Report Date: 02 Oct 2013

Summary Report for Individual Task
052-204-1211
Install Distribution System Protection and Equipment (De-energized)
Status: Approved

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

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

Special Condition: None

Safety Level: Low

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 AND THE ASSOCIATED HAZARDS. FAILURE TO COMPLY MAY CAUSE PERMANENT INJURY OR DEATH.

2. IT IS VITAL TO ENSURE THAT THE CIRCUIT IS COMPLETELY DE-ENERGIZED AND CORRECTLY GROUNDED BEFORE PERFORMING ANY WORK. FAILURE TO COMPLY MAY CAUSE PERMANENT INJURY OR DEATH.

3. A VOLTAGE DETECTOR SHOULD BE USED TO ENSURE THAT THE CABLES ARE 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 CABLES MAY CAUSE PERMANENT INJURY OR DEATH.

4. NEVER POSITION YOURSELF UNDER A SUSPENDED LOAD. FAILURE TO COMPLY MAY CAUSE PERMANENT INJURY OR DEATH. 5. REMOVE RINGS, NECKLACES, OTHER JEWELRY, AND LOOSE CLOTHING. FAILURE TO COMPLY MAY CAUSE PERMANENT INJURY OR DEATH.

WARNING

None

CAUTION

None

Remarks: None

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

Performance Steps

1. Review danger, warning, and caution notices before proceeding.
2. Review the manufacturer's literature, electrical construction prints, and wiring diagrams.
3. Ensure that PPE is properly tested and fully mission-capable.
4. Inspect tools and climbing and rigging equipment for serviceability.
5. Perform switching, blocking and tagging procedures.
6. Ascend the pole to the desired height if necessary.
7. Test phases to ensure that there is no voltage present.
8. Install personal protective grounds.
9. Install rigging equipment as necessary.
10. Raise and position (safely) the equipment to be installed.
11. Install mounting hardware as stated in the applicable manufacturer's literature.
12. Remove rigging equipment.
13. Connect the distribution equipment electrically according to the applicable manufacturer's literature.
14. Verify the correct phase sequence.
15. Position or sag conductors to the appropriate clearance according to the applicable manufacturer's literature.
16. Remove personal protective grounds.
17. Close out switching, blocking and tagging procedures by removing blocking and tagging devices.
18. Perform a functions check on the electrical distribution system.
19. Ensure that the items listed in the conditions are properly 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 the test, and ensure that all safety precautions are followed. Prepare testing area and equipment in advance to ensure that the task standards can be met.

PERFORMANCE MEASURES	GO	NO-GO	N/A
1. Reviewed danger, warning, and caution notices before proceeding.			
2. Reviewed the manufacturer's literature, electrical construction prints, and wiring diagrams.			
3. Ensured that PPE was properly tested and fully mission-capable.			
4. Inspected tools and climbing and rigging equipment for serviceability.			
5. Performed switching, blocking and tagging procedures.			
6. Ascended the pole to the desired height if necessary.			
7. Tested phases to ensure that there was no voltage present.			
8. Installed personal protective grounds.			
9. Installed rigging equipment as necessary.			
10. Raised and positioned the equipment safely during installation.			
11. Installed mounting hardware as stated in the applicable manufacturer's literature.			
12. Removed rigging equipment.			
13. Connected the distribution equipment electrically according to the applicable manufacturer's literature.			
14. Verified the correct phase sequence.			
15. Positioned or sagged conductors to the appropriate clearance according to the applicable manufacturer's literature.			
16. Removed personal protective grounds.			
17. Closed out switching, blocking and tagging procedures by removing blocking and tagging devices.			
18. Performed a functions check on the electrical distribution system.			
19. Ensured that the items listed in the conditions were properly 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. 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.

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)	Reviewed
052-204-1213	Splice a Medium-Voltage URD Power Cable	052 - Engineer (Individual)	Reviewed

052-204-1203	Perform Operator Preventive-Maintenance Checks and Services (PMCS) on a Bucket/Material Handler Truck	052 - Engineer (Individual)	Reviewed
052-204-1214	Terminate a Medium-Voltage URD Power Cable	052 - Engineer (Individual)	Approved
052-204-1117	Inspect Hot-Line Equipment	052 - Engineer (Individual)	Reviewed
052-204-1215	Splice a Medium-Voltage Overhead Power Cable	052 - Engineer (Individual)	Reviewed
052-204-1108	Inspect Safety Equipment	052 - Engineer (Individual)	Reviewed
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)	Reviewed
052-204-1201	Maintain Climbing Equipment	052 - Engineer (Individual)	Reviewed
052-204-1202	Maintain Rigging/Hoisting Equipment	052 - Engineer (Individual)	Reviewed
052-204-1125	Operate a Line Truck with Auxiliary Equipment	052 - Engineer (Individual)	Reviewed
052-204-1128	Interpret an Electrical One-Line Diagram	052 - Engineer (Individual)	Reviewed
052-204-1205	Install Underground Cable	052 - Engineer (Individual)	Analysis Completed
052-204-1114	Rescue an Injured Victim From a Utility Pole	052 - Engineer (Individual)	Reviewed
052-204-1116	Rescue an Injured Victim From an Aerial-Bucket Truck	052 - Engineer (Individual)	Reviewed
052-204-1127	Perform Groundman Duties	052 - Engineer (Individual)	Reviewed
052-204-1113	Prepare a Manhole for Safe Entry	052 - Engineer (Individual)	Reviewed
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
052-204-1115	Rescue an Injured Victim From a Manhole	052 - Engineer (Individual)	Reviewed
052-204-1203	Perform Operator Preventive-Maintenance Checks and Services (PMCS) on a Bucket/Material Handler Truck	052 - Engineer (Individual)	Reviewed
052-204-1214	Terminate a Medium-Voltage URD Power Cable	052 - Engineer (Individual)	Approved
052-204-1117	Inspect Hot-Line Equipment	052 - Engineer (Individual)	Reviewed
052-204-1124	Climb a Utility Pole	052 - Engineer (Individual)	Approved
052-204-1120	Install a Grounding Set	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)	Reviewed
052-204-1201	Maintain Climbing Equipment	052 - Engineer (Individual)	Reviewed
052-204-1202	Maintain Rigging/Hoisting Equipment	052 - Engineer (Individual)	Reviewed
052-204-2301	Perform Switching, Blocking and Tagging Procedures	052 - Engineer (Individual)	Reviewed
052-204-1121	Install High-Intensity Lights and Ballasts	052 - Engineer (Individual)	Analysis Completed
052-204-1210	Sag Single Phase and Three Phase Overhead Conductors	052 - Engineer (Individual)	Analysis Completed

