 copper. They shall be equipped at both ends

with clamps that apply firm pressure, have an adequate ampacity, and one of the clamps being of a type that can be applied with live line tools.

13.39 Whenever possible, a ground shall be placed at the point of work. When grounding at the point of work creates congestion and is a hazard to employees, grounds shall be placed on each side as near as possible to where the work is being performed.

13.40 When grounding lines or equipment, the grounding cable shall be connected at the ground end first and to the equipment last. When removed, the grounding cable shall be disconnected from the equipment first and from the ground last. Properly rated electrical protective gloves, arc flash PPE, and hot sticks shall be used for making and removing the connection to lines or equipment. This section does not apply when attaching grounds to vehicles.

13.41 (This space intentionally left blank)

Metal Clad Switchgear

13.42 All doors of in-service switchgear shall be fully closed, and all latches or bolts holding the doors closed shall be in place and tight. All unused cabinet openings shall be covered.

13.43 Arc Flash hood, safety glasses, hard hat, gloves and arc flash coat and approved clothing shall be worn whenever any draw out breaker or starter is being connected or disconnected

from an energized bus to protect from burns. The operator should stand to one side of the breaker cubicle while performing this operation. Remote operation should be utilized when possible.

13.43.01 Electrical Arc Flash Hazard – PPE Selection Table:

PPE	Up to and Including 600 v	Greater than 600 v
8 cal Arc Flash Hood	X	
40 cal Arc Flash Hood		X
8 cal Arc Flash Jacket	X	
40 cal Arc Flash Jacket		X
Leather Gloves	X	X
Hard Hat, Eye Protection, and Ear protection	X	X

13.44 Circuit breakers shall be checked in the open position and the control circuit isolated before removing or inserting them from their connected position. Follow the manufacturer's guidelines for discharging springs while moving a circuit breaker. The closing springs shall be set per the manufacturer's guidelines.

13.45 (This space intentionally left blank)

13.46 If breaker fails to fully open or fully close, the breaker shall be isolated by de-energizing the feed bus.

13.47 If difficulty is encountered when racking a breaker, in or out, the employee shall stop moving the breaker and obtain competent assistance.

13.48 Feed buses shall be de-energized, properly cleared, and grounded prior to cleaning stationary bus stabs. A proper clearance on buses shall include removal of all associated potential transformer fuses and redundant feeds to avoid back feeding.

13.49 When applying grounds to metal clad switchgear, arc flash (hood and jacket) and electrical PIPE (protective electrical insulating gloves and sleeves), live line tools or protective insulating gloves shall be used for making and removing the connection. When space prohibits use of live line tools, insulating protective equipment shall be used to make and remove the connection.

Definition	Up to and include 600 V	> 600 V
8 cal rated Arc Flash Hood and Jacket	X	
40 cal rated Arc Flash Hood and Jacket		X

13.50 Each metal clad switchgear cubicle shall be clearly identified, front and rear, as to the particular circuit it serves. Identification of cubicle shall not be on removable covers unless also clearly identified inside the cubicle. Before removing the rear covers of a cubicle, the employee shall verify and re-verify that this is the correct cubicle.

13.51 All circuit breaker cubicles should be clearly marked on the outside cover where the rear of the cubicle is energized even though the

circuit breaker is racked out. A warning sign shall be provided if the cubicle is fed from two sources.

Motor Control Centers

13.52 The compartment doors shall be kept securely closed when molded case circuit breakers are closed except where necessary for troubleshooting. If it is necessary to operate a starter with door open, for troubleshooting, proper electrical arc flash equipment shall be worn.

13.53 When a molded case circuit breaker is suspected to be defective, the feed bus shall be de-energized before any attempt is made to withdraw the breaker.

13.54 Metal tools or equipment shall not be placed in motor control centers, other than that required in the work.

13.55 Motor control centers shall be de-energized before cleaning.

13.56 Adjacent motor control centers shall be properly labeled, on front and rear, to identify the boundaries of each motor control center.

Transformers

13.57 Before working on transformers equipped with automatic fire protection systems, the system shall be taken out of service when work performed would allow moisture to enter transformers, or when employees are working on top of the transformers.

13.58 Energized, oil insulated electrical equipment shall not have its oil filtered, oil level changed (excluding oil sampling) nor a vacuum pulled.

13.59 When filling, emptying, or lowering insulating oil, ground tanks, pumping and filtering equipment, shielded hoses, receiving vessels and bushings or winding leads on transformers shall be connected to a common ground. This is not required for oil sampling.

13.60 Employees shall assure that the cases of instrument transformers are grounded before working on them.

13.61 Employees shall not open a current transformer secondary when the current transformer is connected to the energized primary.

13.62 Employees shall not short-circuit secondary circuits of potential transformers when the potential transformer is connected to the energized primary and they shall make sure that there is a ground in the secondary circuit before restoring the potential transformer to service.

13.63 (This space intentionally left blank)

Batteries

13.64 Battery rooms shall be well ventilated and room exhaust fans should be in service at all times. Fluid on battery room floors shall be considered hazardous until determined otherwise.

13.65 When making electrolyte for storage batteries, always pour the acid into the water to prevent heat build up and boil over of the solution. Chemical goggles and chemical resistance face shields and other protective equipment required by the job hazard analysis shall be worn.

13.66 Suitable facilities for quick drenching or flushing of the eyes and body shall be provided no more than 10 seconds and/or 100 feet from the hazard.

Generators, Exciters and Motors

13.67 Low voltage gloves and/or insulated tools shall be used when changing brushes on generators and exciters.

13.68 Employees shall not wear loose clothing or carry loose items in pockets when changing brushes.

13.69 Before attempting any collector ring or collector brush maintenance with the main turbo generator out of service, the main generator field ground detector relay and the alternator exciter field ground detector relay shall be isolated by putting the excitation voltmeter switch in the respective test position and tagging.

13.70 Resistance Temperature Detector (RTD) circuits shall be considered energized at full potential until determined otherwise.

13.71 When repairing a motor, steps shall be taken to assure that no mechanical torque can be inadvertently applied to the driven device that will cause rotation.

Cables and Manholes

13.72 Cables energized above 750 volts shall not be stepped on even though they are encased in a sheath. Cables energized above 600 volts shall not be stepped on even though they are encased in a sheath. Tools and materials shall not be allowed to rest against these energized cables.

13.73 All precautions for handling conductors energized above 750 volts shall be taken when handling insulated wires and cables. Conductor insulation shall not be relied upon for protection.

13.74 Energized cables which are to be moved shall be visually inspected for defects, prior to being moved. Underground cables rated in excess of 750 volts shall not be bent or re-racked while energized. Cables terminated in separable connectors of the load break type may be moved as required with proper live line tools to switch an energized circuit, provided proper "parking" stands or other suitable methods are used to insulate the cable end.

13.75 After completing cable work, the cable shall be tagged and identified for location by a sketch and this information promptly forwarded to the person responsible for keeping such cable identification records.

13.76 When using fish tapes to pull conductors, extreme care shall be used to avoid contacting energized equipment.

13.77 When multiple cables are present in a work area, the cable to be worked shall be identified by electrical means, unless its identity is obvious by reason of distinctive appearance or other easily apparent means of identification. The cables in the work area which are not being worked shall be protected from damage.

13.78 Entry into manholes of subsurface vaults will comply with applicable confined space and access door entry (ADE) procedures.

13.79 A ladder or other climbing device shall be used to enter and exit a manhole or subsurface vault exceeding 4 feet in depth. No employee shall climb in or out of the space using cables or hangers for footing or support.

13.80 Where a cable in a manhole has one or more abnormalities that could lead to or indicate an impending fault, the defective cable shall be de-energized before an employee may work in that manhole.

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D 1.00 General

1.01 The information contained herein is intended as a ready reference for frequently used information and includes various charts, tables and diagrams of useful information (especially in the absence of any Manufacturer's Specifications &/or values).

D 2.00 Weights and Measures

2.01 Approximate Wood Pole Weights:

It should be understood that poles, even within the same class, vary in diameter and hence weight. Also, the moisture content of a pole changes under various conditions. Therefore, the weights given in these tables should be taken as average values only, but they can prove sufficiently reliable.

SOUTHERN YELLOW PINE (0.6# CCA/9# Creosote/0.38# Penta- NOTE takes the heaviest weight as guideline)							
Length (ft.)	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7
30	1,224	1,068	924	798	696	606	516
35	1,572	1,368	1,182	1,026	888	768	666
40	1,956	1,692	1,470	1,272	1,104	954	
45	2,358	2,046	1,770	1,536	1,332		
50	3,029	2,696	2,275	1,976	1,710		
55	3,530	3,062	2,652	2,301			
60	4,069	3,523	3,055	2,646			
65	4,622	4,004	3,471	3,016			
70	5,207	4,518	3,913				
75	5,818	5,051	4,375				
80	6,455	5,597	4,849				
85	7,124	6,169	5,350				
90	7,807	6,760	5,863				

WESTERN RED CEDAR (0.38# Penta)						
Length (ft.)	Class H3	Class H2	Class H1	Class 1	Class 2	Class 3
25				750	635	530
30				880	750	645
35				1055	880	750
40				1320	1145	970
45				1585	1365	1145
50				1760	1585	1365
55				2025	1760	1540
60	2800	2600	2500	2290	1935	1760
65	3400	3200	3000	2815	2200	2025
70	3900	3600	3400	3170	2640	2375
75	4500	4200	4000	3695	3170	2730
80	5400	5100	4700	4400	3695	3170
85	5900	5600	5200	4840	3960	3520
90	7100	6700	6200	5810	4930	4225
95	8300	7800	7300	6750	5950	5250
100	9200	8600	8100	7500	6550	
105	10100	9500	8900	8250	7100	
110	11000	10300	9700	9000	7750	
115	11900	11200	10500	9750	8350	
120	12800	12100	11300	10500	9050	
125	13900	13000	12200	11350	9800	

Source: Koppers Company, Inc.

D 3.00 Material Handling

Ropes and Slings:

3.01 The types of ropes referred to in this section are natural or synthetic ropes of the conventional three strand construction.

3.02 Some knots if not properly tied and tightened, before load tension is applied, may slip. To avoid this problem, allow the free ends of all knots to extend at least six inches (minimum

tail length). In addition, check that the knot is tied properly and pull the knot tight before tension is applied.

