

**Summary Report for Individual Task
052-204-1113
Prepare a Manhole for Safe Entry
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 a manhole needs to be prepared for safe entry, you are given a three-person team consisting of an entry supervisor, an attendant, and an entrant. You are also given traffic control equipment, a manhole lid removal device, an extraction system for confined-space entry and rescue, a manhole ventilator, a submersible water pump with a hose, a power source for a submersible pump, an air quality tester with the manufacturer's instructions, and the applicable personal protective equipment. This task should not be trained in MOPP.

Standard: Prepare a manhole for safe entry by ensuring that traffic barriers are strategically placed, the cover is properly removed, water is removed, gas detection is performed, ventilation procedures are performed, and the extraction system for confined-space entry and rescue is in the correct position to allow for extraction in the event of an injury.

Special Condition: None

Safety Level: Low

MOPP: Never

Task Statements

Cue: None

DANGER

IF A MANHOLE COVER IS ENCASED IN ICE, DO NOT STRIKE IT WITH STEEL OR IRON. THE STRIKING OF STEEL OR IRON AGAINST A STEEL COVER MAY RESULT IN AN EXPLOSION IF COMBUSTIBLE GAS IS PRESENT IN THE MANHOLE. FAILURE TO COMPLY MAY CAUSE PERMANENT INJURY OR DEATH.

NEVER ENTER A MANHOLE UNTIL ATMOSPHERIC CONDITIONS ARE TESTED AND FOUND TO BE IN COMPLIANCE WITH OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) STANDARDS. FAILURE TO COMPLY MAY CAUSE PERMANENT INJURY OR DEATH.

NEVER ENTER A MANHOLE WITHOUT AN ASSISTANT LOCATED OUTSIDE THE MANHOLE. FAILURE TO COMPLY MAY CAUSE PERMANENT INJURY OR DEATH.

DO NOT ENTER A MANHOLE TO PUMP OUT WATER. LOWER THE PUMP OR HOSE INTO THE HOLE, AND REMOVE STANDING WATER. FAILURE TO COMPLY MAY CAUSE PERMANENT INJURY OR DEATH. CAUTION: USE PROPER LIFTING PROCEDURES. FAILURE TO COMPLY MAY CAUSE PERSONAL INJURY.

WARNING

Failure to verify whether the manhole is a permit or nonpermit confined space may cause personnel to be subject to fines or legal action.

CAUTION

None

Remarks: None

Notes: None

Performance Steps

1. Ensure that tools and equipment are in proper working condition.
2. Conduct a safety briefing.
3. Set up traffic control equipment.

DANGER

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4. Remove the manhole cover.
5. Test the air quality tester for proper operation.

Note: Due to many different manufacturers, it is essential that the manufacturer's instructions for the air quality tester being used are referenced for the proper inspection of the detector and for proper test performance.

6. Test atmospheric conditions using the air quality tester.

Note: Note 1. Due to many different manufacturers, it is essential that the manufacturer's instructions for the air quality tester being used are referenced for the proper inspection of the detector and for proper test performance.

Note 2. Different depths of the manhole should be tested. The sampling tube should not come into contact with the ground or any other foreign object.

Note 3. While work is being performed in the manhole, the air quality tester should constantly be in use to monitor gases.

- a. Test for combustible gases.
- b. Test for toxic gases.
- c. Test for oxygen deficiency.

DANGER

DO NOT ENTER THE MANHOLE TO PUMP OUT THE WATER. LOWER THE PUMP OR HOSE INTO THE MANHOLE, AND REMOVE ANY STANDING WATER. FAILURE TO COMPLY MAY CAUSE IMMEDIATE DEATH OR PERMANENT INJURY.

7. Pump out water.
8. Ventilate the manhole.
 - a. Use the forced-air method.
 - b. Use the natural method.
 - c. Use the sail method.

9. Install the extraction system for confined-space entry and rescue.
10. Suit the entrant with the safety harness and attach it to the extraction system for confined-space entry and rescue.
11. Assist the entrant into the manhole.

(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. Ensured that tools and equipment were in proper working condition.			
2. Conducted a safety briefing.			
3. Set up traffic control equipment.			
4. Removed the manhole cover.			
5. Tested the air quality tester for proper operation.			
6. Tested atmospheric conditions using the air quality tester.			
7. Pumped out water.			
8. Ventilated the manhole.			
9. Installed the extraction system for confined-space entry and rescue.			
10. Suited the entrant with the safety harness and attached it to the extraction system for confined-space entry and rescue.			
11. Assisted the entrant into the manhole.			

