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DEPT OF TRANSPORTATION

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**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

14 CFR Part 25

[Docket No. FAA-2001-9638; Notice No. 01-07] *EP 5/18/01*

**RIN:** 2120-AH28 *FAA-2001-9638-1*

Design and Installation of Electronic Equipment on Transport Category Airplanes

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking.

**SUMMARY:** The Federal Aviation Administration proposes to amend the airworthiness standards for transport category airplanes concerning the design and installation of electronic equipment. The proposal would require that such equipment be designed and installed so that it does not cause essential loads to become inoperative as a result of electrical power supply transients or transients from other causes. Adopting this proposal would eliminate regulatory differences between the airworthiness standards of the U.S. and the Joint Aviation Requirements of Europe, without affecting current industry design practices.

**DATES:** Send your comments on or before [Insert date 60 days after date of publication in the Federal Register.]

**ADDRESSES:**

Address your comments to Dockets Management System, U.S. Department of Transportation Dockets, Room Plaza 401, 400 Seventh Street SW., Washington, DC 20590-0001. You must identify the docket number FAA-2001-9638 at the beginning of your comments, and you should submit two copies of your comments. If you wish to receive confirmation that the FAA has received your comments, please include a self-addressed, stamped postcard on which the following statement is made:

*EP 5/18/01*

*Out 5/15/01  
Part   
Cmts and 7/16/01*

CP  
5/8/01

"Comments to Docket No. FAA-2001-9638." We will date-stamp the postcard and mail it back to you.

You also may submit comments electronically to the following Internet address:  
<http://dms.dot.gov>.

You may review the public docket containing comments to this proposed regulation at the Department of Transportation (DOT) Dockets Office, located on the plaza level of the Nassif Building at the above address. You may review the public docket in person at this address between 9:00 a.m. and 5:00 p.m., Monday through Friday, except Federal holidays. Also, you may review the public dockets on the Internet at <http://dms.dot.gov>.

**FOR FURTHER INFORMATION CONTACT:** Stephen Slotte, FAA, Airplane and Flight Crew Interface Branch, ANM-111, Transport Airplane Directorate, Aircraft Certification Service, 1601 Lind Avenue SW., Renton, WA 98055-4056; telephone 425-227-2315; facsimile 425-227-1320, e-mail [steve.slotte@faa.gov](mailto:steve.slotte@faa.gov).

**SUPPLEMENTARY INFORMATION:**

**How Do I Submit Comments to this NPRM?**

Interested persons are invited to participate in the making of the proposed action by submitting such written data, views, or arguments, as they may desire. Comments relating to the environmental, energy, federalism, or economic impact that might result from adopting the proposals in this document are also invited. Substantive comments should be accompanied by cost estimates. Comments must identify the regulatory docket number and be submitted in duplicate to the DOT Rules Docket address specified above.

All comments received, as well as a report summarizing each substantive public contact with FAA personnel concerning this proposed rulemaking, will be filed in the docket. The docket is available for public inspection before and after the comment closing date.

We will consider all comments received on or before the closing date before taking action on this proposed rulemaking. Comments filed late will be considered as far as possible without incurring expense or delay. The proposals in this document may be changed in light of the comments received.

### **How Can I Obtain a Copy of this NPRM?**

You may download an electronic copy of this document using a modem and suitable communications software from the FAA regulations section of the Fedworld electronic bulletin board service (telephone: 703-321-3339); the Government Printing Office (GPO)'s electronic bulletin board service (telephone: 202-512-1661); or, if applicable, the FAA's Aviation Rulemaking Advisory Committee bulletin board service (telephone: 800-322-2722 or 202-267-5948).

Internet users may access recently published rulemaking documents at the FAA's web page at <http://www.faa.gov/avr/arm/nprm/nprm.htm> or the GPO's web page at <http://www.access.gpo.gov/nara>.

You may obtain a copy of this document by submitting a request to the Federal Aviation Administration, Office of Rulemaking, ARM-1, 800 Independence Avenue, SW., Washington, DC 20591; or by calling 202-267-9680. Communications must identify the docket number of this NPRM.

Any person interested in being placed on the mailing list for future rulemaking documents should request from the above office a copy of Advisory Circular 11-2A, "Notice of Proposed Rulemaking Distribution System," which describes the application procedure.

## **BACKGROUND**

### **What Are the Relevant Airworthiness Standards in the United States?**

In the United States, the airworthiness standards for type certification of transport category airplanes are contained in Title 14, Code of Federal Regulations (CFR) part 25. Manufacturers of transport category airplanes must show that each airplane they produce

of a different type design complies with the appropriate part 25 standards. These standards apply to:

- airplanes manufactured within the U.S. for use by U.S.-registered operators, and
- airplanes manufactured in other countries and imported to the U.S. under a bilateral airworthiness agreement.

