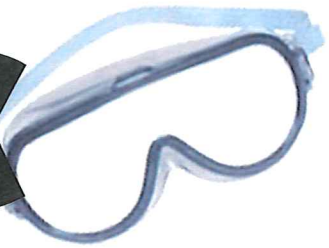

AMEC TRAINING COMPLIANCE ASSISTANCE MANUAL

Association of Missouri Electric Cooperatives

Registering an Employee in the AMEC Apprentice Program

If your cooperative is <u>not</u> registered with the Department of Labor:

1) Complete the Lineworker Certification Program registration for employee(s) located in this section of the manual.
    a) If this is the first employee the cooperative has registered you will need to complete the enrollment form and the test facilitator agreement of integrity.

    NOTE: It is possible for a cooperative to have more than one facilitator; however each facilitator will have to sign a test facilitator agreement of integrity which is included in the registration packet.

    b) If this is **not** the first employee the cooperative has registered you still need to complete the enrollment form.
        a) Along with the registration information you will need to send a check, money order, P.O. number or credit card number along with the registration to the Risk Mgmt & Training Asst at AMEC. Remember to make checks and P.O.s out to Northwest Lineman College and ***not*** AMEC. **This information only needs to be sent to the Risk Mgmt & Training Asst when ordering the <u>first module</u> for each apprentice.** ***Additional modules should be ordered directly from NLC either online or by calling 208-888-4817.***

If your cooperative is registered with the Department of Labor:

1) Complete the Lineworker Certification Program registration for employee(s) located in this section of the manual.
    b) If this is the first employee the cooperative has registered you will need to complete the enrollment form and the test facilitator agreement of integrity.

    NOTE: It is possible for a cooperative to have more than one facilitator; however each facilitator will have to sign a test facilitator agreement of integrity which is included in the registration packet.

    c) If this is **not** the first employee the cooperative has registered you still need to complete the enrollment form.

    d) Along with the registration information you will need to send a check, money order, P.O. number or credit card number along with the registration to the Risk Mgmt & Training Asst at AMEC. Remember to make checks and P.O.s out to Northwest Lineman College and ***not*** AMEC. **This information only needs to be sent to the Risk Mgmt & Training Asst when ordering the <u>first module</u> for each apprentice.** ***Additional modules should be ordered directly from NLC either online or by calling 208-888-4817.***

2) Register employee with the Department of Labor online at: https://www.rapids.doleta.gov/
    a) Print apprenticeship agreement that you fill out online and send a copy to the Risk Mgmt & Training Asst at AMEC

NOTE: User id and password are required to access site. Each cooperative should have this information at the cooperative. If you need this information, you may also contact AMEC.

Northwest Lineman College

Power Delivery Programs

Student Enrollment Application

Personal Information

Name		Date
Employer		Phone Number
Address *(Street or PO Box)*		Email Address
City	State	Zip
Date of Birth	Gender ☐Male ☐ Female	Last 4 digits of Social Security #
Name of Test Facilitator		Shirt Size ☐ M ☐ L ☐ XL ☐ XXL

Education

Name of High School		City
Did you graduate? ☐Yes ☐No ☐GED	Month and Year of High School Graduation	

If you are a graduate of Northwest Lineman College's Electrical Lineworker Program, please list month and year of graduation.

Program Selection

Select the program for which you are applying:

- ☐ **Lineworker Certification Program**
- ☐ **Substation Technician Certification Program**
- ☐ **System Operator Certifcation Program**
- ☐ **Meter Technician Certification Program**
- ☐ **Other**_____

Upon enrollment, trainees are placed in Module One of the selected program unless otherwise noted. _____

Training Agreement and Signature

I, the undersigned, understand and attest to the following:

1. I am a full-time employee of a company involved in the power delivery industry (utility, contractor, manufacturer, military, etc.) and will follow their policies and standards regarding completion of this program, as well as follow Northwest Lineman College policies.

2. I am at least 18 years of age and have graduated from high school (or earned GED equivalency).

3. I must maintain an acceptable attitude as indicated by the Trainee Readiness Assessment form to be enrolled and advance through this program.

4. I can contact Northwest Lineman College for educational and technical assistance related to the training program for which I am enrolling.

5. This training program exceeds the 144-hour academic training requirement of the U.S. Department of Labor (DOL) standards of apprenticeship. However, to earn U.S. DOL certification, the employer must register their company, which is outside of NLC's control. Upon successful completion of this program, I will earn Northwest Lineman College certification.

6. Northwest Lineman College's minimum score per evaluation is 72%. My employer may establish a higher grade standard.

7. I pledge to assert my best effort in completion of this program and will meet or exceed the measures indicated on the Trainee Readiness Assessment.

8. I have received and read the PDP program catalog.

Signature _____ Date _____

Northwest Lineman College

Trainee Readiness Assessment

Power Delivery Programs

Northwest Lineman College is highly committed to ensuring trainees are ready and prepared to successfully complete the training program in which they are enrolling. Experience has shown that trainees who demonstrate dedication to safety, professionalism, respect, dependability, and positive attitudes are more likely to work safely, successfully complete the training program in which they are enrolled, and make long-term positive contributions to their company.

Northwest Lineman College accepts enrollment of the trainee listed below if he/she is marked "ready" in all of the readiness criteria as indicated by a supervisory employee of the sponsoring company. Meeting these criteria is a minimum enrollment requirement. If the trainee does not meet your company standards for the criteria listed below, a recommended wait period of 1-3 months before re-evaluation is advised.

Instructions: Considering the trainee listed below, read each behavioral criterion and place an "X" in the box that best represents his/her behavior based on your company standards. Sign and submit only if "Ready" is selected for each item.

READINESS CRITERIA	**Not Yet Ready** in this area	**Ready** in this area
Attitude Makes positive contribution to crew and company; focuses on solving problems; accepts assignments without complaint; eager to learn.	☐	☐
Safety Demonstrates desire to learn and abide by company safety rules and procedures; does not have to be reminded to wear personal protective equipment (PPE); exhibits good housekeeping habits.	☐	☐
Professionalism Appropriately represents self, crew, and company among others, including customers.	☐	☐
Dependability Is to work on time, does not abuse sick time, available for outages, quickly corrects mistakes in work, does not have to be told repeatedly how to perform a task.	☐	☐
Honor/Respect Treats others with respect and courtesy; views employment with this company and enrollment in training programs as a privileged opportunity.	☐	☐

➔ _____ _____ _____

Trainee (print name) | Signature | Date

➔ _____ _____ _____

Company Supervisory Representative (print name) | Signature | Date

➔ _____

Company Name

Completing an Employee in the AMEC Apprentice Program

If your cooperative is not registered with the Department of Labor:

1) The following information should be completed before an employee can receive their AMEC certification:
    a) Employee must have successfully completed all 40 tests in the Lineworker Certification Program
    b) Employee must have attended all five required core courses
    c) Employee must have completed all 8,000 hours of on-job training (OJT)
    d) Once all of these requirements have been completed contact the Risk Mgmt & Training Asst at AMEC and she will issue an AMEC Certificate of Completion that will be sent to your cooperative manager for his/her signature

If your cooperative is registered with the Department of Labor:

2) The following information should be completed before an employee can receive their AMEC certification:
    a) Employee must have successfully completed all 40 tests in the Lineworker Certification Program
    b) Employee must have attended all five required core courses
    c) Employee must have completed all 8,000 hours of on-job training (OJT)
    d) Once all of these requirements have been completed contact the Risk Mgmt & Training Asst at AMEC to verify that all requirements have been met
    e) After verifying the information, go online to https://www.rapids.doleta.gov/ and complete the employee with the Department of Labor (after completing the employee online, Mike Smith with DOL will issue the DOL certificate for the employee)
    f) Print completion information that you fill out online and send a copy to the Risk Mgmt & Training Asst at AMEC
    g) Once the DOL completion information is received, the Risk Mgmt & Training Asst will issue an AMEC Certificate of Completion that will be sent to your cooperative manager for his/her signature

Testing Procedures for the Lineworker Certification Program

1) Structure of Modules:
    a. There are 10 tests per module for a total of 40 tests
    b. There is no final exam after each module or after all 40 tests
    c. Each module does not start over with test one. They continue through all 40 tests
    d. The same answer sheet is used for all 40 tests (Answer sheet provided in this section of the manual)

2) Requesting Tests:
    a. **All** paper tests should be requested through AMEC and online tests through NLC
    b. Requests can either be made by phone or email
    c. Tests will be emailed
    d. Twenty-four hours notice should be given for test requests
    e. Tests can only be requested by **test facilitators**

3) Proctoring of Tests:
    a. Tests should be given under direct supervision of the registered test facilitator
    b. Notes, books, cell phones, etc. should not be allowed during testing

4) Storing & Shredding of Tests:
    a. Original answer sheets should be kept with graded answer sheets in employee's personnel file
    b. Test(s) can be kept secured until test results are sent back and then test(s) should be shredded
    c. Employee **should not** be given tests or answer sheets to keep

5) Failed Tests:
    a. Employee must make at least a 72% on each test to pass
    b. If employee does not make 72% it will be noted on the exam that the exam must be retaken
    c. Employee must wait **30 days** before they can re-take the failed test
    d. Employee can take other exams during that 30-day period, but not the test that was failed
    e. It is the responsibility of the test facilitator to keep track of the 30 days. When the 30 days has passed the facilitator should contact AMEC when the employee is ready to retest.

1. ⓐ ⓑ ⓒ ⓓ
2. ⓐ ⓑ ⓒ ⓓ
3. ⓐ ⓑ ⓒ ⓓ
4. ⓐ ⓑ ⓒ ⓓ
5. ⓐ ⓑ ⓒ ⓓ
6. ⓐ ⓑ ⓒ ⓓ
7. ⓐ ⓑ ⓒ ⓓ
8. ⓐ ⓑ ⓒ ⓓ
9. ⓐ ⓑ ⓒ ⓓ
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25. ⓐ ⓑ ⓒ ⓓ

Power Delivery Programs

(Revised November 2011)

Please clearly print all information below and sign or evaluation cannot be graded.

Student's Name: _____

Company: _____

Date: _____

Evaluation Name: _____
(Found on the upper left corner of the evaluation booklet)

Return Fax # or email: _____

I certify that I have studied all of the appropriate materials and am prepared for this evaluation.

x _____
SIGNATURE REQUIRED OR EVALUATION WILL NOT BE GRADED

Instructions:

Fax this bubble sheet to NLC at **(208) 493-3099** when completed. Your results will be returned within 24 hours (except weekends and holidays). All evaluations are closed book (unless otherwise specified).

Fill the bubble in completely.

ⓐ ⓑ ● ⓓ

For **True/False** questions:

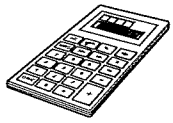
ⓐ ⓑ ⓒ ⓓ

Mark "a" for True,
Mark "b" for False

Answers that are left blank are marked **wrong.**

15. ⓐ ⓑ ● ⓓ
16. ⓐ ⓑ ⓒ ⓓ
17. ⓐ ⓑ ⓒ ●

Calculators may be used.



