§ 23.1308 High-intensity Radiated Fields (HIRF) Protection.

(a) Except as provided in paragraph (d) of this section, each electrical and electronic system that performs a function whose failure would prevent the continued safe flight and landing of the airplane must be designed and installed so that—

(1) The function is not adversely affected during and after the time the airplane is exposed to HIRF environment I, as described in appendix J to this part;

(2) The system automatically recovers normal operation of that function, in a timely manner, after the airplane is exposed to HIRF environment I, as described in appendix J to this part, unless the system's recovery conflicts with other operational or functional requirements of the system; and

(3) The system is not adversely affected during and after the time the airplane is exposed to HIRF environment II, as described in appendix J to this part.

(b) Each electrical and electronic system that performs a function whose failure would significantly reduce the capability of the airplane or the ability of the flightcrew to respond to an adverse operating condition must be designed and installed so that—

(1) The system is not adversely affected during and after the time the airplane is exposed to HIRF environment I, as described in appendix J to this part, unless the system's recovery conflicts with other operational or functional requirements of the system; and

(3) The system is not adversely affected during and after the time the airplane is exposed to HIRF environment II, as described in appendix J to this part.

§ 23.1309 Equipment, systems, and installations.

(a) Each item of equipment, each system, and each installation:

(1) When performing its intended function, may not adversely affect the response, operation, or accuracy of—

(i) Equipment essential to safe operation; or

(ii) Other equipment unless there is a means to inform the pilot of the effect.

(2) In a single-engine airplane, must be designed to minimize hazards to the airplane in the event of a probable malfunction or failure.

(3) In a multiengine airplane, must be designed to prevent hazards to the airplane in the event of a probable malfunction or failure.

(4) In a commuter category airplane, must be designed to safeguard against hazards to the airplane in the event of their malfunction or failure.

(b) The design of each item of equipment, each system, and each installation must be examined separately and in relationship to other airplane systems and installations to determine if the airplane is dependent upon its function for continued safe flight and landing and, for airplanes not limited to VFR conditions, if failure of a system would significantly reduce the capability of the airplane or the ability of the crew to cope with adverse operating conditions. Each item of equipment, each system, and each installation identified by this examination as one upon which the airplane is dependent for proper functioning to ensure continued safe flight and landing, or whose failure would significantly reduce the capability of the airplane or