3.03 Rope and synthetic slings shall be properly cared for to retain strength and lasting quality and shall be inspected before each use.

Splicing Rope:

3.04 All splices in rope slings shall be made in accordance with fiber rope manufacturer's recommendations or the following:

- In manila rope, eye splices shall consist of at least three full tucks, and short splices shall consist of at least six full tucks, three on each side of the splice centerline.
- In synthetic fiber rope, eye splices shall consist of at least four full tucks and short splices shall consist of at least eight full tucks, four on each side of the splice centerline.

3.05 Strand end tails shall not be trimmed flush with the surface of the rope immediately adjacent to the full tucks. This applies to all types of fiber rope and both eye and short splices. For fiber rope less than one inch in diameter, the tail shall project at least six rope diameters beyond the last full tuck. For fiber rope one inch in diameter and larger, the tail shall project at least six inches beyond the last full tuck. Where a projecting tail interferes with the use of the sling, the tail shall be

tapered and spliced into the body of the rope using at least two additional tucks (which will require a tail length of approximately six rope diameters beyond the last full tuck).

3.06 Fiber rope slings shall have a minimum clear length of rope between eye splices equal to ten times the rope diameter.

3.07 Knots shall not be used in lieu of splices.

3.08 Clamps not designed specifically for fiber ropes shall not be used for splicing.

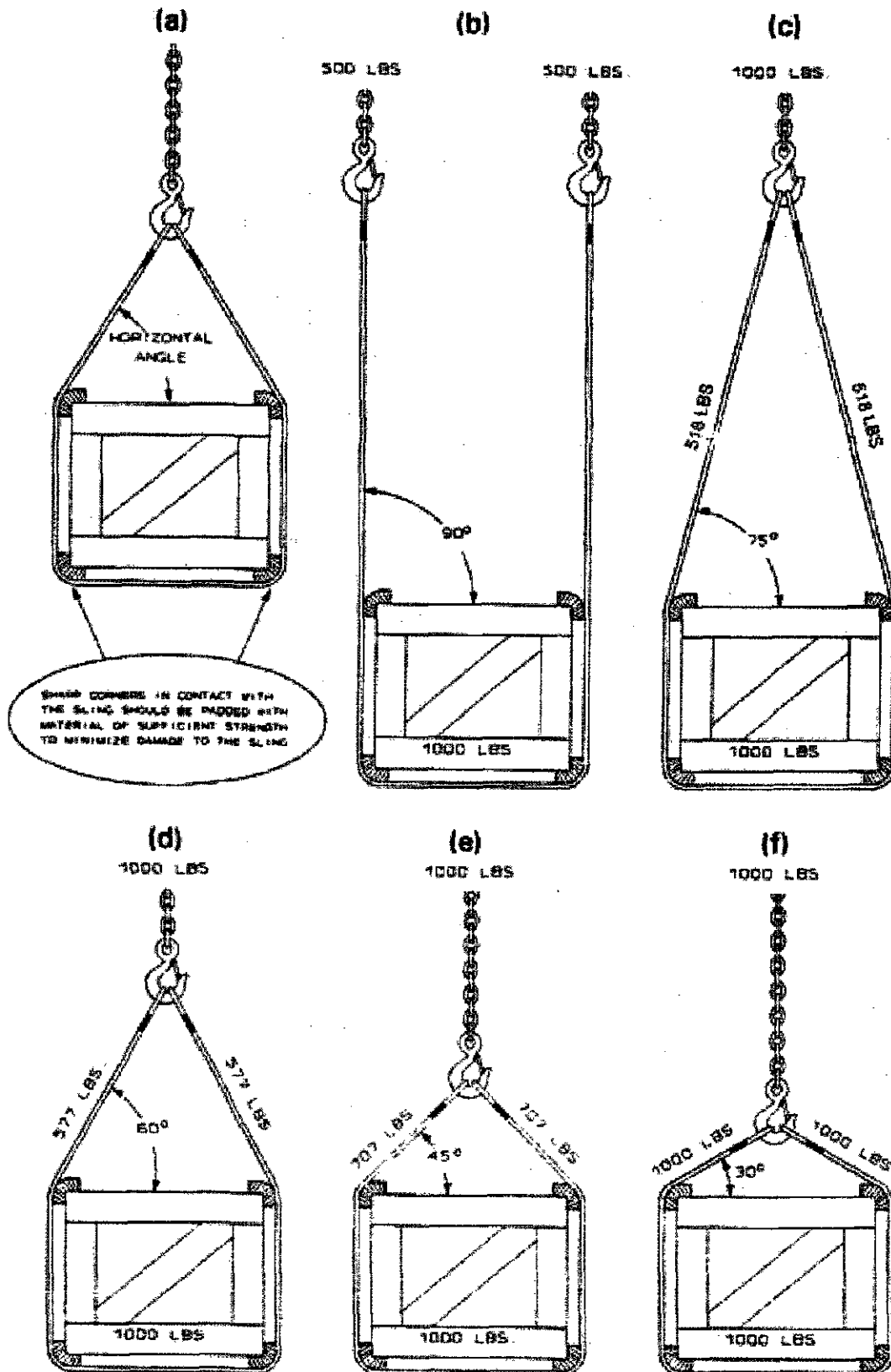
3.09 For all eye splices, the eye shall be of such size to provide an included angle of not greater than 60 degrees at the splice when the eye is placed over the load support.

3.10 Fiber rope slings shall not be used if end attachments in contact with the rope have sharp edges or projections.

3.11 Natural and synthetic fiber rope slings shall be immediately removed from service if any of the following conditions are present:

- a) Abnormal wear;
- b) Powdered fiber between strands;
- c) Broken or cut fibers;
- d) Variations in the size or roundness of strands;
- e) Discoloration or rotting; or
- f) Distortion of hardware in the sling.

Distribution of Loads on Slings:



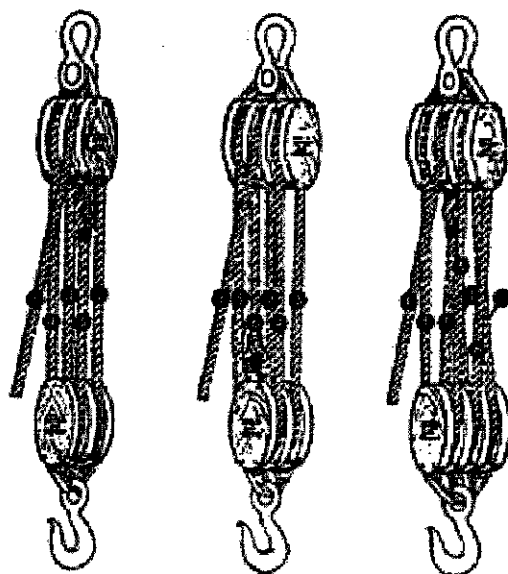
Efficiency of Knots in Fiber Rope

Approximate efficiency of various knots in fiber rope as a percentage of the full strength of the rope:

<u>Type of Knot</u>	<u>Efficiency</u>
New rope (un-knotted)	100%
Eye splice over iron thimble	90%
Short hand splice	80%
Timber hitch (round turn & half hitch)	65%
Bowline, slip-knot, or clove hitch	60%
Square knot, weaver's knot or sheet bend	50%
Flemish loop or overhand knot	45%

Blocks & Tackle:

3.12 Proper Method for Reeving Tackle Blocks:
Lead line and becket line should come off middle sheave when blocks contain more than two sheaves. Upper and lower blocks will then be at right angles to each other, eliminating the tendency to tip and accompanying losses in efficiency.



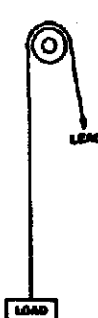





NOTE: For sisal rope, reduce the above values by 25% or use the next larger size rope.

For nylon and polyester rope, increase the above values up to 25%.

For polypropylene rope, increase the above values up to 10%.

Data applies to standard blocks not designed for full working loads of ropes.

3.12(a) Strength of New Manila Rope and Tackle (Safe Working Load in Pounds)

Diam. Rope Inches	Min. Size Blocks Inches	Straight Pull	1 Part Fall 1 Single Block	2 Part Falls 2 Single Blocks	3 Part Falls 1 Single 1 Double Block	4 Part Falls 2 Double Blocks	6 Part Falls 1 Double 1 Triple Block	8 Part Falls 2 Triple Blocks
								
1/2	4	264	216	397	549	680	793	892
3/4	6	695	425	810	1,121	1,389	1,620	1,822
1	8	1,160	736	1,350	1,869	2,314	2,700	3,087
1 1/4	12	1,740	1,109	2,033	2,815	3,486	4,067	4,575
1 1/2	14	2,380	1,518	2,783	3,854	4,771	5,567	6,263

Synthetic Web Slings:

3.13 Each synthetic web sling shall be permanently marked with the following (or otherwise removed from service):

- Name or trademark of manufacturer.
- Rated capacities of the type of hitch.
- Type of material.

3.14 Synthetic web slings and slings with alloy fittings shall not be used where fumes, vapors, sprays, mists or corrosive atmospheres may degrade the material.

3.15 Synthetic web slings shall be immediately removed from service if any of the following conditions are present;

- a) Acid or caustic burns;
- b) Melting or charring of any part of the sling;
- c) Snags, punctures, tears or cuts;
- d) Broken or worn stitches; or
- e) Distortion of fittings.

Wire Rope and Wire Rope Slings:

3.16 An eye splice made in any wire rope shall have not less than three full tucks. However, this requirement shall not operate to preclude the use of another form of splice or connection which can be shown to be as efficient and which is not otherwise prohibited.

3.17 Each wire rope used in hoisting or lowering, or in pulling loads, shall consist of one continuous piece without knot or splice. Exception to this is for eye splices in the ends of wires and for endless rope slings.

