

Summary Report for Individual Task
052-204-2302
Install Distribution System Protection and Equipment (Energized)
Status: Approved

DISTRIBUTION RESTRICTION: Approved for public release; distribution is unlimited.

DESTRUCTION NOTICE: None

Condition: As a Power Line Distribution Specialist in a tactical or nontactical environment (when distribution equipment needs to be installed or replaced [energized]), you are given electrical construction prints, applicable distribution equipment as specified in the electrical construction prints, applicable climbing and rigging equipment, hot-line tools, an electrician's tool kit, a voltage detector, a lockout and tagout kit, grounding equipment, safety standing operating procedures (SOPs), applicable manufacturer's literature, the Lineman's and Cableman's Handbook (LCH), applicable personal protective equipment (PPE), and insulating protective equipment. This task should not be trained in MOPP.

Standard: Install distribution equipment (energized) as specified in the manufacturer's literature. Ensure that all hardware is mechanically tight and electrically connected.

Special Condition: None

Safety Level: Medium

MOPP: Never

Task Statements

Cue: None

DANGER

1. THIS TASK SHOULD ONLY BE PERFORMED BY QUALIFIED PERSONNEL KNOWLEDGEABLE IN THE INSTALLATION AND MAINTENANCE OF ELECTRICAL DISTRIBUTION SYSTEMS AND POWER EQUIPMENT, ALONG WITH THE ASSOCIATED HAZARDS. FAILURE TO COMPLY MAY CAUSE IMMEDIATE DEATH OR PERMANENT INJURY.
2. A VOLTAGE DETECTION TESTER SHOULD BE USED TO ENSURE THAT THE CABLE IS NOT ENERGIZED. MATERIAL (SUCH AS A LEAD SHEATH THAT ACTS AS A SHIELD) MUST NOT BE BETWEEN THE TESTER AND THE CONDUCTORS OF THE CIRCUIT BEING TESTED. FAILURE TO TEST THE CABLES MAY CAUSE IMMEDIATE DEATH OR PERMANENT INJURY.
3. A VOLTAGE DETECTION TESTER SHOULD BE USED TO ENSURE THAT THE CABLE IS NOT ENERGIZED. MATERIAL (SUCH AS A LEAD SHEATH THAT ACTS AS A SHIELD) MUST NOT BE BETWEEN THE TESTER AND THE CONDUCTORS OF THE CIRCUIT BEING TESTED. FAILURE TO TEST THE CABLES MAY CAUSE IMMEDIATE DEATH OR PERMANENT INJURY.
4. DO NOT TOUCH EXPOSED ELECTRICAL CONNECTIONS WITHOUT THE PROPER PROTECTIVE GEAR WHEN THE POWER SOURCE IS CONNECTED TO THE FUSE. FAILURE TO COMPLY MAY CAUSE IMMEDIATE DEATH OR PERMANENT INJURY.
5. NEVER POSITION YOURSELF UNDER A SUSPENDED LOAD. FAILURE TO COMPLY MAY CAUSE IMMEDIATE DEATH OR PERMANENT INJURY.
6. REMOVE ALL RINGS, NECKLACES, OTHER JEWELRY, AND LOOSE CLOTHING. FAILURE TO COMPLY MAY CAUSE IMMEDIATE DEATH OR PERMANENT INJURY.

WARNING

None

CAUTION

None

Remarks: This Task can only be done by Qualified Journeyman Lineman.
All required Prime Power specific references and technical manuals will be provided by the local Prime Power Command.

Notes: All distribution equipment is not the same and may function differently depending on make, model, or manufacturer. The application of the installation steps are similar but may vary. Always consult the manufacturer's literature for each piece of equipment.

Performance Steps

1. Review all of the manufacturer's literature, the electrical construction prints, and the wiring diagrams.
2. Ensure that all PPE and hot-line equipment has been correctly tested and is fully mission capable.
3. Inspect all tools and rigging equipment for serviceability.
4. Install all rigging equipment, as necessary.
5. Raise and position the distribution equipment (safely) to prepare it for installation.
6. Install all mounting hardware as stated in the applicable manufacturer's literature.
7. Remove all rigging equipment.
8. Connect the distribution equipment (electrically) as stated in the applicable manufacturer's literature.
9. Verify the correct phase sequence.
10. Position or sag the conductors to the appropriate clearance as stated in the applicable manufacturer's literature.
11. Perform a functions check on the electrical distribution system.
12. Ensure that all PPE, hot-line equipment, climbing and rigging equipment, and tools are correctly cleaned and stored.

(Asterisks indicates a leader performance step.)

Evaluation Preparation: Provide the Soldier with the items in the conditions. Give the Soldier a safety briefing before starting, and ensure that all safety precautions are followed. Prepare area and equipment in advance to ensure that the task standards can be met.

