

NORTHEAST PUBLIC POWER ASSOCIATION

EDUCATION & TRAINING CATALOG

2020



*Northeast
Public Power
Association*

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ABOUT US

The Northeast Public Power Association (NEPPA) is a regional trade association of publicly, consumer-owned utilities in the Northeast dedicated to uniting public utility professionals by advancing their knowledge, capabilities, and voice in the industry. We accomplish this through the efforts of our members, conferences, events, and our extensive training programs.

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FROM THE EXECUTIVE DIRECTOR

We are excited to deliver the 2020 NEPPA Education & Programs Catalog. We hope you will find it helpful in planning for all your training needs.

One of the most important aspects of my job is to meet with our members to learn what they want and need for training and education. Throughout the past year we have worked to incorporate your feedback to create more comprehensive and meaningful training. This catalog reflects that work.

Over the course of the past year, we have made many upgrades and investments to our educational offerings. By promoting Sarah Klingler to the position of Director of Education & Programs, and placing Steve Socoby in the position of Director of Technical Training, we have now combined the requisite technical knowledge with the latest in training methods to offer you best-in-class training. And, we have hired additional trainers and have incorporated new teaching methods to better serve you.

To become more cost-effective and to provide greater opportunities for regional interaction, last year, we moved to a per-person fee schedule for @Your-Site Training. This year, we are combining a number of trainings together to offer further savings and have streamlined our training material to provide more value. In addition, we have created new programming to serve your needs. Check out our new OSHA Fundamentals courses and our New Hire Safety On-Boarding classes or attend our Active Shooter training. And, if schedules are challenging, you will continue to have the option to use the @Your-Site Online training.

Please take a few minutes to review the 2020 catalog. Don't hesitate to reach out if you have any questions or if you think there is valuable training that we should consider offering in the future. We look forward to helping you provide the necessary training and tools for your team to enhance their safety, allow for personal growth and augment productivity for your organization.

Bonnie Biocchi
Executive Director

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ACCOUNTING

Public Utility Accounting (APPA)

Course Length: 2 Days **Course Dates:** November 3 - 4, 2020

Course Level:

Basic—This course does not have prerequisites, nor does it require advance preparation.

Who Should Attend:

This course is designed for personnel:

- New to utility accounting practices
- Unfamiliar with the FERC accounting structure
- Experienced accountants and accounting managers

Course Overview:

This course highlights the development of a utility accounting system that is compatible with Federal Energy Regulatory Commission (FERC) guidelines. It examines accounting theory, the role of accounting in public utilities, FERC accounting procedures, the uniform systems of accounts, and utility accounting subsystems.

Work Order & Asset Management Accounting (APPA)

Course Length: 1 Day **Course Dates:** November 5, 2020

Course Level:

Basic—This course does not have prerequisites, nor does it require advance preparation.

Who Should Attend:

This course is designed for employees in the following disciplines:

- Utility Accounting
- Finance
- Operations
- Personnel who are part of the work order process

Course Overview:

Utility construction is one of the major activities at your utility and has a significant impact on developing equitable rates for your customers. This interactive course covers basic and intermediate utility work asset management accounting concepts and applications.

Work through the necessary steps to report utility construction costs and differentiate between capital construction and maintenance costs. Learn about practical industry processes through real-world utility examples of accounting for utility construction costs.

COST OF SERVICE & RATE DESIGN

Basic Cost of Service: Concepts & Rate Planning (APPA)

Course Length: 1 Day

Course Dates: April 14, 2020

Course Level:

Basic—This course does not have prerequisites, nor does it require advance preparation.

Who Should Attend:

This course is designed for:

- General Managers
- Finance and Accounting Personnel
- Rate Analysts
- Financial Planners
- Policymakers

Course Overview:

Explore the ins and outs of cost of service - from basic concepts to leveraging data for decision making. Learn how to determine revenue requirements and key financial targets and relate them to cost of service. Find out how to develop a long-term rate plan and use financial targets to determine customer rates, borrowing needs, and capital improvements.

Distributed Energy Resources: Strategic Rate Design & Transition Planning (APPA)

Course Length: 1 Day

Course Dates: April 15, 2020

Course Level:

Basic—This course does not have prerequisites, nor does it require advance preparation.

Who Should Attend:

This course is designed for:

- General Managers
- Finance and Accounting Personnel
- Rate Analysts
- Financial Planners
- Policymakers

Course Overview:

The future financial health of utilities requires a balance between fairness in customer rates, integration of energy efficiency and distributed generation programs, and room for expansion of carbon-free resources. These objectives are dependent on price signals and policies established by the utility.

This course reviews the latest industry rate trends, and enables participants to develop a strategic rate strategy and technology plan, as well as learn how to educate and communicate with the public and governing bodies on these issues.

CUSTOMER SERVICE

Customer Service Leadership Program

Program Length: 1 Day **Program Date:** October 20, 2020

Who Should Attend:

This program is designed for anyone who works with internal and external customers including:

- Receptionists
- Customer Service Representatives
- Technical Support Staff
- Sales & Marketing Staff
- Supervisors & Managers

Program Overview:

In partnership with Fred Pryor Seminars, NEPPA offers this program to help train yourself, your staff and your organization to not only avoid problems, but to rise to service excellence.

Participants who successfully complete the program are awarded a NEPPA Certificate of Completion and 6 CPE Credits directly from Pryor Learning Solutions, Inc.

Customer Service Roundtable

Program Length: 1 Day **Program Dates:** TBA

Who Should Attend:

The CS Roundtables are designed for anyone involved the various customer service, billing, and communications disciplines including:

- Customer Service Representatives
- Customer Service Managers
- Communications Professionals
- Office Managers
- Billing and Collections Professionals

Program Overview:

The Customer Service Roundtables are held 1-2 times per year and serve as a forum for professionals to learn about industry-wide changes in rules and regulations as well as to share best-practices among peers and colleagues across the region.

ENGINEERING

Engineering Roundtable

Program Length: 1 Day **Program Dates:** TBA

Who Should Attend:

Sponsored by NEPPA's Engineering Subcommittee, this Roundtable is designed for anyone involved with engineering related projects including:

- Electrical Engineers
- Project Managers
- General Managers or Superintendents

Program Overview:

The Engineering Roundtable serves as a forum for professionals to learn about successes, challenges and new technologies, as well as to share best-practices among peers and colleagues across the region.