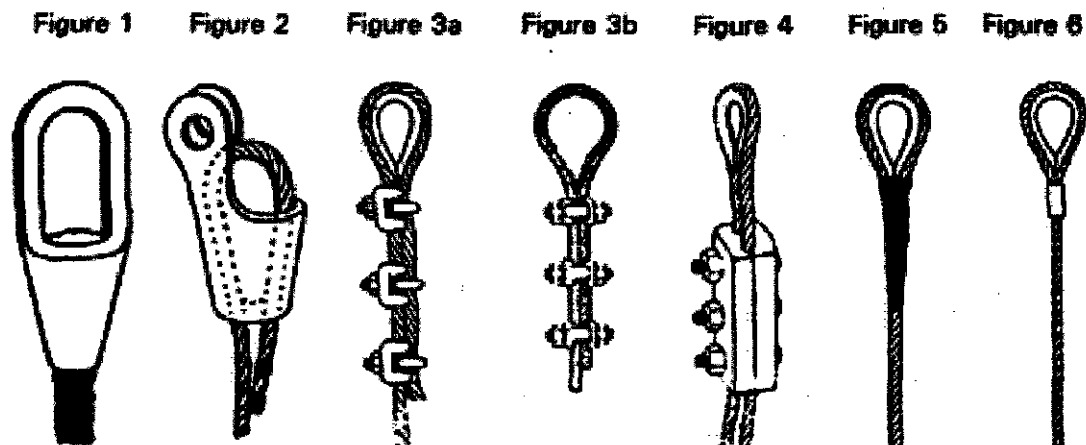
3.18 Eyes in wire rope bridles, slings, or bull wires shall not be formed by wire rope clips or knots.

3.19 Wire rope shall not be used if, in any length of eight diameters, the total number of

visible broken wires exceeds ten percent of the total number of wires, or if the rope shows other signs of excessive wear, corrosion, or defect.

3.20 The following efficiency factors should be applied to the safe working load of the wire rope being used based upon the type of end connection present on the sling:

Figure	Type of Connection	Efficiency
	Wire Rope	
1	Socket - Swaged or Zinc Poured	100%
2	Wedge Sockets	70%
3a	U-Bolt Clip	80%
3b	Double Base Clip	80%
4	Plate Clamp – Three Bolt Type	80%
5	Hand Tucked Splice – Eye & Thimble	
	¼ in. and smaller	90%
	5/16 in. to 7/16 in.	88%
	½ in.	86%
	5/8 in.	84%
	¾ in.	82%
	7/8 in. and larger	80%
6	Mechanical Splice (Compression)	
	1 in. diameter and smaller	95%
	Over 1 in. diameter thru 2 in.	92.5%
	Over 2 in. diameter thru 3-½ in.	90%



Steel Alloy Chain Slings:

3.21 Makeshift links or fasteners formed from bolts or rods, or other such attachments, shall not be used.

3.22 Mechanical coupling links or low carbon steel repair links shall not be used to repair broken lengths of chain.

3.23 If the chain size at any point of any link is less than that stated in Table 3.23 the sling shall be removed from service.

Table 3.23
Alloy Steel Chain Slings * Rated Capacity (Working Load Limit) POUNDS

Chain Size (Inches)	Single Branch	Double Sling Horizontal Angle (1)			Triple & Quadruple Sling Horizontal Angle (1)		
	Sling Vertical	60 Degree	45 Degree	30 Degree	60 Degree	45 Degree	30 Degree
¼	3,250	5,560	4,550	3,250	8,400	6,800	4,900
⅜	6,600	11,400	9,300	6,600	17,000	14,000	9,900
½	11,250	19,500	15,900	11,250	29,000	24,000	17,000
⅝	16,500	28,500	23,300	16,500	43,000	35,000	24,500
¾	23,000	39,800	32,500	23,000	59,500	48,500	34,500
⅞	28,750	49,800	40,600	28,750	74,500	61,000	43,000
1	38,750	67,100	54,800	38,750	101,000	82,000	58,000
1-⅛	44,500	77,000	63,000	44,500	115,500	94,500	66,500
1-¼	57,500	99,500	81,000	57,500	149,000	121,500	86,000
1-⅜	67,000	116,000	94,000	67,000	174,000	141,000	100,500
1-½	80,000	138,000	112,500	80,000	207,000	169,000	119,500
1-¾	100,000	172,000	140,000	100,000	258,000	210,000	150,000

(1) Rating of multi-leg slings adjusted for angle of loading measured as the included angle between the inclined leg and the horizontal plane of the load.

*Other grades of proof tested steel chain include Proof Coil, BBB Coil and hi-Test Chain.

These grades are not recommended for overhead lifting and therefore are not covered by this table. Wrought iron chain should not be used for hoisting.

Table D 3.23(b)
STEEL ALLOY CHAIN SLINGS
MINIMUM ALLOWABLE LINK DIMENSION AT ANY POINT

Chain Size (Inches)	Minimum Allowable Link Dimension at any Point (Inches)
$\frac{1}{4}$	$\frac{13}{64}$
$\frac{3}{8}$	$\frac{19}{64}$
$\frac{1}{2}$	$\frac{25}{64}$
$\frac{5}{8}$	$\frac{31}{64}$
$\frac{3}{4}$	$\frac{19}{32}$
$\frac{7}{8}$	$\frac{45}{64}$
1	$\frac{13}{16}$
$1-\frac{1}{8}$	$\frac{29}{32}$
$1-\frac{1}{4}$	1
$1-\frac{3}{8}$	$1-\frac{3}{32}$
$1-\frac{1}{2}$	$1-\frac{3}{16}$
$1-\frac{3}{4}$	$1-\frac{13}{32}$

Table D 3.23(c)
Safe Working Loads for Shackles *

Material Size (Inches)	Pin Diameter (Inches)	Safe Working Load (Tons)
$\frac{1}{2}$	$\frac{5}{8}$	1.4
$\frac{5}{8}$	$\frac{3}{4}$	2.2
$\frac{3}{4}$	$\frac{7}{8}$	3.2
$\frac{7}{8}$	1	4.3
1	$1-\frac{1}{8}$	5.6
$1-\frac{1}{8}$	$1-\frac{1}{4}$	6.7
$1-\frac{1}{4}$	$1-\frac{3}{8}$	8.2
$1-\frac{3}{8}$	$1-\frac{1}{2}$	10.0
$1-\frac{1}{2}$	$1-\frac{5}{8}$	11.9
$1-\frac{3}{4}$	2	16.2
	$2-\frac{1}{4}$	21.2

This table shall be used to determine the safe working loads of various sizes of shackles, except

that higher safe working loads are permissible when recommended by the manufacturer for specific, identifiable products, provided that a safety factor of not less than 5 is maintained.

3.24 Slings, all fastenings, and attachments shall be inspected before use and during the shift as circumstances warrant. In addition a more thorough inspection shall be made and documented at least annually.

3.25 Alloy steel chain slings with cracked or deformed master links, coupling links, other components, or missing id tag shall be removed from service. Also, a sling shall be removed from service if hooks are cracked, have been opened more than 15 percent of the normal throat opening measured at the narrowest point or twisted more than ten degrees from the plane of the unbent hook.

D 4.00 Signals

4.01 The type of signals to be used can vary depending upon the nature of the job. Therefore, an acknowledgement of the signal system to be used and the meanings of those signals shall be agreed upon by all personnel involved at the location prior to the work beginning. Whenever the use of electronic communication (radios, etc) has been decided, care shall be exercised to assure uninterruptible communication (no shared lines, etc).

Exhibit VII.1 – 2010 Public Safety Plan

2010 Public Safety Plan

Strategy: Leverage public safety tools to increase electrical safety awareness, and execute an outreach and communications plan that eliminates electrical contacts and fatalities (non-theft).

Objective: Achieve the public safety "Path to Excellence" by reducing fatalities by 20 percent per year and electrical contacts by 10 percent per year, while also working with the operating companies to significantly reduce out-of-scope (wire theft) contacts and fatalities.

Tactic 1: Create public safety communication materials to be used in outreach efforts.

Initiatives:

- Create a social networking strategy to promote public safety messages and materials on media such as faceBook, twitter, YouTube, etc.
- Create additional fact sheets based on the Anatomy of an Electric System video series:
 1. Anatomy of a Transmission System
 2. Anatomy of a Distribution System
 3. Electrical Safety and Your Home
- Work with Corporate Communications to do some focus group testing and redesign and enhance the public safety section of the operating company Web sites.
- Create an informational/educational short video on the dangers of copper theft.
- Establish a schedule of communicating public safety messages to customers via Consumer Circuit, bill inserts and bill messages.

Tactic 2: Conduct proactive outreach campaigns to maximize use of the electrical safety e-learning module, as well as the various electrical safety videos.

Initiative:

- Create quarterly campaigns and outreach to target the e-learning module to at-risk groups, including first responders, contractors and the general public.
- Form partnerships with organizations such, as OSHA, AEP contractors, etc. to disseminate public safety information.

Tactic 3: Expand the use of public safety reporting in SHEMS.

Initiative:

- During 2010, work to have every operating company's outreach represented and reported in SHEMS.
- Create reports that clearly communicate AEP's public safety status and progress. Include some of these reports/graphs in quarterly and yearly communications for both employee and public audiences.

Tactic 4: Educate employees to become ambassadors of public safety

Initiatives:

- Create employee awareness during National Electrical Safety month (in May).
- Continue to use AEP Now, Inside AEP, and other materials to communicate public safety efforts to employees to increase awareness.
- Continue monthly public safety postings and emails to employees. (These messages will correlate with the monthly Consumer Circuit schedule).

Goal #3 – Leverage public safety tools to increase electrical safety awareness, and execute an outreach and communications plan that eliminates electrical contacts and fatalities (non-theft).	
Applicability	✓ Public Safety
Background	✓ Protecting the public is and has always been a challenge. Everyday there are possibly millions of people who could potentially be harmed by our product and unlike our employees, we can not create safety rules and expect the public to follow them. Also, finding the appropriate communication channels to provide information, in a meaningful format to the right audience, is a major challenge.
Team Objectives	✓ Eliminate public fatalities and electrical contacts through a robust and multi-faceted public safety program. ✓ Provide (and create more) educational materials to increase awareness about electrical safety. ✓ Explore different communication channels to connect to target audiences. ✓ Continue to expand outreach programs.
S&H	✓ Create public safety communications materials to be used in outreach efforts. ✓ Conduct proactive outreach campaigns to maximize the use of the electrical safety e-learning module, as well as the various electrical safety videos. ✓ Educate AEP employees to become ambassadors of public safety. ✓ Continue to provide public safety messages to the public via AEP's Consumer Circuit. ✓ Expand the use of public safety reporting in SHEMS.
Measure(s)	✓ Widespread use of the electrical safety module. ✓ Creation of effective outreach campaigns. ✓ Establishment of effective partnerships to help disseminate public safety information. ✓ Creation of Web sites that serve as user-friendly, one-stop-shops for electrical safety information. ✓ Use of SHEMS by all operating companies to report outreach efforts.

