Report Date: 17 Dec 2013

Summary Report for Individual Task
091-91D-2002
Inspect Tactical Power Network unit, Command Post, or Tactical Operations Center Central Power Grid Layout
Status: Approved

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

DESTRUCTION NOTICE: None

Condition: As a tactical power generator repairer, assigned or in support of a tactical operations center or command post, given AUTODISE network management plan/Grid Layout, power grid plan, hearing protection, tactical mobile electric power with references, power distribution and illumination equipment (PDISE) or equivalent. As part of preparation for deployment or during deployment, tactical power operators have laid out power system and requires you to inspect power grid lay out to ensure it meets safety and Central Power Solution requirements for particular unit, TOC, or CP. Standard MOPP conditions do not exist for this task. See the MOPP statement for specific conditions.

Standard: Ensure power grid layout meets Infantry Brigade Combat Team Command Post Central Power Solution and safety requirements. When installation is complete, all systems are operable to include a balanced load without negative impact to mission. Grid operates within optimal power distribution (and power generation) parameters.

Special Condition: In an operational environment, as a tactical power generator repairer, assigned or in support of a tactical operations center or command post, given AUTODISE network management plan/Grid Layout or power grid plan,hearing protection, tactical mobile electric power with references, power distribution and illumination equipment (PDISE)or equivalent. As part of preparation for deployment or during deployment, your staff personnel requires you to install or modify current power grid to meet Central Power Solution requirements to sections of assigned element.

Safety Level: Low

MOPP: N/A

Task Statements

Cue: A field unit's power distribution system requires design and set up.

DANGER

-DO NOT OPERATE GENERATOR OR EQUIPMENT UNLESS PROPERLY GROUNDED FIRST!

-HIGH VOLTAGES ARE PRESENT WHEN GENERATOR IS RUNNING!

-NEVER ATTEMPT TO CONNECT/DISCONNECT GENERATOR CABLES WHILE GENERATOR IS RUNNING!

WARNING

-DO NOT ATTEMPT REPAIR OF THE GENERATOR WHILE IT IS RUNNING.

-USE EYE PROTECTION AND GLOVES!

-BE CAUTIOUS OF LOOSE CLOTHING OR LANYARDS!

-REMOVE IDENTIFICATION TAGS (DOG TAGS)!

CAUTION

None

Remarks: None

Notes: Task may be taught, supported and evaluated in multiple lessons. Equipment identified at the task may not reflect what is required in the formal training environment.

Performance Steps

1. Identify type of Central Power supporting element.

a. Brigade (Bde) Main Command Post (CP)

b. Maneuver Battalion (Bn, Field Artillery (FA) Bn, Brigade Special Troops Battalion (BSTB) Central Power

c. Brigade Support Battalion (BSB) Central Power

d. Cavalry (Cav) Bn Central Power

2. Complete inventory of CPS Component.

a. Brigade Main Command Post (CP): 1 (ea) 60KW Tactical Quiet Generator (TQG) Power Plant (AN/MJQ-41 A or B model) consisting of:

Remarks:

(1) 2 trailer mounted 60KW TQG (A or B model) generators.

Note: The generator with the transfer box mounted to the tongue-end of the trailer is designated as the “A” set; the generator without a transfer box is designated as the “B” set.

(a) Provides 120/208VAC, 60HZ, single and three-phase power to the distribution system and to the CP.

(b) Provides a means for uninterrupted power load transfer between generator sets.

(c) Provides precise voltage and frequency control for tactical weapon systems.

(d) Provides CP the equivalent of a 200 amp commercial, 3-phase, electrical service.

(2) 1 (ea) transfer box mounted to set “A”

(3) 1 (ea) Interconnecting 200amp power cable

(4) 2 (ea) Paralleling cables

(5) 2 (ea) Grounding Kits

(6) 3 (ea) M100 PDISE

Note: The standard BDE Main CP power configuration uses 2 (ea) M100 PDISE, 1 for each half of the CP, as a means to distribute power from the power plant to tactical shelters, to other PDISE, and to the CP.

(a) The M100 serves as a 100-amp distribution panel for the BDE Main CP.

(b) The M100 is equipped with 1 (ea) 100-amp breaker, 2 (ea) 60-amp breakers, 2 (ea) 40-amp breakers, and 2 (ea) 20-amp breakers (single phase).

(c) Each M100 is equipped with phase indicator lights that illuminate when input power is applied.

(d) The M100 functions the same as a residential or commercial main panel.

(7) 3 (ea) M40 PDISE

Note: The standard BDE Main CP power configuration uses 3 (ea) M40 PDISE that are fed from the M100 PDISE and are positioned to supply power to specific cells within the CP.

(a) The M40 serves as a “branch circuit” panel for the CP.

(b) M40s provide power to electrical outlets and lights within the TOC/CP.

(c) The M40 functions the same as a residential or commercial sub-panel.

(8) 9 (ea) M46 Electrical Utility Assembly

Note: The standard BDE Main CP power configuration uses up to 9 (ea) M46 kits to supply power outlets/receptacles and lighting to the interior of the CP.