052-204-2304	Perform Secondary Voltage Live-Line Testing	052 - Engineer (Individual)	Analysis Completed
052-204-2105	Perform a Power Pole Serviceability Inspection	052 - Engineer (Individual)	Approved
052-204-2219	Supervise the Use of a Line Truck With Trailer to Load and Unload Utility Poles	052 - Engineer (Individual)	Approved
052-204-1209	String Single Phase and Three Phase Overhead Conductors	052 - Engineer (Individual)	Analysis Completed
052-204-1213	Splice a Medium-Voltage URD Power Cable	052 - Engineer (Individual)	Reviewed
052-204-1215	Splice a Medium-Voltage Overhead Power Cable	052 - Engineer (Individual)	Reviewed
052-204-1108	Inspect Safety Equipment	052 - Engineer (Individual)	Reviewed
052-204-1125	Operate a Line Truck with Auxiliary Equipment	052 - Engineer (Individual)	Reviewed
052-302-7104	Direct Installation of Theater of Operation (T/O) Electrical Equipment / Fixtures	052 - Engineer (Individual)	Approved
052-204-1128	Interpret an Electrical One-Line Diagram	052 - Engineer (Individual)	Reviewed
052-204-2207	Conduct a Safety Briefing	052 - Engineer (Individual)	Reviewed
052-204-2208	Conduct a Safety Inspection	052 - Engineer (Individual)	Approved
052-204-1205	Install Underground Cable	052 - Engineer (Individual)	Analysis Completed
052-204-2211	Develop a Bill of Materials (BOM) List	052 - Engineer (Individual)	Reviewed
052-204-1127	Perform Groundman Duties	052 - Engineer (Individual)	Reviewed
052-204-1116	Rescue an Injured Victim From an Aerial-Bucket Truck	052 - Engineer (Individual)	Reviewed
052-204-1126	Perform Crossarm Change Out (With Conductors)	052 - Engineer (Individual)	Reviewed
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

Supported Individual Tasks :

Task Number	Title	Proponent	Status
052-204-2217	Manage a Power Line Crew	052 - Engineer (Individual)	Analysis Completed
052-204-2305	Trouble Shoot Primary/Secondary Voltage Systems	052 - Engineer (Individual)	Analysis Completed
052-204-2211	Develop a Bill of Materials (BOM) List	052 - Engineer (Individual)	Reviewed
052-204-2216	Perform Maintenance on Electrical Distribution Equipment	052 - Engineer (Individual)	Reviewed
052-204-2212	Energize an Electrical Distribution System	052 - Engineer (Individual)	Reviewed

Supported Collective Tasks :

Task Number	Title	Proponent	Status
05-3-5703	Perform Electrical Safety Systems Testing and Maintenance	05 - Engineers (Collective)	Approved
05-3-5701	Install Low-Voltage, Electrical-Power Distribution Equipment	05 - Engineers (Collective)	Approved
05-3-5729	Operate Power Generation and Distribution Equipment	05 - Engineers (Collective)	Approved
05-3-5731	Perform Electrical-Power, Distribution Equipment Organizational Maintenance Operations	05 - Engineers (Collective)	Approved
05-3-5728	Assess Power Generation Systems for Damage	05 - Engineers (Collective)	Approved

05-3-5704	Created from Template: Perform Nonorganic Equipment Power Distribution Maintenance Operations	05 - Engineers (Collective)	Analysis
05-3-5717	Perform Power Plant Distribution System Design Technical Assistance	05 - Engineers (Collective)	Approved
05-3-5705	Retrieve Electrical-Power Generation and Distribution Equipment	05 - Engineers (Collective)	Approved
05-3-5700	Created from Template: Install Nonstandard Low-Voltage, Electrical-Power Distribution Equipment	05 - Engineers (Collective)	Analysis
05-3-5725	Install Aerial Electrical Power Distribution Equipment	05 - Engineers (Collective)	Approved
05-3-5701	Created from Template: Install Low-Voltage, Electrical-Power Distribution Equipment	05 - Engineers (Collective)	Analysis
05-3-5704	Perform Nonorganic Equipment Power Distribution Maintenance Operations	05 - Engineers (Collective)	Approved
05-3-5700	Install Nonstandard Low-Voltage, Electrical-Power Distribution Equipment	05 - Engineers (Collective)	Approved
05-3-5717	Created from Template: Perform Power Plant Distribution System Design Technical Assistance	05 - Engineers (Collective)	Analysis
05-3-5700	Created from Template: Install Nonstandard Low-Voltage, Electrical-Power Distribution Equipment	05 - Engineers (Collective)	Analysis

ICTL Data :

ICTL Title	Personnel Type	MOS Data
12Q10, Power Line Distribution Specialist, skill level 1	Enlisted	MOS: 12Q, Skill Level: SL1