2009 Public Safety Annual Report

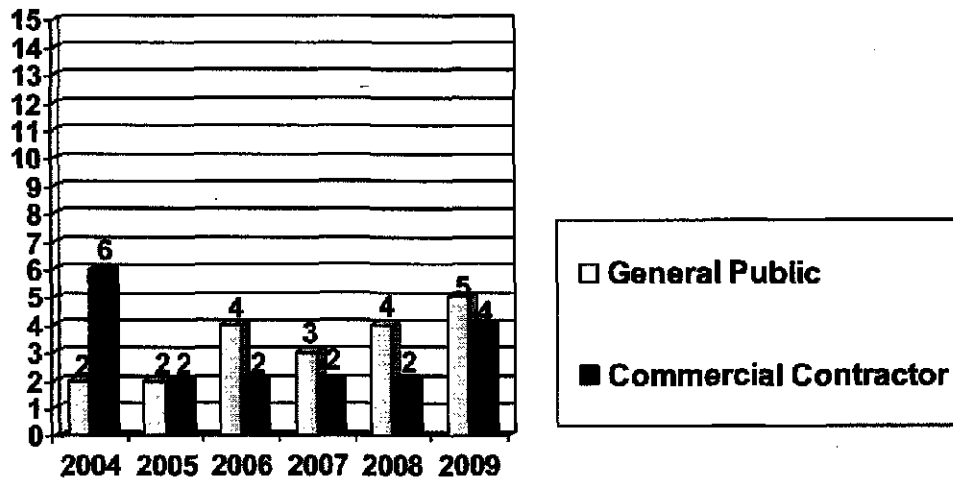
History

Public safety is an integral part of American Electric Power's overall safety emphasis. While the safety of the public has always been a top priority, there was no formal strategy or owner of the public safety program for several years.

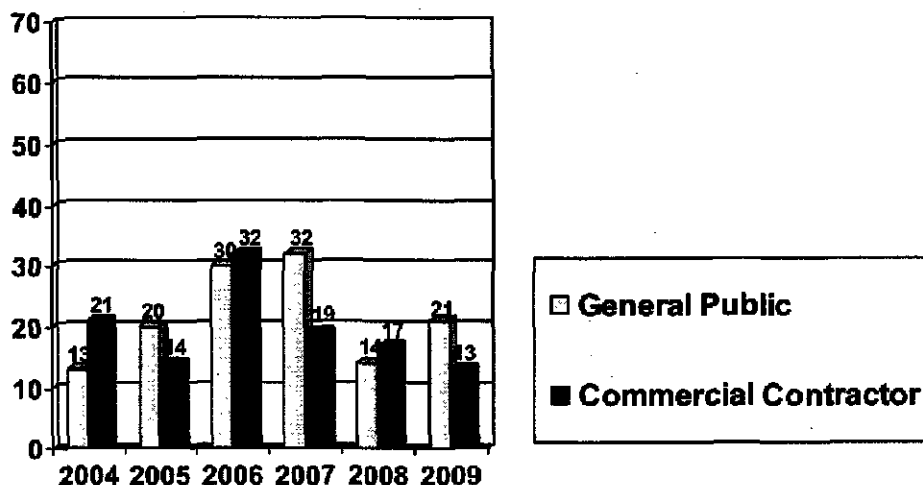
In 2007, a renewed focus was placed on this audience after a study showed gaps in public safety efforts and determined there were too many potential opportunities for risk to the public.

In addition, the historical data on fatalities and electrical contacts illustrates the need for a proactive, focused and targeted public safety program.

Public Fatalities (2004-2009)



Public Electrical Contacts (2004-2009)

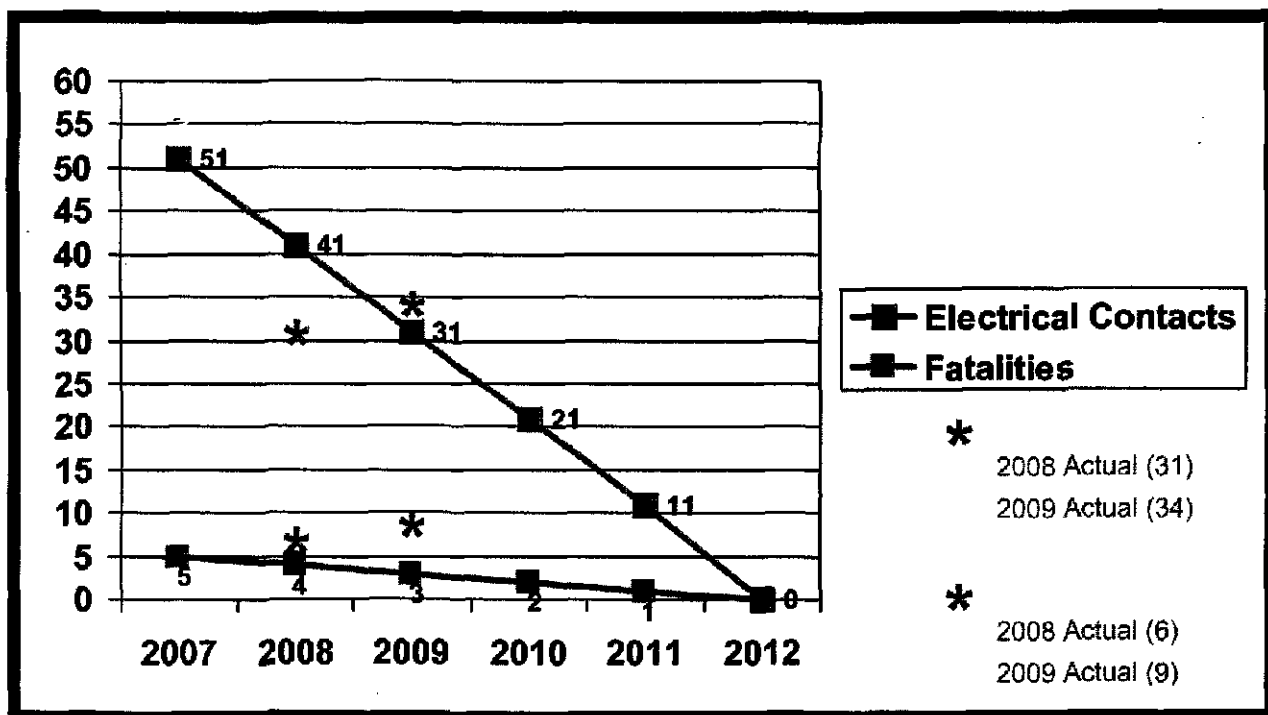


Public Safety Objective & Strategy

AEP's overall objective is zero harm to the public, striving to positively impact the number of public fatalities and electrical contacts. To reach that goal, a robust, multi-faceted strategy and outreach plan has been developed to leverage our public safety tools to positively impact the number of public fatalities and electric contacts, always striving for zero harm.

Realizing that reaching the desired state of zero will take time and continuous effort, a Public Safety Path to Excellence has been established to measure our performance in improving public safety. AEP will achieve the public safety Path to Excellence by reducing fatalities by 20 percent per year and electrical contacts by 10 percent per year, while also working with the operating companies to significantly reduce out-of-scope (wire theft) contacts and fatalities.

Public Safety Path to Excellence 2009 Performance



AEP's public safety efforts have been focused on five "at risk" audiences:

- General public (Residential and commercial customers)
- Commercial contractors (Roofers, construction companies, etc.)
- First responders (Police, fire, etc.)
- Children
- AEP Contractors (Companies that do work for AEP such as Asplundh, Pike, New River, etc.)

Challenges

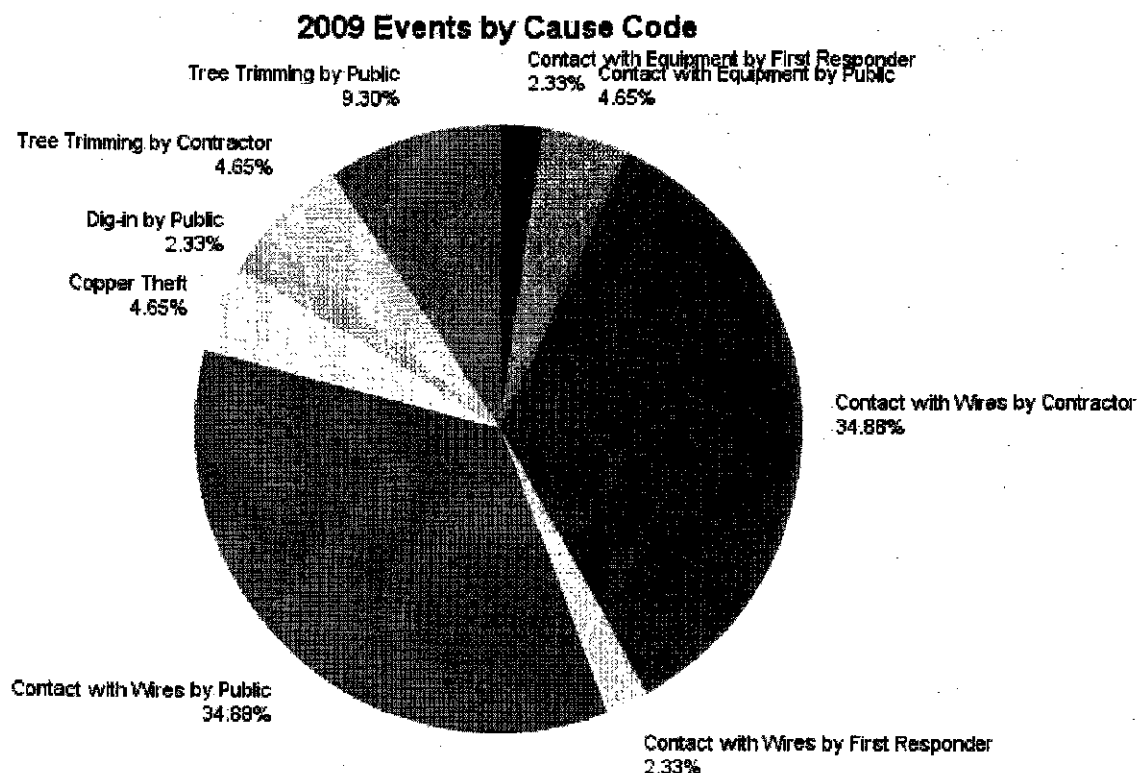
Protecting everyone in the public domain is a definite challenge because every day there are millions of people who could potentially be harmed by our product. Unlike employee safety, we can't create safety rules and expect the public to follow them. And, again, unlike our employees,

we don't have any direct communication channels or influence over members of the public. Thus, getting the appropriate information, in a meaningful format, to the appropriate audience is definitely a challenge.

