

15 July 1983

Civil Engineering General

EMERGENCY ELECTRIC POWER SUPPLY

This regulation provides information and establishes policies and procedures governing the authorization and responsibilities in the use of emergency electrical power at all Air National Guard installations.

1. Explanation of Terms:

a. Standard voltages and standard circuits 120/208, 120/240, 240/416 and 277/480 are considered standard voltages. The 60 Hz single - and three-phase circuits are standard.

b. Emergency service. Alternate service, generally of limited capacity, intended only for use under emergency conditions.

c. Real Property Installed Equipment (RPIE) Generators. Any generator dedicated to providing primary or standby power to a facility is classified as RPIE. The fact that a generator is skid or wheel mounted or not otherwise foundation mounted is not a factor in determining its property classification.

d. Air Force Equipment Management System (AFEMS) Generators. Generators are authorized by a USAF table of allowance and reported in the Equipment Authorization Inventory Data (EAID). If an EAID generator is dedicated to a facility, its classification changes to RPIE.

e. Mobility Generators. These generators are included in the Civil Engineering CF2 Team tool kit and are addressed in AFR 93-3.

2. Responsibilities:

a. The base civil engineer (BCE) is responsible for providing a minimum of emergency electrical power, as permitted in this regulation, to Air National Guard installations. The BCE is also responsible for establishing a program of operation, maintenance, repair, inspection, and modification of emergency power generating facilities. However, this responsibility extends only to those RPIE generators and EAID generators assigned to the BCE organization. Generators authorized other units, or that are an integral part of other equipment, are not the responsibility of the BCE, except when on loan for emergencies.

b. The BCE will require the using organization to assume certain operator tasks with respect to the emergency generating unit, including startup and shutdown of the unit. The using agency commander will ensure personnel tasked with this responsibility are trained and will perform the assignment in a satisfactory manner.

c. Emergency power systems (meaning the entire systems and their components, including engine, generator, controls, transfer equipment, etc.) will be operated under actual emergency loading as follows:

(1) All units will be started monthly and run long enough to determine reliability of operation.

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(2) A visual inspection of emergency power systems will be accomplished monthly and will be documented on AF Form 487, Emergency Generator Operating Log (Inspection Testing).

(3) The civil engineering organization accomplishing using agency generator maintenance will maintain both the AF Form 487 and 719, Historical Record Diesel Electric Generator and System.

(4) The last three inspections accomplished on AF Form 487 will be maintained with the generating unit. As the operational inspections are accomplished, AF inspection forms will be transferred to the historical record, which is maintained in the BCE office, held in suspense for one calendar year, and then destroyed.

d. Training requirements. The BCE is responsible for conducting initial and recurring training on the generating unit assigned to a facility, or to a using agency, to ensure proper startup, load transfer, operation and shutdown procedures on that unit. Once the training is accomplished and personnel have demonstrated proficiency, the BCE will issue AF Form 483, Certificate of Competency, to the individual. Recurring training will be provided annually by the BCE organization, including formal training and practical exercise of the unit. Recurring training will be documented in the AF Form 719 log.

3. Where Emergency Services May Be Used.

Emergency electric generators may be provided for:

a. Airfield lighting. For installations with alert missions and where the base has real property responsibility for airfield facilities, the primary instrument runway will be provided with RPIE emergency power service. Diesel engine-driven generators with automatic start and transfer capability will normally be used and will be permanently installed. The size of generator required will vary, depending on the length of the runway, type of approach lighting system and primary approach guidance system.

b. Communications-Electronics facilities. Included in this category are critical radio navigational aids which do not have battery backup but are serving the primary instrument runway for alert missions, certain air traffic control facilities, aircraft control and warning sites, and essential communication systems excluding administrative telephone systems. Automatic start and transfer capability is authorized only for critical loads in communications-electronic facilities directly supporting alert aircraft movement and critical navigational facilities. Size of generators required is determined by the type and number of systems installed and as specified in AFM 88-16.

c. Aircraft fuel transfer and dispensing facilities. ANG flying units having primary POL responsibility are authorized manual transfer switches for rapid connection of portable EAID generators. Installed generators may be authorized by NGB/DE on a case by case basis to support extraordinary requirements.

d. Utility plants. Each ANG base is authorized two portable EAID generators used to run individual heating plants, lift stations, essential lighting, including all restricted areas provided with protective lighting, necessary pumps, equipment, etc. Manual transfer switches may be installed to facilitate rapid connection of portable generators to critical facilities.

e. Fire Station. A standby generator is authorized only for stations having primary fire/crash rescue responsibility to provide power for communications, minimum lighting, heat, electric doors, and other operational requirements. Automatic start and transfer capability is authorized.

f. Operational facilities for ADTAC and SAC gained units:

(1) Alert Hangar and Ready Crew Facility. Fixed generators with automatic start and transfer switching are authorized only for essential loads. The size of the units required will be in accordance with the demand-load of the facilities.

(2) Base and/or squadron opera-

tions. A generator of sufficient capacity will be authorized to provide minimum lighting, heating, weather, communications equipment, and to support operational requirements. The unit will be equipped for automatic start and transfer switching.

(3) Non-tactical Radio Services. Maintenance Controls Section and Base Security will each be authorized a generator to supply power to their communication and security systems, and required minimum lighting.

g. Operational facilities for TAC and MAC gained units:

(1) Base and/or squadron operations. A manual transfer switch is authorized for connection of an EAID generator. Load shedding will be used to reduce connected loads to the generator capacity.

(2) Other critical facilities may be provided with manual transfer switches to facilitate connection of portable generators.

4. Additional Portable Power Generators. Additional portable power generators may be required for unique mission operational requirements at each base. Requests for generators not authorized by this regulation and a USAF table of allowance will be submitted on AF Form 601 IAW AFM 67-1.

5. Multiple Units. If more than one area requires emergency standby power, a single emergency generating unit will be used if economically feasible.

6. Other Emergency Systems. The normal method of providing continuous power for intrusion and fire alarms, emergency radios and emergency telephones, will be by battery.

7. Accountable Records:

a. AFEMS generators. These genera-

tors will be reported as EAID and issued on a custody receipt listing (CRL) to the BCE.

b. RPIE generators. These generators will be accounted for on the Real Property Inventory Detail List.

8. Funding of RPIE Generators. RPIE generators are funded with military construction (MCP), minor construction (P341), or O&M funds depending on cost and whether the generators are provided in conjunction with a MCP, P341 or M&R project.

9. Waivers. The requirements of this regulation may be waived by NGB/DEP when written requests have been submitted from the using agency through the BCE and forwarded through appropriate channels. No waivers will be granted without the approval of the NGB division having responsibility for the function involved. All requests for waivers will provide, as a minimum, a narrative justification and, if the waiver is to provide for a RPIE generator, the following information:

- a. building or facility to be connected;
- b. items in each facility to be provided emergency power;
- c. generator size;
- d. whether manual transfer or auto start/transfer;
- e. proposed source of funding for generator and generator installation;
- f. a statement as to the availability of manpower to support maintenance of the generators. If the justification is based either fully or partially on commercial power outages, provide the name of the electric utility and the telephone number of their engineering department.

15 July 1983

BY ORDER OF THE SECRETARY OF THE AIR FORCE

OFFICIAL

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SUMMARY OF CHANGES

This regulation clarifies those facilities authorized automatic start or manual start emergency electric generators as well as transfer switching capability. It also redefines EAID and RPIE generators.