Underground Residential Distribution Systems

Course Length: 2 Days **Course Dates:** TBA

Who Should Attend:

This new course is designed for professionals and personnel involved in the management, construction, safety and operational aspects of transmission and distribution systems including:

- Engineers
- Designers
- Technicians
- Field Personnel

Course Overview:

Underground distribution continues to be the installation method of choice in many applications on public power utilities. Although the initial installation cost is almost always greater than the equivalent overhead distribution, it offers a wide range of advantages, including greater operating reliability, lower operating and maintenance costs, better public safety and, of course, reduced visibility and enhanced public acceptance.

This newly designed course will include an overview of URD, cable splicing and pulling and other operational aspects of working with URD.

Crew Leadership

Course Length: 2 Days **Course Dates:** October 14 - 15, 2020

Who Should Attend:

This two-day program is designed to provide supervisory and leadership skills training for field supervisors (and future field supervisors) of public power systems such as:

- Line Superintendents
- Truck Foremen
- General Foremen
- Lead Lineworkers
- Crew Leaders

Course Overview:

Crew Leadership has been developed to prepare and strengthen an individual's skill set, allowing them to more readily transition from an employee to a leader.

Topics Covered:

- Developing a leadership mindset
- Regulatory requirements and liability
- Crew and public safety
- Standards and specifications
- Beyond overseeing to responsibility and reporting
- Managing mutual aid

Customer Service Leadership Program

Program Length: 1 Day **Course Date:** October 20, 2020

Who Should Attend:

This program is designed for anyone works with internal and external customers including:

- Receptionists
- Customer Service Representatives
- Technical Support Staff
- Sales & Marketing Staff
- Supervisors & Managers

Course Overview:

In partnership with Fred Pryor Seminars, NEPPA offers this program to help train yourself, your staff and your organization to identify and avoid problems, and rise to service excellence.

Participants who successfully complete the program are awarded a NEPPA Certificate of Completion and 6 CPE Credits directly from Pryor Learning Solutions, Inc.

Public Utility Management Program (PUMP)

Program Length: 2 Years;
Four 3-day, in-person; 2 Webinars/year

In-Person Sessions Dates: April 7 - 9; Oct. 27 - 29, 2020

Webinar Dates: March 26; June 25; Sept. 24; Dec. 17, 2020

Who Should Attend:

- General Managers
- Commissioners,
- Current and future leaders

Program Overview:

In partnership with Collaborative Learning, PUMP equips participants who seek to strengthen and advance their understanding of leadership and management best practices, identify their own leadership capabilities, enhance their knowledge of the electric industry, and learn about current trends and disruptors in the industry.

The next Public Utility Management Program - Year I is scheduled to begin in March/April 2021. Please contact Sarah Klingler, Director of Education & Programs to be notified when registration opens (sklingler@neppa.org).

Supervisory Skills

Course Length: 2 Days **Course Dates:** April 22 - 23, 2020

Who Should Attend:

This course is designed for supervisors at any level, in any department looking to improve their leadership, coaching and motivational skills including:

- Engineers
- Assistant General Managers
- Supervisors & Managers
- New or Established Managers
- Team Leaders

Course Overview:

In partnership with Dale Carnegie, NEPPA is pleased to bring this best-in-class training to our members. This intensive, two-day program will equip leaders with the skills and information to become purpose-driven leaders serving the mission of their organization.

Dale Carnegie's unique design and delivery framework focuses on transformational performance changes in individuals and organizations by focusing on five key components: Input, Awareness, Experience, Sustainment, and Output.

Topics Covered:

- Managing across generations
- Delegation
- Motivational leadership
- Time management
- Team problem-solving and decision-making
- Coaching for performance improvement

@Your-Site Online

Course Length: 15 - 60 min.

Who Should Attend:

In partnership with J.J. Keller & Associates, NEPPA is now able to offer an entire suite of online, on-demand courses for our members.

The @Your-Site Online courses are suitable for:

- Engineers
- Technicians
- Office & Field Personnel
- New Hires

Course Overview:

The available courses include Workplace Safety, HAZWOPER, and Construction. The material is continuously being updated and edited to meet the changing needs and requirements.

CDL Class A License Training

Course Length: 4 Days Classroom, 15 Field Days

Course Dates: In-Class, March/April 2020
Field Days, TBD

Who Should Attend:

This training program is best suited for anyone driving equipment that meets the CDLA weight requirements including:

- Lineworkers
- Crew Leaders
- Truck Foremen
- Line Foremen
- Line Superintendents

Course Overview:

NEPPA has partnered with the New England Tractor Trailer Training School (NETTTS) to offer on-site CDL Class A Training at the NEPPA Training Center (Littleton, MA).

The program consists of 4 in-person, classroom days followed by 15 field days of small group road training. Where available, this training will use utility vehicles with trailers for a real-life simulation of expected conditions.

Please contact NEPPA at (978) 540-2200 to be notified when registration is available.

Electrical Safety for First Responders

Course Length: 3 hours

In response to growing demand, NEPPA has revised and revitalized the Electrical Safety for First Responders training program. This program may be offered @Your-Site or at NEPPA's Training Center.

Please contact Sarah Klingler at sklingler@neppa.org for more information or to schedule this course.

Who Should Attend:

This program is suitable for:

- EMTs
- Firefighters
- Police Officers
- DOT or Public Works
- Anyone unqualified, per OSHA, to work on the electric distribution equipment, but may be called to the scene in the event of an accident.

Course Overview:

The purpose of this program is to provide first responder personnel with electrical hazard awareness information when, and if, their work requires them to work in an emergency near:

- Downed wires
- Overhead electrical circuits
- Underground electrical circuits
- Substations

Hoisting License Continuing Education (MA)

Course Length: 4 Hours (see notes below)

Obtaining a license for any hoisting is mandatory for Massachusetts employees. Authorized by the State of Massachusetts' Office of Public Safety and Inspection (OPSI), NEPPA offers Continuing Education & Test Prep Classes for:

- 1B - 1D Hoisting Licenses
- 2A - 2C Hoisting Licenses

Course Overview:

Continuing Education attendees are required to attend class for the full, state-mandated 4 hours. There is no class time requirement for test-prep attendees.

Continuing Education attendees receive a certificate of attendance at the end of class.

Test-Prep attendees receive study material in the beginning of class.