(a) The M46 contains electrical cables and outlets that allow users to plug in their single-phase electrical/electronic equipment inside the CP.

(b) The M46 contains electrical cables and light sets for interior CP illumination.

(c) M46 cables are connected to the 20 amp connectors on the M100 and/or M40.

(9) 2 (ea) 100 amp, 4-ft Pigtails

Note: These cables provide the connection from power plant transfer/switch box to 100-amp service feeder cable or directly to M100 PDISE.

(10) 4 (ea) 100 amp 50-ft Cables

Note: Service Feeder Cables provide connection between 100 amp pigtail and M100 PDISE or from 100 amp pigtail to another 100 amp Service Feeder Cable.

(11) 2 (ea) 40/60 amp, 4-ft Pigtails

Note: -The Pigtail Cable provides connection from power plant transfer/switch box to 40amp service feeder cable or directly to M40 PDISE.

-This cable is not normally used in the BDE Main CP power configuration

(12) 4 (ea) 40/60 amp, 50-ft cables

Note: Service Feeder Cable provides connection between 40/60 amp pigtail and M40 PDISE or from M100 to M40 or from M100 to another to another 40/60 amp Service Feeder Cable.

b. Maneuver BN, FA BN, and BSTB Central Power

3. Emplace system according to element.

a. Inspect Grounding

b. bonding of the power grid

(Asterisks indicates a leader performance step.)

Evaluation Guidance: Score the Soldier GO if all performance measures were passed. Score the Soldier NO GO if any performance measure was failed. If the Soldier fails any performance measure, show what was done wrong and how to do it correctly, and have the Soldier repeat the task.

Evaluation Preparation: Ensure all equipment and special tools are available before evaluation. All initial set up and equipment conditions must be performed in accordance with appropriate references to successfully complete the task.

PERFORMANCE MEASURES	GO	NO-GO	N/A
1. Inspected proper emplacement of power plants.			
2. Inspected proper grounding and bonding of power plants.			
3. Inspected proper installation of all interconnecting cables.			
4. Inspected proper emplacement of PDISE components.			
5. Verified that proper preventive maintenance checks and were completed.			
6. Had personnel perform Operational test to verify proper connections.			
a. Start generator "A"			
b. Apply the load			
c. Ensure load is balanced			
d. Correct any load imbalanced issues			
e. Start generator “B”			
f. Parallel both generators			
g. Drop generator “A” from the load			
h. Shut-down generator “A”			
7. Verified that operators corrected all any operator faults noted.			

Supporting Reference(s):

Step Number	Reference ID	Reference Name	Required	Primary
	AR 600-55	THE ARMY DRIVER AND OPERATOR STANDARDIZATION PROGRAM (SELECTION, TRAINING, TESTING, AND LICENSING)	Yes	No
	TM 3-34.45	ENGINEER PRIME POWER OPERATIONS	Yes	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. All operations must conform to the Army Environmental Program, TC 5-400 (Unit Leader's Handbook for Environmental Stewardship), local, state, and federal environmental policies, the Clean Air Act (CAA), CAA amendments, National Ambient Air Quality Standards (NAAQS), as well as OSHA Hazard Communications Standard for Industry, 29 CFR, part 1910.

Safety: In a training environment, leaders must perform a risk assessment in accordance with FM 5-19, 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. All operations will be performed to protect and preserve Army personnel and property against accidental loss. Procedures will provide for public safety incidental to Army operations and activities and safe and healthful work places, procedures, and equipment. Observe all safety and/or environmental precautions regarding electricity, fuel, lubricants and high pressures. Provide ventilation for exhaust fumes during equipment operation and use hearing protection when required in accordance with AR 385-10, the Clean air Act (CAA), the CAA amendments, and the OSHA Hazard Communication standard. Observe all safety precautions when using lifting devices and handling heavy parts.

Prerequisite Individual Tasks :

Task Number	Title	Proponent	Status
091-91D-1189	Perform Paralleling Procedures on Generator Sets	091 - Ordnance (Individual)	Obsolete

091-91D-1188	Perform Procedures to Determine Generator Selection to Meet a Particular Power Demand	091 - Ordnance (Individual)	Approved

Supporting Individual Tasks :

Task Number	Title	Proponent	Status
091-91D-1111	Perform Preventive Maintenance Checks and Services on a Generator Set	091 - Ordnance (Individual)	Approved

Supported Individual Tasks :

Task Number	Title	Proponent	Status
091-91D-3131	Assess Unit, Command Post, or Tactical Operations Center Electrical Power Requirements	091 - Ordnance (Individual)	Approved

Supported Collective Tasks :

Task Number	Title	Proponent	Status
43-1-0013	Set Up Battalion Maintenance Platoon Headquarters and Sections	43 - Maintenance (except missile) (Collective)	Approved
43-2-7035	Provide Tactical Electric Power	43 - Maintenance (except missile) (Collective)	Approved

ICTL Data :

ICTL Title	Personnel Type	MOS Data
MOS 91D - Power Generation Equipment Repairer SL2	Enlisted	MOS: 91D, Skill Level: SL2, ASI: C9