Supporting Reference(s):

Step Number	Reference ID	Reference Name	Required	Primary
	AR 385-10	The Army Safety Program (*RAR 004, 10/04/2011)	No	No
	LCH	The Lineman's and Cableman's Handbook, 11th Edition, McGraw-Hill. 2007	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 5-811-1	Electric Power Supply and Distribution {AFJMAN 32-1080}	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.

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. 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
052-204-2209	Install Distribution Equipment (Energized)	052 - Engineer (Individual)	Approved
052-204-1122	Install Distribution Equipment (De-energized)	052 - Engineer (Individual)	Approved
052-204-1117	Inspect Hot-Line Equipment	052 - Engineer (Individual)	Reviewed
052-204-1202	Maintain Rigging/Hoisting Equipment	052 - Engineer (Individual)	Approved
052-204-2216	Perform Maintenance on Electrical Distribution Equipment	052 - Engineer (Individual)	Superseded
052-204-1204	Tie Rope Knots and Splices	052 - Engineer (Individual)	Analysis Completed

Supported Individual Tasks :

Task Number	Title	Proponent	Status
052-204-1115	Rescue an Injured Victim From a Manhole	052 - Engineer (Individual)	Approved
052-204-1120	Install a Grounding Set	052 - Engineer (Individual)	Approved
052-204-1205	Install Underground Cable	052 - Engineer (Individual)	Analysis Completed
052-204-1213	Splice a Medium-Voltage URD Power Cable	052 - Engineer (Individual)	Approved
052-204-1215	Splice a Medium-Voltage Overhead Power Cable	052 - Engineer (Individual)	Approved
052-204-2217	Manage a Power Line Crew	052 - Engineer (Individual)	Analysis Completed
052-204-2213	Locate an Underground Cable and/or Fault	052 - Engineer (Individual)	Approved
052-204-2302	Install Distribution System Protection and Equipment (Energized)	052 - Engineer (Individual)	Analysis Completed
052-204-2305	Trouble Shoot Primary/Secondary Voltage Systems	052 - Engineer (Individual)	Analysis Completed
052-204-2218	Supervise the Installation of Underground Cable	052 - Engineer (Individual)	Approved
052-204-2301	Perform Switching, Blocking and Tagging Procedures	052 - Engineer (Individual)	Approved

052-204-2216	Perform Maintenance on Electrical Distribution Equipment	052 - Engineer (Individual)	Approved
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Supported Collective Tasks :

Task Number	Title	Proponent	Status
05-3-5731	Perform Electrical-Power, Distribution Equipment Organizational Maintenance Operations	05 - Engineers (Collective)	Approved
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
05-3-5700	Install Nonstandard Low-Voltage, Electrical-Power Distribution Equipment	05 - Engineers (Collective)	Approved
05-3-5713	Perform a Power Distribution System Maintenance Survey	05 - Engineers (Collective)	Approved
05-3-5704	Created from Template: Perform Nonorganic Equipment Power Distribution Maintenance Operations	05 - Engineers (Collective)	Analysis
05-3-5700	Created from Template: Install Nonstandard Low-Voltage, Electrical-Power Distribution Equipment	05 - Engineers (Collective)	Analysis
05-3-5701	Created from Template: Install Low-Voltage, Electrical-Power Distribution Equipment	05 - Engineers (Collective)	Analysis
05-3-5701	Install Low-Voltage, Electrical-Power Distribution Equipment	05 - Engineers (Collective)	Approved
05-3-5705	Retrieve Electrical-Power Generation and Distribution Equipment	05 - Engineers (Collective)	Approved
05-3-5727	Install Underground Distribution Equipment	05 - Engineers (Collective)	Approved
05-3-5700	Created from Template: Install Nonstandard Low-Voltage, Electrical-Power Distribution Equipment	05 - Engineers (Collective)	Analysis
05-3-5704	Perform Nonorganic Equipment Power Distribution Maintenance Operations	05 - Engineers (Collective)	Approved
05-3-5717	Perform Power Plant Distribution System Design Technical Assistance	05 - Engineers (Collective)	Approved
05-3-5728	Assess Power Generation Systems for Damage	05 - Engineers (Collective)	Approved
05-3-5702	Created from Template: Install Underground Electrical-Power Distribution Equipment	05 - Engineers (Collective)	Analysis
05-3-5717	Created from Template: Perform Power Plant Distribution System Design Technical Assistance	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