OPERATIONS & SAFETY

In response to our members feedback and requests, NEPPA is continuing to make adjustments and improvements to our @Your-Site Training Program:

- **Set Training Schedule**
 - NEPPA will schedule training topics by month, to ensure you meet OSHA compliant training requirements within the calendar year.
 - Trainings may be held at NEPPA Headquarters, a Regional Location, or at a member's location (i.e. @Your-Site)
 - NOTE: Additional @Your-Site courses may be requested, as desired. Scheduling is based on trainer availability.
- **Per Person Registration Fees**
 - **Effective January 1, 2019, the @Your-Site Training registration fees are:**
 - **NEPPA Members:** \$68 per person, minimum \$600 (i.e. 9 participants)
 - **Non-Members:** \$139 per person, minimum \$1,200 (i.e. 9 participants)
 - We encourage member-hosted classes to invite nearby systems to participate in order to meet the minimum charge/attendance.
- **@Your-Site Online**
 - NEPPA has established a partnership with J.J. Keller & Associates to provide online, OSHA compliant training. Upon completion of online training: individuals receive a Certificate of Completion, including topics covered, to be kept for your records and/or reporting requirements.
 - Registration Fees:
 - **NEPPA Members/Non-Members:** \$30 per person, per class.

NEW: OSHA FUNDAMENTALS @YOUR-SITE COURSES

In direct response to our members' feedback, NEPPA is announcing a new set of **optional OSHA Fundamentals courses** in 2020:

OSHA Fundamentals 1 (4 - 5 hrs):

Hazardous Communication (HazCom i.e. Right to Know), Blood Borne Pathogens, Spill prevention Control & Countermeasures

OSHA Fundamentals 2 (5 - 6 hrs, for rescue practical):

Fire Extinguishers, Emergency Action & Evacuation Plans, Enclosed & Confined Spaces (Optional Add On: Hearing Conservation)

OSHA Fundamentals 3 (5 - 6 hrs, for rescue practical):

Lock Out/Tag Out (LOTO), Switching & Tagging, Bucket & Pole Top Rescue

OSHA Fundamentals 4 (4 - 5 hrs):

Forklift Training & Practical Demonstration (vs. Awareness or Refresher Training)

OSHA Fundamentals 5 (5 - 6 hrs, depending on program):

First Aid/CPR/AED

Q: How are these courses different than other @Your-Site sessions?

A: OSHA fundamental courses are 4 - 6 hours in length (vs. 3 hours) and will cover more than one topic at a time.

Q: What are the registration fees for the OSHA Fundamentals @Your-Site sessions?

A: With the exception of First Aid/CPR (since the class size is restricted by the card certifier - i.e. American Heart Association, American National Safety & Health Institute, or Medic First Aid), the OSHA Fundamentals courses will be billed at the following rates:

NEPPA Members: \$125 per person, minimum \$1,000 (i.e. 8 participants)

Non-Members: \$225 per person, minimum \$1,800 (i.e. 8 participants)

Q: What is the bottom-line cost savings and return?

A: In addition to fewer days spent "in the shop" for required training, at these rates, a system that typically sends 10 students to 8 classes per year, will save approximately \$500/year on their training costs.

Questions? Please contact Sarah Elise Klingler, Director of Education & Programs at (978) 540-2200 or sklingler@neppa.org.

OPERATIONS & SAFETY

General Industry: Training Requirements 29 CFR 1910	OSHA Reference	Annual Requirement	Upon Assign	Req. Class Time (hrs)
Blood Borne Pathogens	.1030(g)(2)(ii)	+	+	.5-1
Compressed Gas Safety	Subpart H (GD)		+	1
Confined Space	.146(g) and .146(k)(2)(iv)	+ Rescue	++	4-8
Control of Hazardous Energy (Lock out/Tag out)	.147(c)(6) and (c)(7)(iii) and .269(a)(2)(i)	+ Assess	++	2-4
CPR, First Aid	.269(b)	+	+	1-6
Electrical Safety	29 CFR 1910.269, NESC		++	
Electrical Safety: Area Lift Vehicles	.67(c)(2)(ii)		++	1-3
Electrical Safety: De-energizing Lines (switch & tag)	(a)(2)(i)		++	1
Electrical Safety: Enclosed/Confined Spaces	(e)	+ Rescue	++	2-4
Electrical Safety: Excavations (including DigSafe)			++	2
Electrical Safety: Grounding	(a)(2)(i)		++	3
Electrical Safety: Job Briefings (Tailored Discussions)	(c)		++	1
Electrical Safety: Meter Safety	(a)(2)(i)		++	2
Electrical Safety: Overhead Lines	(a)(2)(i)		++	2
Electrical Safety: Substation Safety	(a)(2)(i)		++	2
Electrical Safety: Tree Trimming and Chainsaw Use	(a)(2)(i)		++	1
Electrical Safety: Underground Installations	(a)(2)(i)		++	
Electrical Safety: Working on Live Lines (Gloving)	(a)(2)(i)		++	2-4
Emergency Action and Evacuation	.38(e)	+	+	1-2
Fall Protection	.140		++	4
Fire Extinguisher Use	.157(g)(2)	+	+	.5-1
Flammable Material Handling	.106 (GD)		+	1-2
Forklift Training (where applicable)	.178(i)(4)(iii)	+ 3 yr.	+	4
Gantry and Derrick Crane Use and Inspection			+	1-2
Hazardous Communications	.1200(h)(1)		++	2-4
Hazardous Waste Operations	40 CFR 261-266		+	
Hearing Conservation (where applicable)	.95(k)(2)	+	+	1-2
Machine Guarding	Subpart O		+	2
Personal Protective Equipment	.132(f)(2)		++	2
Poletop, Bucket, Structure Rescue	.269(a)(2)(i)	+ Rescue	+	2-4
Portable Power Tools	.269(a)(2)(i) and .242-.244 (GD)		+	1
Respiratory Training (where applicable)	.134(k)	+	+	2-4
Slings and Rigging	.184 General Duty (GD)		+	2
Spill Response (where applicable)	40 CFR 112 (SPCC)	+	+	2-6
Walking Working Surfaces	1910 subpart D (with ladder .23)		+	1-2
Welding Safety	Subpart Q (GD)		+	1
Work Zone Safety (Flagger 2-3 years)	MUTCD		++	1-4

+ Annually Required

++ Required upon assignment and whenever an event necessitates retraining.

SAFETY CLASSES

American Heart Association First Aid/CPR/AED; Medic First Aid; American Health & Safety Institute (ASHI) 29 CFR 1910.269 (b)

Teaches the lay person how to effectively recognize and treat adult emergencies in the critical first minutes until Emergency Medical Services (EMS) personnel arrive.

Students will learn:

- How to recognize the signs of sudden cardiac arrest and choking
- When to activate the EMS system
- How to perform CPR
- How to operate the AED in an emergency
- How to avoid potentially hazardous situations
- How to assess the scene
- Understand Good Samaritan Laws
- How to apply first aid for bleeding, shock, head injuries, burns, sudden illness, heat and cold emergencies, poisoning, as well as snake, spider and tick bites.