PERFORMANCE MEASURES	GO	NO-GO	N/A
1. Reviewed all of the manufacturer's literature, the electrical construction prints, and the wiring diagrams.			
2. Ensured that all PPE and hot-line equipment had been correctly tested and was fully mission capable.			
3. Inspected all tools and rigging equipment for serviceability.			
4. Installed all rigging equipment, as necessary.			
5. Raised and positioned the distribution equipment (safely) to prepare it for installation.			
6. Installed all mounting hardware as stated in the applicable manufacturer's literature.			
7. Removed all rigging equipment.			
8. Connected the distribution equipment (electrically) as stated in the applicable manufacturer's literature.			
9. Verified the correct phase sequence.			
10. Positioned or sagged the conductors to the appropriate clearance as stated in the applicable manufacturer's literature.			
11. Performed a functions check on the electrical distribution system.			
12. Ensured that all PPE, hot-line equipment, climbing and rigging equipment, and tools were correctly cleaned and stored.			

Supporting Reference(s):

Step Number	Reference ID	Reference Name	Required	Primary
	EM 385-1-1	Safety and Health Requirements.	No	No
	ER 385-1-31	Safety & Occupational Health. The Control of Hazardous Energy (Safe Clearance).	No	No
	FM 5-412	PROJECT MANAGEMENT	No	No
	LCH	The Lineman's and Cableman's Handbook, 11th Edition, McGraw-Hill. 2007	Yes	No
	NETA™	Maintenance Testing Specifications for Electrical Power Distribution Equipment & Systems. 2007	No	No
	TM 3-34.45	ENGINEER PRIME POWER OPERATIONS	No	No
	TM 3-34.46	Theater of Operations Electrical Systems	No	No
	TM 3-34.86	Rigging Techniques, Procedures, and Applications {MCRP 3-17.7j}	No	No
	TM 5-682	Facilities Engineering: Electrical Facilities Safety.	No	No
	TM 5-684	Facilities Engineering - Electrical Exterior Facilities. NAVFAC MO-200/AFJMAN 32-1082.	No	No
	TM 5-686	Power Transformer Maintenance and Acceptance Testing.	No	No
	TM 5-811-1	Electric Power Supply and Distribution {AFJMAN 32-1080}	No	No
	TM 5-811-3	Electrical Design: Lightning and Static Electricity Protection. AFM 88-9, Chap 3.	No	No

Environment: Environmental protection is not just the law but the right thing to do. It is a continual process and starts with deliberate planning. Always be alert to ways to protect our environment during training and missions. In doing so, you will contribute to the sustainment of our training resources while protecting people and the environment from harmful

effects. Refer to FM 3-34.5 Environmental Considerations and GTA 05-08-002 ENVIRONMENTAL-RELATED RISK ASSESSMENT. For classroom instruction:

No major environmental impact, training entirely of an administrative or classroom nature, with little or no environmental impact on the environment, equipment or personnel. [32 CFR Part 651, Appendix B, Section II, (i)(2)]

For practical exercises and demonstrations:

Instructors should complete a risk assessment before conducting training, operations, or logistical activities. Risk assessments assist instructors in identifying potential environmental hazards, develops controls, make risk decisions, implement controls, and ensure proper supervision and evaluation. FM 3-100.4, Environmental Considerations in Military Operations.

Safety: In a training environment, leaders must perform a risk assessment in accordance with FM 5-19, Composite Risk Management. Leaders will complete a DA Form 7566 COMPOSITE RISK MANAGEMENT WORKSHEET during the planning and completion of each task and sub-task by assessing mission, enemy, terrain and weather, troops and support available-time available and civil considerations, (METT-TC). Note: During MOPP training, leaders must ensure personnel are monitored for potential heat injury. Local policies and procedures must be followed during times of increased heat category in order to avoid heat related injury. Consider the MOPP work/rest cycles and water replacement guidelines IAW FM 3-11.4, Multiservice Tactics, Techniques, and Procedures for Nuclear, Biological, and Chemical (NBC) Protection, FM 3-11.5, Multiservice Tactics, Techniques, and Procedures for Chemical, Biological, Radiological, and Nuclear Decontamination. Everyone is responsible for safety. A thorough risk assessment must be completed prior to every mission or operation.

Prerequisite Individual Tasks :

