

## Federal Aviation Regulation

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### ▼Sec. 25.1309

| Part 25 AIRWORTHINESS STANDARDS: TRANSPORT CATEGORY AIRPLANES |         |
|---------------------------------------------------------------|---------|
| Subpart F--Equipment                                          | General |

#### Sec. 25.1309

Equipment systems and installations.

- (a) The equipment, systems, and installations whose functioning is required by this subchapter, must be designed and installed to ensure that they perform their intended functions under any foreseeable operating condition.
- (b) The equipment, systems, and installations must be designed to prevent hazards to the airplane if they malfunction or fail.
- (c) Each installation whose functioning is required by this subchapter, and that requires a power supply, is an "essential load" on the power supply. The power sources and the system must be able to supply the following power loads in probable operating combinations and for probable durations:
  - (1) Loads connected to the system with the system functioning normally; and
  - (2) Essential loads, after failure of any one primer mover, power converter, or energy storage device.
  - (3) Essential loads after failure of--
    - (i) Any one engine, on two- or three-engine airplanes.
    - (ii) Any two engines on four-or-more-engine airplanes.
- (d) In determining compliance with paragraph (c)(2) and (3) of this section, the power loads may be assumed to be reduced under a monitoring procedure consistent with safety in the kinds of operation authorized. Loads not required in controlled flight need not be considered for the two-engine-inoperative condition on airplanes with four or more engines.
- (e) In showing compliance with paragraphs (a) and (b) of this section with regard to the electrical system and equipment design and installation, critical environmental conditions must be considered. For electrical generation, distribution, and utilization equipment required by or used in complying with this chapter, except equipment covered by Technical Standard Orders containing environmental test procedures, the ability to provide continuous, safe service under foreseeable environmental conditions may be shown by environmental tests, design analysis, or reference to previous comparable service experience on other aircraft.

## **Comments**

## **Document History**

### **Notice of Proposed Rulemaking Actions:**

Notice of Proposed Rulemaking. Notice No. [64-28](#); Issued on 05/14/64.

### **Final Rule Actions:**

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