Format:

Class is 6 hours with hands-on skill demonstrations.

The First Aid portion of the course is broken down into 20 chapters. The First Aid Basics section involves eight chapters.

Course materials:

Heartsaver First Aid CPR/AED Workbook and Card; Certification is valid for 2 years.

APPA Safety Manual Part I

An introduction to the first four sections of the current APPA Safety Manual including General Rules, Health and Environmental Control, Chemical and Physical Hazard Control and PPE.

Students will learn and be able to identify:

- Confined & enclosed space entry procedures and rescues
- Lockout / tagout procedures
- Fire protection & fire extinguishers awareness
- Understand utility security
- Be knowledgeable of material handling & storage of compressed gases, fuels, PCB's, acids, caustics, lead, asbestos, etc.
- Proper use of herbicides and other chemicals
- Personal protective equipment

Format:

Lecture with class interaction and discussion.

What to Bring:

Current APPA Safety Manual.

APPA Safety Manual Part 2

An introduction to Section 5 of the current APPA Safety Manual which covers Electric Utility Operations.

Students will learn and be able to identify:

- General office safety policies and procedures
- Warehouse operations including shipping and receiving
- Vehicle operations
- Work zone safety
- Proper use of tools and equipment
- Overhead and underground transmission and distribution
- Understand underground lines and equipment
- Safe work practices in and around substations

Format:

Lecture with class interaction and discussion.

What to Bring:

Current APPA Safety Manual.

Bucket/Pole Top Rescue 29 CFR 1910.269 (a)(2)

Instruction regarding the appropriate actions to take during an emergency electrical contact, situation analysis, qualified observer requirements, rescuer protection followed by practical exercises.

Students will learn:

- Bucket Truck Rescue Systems
- Pole Top Rescue Procedures
- Structure and Tower Rescue Procedures
- Participants will also have hands-on application of methods through a practical demonstration of rescue procedures

Format:

Lecture with class interaction and discussion followed by each participant making a simulated rescue.

What to Bring:

Current APPA Safety Manual, fall-protection climbing gear, and each type of bucket truck from the utility.

Training locations are expected to provide a safe rescue site for students to conduct a practical demonstration.

SAFETY CLASSES

Enclosed and Confined Spaces 29 CFR 1910.269 (e)

Define “Confined Spaces” vs. “Enclosed Spaces,” and the techniques to use to perform a safe rescue from an Enclosed or Confined space.

Students will learn:

- How to safely remove a cover and test for dangerous gases
- Make a safe entry into a space
- Recognize symptoms of exposure to harmful gases, ventilation techniques
- Attendant responsibilities and rescue techniques
- Controlling the work area

Format:

Lecture with class interaction and discussion followed by each participant making a simulated rescue.

What to Bring:

Current APPA Safety Manual, proper rescue equipment, and an atmospheric tester.

Training locations are expected to provide a safe rescue site for students to conduct a practical demonstration.

Ergonomics

Principles of proper body mechanics when performing everyday tasks and the importance of posture while sitting, standing, sleeping, and driving, as well as the consequences of improper posture and other potential contributing factors that could result in musculoskeletal disorders.

Students will learn:

- Awareness of proper posture and body mechanics for performing everyday tasks on and off the job
- Identifying and performing various strength and stretching exercises
- Understanding the importance of proper positioning to their overall health and well-being

Format:

Lecture and hands-on demonstration and execution of stretches and strength exercises. Class is a maximum of 2.5 hours.

Hazardous Communication (HAZCOM, i.e. Right to Know) & Blood Borne Pathogens (Add On: Silica Protection where applicable) 29 CFR 1910.1200, 1030

This course includes a review of the RTK law with the current Global Harmonization System and a review of the blood borne pathogens regulations.

Students will learn:

- Purpose of the Hazard Communication Standard
- How to identify the elements of a Hazard Communication written program.
- Labeling requirements and new pictograms
- Applicable OSHA Standards
- Modes of blood borne pathogen transmission and universal precautions
- Exposure Control Plans
- Decontamination, exposure requirements and employer responsibilities
- ADD ON: Silica Protection covers:
 - Define what crystalline silica is
 - Understand where silica is found
 - Describe health effects
 - Explain how to reduce or eliminate the hazard

Format:

Lecture with class interaction and discussion. A brief exam will follow the training session.

What to Bring:

Current APPA Safety Manual.

High Voltage Rubber Gloving: Insulate & Isolate and Arc Flash Safety 29 CFR 1910.269 (I)

Safe work practices while working on high voltage lines using rubber gloves and sleeves and live line equipment such as hot sticks.

Students will learn:

- Insulate and isolate requirements
- How to properly insulate and isolate
- Use, care, testing and inspection of rated protective equipment (i.e. insulator hoods, pole guards, line hoses)
- Use, care, testing and inspection of rated & tested protective equipment (i.e. rubber gloves, sleeves, and blankets)
- Work Area Safety
- Understand arc flash safety hazards in open air

Format:

Lecture with class interaction and discussion followed by practical exercise of hot stick tools.

What to Bring:

Current APPA Safety Manual, hot sticks used by the utility including any load break devices.

SAFETY CLASSES

Lock Out/Tag Out (LOTO) and Switching & Tagging 29 CFR 1910.269 (d)

LOTO covers servicing and maintenance of machines and equipment in which unexpected activation or release of stored energy could cause injury to employees. Switching & Tagging covers de-energizing lines and equipment for employee protection with and without a dispatcher.

Students will learn:

- Steps to protect a worker at a remote location from accidental energizing of equipment, including vehicles
- Connected lines and equipment that may be energized or de-energized.
- Switching communications
- Switching tags

Format:

Lecture with class interaction and discussion.

What to Bring:

Current APPA Manual, utility specific LOTO or Switching & Tagging procedures.

OSHA Fundamentals (1 - 5)

OSHA Fundamentals (Parts 1- 5) are designed to meet your OSHA compliant training requirements in fewer overall class days, by meeting for 4 - 6 hours per class (topic dependent):

OSHA Fundamentals 1 (4 - 5 hrs):

Hazardous Communication (HazCom i.e. Right to Know), Blood Borne Pathogens, Spill Prevention Control & Countermeasures

OSHA Fundamentals 2 (5 - 6 hrs, for rescue practical):

Fire Extinguishers, Emergency Action & Evacuation Plans, Enclosed & Confined Spaces (Optional Add On: Hearing Conservation)

OSHA Fundamentals 3 (5 - 6 hrs, for rescue practical):

Lock Out/Tag Out (LOTO), Switching & Tagging, Bucket & Pole Top Rescue

OSHA Fundamentals 4 (4 - 5 hrs):

Forklift Training & Practical Demonstration (vs. Awareness or Refresher Training)

OSHA Fundamentals 5 (5 - 6 hrs, depending on program):

First Aid/CPR/AED

Format:

Lecture with hands-on applications and rescue demonstrations, where applicable. When provided, these programs can be tailored and focused to your procedures.