NLC Official Use Only

Received: _____

Graded by: _____

Returned: _____

Your Score is: _____

Coursework for the Lineworker Certification Program

1) Registering for Classes:
   Class registration information is sent to all participating cooperatives. Registration information along with course syllabus is included in the mailing.
   Registration can be done one of three ways:
   a) Register online in the "Members Only" section at amec.org
      NOTE: Username & password are required for registering online. Contact Amy for username & password
   b) Registrations can be faxed
   c) Registrations can be mailed

2) Required Core Course:
   a) Technical Meter School
   b) Regulator, OCR & Capacitor School
   c) Overhead & Aerial Basket School (Held 2 times a year)
   d) Underground School
   e) Transformer School

3) Optional Labs:
   a) Lineman Fundamentals & Climber Certification Lab (Held 2 times a year)
   b) Equipment Operation Lab
   c) Underground Residential Distribution Lab
   d) Overhead Construction & Maintenance Lab
   e) Introduction to Live Line Procedures Lab

4) Additional & Advanced:
   a) Transmission Lineman School
   b) Hydraulics Operation & Maintenance Lab
   c) Advanced Lineman School
   d) Advanced Meter School
   e) Advanced Regulator & OCR School
   f) ROW Timber Harvest Training

Underground School

Term: Four Days (One class held annually)
Class Meeting Times: Monday (12:30p.m. - 4:30p.m.)
Tuesday & Wednesday (8 a.m. - 4:30 p.m.)
Thursday (8:30 a.m. - noon)
Location: AMEC Training Center
Related Technical Instruction Hours: 21

Experience Requirements: Second year apprentice through foreman level status.

Course Description: This course is designed to enhance the knowledge and skills necessary for performing work on the typical underground system by building on the skills learned at their respective systems. Emphases are on development of safe work practices, PPE requirements, cable preparation, grounding, troubleshooting, system coordination and mapping, special equipment operations, fault finding and cable locating. This course has a moderate level of physical activity and requires a high level of participation in the station activities.

Course Topics: Topics below to be covered in a field exercise and classroom type setting, with respect to instructor and equipment availability.

1. URD safety
2. Excavation safety
3. PPE requirements
4. Special equipment operation (boring, excavating equipment)
5. UG cable preparation tools
6. UG line locating
7. UG cable numbering/mapping system
8. UG cable preparation (elbows, splices and risers)
9. Secondary installations/splicing
10. UG fault locating (primary and secondary)
11. Troubleshooting/fault finding devices
12. URD design and planning
13. Grounding the UG system
14. UG transformer installations
15. UG switch installations
16. UG system coordination
17. Fusing
18. UG switch gear

Materials Needed: Hard hat, safety glasses, leather gloves, hand tools and work boots. Reference materials for coursework will be provided by instructors.

Competency Evaluation Review: Certificate requirements are based upon a passing grade of 70 percent or greater on written exam and active participation in field exercises and classroom discussions. Completion certificates will be issued to attendees successfully achieving 70% or greater on the written exam, full

course attendance and active participation in field exercises and classroom discussion.

Technical Meter School (Basic)

Term: Three Days (One class held annually)
Class Meeting Times: Monday (12:30 p.m. - 4:30 p.m.)
Tuesday (8 a.m. - 4:30 p.m.)
Wednesday (8 a.m. - noon)
Location: AMEC Training Center
Related Technical Instruction Hours: 14 (if applicable)

Experience Recommendations: Second-year apprentice through foreman level status.

Course Description: This course is designed to provide basic knowledge of electric metering, including electric meter fundamentals, meter safety, current transformers, voltage transformers, single-phase and three-phase meter applications and power diversion. This course requires a high level of hands-on participation wiring, calculating power usage, and troubleshooting different metering applications.

Course Topics: Topics below to be covered in a classroom type setting and in workstations.

1. Safety concerns
2. PPE requirements
3. Electrical socket hazards
4. Electric meter theory
5. Calculating meter Kh and register ratio
6. Calculating KW, KVAR, and power factor
7. Potential transformer applications
8. Current transformer applications
9. Calculating and understanding transformer factors
10. Single-phase diagrams
11. Three-phase delta diagrams
12. Three-phase WYE diagrams
13. Troubleshooting metering installations
14. Power diversion
15. Tools and equipment

Materials Needed: Calculator. Reference materials for coursework will be provided by instructors.

Competency Evaluation Review: Certificate requirements are based upon a passing grade of 70 percent or greater on written exam, full course attendance and active participation in field exercises and classroom discussions. Completion certificates will be issued to attendees successfully achieving 70% or greater on the written exam and active participation on workstations and classroom discussion.

Transformer School

Term: Three Days (One class held annually)
Class Meeting Times: Tuesday (12:30p.m. - 4:30p.m.)
Wednesday (8 a.m. - 4:30 p.m.)
Thursday (8:30a.m. - noon)
Location: AMEC Training Center
D.O.L. Academic Training Hours: 14

Experience Requirements: Second-year apprentice through foreman level status.

Course Description: This course is designed to provide line personnel with the knowledge to understand the basic components of transformers and how they are used in single-phase and three-phase applications. Emphases are on electrical principles, transformer components, single-phase transformer connections and paralleling, three-phase transformer connections and voltages associated with each transformer installation.

Course Topics: Topics below to be covered in a classroom type setting and in workstations.

1. Safety concerns
2. Hazards
3. Transformer identification and types
4. Transformer components
5. Transformer nameplate information
6. Transformer theory
7. Installation and sizing
8. Transformer fusing
9. Winding designations
10. Single-phase applications
11. Paralleling single-phase transformers
12. Three-phase open transformer banking applications
13. Three-phase transformer banking applications
14. Voltages associated with different transformer banks
15. Underground transformers
16. Vector analysis
17. Troubleshooting

Materials Needed: Calculator. Reference materials for coursework will be provided by instructors.

Competency Evaluation Review: Certificate requirements are based upon a passing grade of 70 percent or greater on written exam, full course attendance and active participation in field exercises and classroom discussions. Completion certificates will be issued to attendees successfully achieving 70% or greater on the written exam and active participation in field exercises and classroom discussion.

Recloser, Regulator, and Capacitor School

Term: Three Days (One class held annually)
Class Meeting Times: Day 1 (12:30 p.m. - 4:30 p.m.)
Day 2 (8 a.m. - 4:30 p.m.)
Day 3 (8:30 a.m. - Noon)
Location: AMEC Training Center
Related Technical Instruction Hours: 14

Experience Requirements: Third year apprentice through foreman level status.

Course Description: This course is designed to provide a basic understanding of the theory and practical application of capacitors, regulators and reclosers; it also provides an understanding of key safety procedures and principles necessary to install and properly maintain this equipment. This course requires understanding of the fundamental principals of electrical theory and application.

Course Topics: Topics below will be covered in a classroom type setting with practical demonstrations performed by the instructors.

1. Need for voltage regulation and load reduction
2. Inductive loads
3. Fixed and switched capacitor banks
4. Modern capacitor controls
5. Capacitor safety
6. External regulator basics
7. Basic transformer theory
8. Regulator control basics
9. Methods of finding neutral
10. Installing and removing regulators from service
11. Field inspection of regulators in service
12. Over-current detection and protection
13. Oil circuit reclosers
14. System coordination
15. Single-phase recloser controls
16. Three-phase reclosers
17. Three-phase recloser controls

Materials Needed: None. Reference materials for coursework will be provided by instructors.

Competency Evaluation Review: Certificate requirements are based upon a passing grade of 70 percent or greater on written exam and active participation in field exercises and classroom discussions. Completion certificates will be issued to attendees successfully achieving 70% or greater on the written exam, full course attendance and active participation in classroom discussion.

Overhead and Aerial Basket School

Term: Four Days (Two classes held annually)
Class Meeting Times: Monday (12:30 p.m. - 4:30 p.m.)
Tuesday & Wednesday (8 a.m. - 4:30 p.m.)
Thursday (8:30 a.m. - noon)
Location: AMEC Training Center
Related Technical Instruction Hours: 21

Experience Recommendations: Third-year apprentice through foreman level status.

Course Description: This course is designed to enhance the knowledge and skills necessary for performing overhead construction/maintenance activities using aerial devices and other equipment by building on the skills learned at their respective systems. Emphases are on development of safe work practices, PPE requirements, rubber gloving methods, live line procedures, work area protection and concerns participation in individual work stations and group discussions. This course has a moderate level of physical activity and requires a high level of participation in the station activities.

Course Topics: Topics below to be covered in a field exercise and classroom type setting with respect to instructor and equipment availability.

1. Safety concerns
2. PPE requirements
3. Electrical hazard recognition
4. Job briefings/planning
5. Minimum approach distances
6. Establishing a safe work zone
7. Vehicle grounding procedures
8. Equipment orientation
9. Rubber gloving methods
10. Cover-up procedures
11. Electrical equipment change-outs
12. Pole change-outs
13. Proper phase handling tools and techniques
14. Handling/storage of cover-up materials
15. Use and care of lay-out arms
16. New tools and equipment
17. Industry updates

Materials Needed: Hard hat, safety glasses, leather gloves, rubber gloves/sleeves, body harness and hand tools. Reference materials for coursework will be provided by instructors.

Competency Evaluation Review: Certificate requirements are based upon a passing grade of 70 percent or greater on written exam and active participation in field exercises and classroom discussions. Completion certificates will be issued to attendees successfully achieving 70% or greater on the written exam, full course attendance and active participation in field exercises and classroom discussion.

Lineman Fundamentals and Climbing Certification Lab

Term: Two weeks (Two classes held annually)
Class Meeting Times: Monday (12:30 p.m. – 4:30 p.m.)
Tuesday – Wednesday (8 a.m. – 4:30 p.m.)
Thursday (8:30 a.m. – noon)
Location: AMEC Training Center
Related Technical Instruction Hours: 47

Recommended Scheduling: 1st year apprentice

Course Description: This course involves developing the skills necessary for pole climbing and other basic apprenticeship activities. Emphases are on development of safe work practices, inspection of personal tools and equipment, techniques for ascending and descending wood poles, work positioning, pole top/bucket truck rescue, basic pole installations, knot tying and basic housekeeping practices. This course is physically demanding and requires a high level of participation in the climbing exercises.

Course Topics: Topics to be covered dependent upon class progression and skill level.

1. Introduction to safety and compliance
2. Introduction to AMEC Safety Manual
3. Proper care and use of PPE
4. Introduction to fall arrest and work positioning equipment
5. Proper sharpening, fit, care for climbing equipment
6. Pole inspections (stability and climbing hazards)
7. Climbing with fall restraint
8. Knot tying/basic rigging/cargo securement
9. Proper use and storage of hand lines
10. General housekeeping practices
11. Introduction to transmission and distribution systems
12. Hanging cross arms, transformers and insulators
13. Inspection of truck tools and equipment
14. Understanding a job briefing
15. Basic electricity
16. Pole top/bucket truck rescue
17. Proper care, use and inspection of rubber/plastic cover-up

Materials Needed: Hard hat, safety glasses, leather gloves, body harness, climbing boots, pole climbers, body belt with fall restraint device, rain gear, long-sleeve shirts and hand tools. Reference materials for coursework will be provided by instructors.

Competency Evaluation Review: Qualified climber certificates will be issued after individuals are reviewed by one or more of the instructors on a pass/fail basis. Review criteria includes: general tool inspection knowledge, ascending and descending techniques, work positioning techniques, pole top/bucket truck rescue (under four minutes) and knot tying techniques. Full course attendance is required to receive certificate.

Equipment Operation Lab

Term: Four Days (One class held annually)
Class Meeting Times: Monday (12:30p.m. - 4:30p.m.)
Tuesday & Wednesday (8 a.m. - 4:30 p.m.)
Thursday (8:30 a.m. - noon)
Location: AMEC Training Center
Related Technical Instruction Hours: 21

Recommended Scheduling: 1st/2nd year apprentice

Course Description: This course involves an introduction to and safe operation of various pieces of equipment used in electrical line work. Emphases are on development of safe work practices, PPE requirements, hazard recognition and equipment operation. This course has a moderate level of physical activity and requires a high level of participation in the lab activities.