We feel that electrical safety education is our best opportunity to reach zero harm, so we spent most of the year developing a comprehensive electrical safety awareness module. Realizing that a majority of customers go to the Internet for information, an online, interactive module was created for broad audiences from middle school students to first responders. It features narration, video clips, interactive matching exercises and knowledge checks. It is easily accessible via AEP's Operating Company Web sites.

Trends

Historically, the potential safety hazards to the public tend to remain somewhat consistent, fluctuating by category. In 2009, the trend seemed to be that most events involved contact with overhead wires. Specifically, the causes of electrical contacts and fatalities occurred in the following categories.



2009 Performance vs. Targets

While we have made progress in developing educational materials and increasing awareness about electrical safety, we still have a lot of work and outreach to do to reach our goal of zero.

This year, nine members of the public lost their lives in electrical events, which was well above our ultimate goal of zero and our 2009 Path to Excellence target of three. The majority of the fatalities (eight) involved overhead line contact, while the ninth fatality occurred as a result of a vehicle accident and contact with downed lines. We realize that much outreach is still needed to

get our safety messages to the public, and to be able to positively impact the number of fatalities.

In 2009, there were 43 total events reported, which included 34 electrical contact events and nine fatalities.

- Twenty-six events involved the general public;
- Thirteen events involved commercial contractors;
- The number of electrical contacts remained relatively the same from 2008 to 2009 at 31 and 34, respectively;
- There were nine fatalities, compared to six fatalities in 2008;
- Five of the fatalities involved the general public; four involved commercial contractors;
- Four of the fatalities involved tree trimming, while another three involved roofing or siding-related events.

	2009 Target	2009 Actual
Electrical Contact Events	31	34
Fatalities	3	9

2009 Outreach Efforts

In 2009, proactive outreach was conducted both on a systemwide level, as well as at the operating company level. In 2009, some of the corporate initiatives included:

- **Electrical Safety E-Learning Module** – Much of 2009 was spent developing a comprehensive, interactive e-learning module focused on electrical safety. As of December 2009, the module is accessible via all the operating company Web sites.
 - Targeted marketing campaigns to audiences, ranging from students to contractors, will take place in 2010. The goal is to establish widespread use of this learning tool.
- **Customer Communications** - Safety messages ran each month in *Consumer Circuit*, our customer publication.
- **Employee Communications** – Several AEP Now articles were published to increase employee awareness around public safety efforts. In addition, monthly emails covering public safety topics were sent to employees.
- **Employee Training** – The electrical safety e-learning course was added to all AEP employees' and contractors' learning plans to help increase electrical safety awareness among AEP employees.
- **Live Wire Video** – Since most of our electrical contacts involved some type of contact with electric wires, this new video was developed for audiences from middle school student to adults and focuses on the dangers of live electric wires in various scenarios.
- **Video Orders** – In 2009, 1,003 public safety videos were ordered via the operating company Web sites. The top video orders for 2009 included:
 1. Anatomy of an Electric System (292)
 2. Power Line Safety (170)
 3. Electrical Safety for Emergency Responders (160)
 4. Live Wire (149)
 5. Electrical Safety for Contractors (112)
 6. 811: Call Before You dig (111)
- **Web Communications** – In 2009, two new fact sheets on overhead line safety and portable generator safety were added to the operating company Web sites.
- **Safety Advertising** – Print and TV ads focused on copper theft, overhead safety and underground safety.

- **National Theatre for Children Presentations** – In the first five months of 2009, 600 schools (172,930 children) were visited in 2009 by this traveling electrical safety theatre presentation. (Note: The presentations were put on hold for the remainder of the year because of budgetary considerations).
- **Local Outreach** – In addition to the more global outreach, the Operating Companies conducted proactive outreach as well, ranging from advertising campaigns to face-to-face safety presentations. Some highlights that were reported included:
 - **AEP Ohio** – Targeted nearly 10,000 customers with door hangers and magnets educating about copper theft.
 - **AEP Texas** – Line crew members visited schools and events presenting information on power line safety.
 - **SWEPCO** – Sponsored a national Kids Day and promoted electrical safety information. In addition, numerous face-to-face safety presentations were given at schools and organizations throughout the year.
 - **Indiana Michigan Power** – Several electrical safety programs were presented to at-risk audiences in their service territory.
 - **Kentucky Power** – Safety awareness programs and the use of their live line demonstration unit were key components of Kentucky Power's outreach.

Summary

While we have made progress in creating effective public safety communication and education materials, there is still a long way to go before we reach our target of zero public fatalities and zero public contacts. Therefore, the focus on targeted outreach to at-risk audiences will continue to be a key to reaching our public safety goals.

Available Resources

The following is a list of some resources that can be used to educate and increase awareness about electrical safety. Many of the resources can be found online under the "Your Safety" section on the home page of each Operating Company's Web site.

Electrical Safety E-Learning Module – This module is accessible via the various Operating Company Web sites. Direct links:

AEP Ohio: <http://www.aepohio.com/go/electricalsafety/>
AEP Texas: <http://www.aeptexas.com/go/electricalsafety/>
Appalachian Power: <http://www.appalachianpower.com/go/electricalsafety/>
Kentucky Power: <http://www.kentuckypower.com/go/electricalsafety/>
Indiana Michigan Power: <http://www.indianamichiganpower.com/go/electricalsafety/>
Public Service Company of Oklahoma: <http://www.psoklahoma.com/go/electricalsafety/>
Southwestern Electric Power Company: <http://www.swepco.com/go/electricalsafety/>

Videos - All videos can be viewed/ordered on AEP TV, some also are posted on the operating company Web sites.

- **Live Wire** (Available on the Internet)
- **Anatomy of an Electric System** (Available on Internet)
- **Electrical Safety for Contractors** (Available on Internet)
- **811:Call Before You Dig** (Available on Internet)
- **Downed Line Dangers** (Available on Internet)
- **Electrical Safety for First Responders** (Available on AEP TV)

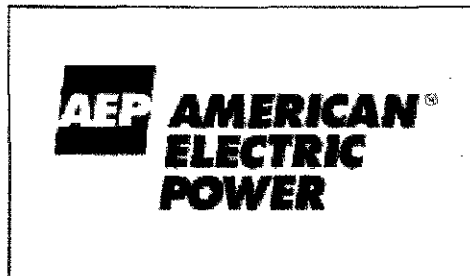
Fact Sheets – Customized factsheets can be viewed/downloaded from each of the operating company Websites, under the "Your Safety" section.

- **811: Call Before You Dig**
- **Downed Power Line Safety**
- **Copper Theft Dangers**
- **Overhead Line Safety**
- **Portable Generator Safety**

Online Public Safety Brochures – Also available on the operating company Web sites.

- **Portable Generator Safety**
- **Do-It-Yourself Electrical Safety**
- **Electrical Safety for Contractors**
- **Too Close for Comfort**

Public Safety Resources



All these public safety resources can be found online on each operating company's web site, where there are customized versions.

Free copies of the videos can be ordered online or via AEP TV, and the fact sheets can be downloaded and printed for use.

Electrical Safety E-Learning

This online, interactive module features narration, video clips, matching exercises and knowledge checks. There are five chapters focused on various aspects of electrical safety:

- Chapter 1: Electricity Basics – The Properties of Electricity and Key Terms
- Chapter 2: Important Facts about Electricity
- Chapter 3: The Anatomy of an Electric System
- Chapter 4: Hazards and Safety Precautions
- Chapter 5: How to Respond to Electrical Emergencies

Videos

Anatomy of an Electric System (23 minutes, 51 seconds)

The Anatomy of an Electric System is a series of five videos that explain in easy-to-understand terms how electricity works and important safety measures that customers need to understand. The five chapters/videos include:

- Electricity 101
- The Anatomy of a Transmission System
- The Anatomy of a Distribution System
- Electricity and Your Home and Business
- Electricity's Journey

Call 811 Before You Dig (2 minutes, 38 seconds)

This short video explains the 811 Call Before you Dig process, as well as procedures for safe digging.

Copper Theft Consequences (6 minutes, 20 seconds)

Hear first-hand about a copper theft and its consequences for the customers and the thieves.

Electrical Safety for Contractors (20 minutes, 26 seconds)

Construction companies, landscapers, roofing and siding companies, farmers and excavators are just a few examples of occupations that work around electrical facilities, such as overhead or underground electric lines. If your job has you working near electricity, you need to understand the potential safety issues electricity can pose.

Live Line Demonstration (14 minutes, 33 seconds)

See and hear what could happen if you were on a ladder that came in contact with a live electric line. In this video, trained professionals discuss and demonstrate the potential consequences if contact is made with live electric lines. Basic principles of electricity and how to stay safe around electrical hazards also are covered in the video.

Live Wire Dangers (13 minutes, 23 seconds)

You've heard that electricity can kill, but do you know how and why? This video explains why electricity can be so dangerous, and uses different scenarios to illustrate exactly what can happen if contact with electricity is made.

Power Line Safety (1 minute, 49 seconds)

This video clip is a short demonstration of some of the hazards of downed power lines.

Safety for Emergency Responders (22 minutes, 44 seconds)

If you are an emergency worker -- a member of a police, sheriff or fire department -- chances are good that you'll be among the first on the scene when there's a traffic accident, storm or other situation that results in downed wires. This video reminds you of the important steps to take when you are the first responder to such a situation ... steps that could save a life ... maybe your life.

Factsheets

- Anatomy of a Transmission System
- Anatomy of a Distribution System
- Call 811 Before You Dig
- Copper Theft Can Kill
- Downed Line Safety (Stay Away, Stay Safe)
- Overhead Line Safety (Look Up for Lines)
- Portable Generator Safety
- What's on an Electric Power Pole?