What to Bring:

Current safety manual, applicable safety procedures, and climbing or rescue equipment, where applicable.

Personal Protective Grounding 29 CFR 1910.269 (m)

Proper steps that must be taken to safely de-energize lines and equipment and the proper steps that must be taken to install grounds to protect employees.

Students will learn:

- Use of personal protective equipment (PPE).
- Identify major hazards
- Describe types of hazards
- Protect yourself from these hazards
- Recognize employer requirements to protect workers from these hazards
- Demonstrate their ability to recognize and assess hazardous conditions

Format:

Lecture with class interaction and discussion.

What to Bring:

Current APPA Safety Manual.

Rigging, Ropes, and Safety

This class covers the practical application of weights and loads, the Working Load Limit of equipment, shock load, sling angles and parted blocks with snatch blocks.

Students will learn:

- How to calculate strains and tensions found in rigging
- The Working Load Limit
- Different types of rope
- How knots affect the Working Load Limit
- How to apply their knowledge to practical applications in line work
- Parted blocks and snatch blocks
- The importance of safety in rigging

Format:

Lecture with class interaction and discussion.

What to Bring:

Current APPA Safety Manual and a calculator.

NOTE: *Rigging, Ropes and Safety* does NOT satisfy MA Hoisting Licensing requirements. Please see page 7.

SAFETY CLASSES

System Protection

This class covers line and equipment protection utilized by virtually all electric utilities.

Students will learn:

- Electrical system protection fundamentals
- Distribution lines and equipment
- Lightning protection
- Substation protection
- Outage record keeping

Format:

Lecture with class interaction and discussion.

What to Bring:

Current APPA Safety Manual.

Trouble Investigation

This class covers several typical scenarios of power disturbances/outages.

Students will learn:

- Communications skills necessary for effective trouble investigation
- Filtering out non-essential information
- Practical transformer troubleshooting
- Standard investigation process

Format:

Lecture with class interaction and discussion.

What to Bring:

Current APPA Safety Manual and practical examples of past situations and case studies.

Workplace Safety (Part A): Environmental Safety and Walking Working Surfaces

This class covers Environmental Safety, and Slips, Trips, and Falls.

Students will learn:

- Potential hazards from animals and insects
- Warm and cold weather exposure
- Poisonous plants
- First aid for exposures
- OSHA Regulations for Walking & Working Surfaces (WWS)
 - Explain definitions of essential terms used in 29 CFR 1910 Subpart D.
 - Describe 29 CFR 1910 Subpart D general requirements.
 - Identify applicable standards relating to ladders.
 - Describe the requirements for stairways.
 - Explain the requirements for fall protection systems and prevention from falling objects

Format:

Lecture with class interaction and discussion.

What to Bring:

Current APPA Safety Manual.

Workplace Safety (Part B): Emergency Action & Evacuation Plans, Fire Extinguisher & Ladder Safety and Hearing Conservation

This class covers fire extinguisher training and ladder safety.

Students will learn:

- Benefits of an Emergency Action Plan (EAP)
- Elements of Fire Protection Plan
- Which evacuation actions are necessary
- When shelter-in-place may be required
- Effective emergency escape route
- Five types of fire extinguishers
- Requirements for proper maintenance of portable fire extinguishers
- Hazardous levels of noise which can cause hearing damage
- How hearing loss cannot be cured or repaired
- Annual requirements for a hearing conservation program
- Differences in effectiveness between ear plugs, canal caps, and ear muffs

Format:

Lecture with class interaction and discussion.

What to Bring:

Current APPA Safety Manual.

SAFETY CLASSES

Workplace Safety (Part C): Chainsaw, Chipper and Green Power Safety

This class covers Chainsaw/Chipper Safety and Safety for Green Power.

Students will learn:

- Chainsaw maintenance and safe operation
- Safe felling operations and kickback prevention
- Safe operation of wood chippers
- PPE requirements
- Back feed
- Climbing steel towers
- Fall protection
- Solar panel safety

Format:

Lecture with class interaction and discussion.

What to Bring:

Current APPA Safety Manual.

Work Zone Safety 29 CFR 1910.269 (w)(6)

Covers the MUTCD Part 6 which shows typical layouts for numerous scenarios that may be encountered on roadways throughout an electric utility.

Students will learn:

- Why proper flagging is important
- Qualifications of a good traffic control personnel
- Equipment needs for traffic control personnel
- Selection of the proper traffic control personnel station
- Communication between traffic control personnel and the public
- Using the Manual on Uniform Traffic Control Devices (MUTCD) to Work Zones.
- Basic principles of Work Zone setups for utilities

Format:

Lecture with class interaction and discussion.

What to Bring:

Current APPA Safety Manual, MUTCD and Work Zone Safety Handbook (electronic copies available upon request).

TECHNICAL CLASSES

AC Power Systems

This class covers alternating current power from theory to generation to the effects of AC power on different circuits. It also compares three-phase power to single-phase power.

Topics covered:

- How AC differs from DC
- How electromagnetic induction affects different circuits
- How the components of an AC circuit affect power factor
- What current and voltage do in series and parallel circuits
- How three-phase power is generated and how it differs from single-phase power

Format:

Lecture with class interaction and discussion.

Advanced Transformers

This class takes an in-depth look at how a transformer works and how it is built. It covers Lenz's Law and how electromagnetic induction creates a counter EMF to allow a transformer to work. Angular displacement and vector analysis is covered in detail.

For an introduction/review, see Transformer Review and Transformer Connections on page 17.

Topics covered:

- Transformer theory
- Transformer core construction
- Transformer windings and voltage ratios
- Transformer ratings and applications
- Angular displacement of the various connections
- Vector analysis of three phase transformer banks

Format:

Lecture with class interaction and discussion.

Capacitors

This class covers what a capacitor is, why they are needed, and how they affect the power system. Safe work procedures are also included.

Topics covered:

- The electrostatic field
- What's inside the case
- The relationship of voltage and current in resistive, inductive, and capacitive circuits
- Why capacitors are needed
- Calculating power factor
- The hazards of working with capacitors and the necessary PPE required for safe operation
- Safe work procedures for working on capacitors

Format:

Lecture with class interaction and discussion.

Circuit Breakers

This class covers the main function of a circuit breaker and how it extinguishes an arc. The different operating mechanisms and safe work practices are also covered.