Course Topics: Topics to be covered dependent upon equipment availability, class progression and skill level.

1. Safety concerns
2. Driving safety
3. PPE requirements
4. Chainsaw/chipper equipment training
5. Mini excavator operations
6. Skid steer operations
7. Aerial device operator training
8. Digger derrick operator training
9. Directional boring operations
10. Trencher/backhoe operations
11. General maintenance/repair
12. Cargo securement

Materials Needed: Hard hat, safety glasses and leather gloves. Reference materials for coursework will be provided by instructors.

Competency Evaluation Review: In order to receive a certificate each individual will be reviewed by one or more of the instructions based upon participation in lab activities and class discussion topics. Full course attendance is required to receive certificate.

Underground Residential Distribution Lab

Term: Four Days (One class held annually)
Class Meeting Times: Monday (12:30p.m. - 4:30p.m.)
Tuesday & Wednesday (8 a.m. - 4:30 p.m.)
Thursday (8:30 a.m. - noon)
Location: AMEC Training Center
Related Technical Instruction Hours: 21

Recommended Scheduling: 2nd/3rd year apprentice

Course Description: This course involves developing the skills necessary for performing basic underground activities for beginning line workers. Emphases are on development of safe work practices, PPE requirements, cable preparation, grounding, troubleshooting, system coordination and mapping, fault finding and cable locating. This course has a moderate level of physical activity and requires a high level of participation in the lab activities.

Course Topics: Topics to be covered dependent upon class progression and skill level.

1. URD safety
2. Excavation safety
3. PPE requirements
4. Proper signage and decals for UG systems
5. UG cable preparation tools
6. UG line locating
7. UG cable marking/mapping system
8. UG cable preparation (elbows, splices and, risers)
9. Secondary installations/splicing
10. UG fault locating (primary and secondary)
11. Troubleshooting/fault finding devices
12. URD design and planning
13. Grounding the UG system
14. UG transformer installations
15. UG switch installations
16. UG system coordination
17. Fusing
18. UG switch gear

Materials Needed: Hard hat, safety glasses, leather gloves, hand tools and work boots. Reference materials for coursework will be provided by instructors.

Competency Evaluation Review: In order to receive a certificate each individual will be reviewed by one or more of the instructions based upon participation in lab activities and class discussion topics. Full course attendance is required to receive certificate.

Overhead Construction and Maintenance Lab

Term: Four Days (One class held annually)
Class Meeting Times: Monday (12:30p.m. - 4:30p.m.)
Tuesday & Wednesday (8 a.m. - 4:30 p.m.)
Thursday (8:30 a.m. - noon)
Location: AMEC Training Center
Related Technical Instruction Hours: 21

Recommended Scheduling: 2nd/3rd year apprentice

Course Description: This course involves developing the skills necessary for performing basic overhead construction and maintenance activities for beginning line workers. Emphases are on development of safe work practices, PPE requirements, introduction to RUS specifications/drawings, pole framing/setting, conductor installation/repair, transformer installations, secondary service installation/repair and meter installations. This course has a moderate level of physical activity and requires a high level of participation in the lab activities.

Course Topics: Topics to be covered dependent upon class progression and skill level.

1. Safety concerns
2. PPE requirements
3. Introduction to RUS specifications and drawings (12.5/7.2 KV)
4. Pole framing per RUS specifications
5. Pole setting
6. Installation of anchors and guys
7. Cross arm installation/replacement
8. Insulator installation/replacement
9. Conductor installation and tying in wire (aluminum/copper)
10. Conductor repair and splicing
11. Transformer installations
12. Transformer replacement
13. Secondary service installation
14. Secondary service repair
15. Meter installation procedures
16. Basic troubleshooting techniques
17. Basic outage restoration

Materials Needed: Hard hat, safety glasses, leather gloves, body harness, climbing boots, pole climbers, body belt with pole strap, rain gear, long-sleeve shirts and hand tools. Reference materials for coursework will be provided by instructors.

Competency Evaluation Review: In order to receive a certificate each individual will be reviewed by one or more of the instructions based upon participation in lab activities and class discussion topics. Full course attendance is required to receive certificate.

Introduction to Live Line Procedures Lab

Term: Four Days (One class held annually)
Class Meeting Times: Monday (12:30p.m. - 4:30p.m.)
Tuesday & Wednesday (8 a.m. - 4:30 p.m.)
Thursday (8:30 a.m. - noon)
Location: AMEC Training Center
Related Technical Instruction Hours: 21

Recommended Scheduling: 3rd/4th year apprentice

Course Description: This course involves developing the skills necessary for performing basic work on energized lines and equipment. Emphases are on development of safe work practices, PPE requirements, minimum approach distances, work zone safety, vehicle application/grounding, cover-up materials and basic installations/procedures. This course has a moderate level of physical activity and requires a high level of participation in the lab activities.

Course Topics: Topics to be covered dependent upon class progression and skill level.

1. Safety concerns
2. PPE requirements
3. Electrical hazard recognition
4. Job briefings/planning
5. Minimum approach distances
6. Establishing a safe work zone
7. Vehicle grounding procedures
8. Cover-up materials and storage
9. Proper phase handling tools and techniques
10. Pole top insulator replacement
11. Dead-end insulator replacement
12. Cross arm replacement
13. Installation of a repair sleeve
14. In-line splicing
15. Cut out installation/repair
16. Lightning arrestor replacement
17. OCR replacement

Materials Needed: Hard hat, safety glasses, leather gloves, rubber gloves/sleeves, body harness and hand tools. Reference materials for coursework will be provided by instructors.

Competency Evaluation Review: In order to receive a certificate each individual will be reviewed by one or more of the instructions based upon participation in lab activities and class discussion topics. Full course attendance is required to receive certificate.

Transmission Lineman School

Term: Four Days (Class held on an as needed basis)

Class Meeting Times: Monday (12:30p.m. - 4:30p.m.)
Tuesday & Wednesday (8 a.m. - 4:30 p.m.)
Thursday (8:30a.m. - noon)

Location: Hosting generation and transmission cooperatives

Related Technical Instruction Hours: 21

Recommended Scheduling: Recommended for apprentice through foreman level status performing all related work tasks at a transmission cooperative.

Course Description: Each G and T Cooperative will have the opportunity to hold this school at their system on a rotating basis. Course topics and design are at the discretion of the hosting Cooperative conducting the school for that year. Course should involve a hands-on based approach to get everyone involved in the activities scheduled for that particular year.

Course Topics: Topics to be covered will be determined by the hosting cooperative responsible for conducting the school for that particular year. This course involves a hands-on approach to the maintenance of transmission circuits using insulated hot line tools and equipment, safety procedures, use, care and maintenance of hot line tools, substation applications and maintenance and, other topics that may be determined by the hosting cooperative.

Competency Evaluation Review: In order to receive a certificate each individual will be reviewed by one or more of the instructions based upon participation in lab activities, full course attendance and class discussion topics.

Hydraulics Operation and Maintenance School

Term: Three Days (One class held every other year)
Class Meeting Times: Tuesday (12:30p.m. - 4:30p.m.)
Wednesday (8 a.m. - 4:30 p.m.)
Thursday (8:30a.m. - noon)
Location: AMEC Training Center
Related Technical Instruction Hours: 14

Recommended Scheduling: This school is recommended for anyone working on or operating machinery on a regular basis.

Course Description: This course involves an introduction to hydraulic operation and maintenance on various pieces of equipment. This course has a moderate level of physical activity and requires a high level of participation in the lab activities.

Course Topics: Topics to be covered dependent upon equipment availability, class progression, and skill level.

1. Safety concerns
2. Preoperational inspections
3. Hydraulic overload protection side load protection tests
4. Schematics
5. Troubleshooting principles
6. Filtration
7. Checking pilot pressures
8. Winch flow on digger derrick
9. Checking turntable and bolt inspection
10. Machine Operation and controls
11. Screw anchor setting
12. Basic machine lubrication
13. Machine weld inspection
14. Hydraulic tool circuit operations
15. Hydraulic tool safety
16. Load capacity charts

Materials Needed: Hard hat, safety glasses and, leather gloves. Reference materials for coursework will be provided by instructors.

Competency Evaluation Review: Certificate requirements are based upon a passing grade of 70 percent or greater on written exam, full course attendance and active participation in classroom discussions.

Advanced Meter School

Term: Three Days (One class held annually)
Class Meeting Times: Monday (12:30 p.m. - 4:30 p.m.)
Tuesday (8 a.m. - 4:30 p.m.)
Wednesday (8 a.m. - noon)
Location: AMEC Training Center
Related Technical Instruction Hours: 14 (if applicable)

Pre-requisite: Must have successfully completed the Technical Meter School (Basic).

Course Description: This course is designed to enhance the knowledge of advanced electric metering. Applications include demand metering, electric meter safety, current transformers, voltage transformers, capacitors, power factor correction, three-phase meter applications and power diversion. This course requires a high level of hands on participation wiring, calculating power usage, and troubleshooting different metering applications.

Course Topics: Topics below to be covered in a classroom-type setting and in workstations.

1. Safety concerns
2. PPE requirements
3. Electrical socket hazards
4. Demand metering methods
5. Calculating KW, KVAR, and power factor
6. Potential transformer applications
7. Current transformer applications
8. Calculating and understanding transformer factors
9. Capacitor applications
10. Power factor correction
11. Three-phase delta diagrams
12. Three-phase WYE diagrams
13. Troubleshooting three-phase meter installations
14. Power diversion
15. Solid state meter diagnostics
16. Hot socket identification
17. Tools and equipment

Materials Needed: Calculator. Reference materials for coursework will be provided by instructors.

Competency Evaluation Review: Certificate requirements are based upon a passing grade of 70 percent or greater on written exam, full course attendance and active participation on workstations and classroom discussions.

Advanced Lineman School

Term: Four Days (One class held annually)
Class Meeting Times: Monday (12:30p.m. - 4:30p.m.)
Tuesday & Wednesday (8 a.m. - 4:30 p.m.)
Thursday (8:30 a.m. - noon)
Location: AMEC Training Center
Related Technical Instruction Hours: 21 (if applicable)

Experience Requirements: Journeyman through foreman level status.

Course Description: This course is designed to enhance the overall knowledge and skills that have already been acquired as a journeyman line worker. Emphases are on development of safe work practices, PPE requirements, rubber gloving methods, live line procedures, work area protection and concerns participation in individual work stations on overhead, underground and maintenance topics also, group discussions covering journeyman/apprentice interaction and training. This course has a moderate level of physical activity and requires a high level of participation in the station activities.

Course Topics: Topics below to be covered in a field exercise and classroom-type setting, with respect to instructor and equipment availability.

1. Safety concerns/PPE requirements
2. Job briefings/planning
3. Minimum approach distances
4. Electrical hazard recognition
5. Establishing a safe work zone
6. Vehicle grounding procedures
7. Proper use/ handling /storage of cover-up materials
8. Rubber gloving methods
9. Line conversion techniques
10. UG/OH/maintenance exercises
11. Pole replacement/electrical equipment exercises
12. Proper phase handling tools and techniques
13. Proper use and care of live line equipment
14. Journeyman/apprentice interaction and training
15. New tools and equipment
16. Industry updates

Materials Needed: Hard hat, safety glasses, leather gloves, rubber gloves/sleeves, body harness and hand tools. Reference materials for coursework will be provided by instructors.

Competency Evaluation Review: Certificate requirements are based upon a passing grade of 70 percent or greater on written exam, full course attendance and active participation in field exercises and classroom discussions.

