

052-204-2211
Develop a Bill of Materials (BOM) List
Status: Approved

Security Classification: U - Unclassified

Distribution Restriction: Approved for public release; distribution is unlimited.

Destruction Notice: None

Foreign Disclosure: FD1 - This training product has been reviewed by the training developers in coordination with the MSCOE/FLW foreign disclosure officer. This training product can be used to instruct international military students from all approved countries without restrictions.

Conditions: As a Power Line Distribution Supervisor in a tactical or nontactical environment when materials are needed for an electrical construction project, you are given electrical construction prints, TM 5-811-1, the Lineman's and Cableman's Handbook (LCH), paper, pencils, a calculator, and DA Form 2702 (Bill of Materials). This task should not be trained in MOPP 4.

Standards: Develop a BOM list that reflects the total materials required to complete an electrical construction project. Materials must be the sizes and types specified in the electrical construction prints, TM 5-811-1, and the LCH. Record materials on DA Form 2702.

Special Conditions: None

Safety Risk: Low

MOPP 4: Never

Task Statements

Cue: None

DANGER

None

WARNING

None

CAUTION

None

Remarks: None

Notes: None

Performance Steps

1. Review the electrical construction prints.
2. Complete a BOM list.
 - a. Record the stock or part number indicated on the electrical construction prints if applicable.
 - b. Record the item name or description indicated on the electrical construction prints.
 - c. Record the number of required pieces indicated on the electrical construction prints if applicable.
 - d. Record the sizes and lengths of items indicated on the electrical construction prints if applicable.
 - e. Record the unit of issue and indicate whether the item is a spool or a length or if the item is issued as "each."
 - f. Record the estimated waste of each item.
 - g. Total the quantities needed based on the number of pieces, units of issue, required lengths, and estimated wastes for each item.
 - h. Record the total quantity of each item.
3. Complete DA Form 2702.
 - a. Complete the heading with the current information of the unit.
 - b. Record the stock or part number.
 - c. Record the name and description of the item.
 - d. Record the unit of issue.
 - e. Record the total quantity of each item.

(Asterisks indicates a leader performance step.)

Evaluation Guidance: Give the Soldier a requirement to develop a BOM list.

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

PERFORMANCE MEASURES	GO	NO-GO	N/A
1. Reviewed the electrical construction prints.			
2. Completed a BOM list.			
3. Completed DA Form 2702.			

Supporting Reference(s):

Step Number	Reference ID	Reference Name	Required	Primary	Source Information
	DA FORM 2702	Bill of Materials	Yes	No	
	LCH	The Lineman's and Cableman's Handbook, 13th Edition, McGraw-Hill. 2014	Yes	No	
	NTRP 4-04.2.3/TM 3-34.41/AFPAM 32-1000	Construction Estimating (HTTPS://NDLS.NWDC.NAVY.MIL) https://armypubs.us.army.mil/doctrine/DR_pubs/dr_aa/pdf/tm3_34x41_PH_Navy.pdf	Yes	No	
	NTRP 4-04.2.5/TM 3-34.42/AFPAM 32-1020/MCRP 3-17.7F	Construction Project Management (HTTPS://NDLS.NWDC.NAVY.MIL) (https://armypubs.us.army.mil/doctrine/DR_pubs/dr_aa/pdf/tm3_34x42_PH_Navy.pdf)	Yes	No	
	TM 3-34.45	ENGINEER PRIME POWER OPERATIONS	Yes	No	
	TM 5-684	Facilities Engineering - Electrical Exterior Facilities. NAVFAC MO-200/AFJMAN 32-1082.	Yes	No	
	TM 5-811-1	Electric Power Supply and Distribution {AFJMAN 32-1080}	Yes	No	

TADSS : None

Equipment Items (LIN): None

Material Items (NSN) :

Step ID	NSN	LIN	Title	Qty
No materiel items specified				

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 the current Environmental Considerations manual and the current GTA Environmental-related Risk Assessment card. 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 current Risk Management Doctrine. Leaders will complete the current Deliberate Risk Assessment Worksheet in accordance with the TRADOC Safety Officer 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 current CBRN doctrine. 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, NBC Protection, FM 3-11.5, CBRN Decontamination.