Topics covered:

- The five factors all circuit breakers use to extinguish an arc
- The different operating mechanisms used to operate circuit breakers
- Safe work procedures for racking circuit breakers in and out of service
- PPE requirements
- Stored energy concerns
- SF6 gas handling

Format:

Lecture with class interaction and discussion.

TECHNICAL CLASSES

Electrical Testing Equipment

This class covers test instruments used by electrical workers in the field and in the substation.

Topics covered:

- Low voltage test equipment
- High voltage test equipment
- Cable fault locating
- Insulation test set
- TTR
- Regulator neutral indicator

Format:

Lecture with class interaction and discussion.

Electrical Theory

This class covers the basics of electrical theory from atomic structure to AC power.

Topics covered:

- The structure of an atom
- How electrons are moved to produce electricity
- How magnetism relates to electricity
- What makes a good conductor or good insulator
- Electric circuits
- Volts, ohms, amps and watts

Format:

Lecture with class interaction and discussion.

Reclosers and Recloser Control Programming

This class covers what a circuit recloser does and how it differs from a circuit breaker and a sectionalizer. Also covered are system faults, recloser application and safe work procedures while working on a recloser, or the circuit fed by a circuit recloser.

Topics covered:

- System faults
- Recloser operation
- Features available on the control
- Recloser application
- Control programming basics
- Hot Line Tag

Format:

Lecture with class interaction and discussion.

Relays

This class covers a description and the basic function of relays and their importance in system protection. Various types of relays are covered. Relay testing is addressed but not covered in-depth.

Topics covered:

- The main function of a relay
- The five basic elements of relays
- The most common relay
- Auxiliary relays
- Distance relays
- Pilot wire relays
- Solid state relays

Format:

Lecture with class interaction and discussion.

Substation Components

This class combines a look at the two most critical components of an electric substation – the power transformer and the battery.

Power Transformers

Substation Components begins with a look at the first important component of a substation – the power transformer – explaining what they do, their ratings and basic testing.

Topics covered:

- Power transformer classifications
- Winding temperature ratings
- Impedance
- Basic transformer testing

Batteries, Cells, and Chargers

This second portion of the course covers DC systems, cell specs, cell monitoring, and cell tests, as well as battery charger function and tests.

Topics covered:

- Monitoring pilot cells
- Cell testing and evaluation of the results
- Safety concerns of DC power
- The function of the battery charger
- How to check the battery charger

Format:

Lecture with class interaction and discussion.

TECHNICAL CLASSES

Transformer Review & Transformer Connections

This class covers a review of electromagnetic induction, the components of a transformer and their functions, bushing arrangements and the various types of transformers. Some basic field testing of transformers is also discussed.

Topics covered:

- Transformer operation – electromagnetic induction
- Transformer selection
- Transformer polarity
- Impedance and its effect on output voltage
- Rigging safe work practices
- Single phase connections
- Three phase connections
- Paralleling transformers

Format:

Lecture with class interaction and discussion.

Underground Distribution Review (URD)

This class discusses the design of underground electrical conductors with the related substructure and covers trenching and excavation. URD splicing, terminating and marking are also discussed.

Topics covered:

- The fundamental design of underground systems
- URD medium voltage cable
- Trench systems and the associated substructure
- URD fuse coordination
- URD transformer sizing and selection
- Splicing and terminating procedures for URD cable
- Marking systems for underground

Format:

Lecture with class interaction and discussion.

Voltage Regulators

This class covers the theory of operation and the construction of step voltage regulators and load tap changers. Control setting and programming are presented along with safe work practices and the hazards of voltage regulators is stressed.

Topics covered:

- Induced voltage and electromagnetic induction of an AC circuit
- Utility voltage requirements
- Voltage regulator operation
- Bandwidth
- Bridging reactors
- Winding polarity
- The steps to place a regulator in service and to remove one from service
- The basics of control programming
- Available data from the control

Format:

Lecture with class interaction and discussion.

Availability of a voltage regulator at the utility site to do hands-on work is beneficial.

ACTIVE SHOOTER

Active Shooter & Workplace Violence: Understanding Policy and Procedure's Critical Role in Prevention

Course Length: 1 Day

Course Dates: April 1, 2020

Who Should Attend:

This seminar is designed for:

- General Managers
- Occupational Safety & Health Professionals
- Crew Leaders
- General Foremen
- Office Managers

Course Overview:

In partnership with Blue-U Defense Seminars, this seminar will address the common absence of effective and practical policies and procedures in place for an incident of violence or active shooter.

This seminar explores:

- The difference between paper and action.
- What are the factors to consider to create effective procedures during an incident?
- How does an organization limit vulnerability?
- How can you limit organizational liability?
- A high level understanding and appreciation of policy and procedure's real effectiveness in preventing an incident.

Format:

A highly interactive and education seminar; followed by an open roundtable discussion.

Course Prerequisites:

No prerequisite required. It is helpful to bring, know, or understand what policies are currently in place at your organization, to fully engage in the seminar and participate in the discussion.

ADVANCED LINeworker

Advanced Lineworker

Course Length: 4 days/week; 4 weeks

Course Dates: Aug. 4 - 7; Aug. 25 - 28;
Sept. 15 - 18; Sept. 29 - Oct. 2, 2020

Who Should Attend:

This course is designed for:

- Experienced Lineworkers
- Crew Leaders
- Apprentice program graduates
- General Foremen

Program Overview:

Students will learn about:

- Making safety a conviction
- Understanding inductance and capacitance and the inter-relationship
- How a pole mount transformer works, the polarity, and the various connections that can be applied, as well as how to troubleshoot them
- Understanding how to safely handle, test, fuse, and maintain capacitors
- Calculating the various tensions found in common rigging operations
- Safely clearing lines for maintenance
- Troubleshooting voltage regulators
- Navigating through the NESC to find vital information
- How to properly sag tension overhead conductors and pull underground conductors
- How to safely and effectively apply grounds to de-energized lines
- To troubleshoot problem streetlights

Format:

Lecture followed by hands-on practice.

Course Prerequisites:

No prerequisite required. A basic knowledge of mathematics is beneficial.

