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| **INDUSTRIAL ELECTRICIAN/LINEWORKER 46.0300.30** | |
| **STANDARD 1.0 – APPLY BASIC ELECTRICAL THEORY** | |
| 1.1 | Interpret electrical terms |
| 1.2 | Identify electrical symbols |
| 1.3 | Construct BASIC electrical circuits |
| 1.4 | Compute for voltage, current, resistance, and power |
| 1.5 | Operate meters to measure electrical properties |
| 1.6 | Identify transformer applications |
| 1.7 | Apply electronic applications to transmission and distribution (T & D) systems |
| **STANDARD 2.0 – DEMONSTRATE SCIENCE KNOWLEDGE AND SKILLS** | |
| 2.1 | Explain molecular action as a result of temperature extremes, chemical reaction, and moisture content |
| 2.2 | Discuss the role of creativity in constructing scientific questions, methods, and explanations |
| 2.3 | Formulate investigable questions, construct investigations, collect and evaluate data, and develop scientific recommendations based on findings |
| 2.4 | Identify types of pressure measurements |
| **STANDARD 3.0 – DEMONSTRATE MATHEMATICS SKILLS** | |
| 3.1 | Apply knowledge of arithmetic operations |
| 3.2 | Analyze and apply data and measurements to solve problems and interpret documents |
| 3.3 | Read and interpret measuring devices (e.g., rules and tapes) |
| 3.4 | Use the metric system |
| 3.5 | Solve problems for volume, weight, area, circumference, and perimeter measurements for rectangles, squares, and cylinders |
| 3.6 | Measure tolerance(s) on horizontal and vertical surfaces using millimeters, centimeters, feet, and inches |
| **STANDARD 4.0 – DEMONSTRATE KNOWLEDGE OF ELECTRICAL DISTRIBUTION AND TRANSMISSION SYSTEMS** | |
| 4.1 | Describe distribution systems |
| 4.2 | Describe transmission systems |

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| 4.3 | Describe underground systems |
| 4.4 | Describe street lighting systems |
| **STANDARD 5.0 – DEMONSTRATE KNOWLEDGE OF INSTALLING ELECTRICAL DISTRIBUTION AND TRANSMISSION SYSTEMS** | |
| 5.1 | Describe the process of installing distribution systems |
| 5.2 | Describe the process of installing transmission systems |
| 5.3 | Describe the process of installing underground systems |
| 5.4 | Describe the process of installing street lighting systems |
| **STANDARD 6.0 – DEMONSTRATE KNOWLEDGE OFMAINTAINING ELECTRICAL DISTRIBUTION AND TRANSMISSION SYSTEMS** | |
| 6.1 | Describe the process of maintaining overhead systems |
| 6.2 | Describe the process of maintaining underground systems |
| **STANDARD 7.0 – DEMONSTRATE THE IMPORTANCE OF HEALTH ANDSAFETY AS RELATED TO THE INDUSTRY** | |
| 7.1 | Describe personal and jobsite safety rules and regulations that maintain safe and healthy work environments |
| 7.2 | Explain emergency procedures for common workplace accidents |
| 7.3 | Create a disaster and/or emergency response plan |
| 7.4 | Explain the Right-to-Know Law |
| 7.5 | Identify potential health problems related to exposure of chemicals and hazardous materials |
| 7.6 | Explain the importance of pre-job briefing |
| **STANDARD 8.0 – DEMONSTRATE KNOWLEDGE OF ELECTRICAL APPARATUSES** | |
| 8.1 | Check fuse cutouts |
| 8.2 | Check high voltage switches |
| 8.3 | Check circuit breakers and regulators |
| 8.4 | Perform dielectric tests |
| 8.5 | Perform load test |
| 8.6 | Maintain all electrical components |

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| **STANDARD 9.0 – RECOGNIZE ELECTRICAL LINE SERVICE TOOLS AND EQUIPMENT AND EXPLAIN THEIR FUNCTIONS** | |
| 9.1 | Utilize hand tools safely |
| 9.2 | Utilize hotline tools safely |
| 9.3 | Utilize rubber protection as needed |
| 9.4 | Operate shop power tools |
| 9.5 | Operate hoist |
| 9.6 | Operate multimeter |
| 9.7 | Operate clamp-on ammeter |
| 9.8 | Operate phase rotation meter |
| **STANDARD 10.0 – DEMONSTRATE KNOWLEDGE OF UTILITY MACHINERY OPERATION AND MAINTENANCEIN THE ELECTRICAL LINE INDUSTRY** | |
| 10.1 | Describe safe work practice for operating machinery |
| 10.2 | Describe routine daily inspection to trucks and mobile equipment |
| 10.3 | Inspect hydraulic systems for operational integrity |
| 10.4 | Describe dielectric testing of an insulated boom section |
| 10.5 | Clean and maintain dielectric bucket liners and boom insulators |
| 10.6 | Maintain and install vehicle grounds |
| 10.7 | Inspect equipment for safe operational conditions |
| 10.8 | Safely load, secure, and unload a variety of equipment |
| 10.9 | Read a load lifting chart |
| 10.10 | Plan a lift |
| 10.11 | Accurately give hand signals to a boom truck operator |
| 10.12 | Describe the steps in setting up an aerial truck for operation |
| 10.13 | Research the requirements for obtaining and maintaining a CDL (commercial driver’s license) |