Prerequisite Individual Tasks : None

Supporting Individual Tasks :

Task Number	Title	Proponent	Status
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052-302-7104	Direct Installation of Theater of Operation (T/O) Electrical Equipment / Fixtures	052 - Engineer (Individual)	Approved
052-244-4205	Perform Electrical Project Management	052 - Engineer (Individual)	Approved
052-12Q-1128	Interpret Staking and Specification Sheets	052 - Engineer (Individual)	Approved
052-204-2218	Supervise the Installation of Underground Cable	052 - Engineer (Individual)	Approved
052-204-2217	Manage a Power Line Crew	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
052-204-2306	Supervise the Installation of a Utility Pole	052 - Engineer (Individual)	Approved
052-204-1211	Install Distribution System Protection and Equipment (De-energized)	052 - Engineer (Individual)	Approved

Supported Individual Tasks :

Task Number	Title	Proponent	Status
052-IS2-2123	Produce a Mechanical Drawing	052 - Engineer (Individual)	Approved
052-204-2309	Design Underground Electrical Distribution System	052 - Engineer (Individual)	Approved
052-204-2306	Supervise the Installation of a Utility Pole	052 - Engineer (Individual)	Approved
052-204-2308	Design an Overhead Electrical Distribution System	052 - Engineer (Individual)	Approved
052-12P-3201	Develop Plans for an Electrical Grounding System	052 - Engineer (Individual)	Proposed
052-204-2217	Manage a Power Line Crew	052 - Engineer (Individual)	Approved
052-204-3020	Supervise the Installation of a Utility Pole Line	052 - Engineer (Individual)	Approved
052-204-2216	Perform Maintenance on Electrical Distribution Equipment	052 - Engineer (Individual)	Approved
052-12Q-1206	Transport Utility Poles	052 - Engineer (Individual)	Approved
052-205-2301	Construct a Fuel Piping System for Power Generation Equipment	052 - Engineer (Individual)	Approved
052-12P-2209	Integrate an Alternative Energy System	052 - Engineer (Individual)	Approved
052-12P-3201	Conduct Power Plant Battle Damage Assessment and Repair (BDAR)	052 - Engineer (Individual)	Approved
052-204-1211	Install Distribution System Protection and Equipment (De-energized)	052 - Engineer (Individual)	Approved
052-12P-2130	Perform a Facility Load Assessment	052 - Engineer (Individual)	Approved
052-12Q-1128	Interpret Staking and Specification Sheets	052 - Engineer (Individual)	Approved
052-12R-1201	Determine Generator Requirements	052 - Engineer (Individual)	Approved

Supported Collective Tasks :