Brochures (online versions)

- Do-It-Yourself Electrical Safety
- Electrical Safety for Contractors
- Too Close for Comfort
- Understanding Line Clearance Efforts
- Transmission Right-of-Way Clearance and Maintenance

Safety Commercials (TV)

- Underground Line Safety
- Overhead Line Safety
- Copper Theft

Electrical Safety for Kids

Electric Universe

Everyone from young students to teachers, homeowners and contractors will find a rich store of information and games on electrical safety, energy conservation, electricity and more at :<http://aep.electricuniverse.com/>

Outage Safety

Each Web site also has some safety information under the outage section. These resources include:

- Outage Safety Tips
- Emergency Outage Kit
- Damage to Your Home or Business? Know What to Do.
- What to do When the Lights Go Out
- How We Restore Power After a Storm (Video)

Since these aren't in the safety section, here are the direct links:

AEP Ohio: <https://www.aepohio.com/outages/>

AEP Texas: <https://www.aeptexas.com/outages/>

Appalachian Power: <https://www.appalachianpower.com/outages>

Indiana Michigan Power: <https://www.indianamichiganpower.com/outages>

Kentucky Power: <https://www.kentuckypower.com/outages>

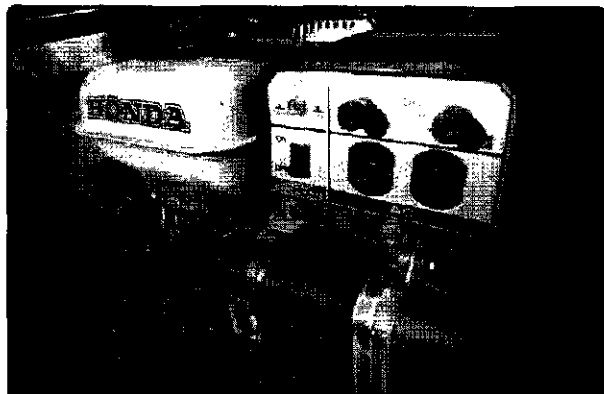
PSO: <https://www.psoklahoma.com/outages/>

SWEPCO: <https://www.swepco.com/outages/>

Public Safety

Portable Generators

If You Want to Use a Generator, Play it Safe



Portable fuel-burning generators may be used to supply electricity for the operation of small electrical appliances in the event of a power outage. While a generator can be convenient during an outage, potentially serious hazards exist if a generator is not used or connected properly. No matter how you plan to use a generator, always review all manufacturer's recommendations for safe use and maintenance of the system.

Direct Panel Plug-In

A very common method for using a portable generator is to plug the appliance, tool or motor directly into the proper electrical outlet on the generator.

It is important to use only high quality, well insulated, grounded cord sets rated at the same or higher voltage and current than the generator outlet being used. If the generator outlet is protected by a circuit breaker, the cord set should be rated at the **same** amperes as the circuit breaker or **higher**. Do not use worn, bare, frayed or damaged electrical cord sets with the generator. Using defective cord sets may result in electrical shock or damage to equipment and/or property.

Standby Electrical System

If the generator is to be connected to the building's circuits or wiring, the installation must be made by a qualified, licensed electrician and the following precautions must be taken.

Never connect the generator's electrical output to any live home or building electrical circuits. Never plug a generator into a wall outlet. A positive method of isolating utility power circuits from the generator circuits must be provided. A very common isolation method is to install a transfer switch.

Generator Hazards

The following hazards exist which require that different power sources be isolated:

- Electrocution of power company or other emergency personnel can result if the generator circuit is not properly isolated from the electric utility power circuit.

- If generator and utility power are not isolated from each other and utility power is restored while the generator is still supplying power, utility power can backfeed through the generator. Damage to the generator and a possible electrical fire can then occur.

Play it Safe

- Observe manufacturer's recommendations for safe, efficient installation, operation and maintenance of your generator.
- Do not plug the generator into a wall outlet.
- Use a licensed electrician to hook up generators and other standby electrical systems.
- **Never** operate a generator in the rain; in any enclosed compartment; if changes in engine speed are evident; if connected electrical devices overheat; if generator electrical output is lost; if sparking is evident; if flame or smoke is observed; or if the generator vibrates excessively.
- Generator exhaust gases contain deadly carbon monoxide gas, so operate only in areas with adequate ventilation.
- Use a ground fault circuit interrupter (GFCI) in a damp or wet location.
- Avoid contact with bare wires, terminals, etc. The generator supplies a very powerful voltage that can cause dangerous and possibly fatal electric shock.



A unit of American Electric Power

Public Safety

Know What's Below

Call 811 Before You Dig



Did you know that a simple job like planting a tree in your yard can jeopardize your safety? Many energized power and utility lines are buried just a few feet under the ground. Digging, trenching or excavating without knowing where utility lines are buried could be costly ... and fatal. Before you dig, protect yourself and call 811 to have the area marked for utility lines.

One Call Does it All

811 is the nationwide number to call before you begin any digging project. By calling 811, you will be routed to the underground locating service in your state, who will notify the appropriate utilities in your area. In some areas 811 may not work, and in these cases, please continue to use 800-362-2764.

Please remember, it is the responsibility of the property owner to locate any privately-owned utility lines on the property using a licensed electrical contractor.

Allow the Appropriate Time

Planning is essential for safe digging, especially because you must call AT LEAST 48 hours before you plan to dig. After calling 811, utilities have at least 48 hours to come out and mark their lines with a color-coded paint or flagging system.

Red indicates electric power lines, conduit and cables.

Yellow represents gas, oil, petroleum or gaseous materials.

Orange is used for communication, alarm or signal lines.

Blue is the color used to indicate potable water.

Purple is reclaimed water, irrigation and slurry lines.

Green is the color for sewers and drain lines.

Pink is used to indicate temporary survey markings.

White is used before the locating services to mark the proposed excavating site.

Respect the Marks

Marking underground utility lines is the way operators show the approximate location of their facilities. Remember, marks may be in paint, flags or both. There also may be marks that designate an "all clear," meaning there are no buried facilities.

If you notice faded or missing marks, you should call 811 with your reference number and request a remark. Requesting a remark **DOES** require an additional 48-hour notice for the utility.

The marks may be confusing, but don't guess at the meaning. If you have any questions, you should contact the utility directly.

Excavate Carefully

You must excavate carefully, especially in the tolerance zone. The tolerance zone is a horizontal area, measured from the marks, where the underground facility is located.

In Ohio, the tolerance zone must be an area equal to the width of the underground facility, plus 18 inches on each side. If no width is given by the utility for its facility, assume two inches.

Safety DVD Available

Visit www.aepohio.com/go/811 to view or order a video clip on the call before you dig process.



Public Safety

Stay Away, Stay Safe

Keep Your Distance from All Fallen Wires



Any downed or fallen wire should be treated as live and dangerous, and you should stay away. Fallen power lines are dangerous because they carry an electric current that can cause serious or even fatal injuries. If you encounter a fallen wire, keep yourself and others away, and call 911 and AEP Ohio immediately.

Distance is Your Friend

Under normal conditions, power lines are not supposed to lie on the ground. However, there are circumstances, such as high winds and storms, that can bring down power lines and other utility wires. Downed power lines can be dangerous because they carry an electric current that can instantly injure or cause death.

There is no way for you to determine whether fallen power lines are energized or not because you can't smell, see or hear electricity. Always keep your distance and presume a fallen wire is energized and dangerous.

Also, do not touch anything or anyone the line may be touching. Objects can become energized just by contacting a downed power line. Do not touch any wires because even telephone or cable lines can become energized.

Don't Guess, Stay Away

Never touch a fallen wire, no matter how harmless it may look. Power lines are not insulated or coated like power cords for home appliances. In some instances, power lines may have a coating of weatherproofing material that may

appear to be some form of insulation. It is not an insulating material and does not make the line safe to touch.

It is sometimes difficult even for professionals to tell the difference between energized power lines and other utility lines. Don't guess and stay away from all wires.

Keep Cars Clear, Too

If your vehicle comes in contact with a downed power line, stay put. If you can, honk and lower your windows to alert passers-by. Caution them to stay away from the vehicle and ask them to call the power company and emergency officials.

If you must exit the vehicle, remove all loose items or clothing and jump clear of the vehicle. Avoid touching the car and the ground at the same time. Land with both feet together; keep your feet as close together as possible; and shuffle away from the car.

Safety DVD Available

Visit www.aepohio.com/go/linesdown to view or order a video clip on the dangers of contacting energized power lines.



American Electric Power
Subsidiaries Columbus Southern Power Company and Ohio Power Company, DBA as AEP Ohio
Summary of Compliance with Ohio Administrative Code
SFR Reference: Chapter II Section (B) (9) (e) (vi)
Executive Summary Applicant Utilities'
Management Policies, Practices and Organization Schedule S-4.2
Administrative and Corporate Support Service

Security

SFR Reference
(B)(9)(e)(vi) Security

I. Policy and Goal Setting

Security Services policies are based on the corporate mission, vision and objectives along with industry best practices and regulatory requirements. Security Services is responsible for the protection of employees and assets and ensuring compliance with the North American Electric Reliability Corporation (NERC) Critical Infrastructure Protection (CIP) program, the United States Coast Guard (USCG) Maritime Transportation Security Act (MTSA) and the United States Department of Homeland Security (DHS) Chemical Facility Antiterrorism Standard (CFATS). Security Services program includes policies and procedures; electronic hardware and software; and security officers to control and monitor access to facilities. Alarm systems and cameras are monitored by a centralized Security Operations Center (SOC). The security officers in the SOC coordinate alarm incident response and the on-going maintenance of the electronic security systems.

Team and individual goals are developed each year that reflect department objectives based on corporate goals. There is a semi-annual review and at the end of each year, achievements are evaluated and incentives are awarded proportionate to the level of overall achievement.

II. Strategic and Long-Range Planning

The executive management of the company has the primary responsibility for establishing the company's strategic plan. Company departments have planning sessions to develop departmental strategic plans that support of the company's strategic plan. Additionally, several leadership team meetings occur throughout the year to assess compliance with the established plan and develop long-range goals and objectives.