Task Number	Title	Proponent	Status
052-204-1115	Rescue an Injured Victim From a Manhole	052 - Engineer (Individual)	Approved
052-204-1203	Perform Operator Preventive-Maintenance Checks and Services (PMCS) on a Bucket/Material Handler Truck	052 - Engineer (Individual)	Approved
052-204-1117	Inspect Hot-Line Equipment	052 - Engineer (Individual)	Approved
052-204-1108	Inspect Safety Equipment	052 - Engineer (Individual)	Analysis Completed
052-204-1124	Climb a Utility Pole	052 - Engineer (Individual)	Approved
052-204-1119	Perform Operator Preventive-Maintenance Checks and Services (PMCS) on a Line Truck With Auxiliary Equipment	052 - Engineer (Individual)	Approved
052-204-1201	Maintain Climbing Equipment	052 - Engineer (Individual)	Approved
052-204-1202	Maintain Rigging/Hoisting Equipment	052 - Engineer (Individual)	Approved
052-204-1125	Operate a Line Truck with Auxiliary Equipment	052 - Engineer (Individual)	Approved
052-204-1128	Interpret an Electrical One-Line Diagram	052 - Engineer (Individual)	Analysis Completed
052-204-1114	Rescue an Injured Victim From a Utility Pole	052 - Engineer (Individual)	Approved
052-204-1116	Rescue an Injured Victim From an Aerial-Bucket Truck	052 - Engineer (Individual)	Approved
052-204-1127	Perform Groundman Duties	052 - Engineer (Individual)	Approved
052-204-1113	Prepare a Manhole for Safe Entry	052 - Engineer (Individual)	Approved
052-204-1212	Operate a Bucket/Material Handler Truck	052 - Engineer (Individual)	Analysis Completed
052-204-1204	Tie Rope Knots and Splices	052 - Engineer (Individual)	Analysis Completed

Supporting Individual Tasks :

Task Number	Title	Proponent	Status
052-204-1209	String Single Phase and Three Phase Overhead Conductors	052 - Engineer (Individual)	Reviewed

052-204-1203	Perform Operator Preventive-Maintenance Checks and Services (PMCS) on a Bucket/Material Handler Truck	052 - Engineer (Individual)	Approved
052-302-7104	Direct Installation of Theater of Operation (T/O) Electrical Equipment / Fixtures	052 - Engineer (Individual)	Approved
052-204-2210	Secure Conductor to Insulator (Energized)	052 - Engineer (Individual)	Approved
052-204-1127	Perform Groundman Duties	052 - Engineer (Individual)	Approved
052-204-1116	Rescue an Injured Victim From an Aerial-Bucket Truck	052 - Engineer (Individual)	Approved
052-204-1119	Perform Operator Preventive-Maintenance Checks and Services (PMCS) on a Line Truck With Auxiliary Equipment	052 - Engineer (Individual)	Approved
052-204-1113	Prepare a Manhole for Safe Entry	052 - Engineer (Individual)	Approved
052-204-1202	Maintain Rigging/Hoisting Equipment	052 - Engineer (Individual)	Approved
052-204-1126	Perform Crossarm Change Out (With Conductors)	052 - Engineer (Individual)	Approved
052-204-1212	Operate a Bucket/Material Handler Truck	052 - Engineer (Individual)	Analysis Completed
052-204-2306	Supervise the installation of a Utility Pole	052 - Engineer (Individual)	Analysis Completed
052-204-1204	Tie Rope Knots and Splices	052 - Engineer (Individual)	Analysis Completed

Supported Individual Tasks : None

Supported Collective Tasks :

Task Number	Title	Proponent	Status
05-3-5700	Created from Template: Install Nonstandard Low-Voltage, Electrical-Power Distribution Equipment	05 - Engineers (Collective)	Analysis
05-3-5704	Perform Nonorganic Equipment Power Distribution Maintenance Operations	05 - Engineers (Collective)	Approved
05-3-5727	Install Underground Distribution Equipment	05 - Engineers (Collective)	Approved
05-3-5713	Perform a Power Distribution System Maintenance Survey	05 - Engineers (Collective)	Approved
05-3-5701	Created from Template: Install Low-Voltage, Electrical-Power Distribution Equipment	05 - Engineers (Collective)	Analysis
05-3-5702	Created from Template: Install Underground Electrical-Power Distribution Equipment	05 - Engineers (Collective)	Analysis
05-3-5700	Install Nonstandard Low-Voltage, Electrical-Power Distribution Equipment	05 - Engineers (Collective)	Approved
05-3-5704	Created from Template: Perform Nonorganic Equipment Power Distribution Maintenance Operations	05 - Engineers (Collective)	Analysis
05-3-5729	Operate Power Generation and Distribution Equipment	05 - Engineers (Collective)	Approved
05-3-5702	Install Underground Electrical-Power Distribution Equipment	05 - Engineers (Collective)	Approved
05-3-5724	Install Expedient, Surface-Laid, Electrical-Power Distribution Equipment	05 - Engineers (Collective)	Approved
05-3-5731	Perform Electrical-Power, Distribution Equipment Organizational Maintenance Operations	05 - Engineers (Collective)	Approved

05-3-5700	Created from Template: Install Nonstandard Low-Voltage, Electrical-Power Distribution Equipment	05 - Engineers (Collective)	Analysis
05-3-5701	Install Low-Voltage, Electrical-Power Distribution Equipment	05 - Engineers (Collective)	Approved
05-3-5725	Install Aerial Electrical Power Distribution Equipment	05 - Engineers (Collective)	Approved

ICTL Data :

ICTL Title	Personnel Type	MOS Data
12Q20, Power Line Distribution Specialist, skill level 2	Enlisted	MOS: 12Q, Skill Level: SL2