Advanced Regulator & OCR School

Term: Three Days (One class held annually)
Class Meeting Times: Day 1 (12:30 p.m. - 4:30 p.m.)
Day 2 (8 a.m. - 4:30 p.m.)
Day 3 (8:30 a.m. - Noon)
Location: Fletcher-Reinhardt Company
Related Technical Instruction Hours: 14 (if applicable)

Pre-requisite: A Journeymen linemen with a minimum of three years of field experience and, a working knowledge of reclosers and regulators and their associated controls.

Course Description: This course is designed to provide advanced troubleshooting and programming applications of regulators and reclosers. This course requires understanding of the fundamental principles of electrical theory and application.

Course Topics: Topics below will be covered in a classroom type setting with practical demonstrations performed by the instructors. Students will be required to do hands-on troubleshooting and program malfunctioning regulators.

1. Regulator basics review
2. Line drop compensation and voltage limits
3. Regulator design
4. Regulator ratio correction
5. Reverse power glow (deadband & operating modes)
6. Switching and testing regulators
7. Field inspection of regulators in service
8. Sequence coordination
9. Form 3A recloser control
10. Form 4C recloser control
11. Form 5 recloser control
12. Form 6 recloser control

Materials Needed: None. Reference materials for coursework will be provided by instructors

Competency Evaluation Review: Certificate requirements are based upon a passing grade of 70 percent or greater on written exam, full course attendance and active participation in classroom discussions.

Right-of-Way
Tree-Felling Training

DAY ONE-PHASE I- SESSION (10:00 AM-4:30 PM)

- Welcome and Introductions: discussion
- Personal Protective Equipment (P.P.E.) and OSHA: discussion
- Chainsaw Basics: discussion of starting the chainsaw safely 11 safety violations (handout)
- Chainsaw Basics: 5 point safety inspection and 4 reactive forces
- Break Time
- Basic Chainsaw Cuts: discussion of simple chainsaw cuts
- Basic Tree Felling: discussion of 1. "Conventional technique" 2. "Open face bore cutting technique" (examples will be shown)
- Tree Felling Pre-Plan: discussion of 5 simple steps
- Wrap-Up: questions and answers. (handout covering entire session)

DAY TWO-PHASE I-MORNING SESSION (8:00 AM-12:00 PM)

- Good Morning: any questions or comments from day one?
- Trainees: will hang a fake power line (guy wire works good) between 2 trees so trees can be felled onto the line (This can be done at an earlier date also)
- Simple Tree Felling Demo: instructor will analyze, pre-plan, and fell 1 tree
- Basic Limbing & Topping Pre-Plan Demo:
- Spring Pole Demo #1: GOL inside shaving method
- Spring Pole Demo #2: GOL top release method
- Spring Pole Demo #3: GOL shave-notch-fold method
- Break Time
- Bore Post Exercise: encourages precision and saw control

- Trainees: each trainee will analyze and cut a spring pole for score
- Trainees: will finish the day, one by one, by analyzing, pre-planning, and felling trees for score.
- Wrap-Up: questions and answers.

DAY TWO-LUNCH (12:00 PM-1:00 PM)

DAY TWO-PHASE II-AFTERNOON SESSION (1:00 PM-4:30 PM)

- Trainees: will, one by one, analyze, pre-plan, and fell more trees for score until all trainees who want to fell a tree has done so (as time allows)
- Limbing and Bucking Pre-Plan Demo: discussion and demonstrate a five step pre-plan
- Limbing Demo: instructor will demonstrate as many of the various limbing cuts
- Bucking Demo: instructor will demonstrate as many of the various bucking cuts
- Bucking Demo on a Lodged Tree: instructor will discuss and demonstrate
- Trainees: will remove trees from fake power line
- Wrap-Up: questions and answers.

DAY THREE-PHASE II-MORNING SESSION (8:30 AM-2:00 PM)

- General Discussion: instructor and trainees talk about different types of storm damage
- Matching the Right Saw Package to the individual operator and for the job at hand:
- Five Parts of the Cutter Tooth: discussion of each part
- Break Time
- Saw Chain Filing: discussion, many filing guides, actual filing is demonstration
- Bar Maintenance: discussion and demonstration
- Chainsaw Maintenance: discussion and demonstration
- Wrap-Up: questions and answers.

Recommended Scheduling and Recordkeeping
Related Technical Instruction

The following section identifies the recommended scheduling for courses, hours equivalencies for courses and provides a checklist for recording "Related Technical Instruction."

Page 1: Related Technical Instruction Guideline

This document is a recommended guideline for when an apprentice should attend a particular School or Lab conducted by AMEC.

Page 2: Related Technical Instruction Equivalencies

This document is used to identify hour equivalencies for a specific "Related Technical Instruction."

Each apprentice is required to complete a minimum of 144 hours of academic technical training per year in any of the following categories.

Page 3: Additional and Advanced Training Courses

This document identifies "Additional and Advanced Training" courses offered by AMEC, and their "Related Technical Instruction" hour equivalencies for each course.

Page 4: Related Technical Instruction Checklist

This document is used to record the academic training that is completed throughout the year. This document can be used along with page Two, page Three, and the Training Services Manual to record the "Related Technical Instruction" an apprentice will complete.

Page 5: Related Technical Instruction Checklist (SAMPLE)

This document is an example of the Page Four document, to give a sample of how this document is filled out.

Related Technical Instruction Guideline

This document is a recommended guideline for when an apprentice should attend a particular School or Lab.

Required Apprenticeship Core Training Schools

	1st Year	2nd Year	3rd Year	4th Year
1. Underground School		X	X	
2. Technical Meter School (Basic)		X	X	
3. Transformer School		X	X	
4. Recloser, Regulator & Capacitor School			X	X
5. Overhead & Aerial Basket School			X	X

Recommended Apprenticeship Training Labs

	1st Year	2nd Year	3rd Year	4th Year
1. Lineman Fundamentals & Climbing Cert.	A			
2. Equipment Operation Lab	A	A		
3. UG Residential Distribution Lab		A	A	
4. OH Construction & Maintenance Lab		A	A	
5. Intro. To Live Line Procedures Lab			A	A

X - Indicates: The recommended scheduling for required courses for the AMEC Apprenticeship Program.

A - Indicates: Recommended available training and scheduling for labs delivered by AMEC.

Additional and Advanced Training Courses

Please review "Course Syllabi" section and carefully consider the qualifications and the experience level of each employee before registering them for any "Additional or Advanced Training Courses" offered on the following page.

Related Technical Instruction Equivalencies

This document is used to identify hour equivalencies for a specific "Related Technical Instruction."

Each apprentice is required to complete a minimum of 144 hours of academic technical training per year in any of the following categories.

PDP Northwest Lineman College

	Hour Equivalencies
Module One	150
Module Two	150
Module Three	150
Module Four	150

AMEC conducted Safety Meetings

See "Training Services Manual" for hour equivalencies.

6 AMEC Instructor Meetings	24 Max.

In-house conducted Safety Meetings

Other Relevant Safety Topics	Determined Locally

AMEC Apprenticeship Training Schools

(Required Core Schools)

Underground School	21
Technical Meter School (Basic)	14
Transformer School	14
Recloser, Regulator & Capacitor School	14
Overhead & Aerial Basket School	21

AMEC Apprenticeship Training Programs (Labs)

(Recommended Labs)

Lineman Fundamentals & Climbing Cert.	56
Equipment Operation Lab	21
UG Residential Distribution Lab	21
OH Construction & Maintenance Lab	21
Intro. To Live Line Procedures Lab	21

Additional and Advanced Training Courses

This document identifies "Additional and Advanced Training" courses offered by AMEC, and their "Related Technical Instruction" hour equivalencies for each course.

Additional Training

These courses are additional training offered by AMEC. See "Course Syllabi" for course applicability.

	Hour Equivalencies
Apprentice Lineman School	21
Transmission Lineman School	21
Hydraulics Operation and Maintenance School	14
Explosive School	7

Advanced Training

These courses are advanced training provided by AMEC. Each of these courses have prerequisites please see "Course Syllabi" for this and applicability.

	Hour Equivalencies
Advanced Meter School	14
Advanced Regulator & OCR School	14
Advanced Lineman School	21

Related Technical Instruction Checklist

Employee Name:	Registration Date:
Apprenticeship Year:	

PDP Northwest Lineman College

	Circle/Bold Module #	Dates completed	Hours	TOTALS
Module Number	1 2 3 4		150/ Module	150

Safety Meetings (AMEC topic / In-house meetings)

Date	Hours	Date	Hours	
		Safety Meeting Total		0

AMEC Apprenticeship Core Training Schools (Required)

	Date completed	Hours	
Underground School			
Technical Meter School (Basic)			
Transformer School			
Recloser, Regulator & Capacitor School			
OH & Aerial Basket School			
	Training School Total		0

AMEC Apprenticeship Training Labs (Recommended)

	Date completed	Hours	
Lineman Fundamentals & Climbing			
Equipment Operation			
UG Residential Distribution			
OH Construction & Maint.			
Intro.To Live Line Procedures			
	Training Lab Total		0

Additional Training

Subject Matter	Date	Hours	
	Miscellaneous Total		0
	Yearly Totals		150

Related Technical Instruction Checklist (SAMPLE)

Employee Name: Darrell Cuppy	Registration Date: 1/2/06
Apprenticeship Year: 3rd	

PDP Northwest Lineman College

	Circle/Bold Module #	Dates completed	Hours	TOTALS
Module Number	1 2 **3** 4		**150/ Module**	**150**

Safety Meetings (AMEC topic / In-house meetings)

Date	Hours	Date	Hours	
1/3/2008	3	7/4/2008	3	
2/14/2008	3	8/8/2008	3	
3/17/2008	3	9/3/2008	3	
4/2/2008	3	10/31/2008	3	
5/30/2008	3	11/11/2008	3	
6/24/2008	3	12/25/2008	3	
		Safety Meeting Total		36

AMEC Apprenticeship Core Training Schools (Required)

	Date completed	Hours	
Underground School			
Technical Meter School (Basic)	2/2/2008	14	
Transformer School	2/14/2008	14	
Recloser, Regulator & Capacitor School			
OH Aerial Basket School			
	Training School Total		28

AMEC Apprenticeship Training Labs (Recommended)

	Date completed	Hours	
Lineman Fundamentals & Climbing			
Equipment Operation			
UG Residential Distribution			
OH Construction & Maint.	3/17/2008	21	
Intro.To Live Line Procedures			
	Training Lab Total		21

Additional Training

Subject Matter	Date	Hours	
	Miscellaneous Total		0

Yearly Totals	235

Work Progress Schedule

The following documents are used to track the progress of an apprentice through the recommended 8,000 hours of "On the Job Training" (OJT). Each apprentice is responsible for recording daily activities on the monthly record and obtaining the applicable supervisor's initials. These monthly records should be reviewed frequently to ensure the apprentice stays on schedule and to identify training deficiencies.

WORK PROCESS SCHEDULE

OCCUPATION: Line Installer - Repairer
Line Erector, Construction, Utilities

DOT CODE: 821.361-018
821.361-026

The term of apprenticeship for the above named classifications shall be 4 years, (approximately 8000 hours) of reasonably continuous employment.

The Apprentice shall receive instructions and experience in all processes of the trade or craft to be learned in accordance with the following schedule:

OBJECTIVE: To provide the apprentice with instructions and experience that will enable him/her to properly perform the tasks needed to become a skilled Line Installer Repairer and/or Construction Line Erector. Working under the direction of a skilled Lineman, the apprentice will be given increasingly difficult and advanced assignments toward obtaining that goal as the apprenticeship progresses.

