

Summary Report for Individual Task
091-91D-3131
Assess Unit, Command Post, or Tactical Operations Center Electrical Power Requirements
Status: Approved

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

DESTRUCTION NOTICE: None

Condition: As a tactical power planner, assigned or in support of a tactical operations center (TOC) or Command Post (CP) staff, given a current Central Power Solution(CPS), the existing TOC Layout with power distribution system, PDISE equipment information (configuration, type and quantity), equipment inventory list with power data, list of Generator sets available, AutoDISE software, and a mission statement that changes power demand requirements. This task should not be trained in MOPP.

Standard: Designed a network management plan/Grid Layout that meets Central Power Solution requirements. Prepared comprehensive report containing maximum measured loads, demand factors, recommended power generation source and PDISE distribution system set up. The report incorporated operational constraints and AutoDISE models were completed. System is designed within optimal power distribution (and power generation) parameters.

Special Condition: Element has not replaced numerous smaller military generator sets, e.g., 3kW to 10kW, with larger sets commensurate with the power demands of a given unit or CP design.

Safety Level: Low

MOPP: Never

Task Statements

Cue: None

DANGER
None

WARNING
None

CAUTION
None

Remarks: None

Notes: None

Performance Steps

1. Review existing operational layout and power grid.
 - a. View document for current information if applicable.
 - b. If no document exists, physically check the grid for current connections and power inputs.
2. Determine power requirements for your mission/operational area.
 - a. Gather data on all equipment to be used to include issued, fielded and purchased items.
 - b. Calculate power requirements using "worst-case" condition.

Remarks: This calculated result is considered the equipment operational worst-case condition. The worst-case condition is defined as: every piece of equipment turned on 100% of the time. In a real world scenario equipment would be turned on 75-80% of the time.

3. Determine available tactical power output using equipment on hand.
 - a. Collect data on all available power generation equipment.
 - b. Collect data on all available power distribution equipment.
4. Prepare AutoDISE Layouts.
 - a. Generate an AUTODISE unit, TOC, or CP Layout (computer model of the TOC) using the layout provided with all of the authorized equipment populating each the tent in the Unit/CP/TOC.
 - b. Verify and validate that all of the TOC equipment is located in the proper tent. This is done after the Unit/TOC/CP has been completely modeled.
 - c. Verify that all of the equipment is connected to the TOC internal micro-grid.
 - d. Analyze the layout, and ensure the program has designed and developed an optimized TOC central power grid. (The central power grid will concentrate on "Mission Load" only)
 - e. Add secondary central power grid to accommodate ECU loads as needed.
5. Generate power assessment report with the optimized TOC layout and central power grid.
 - a. Generate AutoDise Power Grid design that supports the mission load.
 - b. Generate a secondary central power grid to accommodate ECU loads, etc.
 - c. Review data of preliminary results with Commander and supporting personnel.

(Asterisks indicates a leader performance step.)

Evaluation Guidance: 1. Use an establish element central power solution as a problem. A BDE Main CP, Maneuver BN, FA BN, BSTB, BSB or CAV BN can be used.

2. When the task is completed correctly, the Soldier should produce reports with correct calculations of maximum measured loads, demand factors, recommendations for tactical power systems and PDISE, operational constrains and an

AutoDise model/design to be used to emplace the grid by operators.

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. Reviewed existing operational layout and power grid.			
a. Viewed document for current information if applicable.			
b. If no document exists, physically checked the grid for current connections and power outputs.			
2. Determined power requirements for the mission/operational area.			
a. Gathered data on all equipment to be used to include issued, fielded and purchased items			
b. Calculated power requirement using "worst-case" condition.			
3. Determine available tactical power output using equipment on hand (issued, fielded and purchased).			
a. Collected data on all available power generation equipment.			
b. Collected data on all available power distribution equipment.			
4. Prepared AutoDISE Layouts.			
a. Generated an AUTODISE unit, TOC, or CP Layout (computer model of the TOC) using the layout provided with all of the authorized equipment populating each tent in Unit/CP/TOC.			
b. Verified and validated that all of the TOC equipment is located in the proper tent. This is done after the Unit/CP/TOC has been completely modeled.			
c. Verified that all of the equipment is connected to the TOC internal micro-grid.			
d. Analyzed the layout, and ensured the program has designed and developed an optimized TOC central power grid. (The central power grid will concentrate on "Mission Load" only)			
5. Generated power assessment reports with the optimized Unit/CP/TOC layout and central power grid.			
a. Generated AutoDISE Power Grid design that supports the mission load.			
b. Generated a secondary central power grid to accommodate ECU loads, etc.			
c. Reviewed data of preliminary results with Commander and supporting personnel.			

Supporting Reference(s): None

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.

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. Adhere to the following safety precautions when performing the task: Remove all rings, watches, and jewelry. Do not operate generator equipment in an enclosed area unless the area is adequately ventilated. Smoking, sparks, or open flames are not allowed within 50 feet of a generator set that is undergoing fuel system maintenance. Use care when handling fan and radiator. Sharp edges can cause injury. Dry-cleaning solvent is flammable and should not be used in the vicinity of sparks or open flame. When using compressed air, wear eye shields. Do not remove a radiator cap or surge tank cap unless the engine is cool. While working on battery systems, wear rubber gloves and goggles. Before working on the exhaust system, make sure it is cool. Disconnect the negative battery cable prior to performing any electrical system maintenance or when performing repairs in the locality of electrical components. While cutting metal with an oxyacetylene torch, wear leather gloves, leather apron, and welding goggles. When working around engines that are operating, wear hearing protection. When removing components over 75 pounds, two personnel are

required. Do not smoke or use an open flame in the vicinity when filling a fuel tank. Do not operate generator set unless ground terminal stud has been connected to a suitable ground. Do not attempt to alter the position of the voltage reconnection board while the generator set is operating. Do not attempt to connect or disconnect load leads while the generator set is operating. Be careful not to inhale ether gas. Do not allow a crated generator set to swing while it is suspended.

Prerequisite Individual Tasks : None

Supporting Individual Tasks :

Task Number	Title	Proponent	Status
091-91D-2002	Inspect Tactical Power Network unit, Command Post, or Tactical Operations Center Central Power Grid Layout	091 - Ordnance (Individual)	Analysis Completed

Supported Individual Tasks :

Task Number	Title	Proponent	Status
091-91D-2001	Emplace Tactical Power System Grid for a Unit/CP/TOC Using AutoDise Produced Plan.	091 - Ordnance (Individual)	Analysis Completed

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
43-1-0012	Establish Battalion Area of Operations	43 - Maintenance (except missile) (Collective)	Approved
43-2-4531	Set Up Forward Repair Platoon Headquarters and Sections	43 - Maintenance (except missile) (Collective)	Approved

ICTL Data :

ICTL Title	Personnel Type	MOS Data
MOS 91D - Power Generation Equipment Repairer SL3	Enlisted	MOS: 91D, Skill Level: SL3, ASI: C9