APPRENTICE LINEWORKER

Apprentice Lineworker Program



Course Length: 4 days/week; 4 weeks per year

Course Dates:

Year I:

Jan. 28 -31; Mar. 3 - 6; Sept. 22 - 25; Oct. 27 - 30, 2020

Year II:

Feb. 4 - 7; Mar. 17 - 20; Sept. 29 - Oct. 2; Nov. 3 - 6, 2020

Year III:

Feb. 11 - 14; Mar. 24 - 27; Oct. 6 - 9; Nov. 17 - 20, 2020

Year IV:

Feb. 25 - 28; Mar. 31 - Apr. 3; Oct. 20 - 23; Dec. 7 - 10, 2020

Apprentice Skills Assessment Rodeo:

June 10 - 11, 2020

Apprentice Lineworker Program Graduation:

Dec. 10, 2020

NEPPA has adopted the four-year curriculum of the Northwest Lineman College's Lineworker Certification Program and combines hands-on and formal classroom training.

Format:

Students attend class four times a year for four days each to complete the four-year program.

Each year, students participate in an additional two-day Skills Assessment Rodeo each year.

The Apprentice Rodeo is designed to showcase the apprentices' developing technical and climbing skills, and to reinforce the program's focus on professionalism, safety, and proper technique.

Location:

All classes are held at the NEPPA Training Center in Littleton, MA.

Program is also offered in New York. Please contact NEPPA at (978) 540-2200 for more information.

Registration Fees:

NEPPA Members:	\$3,200 per person, per year
Non-Members:	\$4,800 per person, per year

Pre-Qualification Program Rates:

1 – 3 Individuals:	NEPPA Members: \$500; Non-Members: \$750
4+ Individuals:	Contact NEPPA

For more information on the Pre-Qualification Program, contact NEPPA at (978) 540-2200.

Topics Covered (details on following pages):

Year One:

Introduction to power delivery; safety; working in elevated positions; knots, splices and rope; electrical systems; first aid; applied mathematics; basic electrical theory; transformer basics; and 29 CFR 1910.269 (Parts A, B, C, G, I, K, N)

Prerequisite:

It is recommended that students new to the program be pre-qualified, either through their utility or through NEPPA's Lineworker Pre-Qualification Program.

Year Two:

Safety; AC fundamentals; personal protective grounding; live line equipment and methods; rigging; underground conductors; overhead conductors; electrical test equipment; substations; and 29 CFR 1910.269 (Parts H, J, L, M, R)

Prerequisite: Year One

Year Three:

Safety; special elements; metering; system power flow; advanced transformers; maps and standards; system protection; National Electric Safety Code One and Two; and 29 CFR 1910.269 (Parts E, F, P, Q, T, U, W)

Prerequisite: Year Two

Year Four:

Safety; communication systems; special elements; vegetation management; system operation; system automation; overhead line design; underground line design; trouble investigation; and crew leadership.

Prerequisite: Year Three

Cancellation Policy:

All program withdrawals must be sent in writing to NEPPA or emailed to colleend@neppa.org with attention to Colleen Del Signore. Substitutions may be made at any time (prior to the start of the program).

Books must be returned within 35 days of when they were shipped, provided that no exams have been taken and they are in like-new condition, so the appropriate refund can be issued.

Withdrawals/cancellations received based on the schedule below are eligible for the following:

3 weeks prior to the 1st scheduled week of class
= 100% refund of tuition

Before completion of the 1st scheduled week of class
= 75% refund of tuition

Before the completion of the 2nd scheduled week of class
= 50% refund of tuition

After the 2nd scheduled week of class
= 0% refund of tuition

APPRENTICE LINEWORKER

TOPICS COVERED

YEAR ONE

Introduction to Power Delivery

An overview of how electricity gets from generation to the end user by discussing the types of electric utilities and key agencies and organizations.

Safety One

An introduction to the importance of safety in the electric industry and the root causes of accidents.

Working from Elevated Positions

Climbing wood poles and the necessary techniques needed to perform the job safely, along with a discussion of the proper use and care of climbing tools.

Knots, Splices, and Rope

A thorough discussion of the types of rope and the various knots used in line work is covered along with slings, chains, shackles and their application.

Electrical Systems

Generation, transmission, distribution, and substations.

First Aid

This section covers burns, heat and cold injuries, stings and bites, sight and hearing injuries, and elevated position rescue.

Applied Mathematics

A general application of mathematics to practical problems in the electric industry.

Basic Electrical Theory

A discussion of the atomic theory and magnetism and a look at voltage, amperage, and Ohm's Law.

Transformer Basics

The basics of transformers including induction, transformer anatomy, transformer ratings and selection, along with a section on transformer installations.

29 CFR 1910.269 Sub Parts A, B, C, G, I, K, and N

OSHA inspections, job briefings, PPE, hand tools, and grounding practices.

YEAR TWO

Safety Two

Safety meetings, results of poor safety, public safety, and accident reviews.

AC Fundamentals

AC generation, electrical circuits, inductance, capacitance, and three-phase power.

Personal Protective Grounding (PPG)

The effects of current flow on the human body, overhead and underground grounding methods, and transmission and substation grounding methods.

Live Line Equipment and Methods

Minimum approach distances, the care and storage of live line tools, rubber protective equipment, and hot stick methods are covered in this section.

Rigging

Working with lifting loads, sling angles, parted blocks, snatch blocks and their applications.

Underground Conductors

Conductor types, proper selection of underground cables and the structures used in underground, along with proper pulling techniques.

Overhead Conductors

Conductor basics are covered including conductor types, stringing and sagging techniques, splicing, and dead ending methods.

Electrical Test Equipment

Use of multimeter, clamp-on ammeter, phase sequence meter, hi-voltage meters, fault locating equipment; a megger and a TTR are among the equipment discussed.

Introduction to Substations

Substation inspections, one-line diagrams, circuit breakers, power transformers, voltage regulators, and relays are discussed in this section.

29 CFR 1910.269 Sub Parts H, J, L, M and R

Ladders and platforms, live line tools, work on energized parts, de-energizing lines and equipment for employee protection and line clearance tree trimming.

APPRENTICE LINEWORKER

TOPICS COVERED

YEAR THREE

Safety Three

Job briefing, trench safety, electric and magnetic fields, oil spills, and safety data sheets.

Special Elements One

Power quality, streetlights, line inspections, helicopter utilization, and hydraulics.

Metering

Metering overview, self-contained meters, transformer rated meters, AMR and energy diversion, and meter testing.

System Power Flow

Power flow fundamentals (generation, transmission, distribution lines), transmission power flow, distribution power flow (transformers, capacitors, voltage regulators, etc.), customer power flow (voltage levels, power factor, etc.) and power system losses.

Advanced Transformers

Winding designations, three-phase connections, fusing and loading, transformer vectors, and installation and rigging.

Maps and Standards

Mapping basics, distribution mapping, transmission mapping, substation mapping, and construction standards.

System Protection

System protection fundamentals, distribution system protection, transmission protection, and reporting and monitoring service reliability.