Task Number	Title	Proponent	Status
05-PLT-5716	Perform Power Plant Installation Technical Assistance	05 - Engineers (Collective)	Approved
05-PLT-5731	Perform Electrical-Power, Distribution Equipment Organizational Maintenance Operations	05 - Engineers (Collective)	Approved
05-PLT-5704	Perform Nonorganic Equipment Power Distribution Maintenance Operations	05 - Engineers (Collective)	Approved
05-PLT-5722	Prepare Power Systems Construction Estimates	05 - Engineers (Collective)	Approved
05-CO-9151	Train Foreign Security Forces to Perform Project Management	05 - Engineers (Collective)	Approved
05-PLT-5733	Perform Power Plant and Distribution Equipment Shipment	05 - Engineers (Collective)	Approved
05-DET-5010	Perform Construction Contracting Acquisition Planning	05 - Engineers (Collective)	Approved
05-PLT-5720	Select a Temporary Power Plant Site	05 - Engineers (Collective)	Approved
05-PLT-5728	Assess Power Generation Systems for Damage	05 - Engineers (Collective)	Approved
05-PLT-5711	Perform a Power Plant Operations Survey	05 - Engineers (Collective)	Approved
05-CO-5001	Perform Project Management	05 - Engineers (Collective)	Approved
05-PLT-5723	Install Prime Power Generation Equipment	05 - Engineers (Collective)	Approved
05-PLT-5701	Install Low-Voltage, Electrical-Power Distribution Equipment	05 - Engineers (Collective)	Approved
05-PLT-5712	Perform a Power Plant Maintenance Survey	05 - Engineers (Collective)	Approved
05-PLT-5715	Perform Power Plant Design Technical Assistance	05 - Engineers (Collective)	Approved
05-PLT-5730	Perform Electrical-Power Generation Equipment Organizational Maintenance Operations	05 - Engineers (Collective)	Approved
05-PLT-5703	Perform Electrical Safety Systems Testing and Maintenance	05 - Engineers (Collective)	Approved
05-PLT-5724	Install Expedient, Surface-Laid, Electrical-Power Distribution Equipment	05 - Engineers (Collective)	Approved

05-PLT-5700	Install Nonstandard Low-Voltage, Electrical-Power Distribution Equipment	05 - Engineers (Collective)	Approved
05-PLT-5717	Perform Power Plant Distribution System Design Technical Assistance	05 - Engineers (Collective)	Approved
05-PLT-5719	Perform Power Plant Generation System Maintenance Technical Assistance	05 - Engineers (Collective)	Approved
05-PLT-5727	Install Underground Distribution Equipment	05 - Engineers (Collective)	Approved
05-PLT-5725	Install Aerial Electrical Power Distribution Equipment	05 - Engineers (Collective)	Approved
05-PLT-5713	Perform a Power Distribution System Maintenance Survey	05 - Engineers (Collective)	Approved
05-BN-0732	Prepare an Air Base Damage Repair Estimate	05 - Engineers (Collective)	Approved
05-BDE-5000	Perform Construction Contracting Acquisition Planning	05 - Engineers (Collective)	Approved
05-PLT-5732	Conduct Electrical-Power Generation Equipment Intermediate Maintenance Operations	05 - Engineers (Collective)	Approved
05-PLT-3000	Construct Bunkers and Shelters	05 - Engineers (Collective)	Approved
05-DET-0732	Prepare an Air Base Damage Repair Estimate	05 - Engineers (Collective)	Analysis
05-DET-5035	Perform Project Management	05 - Engineers (Collective)	Analysis

Knowledges :

Knowledge ID	Knowledge Name
052-K-00178	Identify Types of Power Loads
052-K-00201	Know How to Read One-Line Diagrams
052-K-00200	Know How to Read Blue Prints
052-K-00203	Know How to Read Technical Manuals
052-K-00202	Know How to Read Schematics
052-K-00172	Identify Electric Components
052-K-00174	Identify Electric Symbols
K23406	Knowledge of Fundamentals of Electrical Theory

Skills :

Skill ID	Skill Name
052-S-00161	Ability to Read One-Line Diagram
052-S-00130	Create a Bill of Materials List
052-S-00167	Use of Manufactures Technical Manuals
091-S-00004	Use of Army Technical Publications
052-S-00162	Ability to Read Schematics

ICTL Data :

ICTL Title	Personnel Type	MOS Data
ASI U4, Power Line Distribution	Enlisted	MOS: 12P, ASI: U4
12Q30, Power Line Distribution Specialist, skill level 3	Enlisted	MOS: 12Q, Skill Level: SL3, Duty Pos: 12Q
ASI U4, Power Line Distribution	Enlisted	MOS: 12P, ASI: U4
12Q20, Power Line Distribution Specialist, skill level 2	Enlisted	MOS: 12Q, Skill Level: SL2