	PROCESS:	APPROX. HOURS
I.	**Safety and Accident Prevention** General Safety Rules, Safe Work Procedures, First Aid, CPR, Hazard Communication, Emergency Action Plans, Job Briefings, Hazard Recognition, Fire Extinguisher Training, Chain Saw, Safety Meetings.	500
II.	**Climbing Skills** Care and Inspection of Climbing Gear, Sharpening and Shaping of Climber gaffs, Pole Inspection, Climbing Hazard Recognition, Basic Climbing Techniques, Use and Care of Handlines, Ropes and Rigging, Knot Tying and Rope Splicing, Pole Top Rescue.	550
III.	**Pole Framing and Construction Specifications** Use and Recognition of Pole Hardware and Material, Framing Poles on the Ground, Pole and Equipment Grounds, Installing Guy Assemblies, Crossarms, Insulators, Attaching and Tying in Conductors, Basic Staking Principles.	800

IV.	**Equipment Operation** Vehicle Inspection and Maintenance, Mobile Hydraulic Systems, Traffic Control and Work Area Safety, Digger/Derrick Vehicles, CDL, Vehicle Mounted Winches and Rigging, Trencher/Backhoes, Aerial Platforms, Emergency Procedures and Bucket Rescue	800
V.	**Setting and Replacing Poles** Worksite Hazard Recognition & Hazard, Vehicle Placement and Grounding Methods, Cover-up Materials, Rigging & Setting Poles, Pulling Poles, Temporary Pole Supports, Setting Poles Manually	800
VI.	**Basic Transformer Theory & Transformer Installation** Basic Electricity and Ohm's Law, Transformer Applications, Framing Specifications for Transformer Installations, Single Phase and Three Phase Transformer Connections, Equipment Grounding, Transformer Sizing, Overcurrent Protection and Fusing	800
VII.	**Service Installation and Metering** Specifications for Meter Installations and Service Assemblies, Sizing of Service Conductors, Load Calculations, Service Wire Installation, Meter Applications, Meter Types, Meter reading, Instrument Metering, Temporary Service Installations, Tampering and Power Theft	600
VIII.	**Conductor Installation and Repair** Stringing Conductors on New Construction, Stringing Conductors Near Energized Lines - Reconductoring, Use of Strap Hoists, Dead-ending and Splicing, Line Ties, Sag Charts and Tables	800
IX.	**Rubber Gloving Methods** Use and Care of Gloves and Sleeves, Approach Distances, Hard Shell Cover Applications, Line Hose and Insulating Blankets, Hot Line Tools, Bucket truck Operation, Live Line Maintenance, Dispatching and Hot Permits, Minimum Approach Distances, Lockout - Tagout	800

X.	**Underground Distribution** Trenching and Excavating, Confined Spaces, Cables and Devices, Padmounted Transformers and Switchgear, Protective Grounding Construction Specifications and Installations, Overvoltage and Overcurrent Protection, Trouble Shooting and Fault Locating.	**1000**
XI.	**Fusing and System Coordination** System Faults and Switching Surges, Equipment Fusing, Oil Circuit Reclosers, Sectionalizers, System Application and Coordination	**200**
XII.	**Substations and Voltage Regulation** Step Regulators, Capacitors, Auto-transformers, System Voltage Levels, Lightning Protection, Substation Design, Substation Grounding, Substation Inspections and Maintenance	**250**
XIII.	**Miscellaneous** Bloodborne Pathogens, Hearing Conservation, Accident Investigation, Ladder Safety, Mapping, Record keeping: Staking Sheets, Material Lists, Transformer Cards, Inventory, Material Costs	**100** **Total Hours = 8000**

ASSOCIATION OF MISSOURI ELECTRIC COOPERATIVES
APPRENTICE LINEMAN PROGAM
MONTHLY CERTIFICATION SHEET

_____ MONTH/YEAR _____

EMPLOYEE

1ST YEAR_____ 2ND YEAR_____ 3RD YEAR_____ 4TH YEAR_____

CATEGORIES	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
SAFETY & ACCIDENT PREVENTION Safety Meetings, Job Briefings, First Aid CPR, & training outside of cooperative																															
CLIMBING SKILLS Climbing, preparing to climb, inspection of climbing gear, maintenance of same																															
POLE FRAMING/CONST SPECS Laying out material,framing on ground and in the air, work with staking sheets																															
EQUIPMENT OPERATION Inspection,Operation, Maint of equipment Driving/operating digger derrick, backhoes																															
SETTING & REPLACING POLES New Construction, Changeouts, dig holes																															
XFMR THEORY / INSTALLATION Installing, changing out, retiring, rigging poles for transformer installations																															
SERVICE INSTALLATION / METERING Building,upgrading,retiring services, readings Meter changes, PTs and CTs																															
CONDUCTOR INSTALL. / REPAIR Stringing,repairing,removal of OH primary conductors,use of strap hoists,deadending slicing,line ties,sag charts and tables																															
RUBBER GLOVING METHODS Work on energized lines out of aerial device																															
UNDERGROUND DISTRIBUTION Primary,secondary service installations Elbow, pothead terminations,risers, locates																															
FUSING & SYSTEM COORDINATION Troubleshooting, line outages, install and oper of switches,reclosers, sectionalizers																															
SUBSTATIONS / VOLT. REGULATION Voltage regulators, capacitors, lightning arr Inspection and maintenance of substations																															
MISCELLANEOUS Washing vehicles, cleaning equipment General shop or building housecleaning																															
TRUCK NUMBER AND YOUR **FOREMAN OR SUPERVISOR'S INITIALS**																															

(Insert Name of Your Electric Cooperative)
Apprentice Progress Review

First Year Review:

Name of Apprentice: _____

Position Title: Lineman 1st Year

Supervisor: _____

Objectives: To learn the proper methods for the installation, maintenance and repair of the Cooperative's electric distribution system in a safe and efficient manner.

Supervisor Of: None. No authority for independent action is assigned to this position. It is a position wherein the learning of technical requirements for lineman classifications are initiated.

Physical Demands: Job requires heavy lifting, awkward work position and exposure to many adverse elements of weather, plus hazards of working around energized lines and apparatus.

Geographic Requirements:
Yes No Domicile Requirement: As defined locally.

_____

_____

_____

_____

Please use the following scale to assess the abilities of apprentice. Check **Exe.** For Excellent; **Avg.** for Average; **NI** for Needs Improvement and **N/A** for Not Applicable.

DUTIES & RESPONSIBLITIES:

Exe.	Avg.	NI	N/A	
				Learn submission of time, mileage and gas tickets, material charge outs and credit-ins and any other clerical forms or other required administrative work.
				Collect delinquent accounts when assigned.

Exe.	Avg.	NI	N/A	
				Inspect trucks, tools and working equipment assigned to him/her to ensure proper operation and maintenance and any required repairs are promptly reported to the Line Foreman or other assigned supervisor.
				Operate radio equipment when assigned and abide by the Federal Communications commission's rules and regulations when operating the radio. Demonstrate knowledge of local Mayday procedures.
				Operate automotive equipment when assigned, comply with all traffic laws, safety rules, regulations and safe practices while operating vehicle assigned to him/her, should at all times look out for safety of the vehicle, its occupants and its loads.
				Receive communications and directives and orally confirm full understanding. Keep assigned supervisor informed of important information concerning the work performed.
				Study all cooperative policies and procedures, attend and participate in all applicable safety meetings scheduled by the cooperative.
				Study lineman manuals and other guidelines to complete requirements outlined in the specification of this position. (i.e. RUS specification books, AMEC safety manual, NESC, etc.)
				Perform other related work of this or any other classification requiring equal or lesser skill when assigned by Line Foreman or other supervisor.
				Learn to patrol distribution lines, learn to operate and maintain related equipment, learn distribution and transmission switching, sectionalizing and fusing under detailed supervision.
				Must obtain and maintain a valid Class A Missouri Commercial Driver's License.

Exe. Avg. NI N/A

Employment is conditioned upon satisfactory completion of physical examination (which includes drug testing) by a company physician.

Employment is conditioned upon satisfactory completion of physical examination

Reports to work promptly at the start of each day as well as after any break period.

Participate in job briefings. Be able to know the five key subjects covered in those discussions according to the AMEC Safety Manual.

Obtain vehicle flagger certification.

Obtain powered industrial truck (forklift) operator certification.

JOB KNOWLEDGE:

Exe. Avg. NI N/A

Shall be learning the safety principles and work practices in line construction, service and maintenance requirements in an electrical distribution system.

Be able to state the Cooperative Emergency Distress Call, intended for use on vehicle and two-way radios and all information pertaining to the incident at hand.

Have knowledge about what forms are available for accident reporting and investigations and where they may be located at the cooperative.

Have knowledge of where to find the MSDS sheets for a selected material stored on cooperative property.

Be able to identify and distinguish different voltages pertaining to the respective system (Ex. 2.4 KV, 7.2 KV, 14.4 KV).

Be able to identify where the pole brand is located on a specific pole, interpret the information on the brand and give adequate knowledge of pole setting depths according to the respective specification in use at the cooperative.

Exe. Avg. NI N/A

Be able to locate and read the information found on the name plates of various pieces of equipment available at the cooperative.

Have knowledge of basic electricity and Ohm's/Watt's Law. Be able to apply those laws to various situations.

Have knowledge about what personal protective equipment is needed for a specific task and when these items are required in reference to the AMEC Safety Manual.

Have knowledge of when vehicle grounds are to be used and how they should be configured in reference to the AMEC Safety Manual.

Be able to determine proper signage and traffic control for high speed/low speed applications.

PROFESSIONAL DEVELOPMENT:

Exe. Avg. NI N/A

Able to develop and understand supportive relationships required for individual growth and team spirit with other employees which he/she is assigned to work.

Able to conduct himself/herself in a courteous manner and gain respect of fellow employees and when the work assignment brings about contact.

Able to understand the cooperative as a member-owned form of business and the role of the members, directors and employees in said organization.

Able to be continuously applying himself/herself to the development of all abilities and skills required of a lineman position at this cooperative.

COMPETENCIES:

Exe. Avg. NI N/A

Demonstrates proficiency in safety, CPR and first-aid practices.

Demonstrates participation in all safety meetings with the exception of an excused absence (ie. sick leave, vacation, working an outage, etc.).

Exe.	Avg.	NI	N/A	
				Demonstrates no serious safety violations (ie. blatant violation of safety rules, refusing to utilize safety equipment).
				Demonstrates a strong work ethic and positive attitude.
				Demonstrates the ability to correctly install and accurately read single phase meters.
				Demonstrates map reading utilizing both the company's electronic and paper maps.
				Demonstrates ability to read records, spec manuals and staking sheets.
				Demonstrates operation of two-way radio.
				Demonstrates proper inspection and use of hand lines, slings and tool bags.
				Demonstrates inventory and storing of materials in warehouse and vehicles.
				Demonstrates the required pre-use OSHA and DOT inspections of affected vehicles.
				Demonstrates proper inspection and application of personal and vehicle grounds.
				Demonstrates loading and unloading of poles from cars and/or carriers and bunks.
				Demonstrates proper loading and securement of poles on trucks and trailers.
				Demonstrates loading and unloading wire coils and reels.
				Demonstrates proper loading and cargo securement of materials on vehicles.
				Demonstrates unloading poles on the job (spotting).
				Demonstrates all work procedures used in setting and replacing poles on de-energized lines.