National Electric Safety Code

Applying the NESC, inspection of utility facilities, grounding, electric supply stations and equipment, underground lines, work rules, overhead lines equipment, clearances, and overhead strength and loading.

29 CFR 1910.269 Sub Parts E, F, P, Q, T, U, and W

Enclosed spaces, excavations, mechanical equipment, overhead lines, underground electrical installations, substations, and special conditions (capacitors, CT's, back feed, lasers, and hydraulic fluid).

YEAR FOUR

Safety Four

Blood borne pathogens, ergonomics, safety audits, equipment safety, and key safety considerations (commitment to safety, reputation for safety).

Communications Systems

Communication basics (telephone, radio cellular, and cable TV), communication systems utilized by power companies, services offered by power companies, distribution fiber installation, and transmission fiber installation.

Special Elements Two

Customer relations, corrosion, Arc Rated (AR) clothing, security, and disaster restoration.

Vegetation Management

Tools and equipment, vegetation control, pruning methods, and safety standards.

System Operations

The system operator, clearing lines and equipment, distribution operation (switching and tagging), substation operation, and transmission operation.

System Automation

SCADA fundamentals, key equipment (computers, measuring equipment, and electronic controls), substation automation, distribution automation and automated meter reading.

Overhead Line Design

Line routes (ROW), structure design (poles, conductor supports, anchors, and guys), installation and equipment (insulators, arresters, switches, and protective devices), transformers, services, secondary and transmission lines.

Underground Line Design

Fundamental design, location and trench design, substructure design, switches, and protective equipment and transformers, secondary, and services.

Trouble Investigation

Communications, investigating customer complaints, transformer trouble investigation, and radio and TV interference.

Crew Leadership

Background (today's crew leader, employer expectations, and scheduling line crews), crew leader resources (labor, equipment, and contractors), knowledge, skills, and abilities, job responsibilities, and assisting the crew leader.

METERING PROGRAM

Metering I

Course Length: 2 Days **Course Dates:** April 27 - 28, 2020

Who Should Attend:

This program is designed for:

- New Meter Technicians
- Transitioning lineworker to metering
- Operations or Field Personnel

Course Overview:

The Metering I Program is designed to be an introduction to metering, meter safety, equipment and testing.

Students will learn:

- Hazards of the electric metering industry (both physical and electrical)
- Basic concepts of how to meter electric energy
- Using mathematics to solve various problems and to calculate various electrical quantities
- Explaining what “demand” is, how it’s metered and why
- Recognizing meter applications for the appropriate multiplier

Course prerequisites:

No prerequisite required, but a basic knowledge of mathematics is beneficial.

Metering II

Course Length: 3 Days **Course Dates:** August 25 - 27, 2020

Who Should Attend:

This program is designed for:

- Meter Technicians
- Transitioning lineworker to metering
- Operations or Field Personnel

Course Overview:

Building upon concepts learned in Metering I, Metering II dives deeper into metering applications and technologies for today’s utility.

Students will learn:

- Applying meters
- Power factor and how it’s used in metering
- Industry best practices and troubleshooting existing meter installations for errors
- Interpreting meter wiring diagrams for accurate meter installations
- Programming for electronic meters
- Polyphase systems and applying the proper meter for a specific application

Course prerequisites:

Completion of Metering I is strongly recommended. A basic knowledge of mathematics is beneficial.

OSHA TRAINING

New Hire Training

Course Length: 4 Days **Course Dates:** Contact NEPPA

Who Should Attend:

The New Hire Training is designed for new hires who need to satisfy their required OSHA training.

Course Overview:

NEPPA is pleased to offer this program to its members once or twice per year to help employers meet the OSHA training requirements.

Topics Covered:

- Bloodborne Pathogens
- Confined Spaces
- Lock Out/Tag Out
- Electrical Safety
- And more... (See page 9 for a list of required training topics upon assignment)

OSHA 10-Hour for General Industry

Course Length: 2 Days **Course Dates:** May 19 - 20, 2020

Who Should Attend:

The OSHA 10-Hour course is recommended for:

- New Hires
- Lineworkers, Operations or Field Personnel
- Office Managers & Staff
- Customer Service
- Engineers
- Anyone employee with little to no introduction to OSHA and its requirements

Course Overview:

NEPPA is pleased to offer this program to its members. Each participant will be given an OSHA 10-Hour Card after successful completion.

Topics May Include:

- Introduction to OSHA
- Hazard Communication
- Personal Protective Equipment
- Exit Routes, EAP, Fire Prevention Plans & Fire Protection
- Walking Working Surfaces
- Electrical Safety
- Fall Protection
- Ergonomics
- Bloodborne Pathogens
- Machine Guarding
- Hazardous Materials
- Managing Safety & Health

Course prerequisites:

No prerequisite required.

SUBSTATION PROGRAM

Substation I**Course Length:** 4 days/week; 4 weeks**Course Dates:** March 10 - 13; April 7 - 10;
April 28 - May 1; May 12 - 15, 2020**Who Should Attend:**

- New Substation Technicians
- Lineworkers who regularly work on, in or near substations
- Operations or Field Personnel

Course Overview:

The Substation I Program is designed to introduce students to what a substation is, and why it is a critically important component of the electrical distribution system.

Students will learn:

- Hazards inside substations
- The difference between AC Power and DC Power
- Using mathematics as a tool
- Importance of cells and batteries in a substation
- Relays, circuit reclosers, circuit breakers and voltage regulators
- Substation equipment, testing and inspection

Format:

Lecture followed by student practice.

Course prerequisites:

No prerequisite required, but a basic knowledge of mathematics is beneficial.

Substation II**Course Length:** 4 days/week; 4 weeks**Course Dates:** Sept. 15 - 18; Sept. 29 - Oct. 2;
Oct. 20 - 23; Nov. 3 - 6, 2020**Who Should Attend:**

- New Substation Technicians
- Lineworkers who regularly work on, in or near substations
- Operations or Field Personnel

Course Overview:

The Substation II Program builds upon concepts of Substation I to understand and apply knowledge of the design, construction, maintenance and troubleshooting of a substation.

Students will learn:

- Hazards inside substations
- Clearing substation equipment for maintenance
- Testing substation equipment and interpreting results
- Operation of relays in a substation and how they are tested
- Tests on different styles of circuit breakers
- Programming circuit reclosers
- Troubleshooting voltage regulators
- Designing an SPCC plan for a substation

Format:

Lecture followed by student practice.

Course prerequisites:

Completion of Substation I is strongly recommended, but not required. A basic knowledge of mathematics is beneficial.

NORTHEAST PUBLIC POWER ASSOCIATION

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