III. Organization Structure

Security Services is part of the Shared Services organization that includes Supply Chain and Fleet, Human Resources and Information Technology. The Shared Services senior vice president reports to the president of AEP Utilities. The president of AEP Utilities reports to the chief operating officer, who reports to the chief executive officer and chairman of the board. The Security Services organization chart is provided in Exhibit 1.

IV. Decision-Making

Security Services uses a risk-based decision making process. The Security Services team evaluates the risks of threats and vulnerabilities by determining their likelihood and their effects. That analysis is then

weighed against the cost of the mitigation strategy. The key drivers used in this process are safety, reliability and compliance, along with financial responsibility and budget adherence.

All employees are expected to make decisions and exercise control over their areas of responsibility within the parameters of those boundaries, reporting results to their Immediate management on a regular basis.

All financial/purchasing decisions are made in accordance with each individual's proper delegation of authority.

V. Ring Fencing

The principles of ring fencing in utility regulation were codified in various provisions of the Public Utility Holding Company Act of 1935, (PUHCA). American Electric Power Company, Inc., (AEP), was a registered public utility holding company under the PUHCA until that act was repealed in 2005. The separation of regulated utility functions from non-regulated businesses required by PUHCA and prevailing throughout the AEP system has not been altered or diluted as it relates to AEP Ohio since the repeal of PUHCA. As a result, AEP Ohio, as constituent public utilities within the AEP system, continues to benefit from the ring fencing protections set forth in the PUHCA. In practical terms, this means that AEP Ohio:

1. has not made any investment in any entity engaged in a non-regulated business;
2. has not made loans or extended credit to AEP or to any affiliate engaged in a non-regulated business; and
3. has not guaranteed the indebtedness or the obligations of AEP or any affiliate engaged in a non-regulated business.

AEP Ohio consists of two separate legal entities, Ohio Power Company and Columbus Southern Power Company. Each AEP Ohio utility is a registered issuer under federal securities acts, each has independent access to public capital markets through which each continually raises capital. Each AEP Ohio utility is independently rated by the nationally recognized statistical credit rating agencies. Each AEP Ohio utility is managed by a board of directors that is responsible for authorizing action, including the acquisition or disposition of material assets, issuances of securities, and declaration of dividends, in such a way as to preserve the credit ratings and creditworthiness of each entity.

On June 2, 2010, the Commission approved AEP Ohio's corporate separation plans, filed June 1, 2009, and specifically found that the corporate separation plans were adequately implemented by AEP Ohio in accordance with Section 4928.17, Revised Code, Chapter 4901:1-37, O.A.C., and the orders of the Commission. (Opinion and Order in Case No. 09-464-EL-UNC). With its corporate separation plans, AEP Ohio has in place structural safeguards to ensure the independent functioning of the companies and their affiliates in a manner which is consistent with the Commission's Code of Conduct and which rejects cross-subsidization. The companies' accounting protocols, approach to financial arrangements, adherence to the Cost Allocation Manual requirements, employee education and training and internal compliance monitoring each support the goals and policies set out in Section 4928.02, Revised Code.

VI. Controlling Process

Security officer contract services, post orders and special instructions constantly are monitored to ensure that security officers are performing effectively.

Periodic drills and exercises are conducted as part of the USCG MTSA program to ensure that the policies, procedures, security systems and contract security officers are performing effectively.

The physical security plan required by the NERC CIP program is reviewed and updated annually and the NERC CIP sites are inspected each year to ensure that the physical security perimeter remains

unchanged and the security systems are fully functional. The security officers assigned to the SOC are tested on a periodic basis, and incident response and reporting protocols are tested annually.

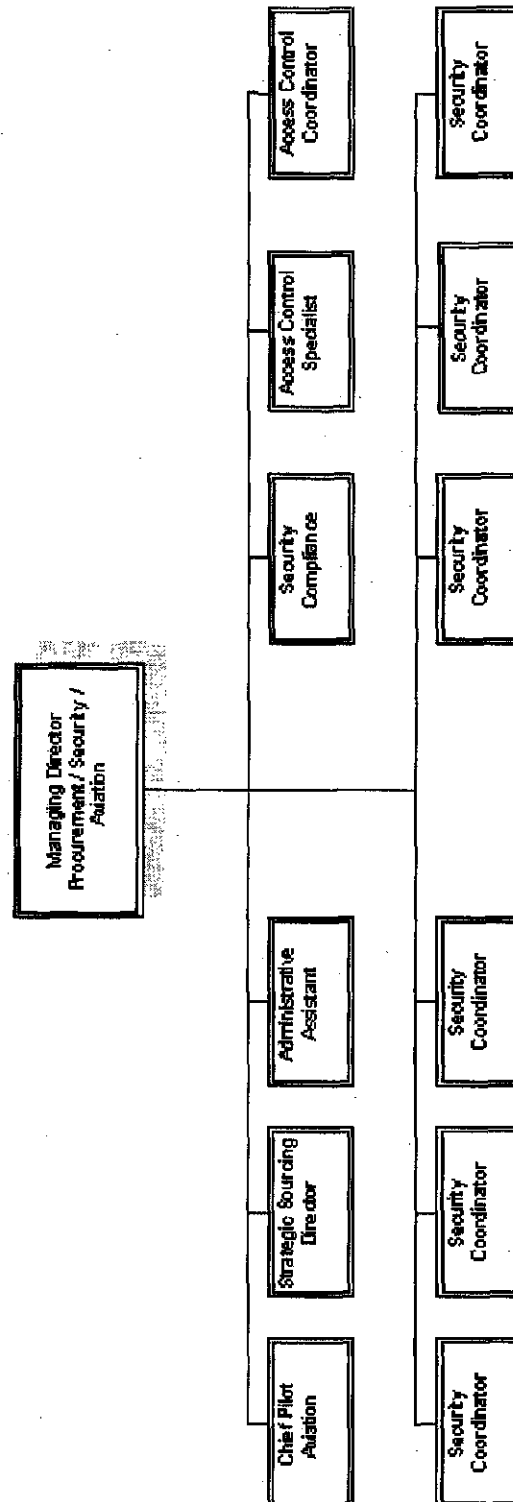
VII. Internal and External Communications

Internal and external communications are accomplished through personal and telephone discussions, e-mail, formal and informal meetings, memoranda and formal and informal correspondence. As applicable, use is made of the AEP System microwave system for voice and data transmission. Facsimile transmission equipment also is available.

In addition to intra-departmental and inter-company communication, Security Services also communicates with the following external parties via various methods:

- access control and CCTV vendors;
- federal, state, and local law enforcement; and
- the Department of Homeland Security.

Exhibit 1 – Security Services Organization Chart



American Electric Power
Subsidiaries Columbus Southern Power Company and Ohio Power Company, DBA as AEP Ohio
Summary of Compliance with Ohio Administrative Code
Chapter II Section (B) (9) (e) (vii)
Executive Summary Applicant Utilities'
Management Policies, Practices and Organization Schedule S-4.2
Administrative and Corporate Support Services

Ethics & Compliance Department

SFR Reference

(B)(9)(e)(vii) Ethics and Compliance

I. Policy and Goal Setting

According to U.S. Sentencing Guidelines, an effective compliance program is one designed, implemented and enforced to prevent and detect violations of the law, as well as one that promotes an organizational culture that encourages ethical conduct and a commitment to compliance with the law. AEP's Ethics & Compliance (E&C) Department is responsible for designing, implementing and administering AEP's Ethics & Compliance program. The vice president - Ethics & Compliance and Chief Compliance Officer is head of E&C and is responsible for implementing the company's ethics and compliance policies for the AEP System.

E&C's program is designed to promote ethical behavior and ensure compliance with all laws and regulations that affect AEP's business activities and are best reflected in the company's values. By constantly seeking to keep ethics and compliance issues in front of the workforce, AEP helps convey its sincere purpose in promoting appropriate behavior.

The E&C program is committed to stay at a "best practices" level and remains an invaluable tool in mediating between the demands for superior economic performance and the need to meet such demands in an ethical and law-abiding manner with an implementation that complies with the key elements of the revised U.S. Sentencing Guidelines.

E&C is responsible for the following functions and responsibilities:

Federal & State Codes and Rules

E&C has oversight responsibility for the compliance of affiliate rules, various state codes of conduct and the Federal Energy Regulatory Commission (FERC) Standards of Conduct.

Compliance with the various state and federal rules is important, and all AEP employees have the responsibility to comply. Failure to comply could result in disciplinary action, up to and including termination of employment.

Training Requirements

E&C uses a wide array of training and communications in support of the compliance program, including AEP's core program documents, and AEP's Principles of Business Conduct. Forms of communication include the E&C website, which provides links to policy central and other various source documentations; the Ask Sandy column, which appears regularly on AEP's internal website, AEP Now, and compliance-related posters that provide a fresh perspective about ethics in the workplace. A more in depth review of E&C communications is presented in section VII.

General ethics training from E&C is available. These training sessions focus on the concept of integrity in the workplace and AEP's core values, emphasizing the need to report concerns and preventing reprisals for those who do report. E&C is involved directly in administering the following training requirements:

- AEP's Principles of Business Conduct – This annual training educates employees about the company's internal code of conduct to ensure that employees, at all levels and at all times, will comply with their legal and ethical obligations within the company.
- Antitrust – This training provides AEP employees with the basics of antitrust law, so that they understand that the economy and the public will benefit most if businesses compete vigorously, free from unreasonable restraints on competition and trade.
- Arkansas, Ohio and Texas Rules of the Road – Jurisdictional in nature, these training modules explain that employees must comply with state regulations in regard to transactions with corporate affiliates.
- Conflict of Interest – This training explains that employees must not use their positions within the company for personal gain or allow their personal interests to influence their professional conduct to their own benefit.
- FERC Standards of Conduct – Annual training given to marketing function, transmission function and shared services employees across the AEP System that explains FERC rules aimed at ensuring fair competition in the transmission marketplace.
- Insider Trading – An explanation of federal laws that prohibit the buying or selling of company stock based on information that is not generally known to the public.
- Intellectual Property – This training explains what the company considers to be intellectual property and provides direction on the importance of not disclosing information that may compromise proprietary technologies or trade secrets.
- Sarbanes-Oxley – A general explanation of the guidelines of the Sarbanes-Oxley Act.