Exe.	Avg.	NI	N/A	
				Demonstrates inspection, use and care of pole lifting devices.
				Demonstrates safe use of chainsaw and applicable PPE when trimming and felling trees.
				Demonstrates proper tree felling and trimming techniques, de-energized line.
				Demonstrates installation of a pole key.
				Demonstrates various anchor installations, determining proper guy length and guy wire tensioning.
				Demonstrates proper inspection and testing of poles for safe climbing.
				Demonstrates proper inspection and care of climbing equipment.
				Demonstrates proper pole climbing/work positioning techniques (free climbing/hitch hiking).
				Demonstrates executing job assignments in a safe and efficient manner.
				Demonstrates operating the company's equipment (i.e. aerial devices, digger derricks, trencher, etc.) in a safe and efficient manner.
				Demonstrates proper inspection, care and use of rubber gloves, live line tools and equipment.
				Demonstrates understanding of basic rigging techniques.
				Demonstrates understanding of proper work area protection and flagger's responsibilities.
				Demonstrates proper selection, use and care of personal protective equipment.
				Demonstrate the proper use of a fire extinguisher and where they are located on the vehicles and facilities.

Exe. Avg. NI N/A

Demonstrate how to tie specific knots pertaining to certain applications (Ex. square, bowline, clove hitch, etc.).

Demonstrate the proper framing of some basic single phase structures in reference to the RUS Specifications or local cooperative guidelines (Ex. A1 thru A6).

Demonstrate the proper method of tying in de-energized single phase structures with pre-form and or wire ties.

Demonstrate how to properly dead end and sag a single phase structure on A.5.

Demonstrate the proper technique for doing bucket truck rescue on various pieces of equipment at the cooperative.

Demonstrate the proper way to mark or identify UG cables on the respective system.

Demonstrate the ability to distinguish between a loop and a radial feed on the UG system.

Demonstrate the proper way to hang and connect transformers on single phase structures.

Demonstrate proficient use of powered industrial truck (forklift).

ADDITIONAL ITEMS FOR REVIEW:

Exe. Avg. NI N/A

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EDUCATION & TRAINING EXPECTATIONS:

Educational Expectations:

Yes No Employee will successfully complete the Power Delivery Program from Northwest Lineman College. **Must have 1st year of the correspondence course completed with a passing grade to advance to 2nd year step classification**. All correspondence studies are intended to be performed on the individual's own time. Exams will be supervised by a supervisor. The cooperative will pay 100% of correspondence course costs.

Training Expectations:

Yes No Employee will successfully complete five core courses sponsored by AMEC. Programs include: Overhead & Aerial Basket School, Underground School, Regulator, Capacitor and OCR School, Meter School, and Transformer school during the course of their apprenticeship.

Yes No Employee will attend in-house training sessions as presented by the engineering department or other qualified personnel (i.e. substation operations, etc.)

_____ Date: _____

Apprentice Signature

_____ Date: _____

Operations' Mgr./Line Supt. Signature

Additional comments: _____

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12/2007

(Insert Name of Your Electric Cooperative)
Apprentice Progress Review

Second Year Review:

Name of Apprentice: _____

Position Title: Lineman 2nd Year

Supervisor: _____

Objectives: To learn the proper methods for the installation, maintenance and repair of the Cooperative's electric distribution system in a safe and efficient manner.

Supervisor Of: None. No authority for independent action is assigned to this position. It is a position wherein the learning of technical requirements for lineman classifications are initiated.

Physical Demands: Job requires heavy lifting, awkward work position and exposure to many adverse elements of weather, plus hazards of working around energized lines and apparatus.

Geographic Requirements:
Yes No Domicile Requirement: As defined locally.

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Please use the following scale to assess the abilities of apprentice. Check **Exe.** For Excellent; **Avg.** for Average; **NI** for Needs Improvement and **N/A** for Not Applicable.

DUTIES & RESPONSIBLITIES:

Exe.	Avg.	NI	N/A	
				Learn submission of time, mileage and gas tickets, material charge outs and credit-ins and any other clerical forms or other required administrative work.
				Collect delinquent accounts when assigned.

Exe.	Avg.	NI	N/A	
				Inspect trucks, tools and working equipment assigned to him/her to ensure proper operation and maintenance and any required repairs are promptly reported to the Line Foreman or other assigned supervisor.
				Operate radio equipment when assigned and abide by the Federal Communications commission's rules and regulations when operating the radio. Demonstrate knowledge of local Mayday procedures.
				Operate automotive equipment when assigned, comply with all traffic laws, safety rules, regulations and safe practices while operating vehicle assigned to him/her, should at all times look out for safety of the vehicle, its occupants and its loads.
				Receive communications and directives and orally confirm full understanding. Keep assigned supervisor informed of important information concerning the work performed.
				Study all cooperative policies and procedures, attend and participate in all applicable safety meetings scheduled by the cooperative.
				Study lineman manuals and other guidelines to complete requirements outlined in the specification of this position. (i.e. RUS specification books, AMEC safety manual, NESC, etc.)
				Perform other related work of this or any other classification requiring equal or lesser skill when assigned by Line Foreman or other supervisor.
				Learn to patrol distribution lines, learn to operate and maintain related equipment, learn distribution and transmission switching, sectionalizing and fusing under detailed supervision.
				Must maintain a valid Class A Missouri Commercial Driver's License with no restrictions.

Exe. Avg. NI N/A

Reports to work promptly at the start of each day as well as after any break period.

Participate in job briefings. Be able to know the five key subjects covered in those discussions according to the AMEC Safety Manual.

Perform "on call" duty assignments as are required by Cooperative policy and procedure guidelines, to maintain continuity of service after regular working hours.

JOB KNOWLEDGE:

Exe. Avg. NI N/A

Shall be learning the safety principles and work practices in line construction, service and maintenance requirements in an electrical distribution system.

Be able to state the Cooperative Emergency Distress Call, intended for use on vehicle and two-way radios and all information pertaining to the incident at hand.

Have knowledge about what forms are available for accident reporting and investigations and where they may be located at the cooperative.

Have knowledge of where to find the MSDS sheets for a selected material stored on cooperative property.

Be able to identify and distinguish different voltages pertaining to the respective system (Ex. 2.4 KV, 7.2 KV, 14.4 KV).

Have knowledge of basic electricity and Ohm's/Watt's Law. Be able to apply those laws to various situations.

Have knowledge about what personal protective equipment is needed for a specific task and when these items are required in reference to the AMEC Safety Manual.

Have knowledge of when the vehicle grounds are to be used and, how they should be configured in reference to the AMEC Safety Manual.

Exe. Avg. NI N/A

Be able to identify most of the materials and tools needed to do overhead and underground work.

Be able to determine proper signage and traffic control for high speed/low speed applications.

Be able to interpret information available on transformer name-plate and distinguish what the terms ratio is in respect to your system voltage.

Be able to identify clearances for conductor in various situations (driveway, highway, railroad crossings, etc.)

PROFESSIONAL DEVELOPMENT:

Exe. Avg. NI N/A

Able to develop and understand supportive relationships required for individual growth and team spirit with other employees which he/she is assigned to work.

Able to conduct himself/herself in a courteous manner and gain respect of fellow employees and when the work assignment brings about contact.

Able to understand the cooperative as a member-owned form of business and the role of the members, directors and employees in said organization.

Able to be continuously applying himself/herself to the development of all abilities and skills required of a lineman position at this cooperative.

COMPETENCIES:

Exe. Avg. NI N/A

Demonstrates participation in safety, CPR and first-aid practices and pole top/bucket truck rescue (if qualified), procedures and training.

Demonstrates participation in all safety meetings with the exception of an excused absence (ie. sick leave, vacation, working an outage, etc.).

Exe.	Avg.	NI	N/A	
				Demonstrates no serious safety violations (ie. blatant violation of safety rules, refusing to utilize safety equipment). Demonstrates a strong work ethic and positive attitude.
				Demonstrates map reading utilizing both the company's electronic and paper maps.
				Demonstrates ability to read records, spec manuals and staking sheets.
				Demonstrates proper inspection and use of hand lines, slings and tool bags.
				Demonstrates inventory and storing of materials in warehouse and vehicles.
				Demonstrates the required pre-use OSHA and DOT inspections of affected vehicles.
				Demonstrates proper inspection and application of personal and vehicle grounds.
				Demonstrates all work procedures used in setting and replacing poles on de-energized lines.
				Demonstrates inspection, use and care of pole lifting devices.
				Demonstrates safe use of chainsaw and applicable PPE when trimming and felling trees.
				Demonstrates proper tree felling and trimming techniques, de-energized line.
				Demonstrates various anchor installations, determining proper guy length and guy wire tensioning.
				Demonstrates proper inspection and testing of poles for safe climbing.
				Demonstrates proper inspection and care of climbing equipment.

Exe.	Avg.	NI	N/A	
				Demonstrates proper pole climbing/work positioning techniques (free climbing/hitch hiking).
				Demonstrates executing job assignments in a safe and efficient manner.
				Demonstrates operating the company's equipment (i.e. aerial devices, digger derricks, trencher, etc.) in a safe and efficient manner.
				Demonstrates proper inspection, care and use of rubber gloves, live line tools and equipment.
				Demonstrates understanding of basic rigging techniques.
				Demonstrates understanding of proper work area protection and flagger's responsibilities.
				Demonstrates proper selection, use and care of personal protective equipment.
				Demonstrate the proper use of a fire extinguisher and where they are located on the vehicles and facilities.
				Demonstrate how to tie specific knots pertaining to certain applications (Ex. square, bowline, clove hitch, etc.).
				Demonstrate the proper framing of some basic single phase structures in reference to the RUS Specifications or local cooperative guidelines (Ex. A1 thru A6).
				Demonstrate the proper rigging technique for securing a victim with a hand line in order to do pole top rescue on structures with or without a cross arm.
				Demonstrate the proper method of tying in de-energized single phase structures with pre-form and or wire ties.
				Demonstrate how to proper dead end a single phase structure.
				Demonstrate the proper technique for doing bucket truck rescue on various pieces of equipment at the cooperative.

Exe.	Avg.	NI	N/A	
				Demonstrate the proper way to mark or identify UG cables on the respective system.
				Demonstrate the ability to distinguish between a loop and a radial feed on the UG system.
				Demonstrate the proper installation and connection of single phase transformers.
				Demonstrate proper installation of ground work on all single phase applications and some basic 2 phase and 3 phase applications.
				Demonstrate the proper installation of armor rod on an A-3 assembly.
				Demonstrate how to interpret a staking sheet involving some basic single phase structures.
				Demonstrate basic applications of underground locating equipment.
				Demonstrate proper installation of underground elbows in transformers/switching cabinets.
				Demonstrate proper use of telescopic stick under direct supervision.
				Demonstrate the ability to distinguish between certain conductor sizes (AL, Cu, Triplex, Ug).
				Demonstrate the proper use of various types of wire splices and what tools are needed in applying these materials (both overhead and underground).
				Describe proper procedure used for installing personal protective grounds in reference to the AMEC Safety Manual.
				Demonstrate proper shaping of wires in underground installation.

ADDITIONAL ITEMS FOR REVIEW:
Exe. Avg. NI N/A

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EDUCATION & TRAINING EXPECTATIONS:

Educational Expectations:

Yes No Employee will successfully complete the Power Delivery Program from Northwest Lineman College. **Must have 2nd year of the correspondence course completed with a passing grade to advance to 3rd year step classification**. All correspondence studies are intended to be performed on the individual's own time. Exams will be supervised by a supervisor. The cooperative will pay 100% of correspondence course costs.

Training Expectations:

Yes No Employee will successfully complete five core courses sponsored by AMEC. Programs include: Overhead & Aerial Basket School, Underground School, Regulator, Capacitor and OCR School, Meter School, and Transformer school during the course of their apprenticeship.

