



**Electrical and Power Transmission Installers, Other  
CIP 46.0399  
Task Grid**

Unit/Standard Number

**Secondary Competency Task List**

**100 BASIC SAFETY**

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|-----|--|
| 101 | Demonstrate proper use of personal protective equipment. |
| 102 | Identify causes of job site accidents.                   |
| 103 | Identify job site hazards.                               |
| 104 | Working safely with job hazards.                         |
| 105 | Identify safe methods and equipment of aerial work.      |
| 106 | Demonstrate basic fire safety.                           |
| 107 | Demonstrate basic electrical safety.                     |
| 108 | Using Perform Lockout/Tagout.                            |
| 109 | Demonstrate scaffold and ladder safety.                  |

**200 HAND TOOLS**


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| 201 | Recognize, identify and safely use hammers and screwdrivers. |
| 202 | Recognize, identify and safely use pliers and wire cutters.  |
| 203 | Recognize, identify and safely use saws and chisels.         |
| 204 | Identify and safely use hydraulic, hand tools.               |


**300 POWER TOOLS**


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|-----|---|
| 301 | Recognize, identify and safely use drill and saws.              |
| 302 | Identify and safely use electric hammer drill.                  |
| 303 | Identify and safely use reciprocating saw.                      |
| 304 | Identify and safely use portable hand-held band saw.            |
| 305 | Identify and safely use circular saw.                           |
| 306 | Identify and safely use electric/cordless drill.                |
| 307 | Identify the safely use of a portable jig saw.                  |
| 308 | Identify the safely use of a chain saw.                         |
| 309 | Identify the use of a portable power conduit threading machine. |

**400 BLUEPRINT READING**

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|-----|------------------------------------|
| 401 | Identify types of blueprint plans. |
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402	Identify blueprint symbols.	
403	Interpret blueprint plans.	
404	Plan branch circuits for blueprint development.	
405	Incorporate electrical details to residential blueprint.	
<b>500</b>	<b>ANCHORS AND SUPPORTS</b>	
501	Identify, select and install various types of anchors and supports.	
<b>600</b>	<b>RESIDENTIAL CABLING TECHNOLOGY</b>	
601	Install Non-Metallic (NM) Cable for connection to an electrical device.	
602	Install metal-clad cable (MC).	
603	Demonstrate knowledge and skill in installing low-voltage wires and cable for timers, computers, telephones and security systems.	
604	Install and terminate a residential network.	
605	Demonstrate knowledge and skill in installing coaxial cable for television and telecommunications systems.	
606	Demonstrate knowledge and skill in "finish wiring" electrical outlets, switches, fixtures and other devices in a residence.	
607	Define residential networks.	
608	Identify a structured media systems.	
609	Design and plan layout of low voltage circuits services.	
<b>700</b>	<b>SWITCHES AND RECEPTACLES CIRCUITS</b>	
701	Install a duplex receptacle.	
702	Install a single pole switch.	
703	Install a 3-way switch.	
704	Install a 4-way switch.	
705	Install a split-wired duplex receptacle.	
706	Install a Ground Fault Circuit Interrupter (GFCI) Receptacle.	
707	Install an Arc-Fault Circuit Interrupter (AFCI).	
708	Install a timer circuit.	
709	Install various special switches and receptacles.	
<b>800</b>	<b>FIXTURES</b>	
801	Install surface-mounted lighting fixture.	
802	Install recessed lighting fixtures.	

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803	Install a ceiling fan.	
804	Install low voltage lighting.	
<b>900</b>	<b>RACEWAYS</b>	
901	Install Electrical Metallic Tubing (EMT).	
902	Install Poly-Vinyl Chloride conduit (PVC).	
903	Identify surface metal and non-metal raceways (Wiremold).	
904	Identify flexible raceway.	
905	Demonstrate the five bends (90, offset, 3 point saddle, 4 point saddle, kick) used for conduit raceways.	
906	Demonstrate how to thread and install rigged/intermediate conduit.	
907	Demonstrate the application of construction math problems.	
<b>1000</b>	<b>WIRED DEVICES</b>	
1001	Install a hard wired smoke detector.	
1002	Install door-bell system.	
<b>1100</b>	<b>TESTING EQUIPMENT</b>	
1101	Identify and safely use a multimeter.	
1102	Identify and safely use a continuity tester.	
1103	Identify and safely use a plug-in circuit tester.	
1104	Identify and safely use a clamp-on ammeter.	
1105	Identify and safely use a megger insulation tester.	
1106	Identify and safely use a circuit tracer.	
<b>1200</b>	<b>ELECTRICAL SERVICE</b>	
1201	Install a 100 amp overhead service.	
1202	Identify a 100 amp underground service.	
1203	Install a 200 amp overhead service.	
1204	Install a 200 amp underground service.	
1205	Install a multiple meter service.	
1206	Install a multiple meter service with over-current protection	
1207	Cut in a residential panel.	
1208	Perform a live service tie-in.	
1209	Demonstrate knowledge of 3 phase safety disconnect switch.	

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1210	Dress and tie in a service panel.	
<b>1300</b>	<b>NATIONAL ELECTRICAL CODE</b>	
1301	Identify the purpose of the National Electrical Code, its publisher and its source, and explain why the NEC is needed in this occupation.	
1302	Demonstrate how to use the National Electrical Code Book as a reference for finding answers to questions, solutions to problems, and up-to-date regulations during the installation of electrical service and power transmission.	
1303	Use the NEC as a reference to questions and competencies that students perform for all electrical installations.	
<b>1400</b>	<b>GREEN TECHNOLOGY</b>	
1401	Describe and explain the uses of wind power and solar power.	
1402	Demonstrate knowledge of installation procedures for a wind turbine system.	
1403	Demonstrate knowledge of installation procedures for photovoltaic systems.	
1404	Demonstrate knowledge of installation procedures for a solar energy source.	
1405	Demonstrate knowledge of installation procedures for a installing a wind energy source.	
1406	Demonstrate knowledge of the operation of solar cells.	