### **What Are the Relevant Airworthiness Standards in Europe?**

In Europe, the airworthiness standards for type certification of transport category airplanes are contained in Joint Aviation Requirements (JAR)-25, which are based on part 25. These were developed by the Joint Aviation Authorities (JAA) of Europe to provide a common set of airworthiness standards within the European aviation community.

Twenty-three European countries accept airplanes type certificated to the JAR-25 standards, including airplanes manufactured in the U.S. that are type certificated to JAR-25 standards for export to Europe.

### **What is “Harmonization” and How Did it Start?**

Although part 25 and JAR-25 are very similar, they are not identical in every respect. When airplanes are type certificated to both sets of standards, the differences between part 25 and JAR-25 can result in substantial additional costs to manufacturers and operators. These additional costs, however, frequently do not bring about an increase in safety. In many cases, part 25 and JAR-25 may contain different requirements to accomplish the same safety intent. Consequently, manufacturers are usually burdened with meeting the requirements of both sets of standards, although the level of safety is not increased correspondingly.

Recognizing that a common set of standards would not only benefit the aviation industry economically, but also maintain the necessary high level of safety, the FAA and the JAA began an effort in 1988 to “harmonize” their respective aviation standards. The goal of the harmonization effort is to ensure that:

- where possible, standards do not require domestic and foreign parties to manufacture or operate to different standards for each country involved; and
- the standards adopted are mutually acceptable to the FAA and the foreign aviation authorities.

The FAA and JAA have identified a number of significant regulatory differences (SRD) between the wording of part 25 and JAR-25. Both the FAA and the JAA consider “harmonization” of the two sets of standards a high priority.

### **What is ARAC and What Role Does it Play in Harmonization?**

After initiating the first steps towards harmonization, the FAA and JAA soon realized that traditional methods of rulemaking and accommodating different administrative procedures was neither sufficient nor adequate to make appreciable progress towards fulfilling the goal of harmonization. The FAA then identified the Aviation Rulemaking Advisory Committee (ARAC) as an ideal vehicle for assisting in resolving harmonization issues, and, in 1992, the FAA tasked ARAC to undertake the entire harmonization effort.

The FAA had formally established ARAC in 1991 (56 FR 2190, January 22, 1991), to provide advice and recommendations concerning the full range of the FAA’s safety-related rulemaking activity. The FAA sought this advice to develop better rules in less overall time and using fewer FAA resources than previously needed. The committee provides the FAA firsthand information and insight from interested parties regarding potential new rules or revisions of existing rules.

There are 64 member organizations on the committee, representing a wide range of interests within the aviation community. Meetings of the committee are open to the public, except as authorized by section 10(d) of the Federal Advisory Committee Act.

The ARAC establishes working groups to develop recommendations for resolving specific airworthiness issues. Tasks assigned to working groups are published in the Federal Register. Although working group meetings are not generally open to the public,

the FAA solicits participation in working groups from interested members of the public who possess knowledge or experience in the task areas. Working groups report directly to the ARAC, and the ARAC must accept a working group proposal before ARAC presents the proposal to the FAA as an advisory committee recommendation.

The activities of the ARAC will not, however, circumvent the public rulemaking procedures; nor is the FAA limited to the rule language “recommended” by ARAC. If the FAA accepts an ARAC recommendation, the agency proceeds with the normal public rulemaking procedures. Any ARAC participation in a rulemaking package is fully disclosed in the public docket.

### **What is the Status of the Harmonization Effort Today?**

Despite the work that ARAC has undertaken to address harmonization, there remain a large number of regulatory differences between part 25 and JAR-25. The current harmonization process is extremely costly and time-consuming for industry, the FAA, and the JAA. Industry has expressed a strong desire to conclude the harmonization program as quickly as possible to alleviate the drain on their resources and to finally establish one acceptable set of standards.

Recently, representatives of the aviation industry [including Aerospace Industries Association of America, Inc. (AIA), General Aviation Manufacturers Association (GAMA), and European Association of Aerospace Industries (AECMA)] proposed an accelerated process to reach harmonization.

### **What is the “Fast Track Harmonization Program”?**

In light of a general agreement among the affected industries and authorities to expedite the harmonization program, the FAA and JAA in March 1999 agreed upon a method to achieve these goals. This method, which the FAA has titled “The Fast Track Harmonization Program,” is aimed at expediting the rulemaking process for harmonizing not only the 42 standards that are currently tasked to ARAC for harmonization, but approximately 80 additional standards for part 25 airplanes.

The FAA initiated the Fast Track program on November 26, 1999 (64 FR 66522). This program involves grouping all of the standards needing harmonization into three categories:

**Category 1: Envelope** – For these standards, parallel part 25 and JAR-25 standards would be compared, and harmonization would be reached by accepting the more stringent of the two standards. Thus, the more stringent requirement of one standard would be “enveloped” into the other standard. In some cases, it may be necessary to incorporate parts of both the part 25 and JAR standard to achieve the final, more stringent standard. (This may necessitate that each authority revises its current standard to incorporate more stringent provisions of the other.)