Yes No Employee will attend in-house training sessions as presented by the engineering department or other qualified personnel (i.e. substation operations, etc.)

_____ Date: _____

Apprentice Signature

_____ Date: _____

Operations' Mgr./Line Supt. Signature
Additional comments: _____

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12/2007

(Insert Name of Your Electric Cooperative)
Apprentice Progress Review

Third Year Review:

Name of Apprentice: _____

Position Title: Lineman 3rd Year

Supervisor: _____

Objectives: To learn the proper methods for the installation, maintenance and repair of the Cooperative's electric distribution system in a safe and efficient manner.

Supervisor Of: None. No authority for independent action is assigned to this position. It is a position wherein the learning of technical requirements for lineman classifications are initiated.

Physical Demands: Job requires heavy lifting, awkward work position and exposure to many adverse elements of weather, plus hazards of working around energized lines and apparatus.

Geographic Requirements:
Yes No Domicile Requirement: As defined locally.

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Please use the following scale to assess the abilities of apprentice. Check **Exe.** For Excellent; **Avg.** for Average; **NI** for Needs Improvement and **N/A** for Not Applicable.

DUTIES & RESPONSIBLITIES:

Exe.	Avg.	NI	N/A	
				Inspect trucks, tools and working equipment assigned to him/her to ensure proper operation and maintenance and any required repairs are promptly reported to the Line Foreman or other assigned supervisor.

Exe. Avg. NI N/A

Operate radio equipment when assigned and abide by the Federal Communications commission's rules and regulations when operating the radio. Demonstrate knowledge of local Mayday procedures.

Operate automotive equipment when assigned, comply with all traffic laws, safety rules, regulations and safe practices while operating vehicle assigned to him/her, should at all times look out for safety of the vehicle, its occupants and its loads.

Receive communications and directives and orally confirm full understanding. Keep assigned supervisor informed of important information concerning the work performed.

Study all cooperative policies and procedures, attend and participate in all applicable safety meetings scheduled by the cooperative.

Study lineman manuals and other guidelines to complete requirements outlined in the specification of this position.
(i.e. RUS specification books, AMEC safety manual, NESC, etc.)

Perform other related work of this or any other classification requiring equal or lesser skill when assigned by Line Foreman or other supervisor.

Learn to patrol distribution lines, learn to operate and maintain related equipment, learn distribution and transmission switching, sectionalizing and fusing under detailed supervision.

Must maintain a valid Class A Missouri Commercial Driver's License without restrictions.

Participate in job briefings. Be able to know the five key subjects covered in those discussions according to the AMEC Safety Manual.

Exe. Avg. NI N/A

Perform "on call" duty assignments as are required by Cooperative policy and procedure guidelines, to maintain continuity of service after regular working hours.

Perform live line work on energized lines and equipment following prescribed methods and procedures under direct supervision of a qualified lineworker.

Assists 1st and 2nd year lineman when assigned by the line foreman or other supervisor.

JOB KNOWLEDGE:

Exe. Avg. NI N/A

Have a good knowledge of the safety principles and work practices in line construction, service and maintenance requirements in an electrical distribution system.

Be able to state the Cooperative Emergency Distress Call, intended for use on vehicle and two-way radios and all information pertaining to the incident at hand.

Have knowledge about filling out forms available for accident reporting and investigations and where they may be located at the cooperative.

Have knowledge of where to find the MSDS sheets for a selected material stored on cooperative property and, be able to understand material in the manual.

Be able to identify and distinguish different voltages pertaining to the respective system. (primary and secondary voltages)

Have knowledge of basic electricity and Ohm's/Watt's Law. Be able to apply those laws to various situations.

Have knowledge about what personal protective equipment is needed for a specific task and when these items are required in reference to the AMEC Safety Manual.

Exe. Avg. NI N/A

Have knowledge of when the truck grounds are to be used and, how they should be configured in reference to the AMEC Safety Manual.

Be able to identify most of the materials and tools needed to do overhead and underground work.

Be able to determine proper signage and traffic control for high speed/low speed applications.

Be able to interpret information available on transformer name-plates and determine the turns ratio for a transformer in respect to your system voltage.

Be able to identify clearances for conductor in various situations. (driveway, highway, railroad crossings, etc.)

Be able to state the personal and equipment minimum approach distances for your system voltages.

Have knowledge of how regulators, capacitors and OCRs operate and how to bypass each device.

Be able to state the proper steps for de-energizing a section of line and have the ability to fill out a lockout/tagout card for overhead and underground applications.

Be able to distinguish between the different three-phase banks available on the system and secondary voltages associated with each bank.

PROFESSIONAL DEVELOPMENT:

Exe. Avg. NI N/A

Able to develop and understand supportive relationships required for individual growth and team spirit with other employees which he/she is assigned to work.

Able to conduct himself/herself in a courteous manner and gain respect of fellow employees and when the work assignment brings about contact.

Exe. Avg. NI N/A

Able to understand the cooperative as a member-owned form of business and the role of the members, directors and employees in said organization.

Able to be continuously applying himself/herself to the development of all abilities and skills required of a lineman position at this cooperative.

COMPETENCIES:

Exe. Avg. NI N/A

Demonstrates participation in safety, CPR and first-aid practices and pole top/bucket truck rescue (if qualified), procedures and training.

Demonstrates participation in all safety meetings with the exception of an excused absence (ie. sick leave, vacation, working an outage, etc.).

Demonstrates no serious safety violations (ie. blatant violation of safety rules, refusing to utilize safety equipment).

Demonstrates a strong work ethic and positive attitude.

Demonstrates map reading utilizing both the company's electronic and paper maps.

Demonstrates ability to read records, spec manuals and staking sheets.

Demonstrates the required pre-use OSHA and DOT inspections of affected vehicles.

Demonstrates proper inspection and application of personal and vehicle grounds.

Demonstrates safe work procedures used in setting and replacing poles in energized lines.

Demonstrates safe use of chainsaw and applicable PPE when trimming and felling trees in energized lines.

Exe.	Avg.	NI	N/A	
				Demonstrates proper inspection and care of climbing equipment.
				Demonstrates proper pole climbing/pole positioning techniques on energized poles (free climbing/hitch hiking).
				Demonstrates executing job assignments in a safe and efficient manner.
				Demonstrates operating the company's equipment (i.e. aerial devices, digger derricks, trencher, etc.) in a safe and efficient manner.
				Demonstrates proper inspection, care and use of rubber gloves, rubber sleeves and live line tools and equipment.
				Demonstrates understanding of basic rigging techniques.
				Demonstrates understanding of proper work area protection and flagger's responsibilities.
				Demonstrates proper selection, use and care of personal protective equipment.
				Demonstrate the proper use of a fire extinguisher and where they are located on the vehicles and facilities.
				Demonstrate the proper framing of single phase, two phase, and three phase structures in reference to the RUS Specifications or local cooperative guidelines.
				Demonstrate the proper rigging technique for securing a victim with a hand line in order to do pole top rescue on structures with or without a cross arm.
				Demonstrate the proper technique for doing bucket truck rescue on various pieces of equipment at the cooperative.
				Demonstrate proper installation of ground wire on all single phase two phase and three phase applications.
				Demonstrate the proper installation of armor rod on any type of pole assembly.

Exe.	Avg.	NI	N/A	
				Demonstrate how to interpret a staking sheet involving single phase and basic three phase applications.
				Demonstrate the proper use of underground locating equipment.
				Demonstrate proper installation of underground elbows in transformers/switching cabinets.
				Demonstrate proper use of telescopic stick with minimum supervision.
				Demonstrate the ability to distinguish between certain conductor sizes (AL, Cu, Triplex, UG).
				Demonstrate the proper use of various types of wire splices and what tools are needed in applying these materials (both overhead and underground).
				Describe proper procedure used for installing personal protective grounds in reference to the AMEC Safety Manual.
				Demonstrate proper installation and shaping of wires in an underground transformer or switching cabinet.
				Demonstrate the proper installation of conductor stringing blocks of various structures for the use of reconductoring.
				Demonstrate how to properly deadend wire on various three-phase end poles.
				Demonstrate the proper method of changing out pole top insulators and suspension insulators on energized lines.
				Demonstrate the proper method for sagging wire by using line wave timing, line sight with a target or use of a dynometer.
				Demonstrate the proper use and installation of rubber and hard shell cover-up on various installations.
				Demonstrate the proper use of a split blanket for use in untying or untying wire on energized line or other applications.

Exe. Avg. NI N/A

Demonstrate a solid foundation for performing various live line activities such as pole replacement, transformer replacement and taking OCRs, regulators and capacitors out of service.

Demonstrate proper procedure for isolating a particular section of underground conductor.

Demonstrate proper procedure for isolating a particular section of overhead line.

Demonstrate how to properly remove the bayonet in an under-ground transformer and replace the fuse link.

Demonstrate how to place OCRs in non-reclosing mode.

Demonstrate how to troubleshoot line using fault finders and or line sectionalizing techniques.

ADDITIONAL ITEMS FOR REVIEW:

Exe. Avg. NI N/A

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EDUCATION & TRAINING EXPECTATIONS:

Educational Expectations:

Yes No Employee will successfully complete the Power Delivery Program from Northwest Lineman College. **Must have 3rd year of the correspondence course completed with a passing grade to advance to 4th year step classification**. All correspondence studies are intended to be performed on the individual's own time. Exams will be supervised by a supervisor. The cooperative will pay 100% of correspondence course costs.

Training Expectations:

Yes No Employee will successfully complete five core courses sponsored by AMEC. Programs include: Overhead & Aerial Basket School, Underground School, Regulator, Capacitor and OCR School, Meter School, and Transformer school during the course of their apprenticeship.

Yes No Employee will attend in-house training sessions as presented by the engineering department or other qualified personnel (i.e. substation operations, etc.)

_____ Date: _____

Apprentice Signature

_____ Date: _____

Operations' Mgr./Line Supt. Signature

Additional comments: _____

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(Insert Name of Your Electric Cooperative)
Apprentice Progress Review

Fourth Year Review:

Name of Apprentice: _____

Position Title: Lineman 4th Year

Supervisor: _____

Objectives: To learn the proper methods for the installation, maintenance and repair of the Cooperative's electric distribution system in a safe and efficient manner.

Supervisor Of: None. No authority for independent action is assigned to this position. It is a position wherein the learning of technical requirements for lineman classifications is initiated.

Physical Demands: Job requires heavy lifting, awkward work position and exposure to many adverse elements of weather, plus hazards of working around energized lines and apparatus.

Geographic Requirements:
Yes No Domicile Requirement: As defined locally.

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Please use the following scale to assess the abilities of apprentice. Check **Exe.** For Excellent; **Avg.** for Average; **NI** for Needs Improvement and **N/A** for Not Applicable.

DUTIES & RESPONSIBLITIES:

Exe.	Avg.	NI	N/A	
				Inspect trucks, tools and working equipment assigned to him/her to ensure proper operation and maintenance and any required repairs are promptly reported to the Line Foreman or other assigned supervisor.