Concerns Line Management

E&C manages the AEP Concerns Line and consequent compliance investigations. The systemwide AEP Concerns Line uses a toll-free telephone number, 1-800-750-5001 or (TTY) 1-877-576-2569 that is answered by an independent communications firm hired by AEP to ensure integrity and objectivity of compliance reporting. The AEP Concerns Line also is available via the Internet and provides employees with an alternative to traditional telephone reporting. The site is NOT hosted on an AEP server and links directly to the independent communications firm that answers the AEP Concerns Line phone. The website can be accessed at www.aepconcernsline.com. Employees are encouraged to discuss concerns with their supervisor, but the AEP Concerns Line remains an effective, alternative means of anonymously reporting potential violations of AEP's Principles of Business Conduct or violations of policy or law.

Auditing and Monitoring

E&C's standards and procedures are based upon a meaningful assessment of the compliance risks the company faces. This assessment is an ongoing, wide-ranging process that involves interaction with personnel with compliance risk-related knowledge throughout many parts of the company. The assessment also is based upon interaction, through an energy utilities best practices group, with industry counterparts. In addition:

- an adequate control environment is assured by the audits routinely conducted by AEP's Internal Audits Department, with which those responsible for AEP's compliance program work closely; and
- a review of the program is conducted every three years by either AEP Internal Audits or an independent, third-party familiar with compliance program issues.

Consistent Enforcement

E&C is involved with ensuring that AEP's exercise of discipline is sufficiently even-handed and vigorous. E&C collaborates with other business units to ensure that such discipline handed out is done so in an ethical manner.

Policy Compliance

E&C is responsible for ensuring that all employees of AEP comply with the following policies:

- Anti-Fraud Policy – The corporate anti-fraud policy was established to facilitate the development of controls that will aid in the detection and prevention of fraud perpetrated against AEP. E&C supports AEP by promoting consistent behavior by providing guidelines and assigning responsibility for the development of controls, the conducting of investigations and the reporting of results.
- Computer Access & Disclosure Policy – Electronic communications equipment, systems, and services are for company use. The company may access and disclose all electronic files, information, communications (e-mail), and data.
- Policy on Development and Maintenance – The policy provides the template and instructions for global policy creation, review and maintenance for AEP.
- Prohibition Against Pornography and Offensive Material – Two AEP policies govern the appropriate use of the Internet and the company's computer systems. These policies are the Internet Use Standard and the Computer Access and Disclosure Policy. These policies prohibit individuals from using the Internet or the company's computer systems to view, send, store, or print pornography or other offensive materials.
- Use of Legal Designations by Employees Not in the Legal Department – AEP employees who are not members of the Legal Department shall refrain from using designations such as J.D. or Esq. on company materials, even if the employee is a licensed attorney.
- Whistleblower Protection Policy – The purpose of this policy is to reinforce federal protection of whistleblowers who report fraud, waste, abuse or mismanagement of American Recovery or Reinvestment Act funds.
- Policy on Retaliation Against Employees – This policy was approved by resolution of the AEP Board of Directors as part of the Addendum to AEP's Principles of Business Conduct. Retaliation against an employee for reporting an issue or raising a concern he or she believes to be true involving a violation of company policy, law or regulation is strictly prohibited.

Due Diligence in Delegation of Substantial Authority

In conjunction with various business units, E&C is engaged in special background checks conducted for certain discretionary positions to ensure that candidates adhere to the highest of ethical standards.

Program Modifications

E&C routinely makes any necessary modifications to the compliance program if a violation has been detected. Changes have encompassed training, communications efforts, procedures, processes and policy modifications or implementations. All data related to each issue are intensely scrutinized and appropriately self-reported.

II. Strategic and Long-Range Planning

AEP's more formal corporate compliance function was established in 1994 in further support of the "Organizational Sentencing Guidelines" promulgated by the U.S. Congress in 1991. In 2004, the U.S. Sentencing Commission sent to Congress significant changes to the federal sentencing guidelines that strengthened the criteria an organization must follow in order to create an effective ethics and compliance program.

AEP's first decision regarding the compliance program was to focus not only on legal compliance but also to raise the awareness of all AEP employees about the importance of ethics and compliance in the workplace. This decision was important because it stated, in effect, that the company had decided to go above and beyond the requirements of the guidelines. Recent events and the direction of various state, federal and private guidance and laws support the wisdom of this early decision. E&C supports the corporate policies and objectives of the company and adheres to the guidelines outlined in AEP's Principles of Business Conduct. E&C strives to ensure that all employees are committed to applying AEP's core values at all times and upholding the integrity of AEP. AEP believes its employees have every right to demand that the company for which they work and their fellow employees uphold high ethical standards. Because the tone for any organization is set at the top, employees should feel encouraged that AEP's management tone is one of uncompromising integrity.

III. Organizational Structure

E&C supports the corporate policies and objectives as described in AEP's Principles of Business Conduct.

In conformity with emerging best practices, the vice president - Ethics & Compliance reports to the AEP Board of Directors and AEP's chief executive officer. E&C, under the direction of vice president and chief compliance officer, reports to the chief executive officer and the AEP Board of Directors. This reporting structure ensures independence in certain program-related activities by having a self-standing ethics and compliance department with adequate resources sufficient to ensure due diligence in preventing and detecting violations of law. Its position of reporting directly to the highest levels of corporate management and the proper allocation of these resources ensures that AEP's compliance program is not just a paper program. Rather, the program is a substantial management effort with sufficient resources needed to satisfy program objectives. An organization chart for E&C is attached as Exhibit E&C-1.

IV. Decision-Making

Daily operational decisions are made by the vice president - Ethics & Compliance. Decisions that affect corporate policy or multiple business units are, as appropriate; discussed with senior corporate management up to and including the chief executive officer and business unit leaders. When necessary, such decisions may be discussed with the AEP Board of Directors.

V. Ring Fencing

The principles of ring fencing in utility regulation were codified in various provisions of the Public Utility Holding Company Act of 1935, (PUHCA). American Electric Power Company, Inc., (AEP), was a registered public utility holding company under the PUHCA until that act was repealed in 2005. The separation of regulated utility functions from non-regulated businesses required by PUHCA and prevailing throughout the AEP system has not been altered or diluted as it relates to AEP Ohio since the repeal of PUHCA. As a result, AEP Ohio, as constituent public utilities within the AEP system, continues to benefit from the ring fencing protections set forth in the PUHCA. In practical terms, this means that AEP Ohio:

1. has not made any investment in any entity engaged in a non-regulated business;
2. has not made loans or extended credit to AEP or to any affiliate engaged in a non-regulated business; and
3. has not guaranteed the indebtedness or the obligations of AEP or any affiliate engaged in a non-regulated business.

AEP Ohio consists of two separate legal entities, Ohio Power Company and Columbus Southern Power Company. Each AEP Ohio utility is a registered issuer under federal securities acts; each has independent access to public capital markets through which each continually raises capital. Each AEP Ohio utility is independently rated by the nationally recognized statistical credit rating agencies. Each AEP Ohio utility is managed by a board of directors that is responsible for authorizing action, including the acquisition or disposition of material assets, issuances of securities, and declaration of dividends, in such a way as to preserve the credit ratings and creditworthiness of each entity.

On June 2, 2010, the Commission approved AEP Ohio's corporate separation plans, filed June 1, 2009, and specifically found that the corporate separation plans were adequately implemented by AEP Ohio in accordance with Section 4928.17, Revised Code, Chapter 4901:1-37, O.A.C., and the orders of the Commission. (Opinion and Order in Case No. 09-464-EL-UNC). With its corporate separation plans, AEP Ohio has in place structural safeguards to ensure the independent functioning of the companies and their affiliates in a manner which is consistent with the Commission's Code of Conduct and which rejects cross-subsidization. The companies' accounting protocols, approach to financial arrangements, adherence to the Cost Allocation Manual requirements, employee education and training and internal compliance monitoring each support the goals and policies set out in Section 4928.02, Revised Code.

VI. Controlling Process

Daily operational decisions are made by the vice president - Ethics & Compliance. AEP Concerns Line investigations are conducted by E&C staff members and are closed upon review from the vice president - Ethics & Compliance. Any conclusions that affect corporate policy, involve one or more business units or that may influence employee discipline, are discussed with the appropriate business unit leaders and, if necessary, senior corporate management up to and including the chief executive officer. When necessary, such decisions may be discussed with the AEP Board of Directors. As stated earlier, an adequate control environment is assured by the audits routinely conducted by AEP's Internal Audits Department, with which those responsible for AEP's compliance program work closely. A review of the program is conducted every three years during which the program is benchmarked against current best practices.

VII. Internal and External Communications

E&C engages in a broad array of communications tools to keep ethics and compliance messages in front of AEP employees.

- Ask Sandy – AEP's vice president - Ethics & Compliance answers employees' ethics-related questions in a recurring article that appears on the company's internal website, AEP Now.
- Ask Sandy Live Chats – AEP's vice president - Ethics & Compliance fields and answers real-time questions from employees about ethical issues. The live chat is in instant message format and hosted on AEP Now.
- Ms. Perception Blog – AEP's vice president - Ethics & Compliance poses current workplace issues and relevant ethical dilemmas in a blog and invites discussion from employees.

- Reflections on Ethics – Video series featuring short video clips from employees throughout AEP offering their thoughts about the importance of ethics and corporate culture in their daily lives at AEP.
- State of the Program Letter – Released annually to all AEP employees, the letter communicates general trending information from Concerns Line calls during the previous year and communicates the goals of E&C for the coming year. The letter also includes a detachable wallet card with E&C's contact information for employees to use when reporting concerns or asking questions.
- Posters – Theme-based posters that reinforce the importance of ethical behavior in the workplace. The posters are distributed to all AEP locations and are prominently displayed in common work areas.
- Pinpoint Training Videos – Training videos sent to all employees via email that contain brief messages on a variety of ethics-related topics.
- Ethics Panel – E&C constantly seeks to uncover core issues and trends occurring throughout the AEP System. To better understand concerns at the local level, the E&C panel program aims to designate individuals as spokespersons who possess and incorporate ethical standards to their every day job duties to share with E&C their perspectives about ethical issues at their locations.
- Site Visits – E&C staff routinely conduct site visits across the AEP System to meet with employees and management to discuss and answer questions about E&C, its role at AEP and ethics issues generally.

Exhibit E&C-1 – E&C Organizational Chart