Exe.	Avg.	NI	N/A	
				Operate radio equipment when assigned and abide by the Federal Communications commission's rules and regulations when operating the radio. Demonstrate knowledge of local Mayday procedures.
				Operate automotive equipment when assigned, comply with all traffic laws, safety rules, regulations and safe practices while operating vehicle assigned to him/her, should at all times look out for safety of the vehicle, its occupants and its loads.
				Receive communications and directives and orally confirm full understanding. Keep assigned supervisor informed of important information concerning the work performed.
				Study all cooperative policies and procedures, attend and participate in all applicable safety meetings scheduled by the cooperative.
				Study lineman manuals and other guidelines to complete requirements outlined in the specification of this position. (i.e. RUS specification books, AMEC safety manual, NESC, etc.)
				Perform other related work of this or any other classification requiring equal or lesser skill when assigned by Line Foreman or other supervisor.
				Be able to patrol distribution lines, operate and maintain related equipment, perform distribution and transmission switching, sectionalizing and fusing under minimum supervision.
				Must maintain a valid Class A Missouri Commercial Driver's License without restrictions.
				Participate in job briefings. Be able to know the five key subjects covered in those discussions according to the AMEC Safety Manual.

Exe. Avg. NI N/A

Perform "on call" duty assignments as are required by Cooperative policy and procedure guidelines, to maintain continuity of service after regular working hours.

Perform live line work on energized lines and equipment following prescribed methods and procedures with minimum supervision of a qualified lineworker.

Assists 1st through 3rd year lineman when assigned by the line foreman or other supervisor.

JOB KNOWLEDGE:

Exe. Avg. NI N/A

Have a good knowledge of the safety principles and work practices in line construction, service and maintenance requirements in an electrical distribution system.

Be able to state the Cooperative Emergency Distress Call, intended for use on vehicle and two-way radios and all information pertaining to the incident at hand.

Have knowledge about filling out forms available for accident reporting and investigations and know where they located at the cooperative.

Have knowledge of where to find the MSDS sheets for a selected material stored on cooperative property and, be able to understand material in the manual.

Be able to identify and distinguish different voltages pertaining to the respective system. (primary and secondary voltages)

Have knowledge of basic electricity and Ohm's/Watt's Law. Be able to apply those laws to various situations.

Have knowledge about what personal protective equipment is needed for a specific task and when these items are required in reference to the AMEC Safety Manual.

Exe.	Avg.	NI	N/A	
				Have knowledge of when the vehicle grounds are to be used and, how they should be configured in reference to the AMEC Safety Manual.
				Be able to identify the materials and tools needed to do overhead and underground work.
				Be able to determine proper signage and traffic control for high speed/low speed applications.
				Be able to interpret information available on transformer name-plates and determine the turns ratio for a transformer in respect to your system voltage.
				Be able to identify clearances for conductor in various situations. (driveway, highway, railroad crossings, etc.)
				Be able to state the personal and equipment minimum approach distances for your system voltages.
				Have knowledge of how regulators, capacitors and OCRs operate and how to bypass each device.
				Be able to state the proper steps for de-energizing a section of line and have the ability to fill out a lockout/tagout card for overhead and underground applications.
				Be able to distinguish between the different three-phase banks available on the system and secondary voltages associated with each bank.
				Have knowledge of where all of the substations on the systems are located and what voltages are associated with each.
				Have knowledge about how to install some primary metering.

PROFESSIONAL DEVELOPMENT:

Exe. Avg. NI N/A

Able to develop and understand supportive relationships required for individual growth and team spirit with other employees which he/she is assigned to work.

Able to conduct himself/herself in a courteous manner and gain respect of fellow employees and when the work assignment brings about contact.

Able to understand the cooperative as a member-owned form of business and the role of the members, directors and employees in said organization.

Able to be continuously applying himself/herself to the development of all abilities and skills required of a lineman position at this cooperative.

COMPETENCIES:

Exe. Avg. NI N/A

Demonstrates participation in safety, CPR and first-aid practices and pole top/bucket truck rescue (if qualified), procedures and training.

Demonstrates participation in all safety meetings with the exception of an excused absence (ie. sick leave, vacation, working an outage, etc.).

Demonstrates no serious safety violations (ie. blatant violation of safety rules, refusing to utilize safety equipment).

Demonstrates a strong work ethic and positive attitude.

Demonstrates map reading utilizing both the company's electronic maps, paper maps, and circuit diagrams.

Demonstrates the required pre-use OSHA and DOT inspections of affected vehicles.

Demonstrates proper inspection and application of personal and vehicle grounds.

Exe.	Avg.	NI	N/A	
				Demonstrates safe work procedures used in setting and replacing poles in energized lines.
				Demonstrates safe use of chainsaw and applicable PPE when trimming and felling trees in energized lines.
				Demonstrates proper inspection and care of climbing equipment.
				Demonstrates proper pole climbing/work positioning techniques on energized poles. (free climbing/hitch hiking).
				Demonstrates executing job assignments in a safe and efficient manner.
				Demonstrates operating the company's equipment (i.e. aerial devices, digger derricks, trencher, etc.) in a safe and efficient manner.
				Demonstrates proper inspection, care and use of rubber gloves, live line tools and equipment.
				Demonstrates understanding of proper work area protection and flagger's responsibilities.
				Demonstrates proper selection, use and care of personal protective equipment.
				Demonstrate the proper use of a fire extinguisher and where they are located on the vehicles and facilities.
				Demonstrate the proper framing of single phase, two phase, and three phase structures in reference to the RUS Specifications or local cooperative guidelines.
				Demonstrate the proper rigging technique for securing a victim with a hand line in order to do pole top rescue on structures with or without a cross arm.
				Demonstrate the proper technique for performing bucket truck rescue on various pieces of equipment at the cooperative.

Exe.	Avg.	NI	N/A	
				Demonstrate how to interpret a staking sheet involving any type of activity, whether it be Overhead or Underground.
				Demonstrate the proper use of underground locating equipment.
				Demonstrate proper installation of underground elbows in transformers/switching cabinets.
				Demonstrate proper use of telescopic stick with minimum supervision.
				Demonstrate the ability to distinguish between certain conductor sizes (AL, Cu, Triplex, UG).
				Demonstrate the proper use of various types of wire splices and what tools are needed in applying these materials (both overhead and underground).
				Describe proper procedure used for installing personal protective grounds in reference to the AMEC Safety Manual.
				Demonstrate proper installation and shaping of wires in an underground transformer or switching cabinet.
				Demonstrate the proper installation of conductor stringing blocks of various structures for the use of reconductoring.
				Demonstrate how to properly deadend wire on various three-phase end poles.
				Demonstrate the proper method of changing out pole top insulators and suspension insulators on energized lines.
				Demonstrate the proper method for sagging wire by using line wave timing, line sight with a target or use of a dynometer.
				Demonstrate the proper use and installation of rubber and hard shell cover-up on various installations.
				Demonstrate the proper use of a split blanket for use in untying and tying conductor on energized lines or other applications.

Exe. Avg. NI N/A

Demonstrate a solid foundation for performing various live line activities such as pole replacement, transformer replacement and taking OCRs, regulators and capacitors out of service.

Demonstrate proper procedure for isolating a particular section of underground conductor.

Demonstrate proper procedure for isolating a particular section of overhead line.

Demonstrate how to place all OCRs in non-reclosing mode.

Demonstrate how to troubleshoot line using fault finders and or line sectionalizing techniques.

Demonstrate proper method to change out an energized fuse disconnect switch.

Demonstrate the proper use of a 3-phase rotation meter.

Demonstrate the proper use and application of phasing testers.

Demonstrate the proper use of a thumper radar unit.

Demonstrate the proper installation of a primary UG splice.

Demonstrate the ability to cut over transformer for use in Wye secondary connections.

ADDITIONAL ITEMS FOR REVIEW:

Exe. Avg. NI N/A

_____

_____

_____

_____

EDUCATION & TRAINING EXPECTATIONS:

Educational Expectations:

Yes No Employee will successfully complete the Power Delivery Program from Northwest Lineman College. **Must have 4th year of the correspondence course completed with a passing grade to advance to Journey Level step classification**. All correspondence studies are intended to be performed on the individual's own time. Exams will be supervised by a supervisor. The cooperative will pay 100% of correspondence course costs.

Training Expectations:

Yes No Employee will successfully complete five core courses sponsored by AMEC. Programs include: Overhead & Aerial Basket School, Underground School, Regulator, Capacitor and OCR School, Meter School, and Transformer school during the course of their apprenticeship.

Yes No Employee will attend in-house training sessions as presented by the engineering department or other qualified personnel (i.e. substation operations, etc.)

_____ Date: _____

Apprentice Signature

_____ Date: _____

Operations' Mgr./Line Supt. Signature

Additional comments: _____

_____

_____

_____

_____

12/2007

FAQs for the
Lineworker Certification Program

1) **What are the criteria for certification**?
The certification process is a three step process consisting of successful completion of the Lineworkers Certification Program (LCP), successfully completing the five required core courses and completion of 8,000 hours OJT.

2) **What is the process for registering a new employee**?
If your cooperative is not registered with the Department of Labor (DOL), contact Paulette with employee information. If your cooperative is registered with the DOL, registration must be done on the DOL website at https://www.rapids.doleta.gov/. User name and password have been assigned to all registered cooperatives. If you need that information contact AMEC.

3) **What do I do when an employee has completed the requirements**?
If your cooperative is not registered with the DOL, contact Paulette. If your cooperative is registered with the DOL contact Paulette to confirm requirements have been met then complete employee on DOL website. Completion must be done on the DOL website at the same address as when the employee was registered. Once this information has been entered on the DOL website, print a copy of the completion information and send to Paulette at AMEC.

4) **What do I do if our cooperative is interested in becoming registered with the Department of Labor**?
For registration information you can either contact Mike Smith at 417-883-6186 or Craig Moeller at 573-659-3443.

5) **How do I request a test**?
All hard copy test requests should go through AMEC by the cooperative test facilitator. All tests will be emailed to the test facilitator. Individual systems should not attempt to contact Northwest Lineman College to request a test or test bank unless utilizing the online electronic option. This will help to maintain the integrity of the testing.

6) **How can an existing journeyman becoming certified**?
Journeymen must successfully complete the Lineworker Certification Program through the normal registration process. They are exempt from attending the five required core courses and from tracking the 8,000 OJT hours. NOTE: Journeymen must wait 1 year from enrollment date to become certified.

7) **Can an employee be granted credit for previous experience toward the 8,000 hour OJT requirement**?
Yes, an employee can be granted credit for previous experience based upon individual cooperative policy.

FAQs for the
Lineworker Certification Program (Cont.)

8) **Which classes are required for AMEC/DOL certification**?
Technical Meter School, Recloser, Regulator & Capacitor School, Overhead & Aerial Basket School, Underground School and Transformer School.

9) **What are the optional labs**?
The labs provided by AMEC are optional, but strongly recommended for increased "hands-on" training. The labs are Lineman Fundamentals & Climber Certification Lab, Equipment Operation Lab, Overhead Construction & Maintenance Lab, Underground Residential Distribution Lab and Introduction to Live Line Procedures Lab.

10) **How does an employee become a certified climber**?
An employee can be certified to climb by attending the AMEC Lineman Fundamentals & Climber Certification Lab, through a technical school or through another agency.

11) **What job classifications are eligible to participate in the apprentice program**?
Only those employees classified as line workers are recommended to participate in the program.

12) **How are certificates obtained for employees who have completed the program**?
AMEC certificates will be issued to all employees who successfully complete all the requirements. DOL certificates are issued by Mike Smith once authorized by AMEC and the employee has been completed through the online process. DOL certificates will be sent to AMEC and forwarded on to the cooperative.

13) **What functions can be done on the Department of Labor website**?
Functions on the DOL website include:

a) Enrollment of Employee
b) Suspension of Employee – this function can be used if an extension is needed due to medical reasons, military service, etc.
c) Cancellation of Employee – this function needs to be used if the employee leaves employment or changes job classification.
d) Transfer of Employee – this function should be used when hiring an employee who has been previously enrolled with the DOL through another agency.
e) Completion of Apprenticeship