**Category 2: Completed or near complete** – For these standards, ARAC has reached, or has nearly reached, technical agreement or consensus on the new wording of the proposed harmonized standards.

**Category 3: Harmonize** – For these standards, ARAC is not near technical agreement on harmonization, and the parallel part 25 and JAR-25 standards cannot be “enveloped” (as described under Category 1) for reasons of safety or unacceptability. A standard developed under Category 3 would be mutually acceptable to the FAA and JAA, with a consistent means of compliance.

Further details on the Fast Track Program can be found in the tasking statement (64 FR 66522, November 26, 1999) and the first NPRM published under this program, **Fire Protection Requirements for Powerplant Installations on Transport Category Airplanes** (65 FR 36978, June 12, 2000).

Under this program, the FAA provides ARAC with an opportunity to review, discuss, and comment on the FAA's draft NPRM. In the case of this rulemaking, ARAC suggested a number of editorial changes, which have been incorporated into this NPRM.

## **DISCUSSION OF THE PROPOSAL**

### **How Does This Proposed Regulation Relate to “Fast Track”?**

This proposed regulation results from the recommendations of ARAC submitted under the FAA’s Fast Track Harmonization Program. In this notice, the FAA proposes to amend § 25.1431, Electronic equipment, concerning the design and installation of electronic equipment on transport category airplanes.

### **What is the Underlying Safety Issue Addressed by the Current Standards?**

The current standards address the critical environmental conditions that must be considered in the design and installation of radio and electronic equipment. The requirements are meant to ensure that electrical power is available to essential equipment without interruption, and that the malfunction of one unit or system of units will not adversely affect the operation of the other unit(s).

### **What are the Current 14 CFR and JAR Standards?**

- The current text of 14 CFR 25.1431 is:

*(a) In showing compliance with Sec. 25.1309 (a) and (b) with respect to radio and electronic equipment and their installations, critical environmental conditions must be considered.*

*(b) Radio and electronic equipment must be supplied with power under the requirements of Sec. 25.1355(c).*

*(c) Radio and electronic equipment, controls, and wiring must be installed so that operation of any one unit or system of units will not adversely affect the simultaneous operation of any other radio or electronic unit, or system of units, required by this chapter.*

- The current text of JAR-25.1431 is:

*(a) In showing compliance with JAR 25.1309 (a) and (b) with respect to radio and electronic equipment and their installations, critical environmental conditions must be considered.*

*(b) Radio and electronic equipment must be supplied with power under the requirements of JAR 25.1355 (c).*

*(c) Radio and electronic equipment, controls and wiring must be installed so that operation of any one unit or system of units will not adversely affect the simultaneous operation of any other radio or electronic unit, or system of units, required by this JAR-25.*

*(d) Electronic equipment must be designed and installed such that it does not cause essential loads to become inoperative as a result of electrical power supply transients or transients from other causes.*

#### **What are the Differences in the Standards?**

JAR-25.1431 contains paragraph (d) that requires verification that any electronic equipment will not cause essential loads to become inoperative as a result of electrical power supply transients or transients from other causes.

Part 25 does not contain this specific requirement in § 25.1431. However, those requirements are already implicit in other current sections of part 25, specifically:

- **§ 25.1309(e) (Equipment, systems, and installations)**, which states that each installation whose functioning is required and that requires a power supply is considered an “essential load” on the power supply. It requires that the power sources and the system must be able to continue to supply power loads under probable critical operating combinations and for probable durations;
- **§ 25.1351(b) (Electrical systems and equipment -- General)**, which requires, among other things, that electrical generating systems must be designed so that no failure or malfunction of any power source can create a hazard or impair the ability of remaining sources to supply essential loads; and
- **§ 25.1353(a) (Electrical equipment and installations)**, which requires that electrical equipment, controls, and wiring must be installed so that operation

of any one unit or system of units will not adversely affect the simultaneous operation of any other electrical unit or system essential to the safe operation.

**What, If Any, Are the Differences in the Means of Compliance?**

Manufacturers in the U.S. who apply for type certification of their products by the JAA must ensure that there are provisions in the type design to address the requirements contained in JAR-25.1431(d). By complying with the other sections of part 25 listed above, those manufacturers are, in effect, also complying with the requirements of JAR-25.1431(d).

**What Is the Proposed Action?**

The FAA proposes to revise § 25.1431 to add a new paragraph (d) that would be parallel to JAR-25.1431(d).

**How Does This Proposed Standard Address the Underlying Safety Issue?**

The proposed standard continues to address the underlying safety issue by requiring that electrical power be available for electrical equipment on transport category airplanes. As stated previously, the requirements of the proposed standard are already included in other sections of part 25.

**What is the Effect of the Proposed Standard Relative to the Current Regulations?**

The addition of proposed § 25.1431(d) would have little effect on the current regulations. As stated above, its requirements are essentially already in effect because they are currently implicit in other sections of part 25. However, the FAA considers that the addition of the new paragraph would be beneficial in three ways:

1. The proposed standard would provide one location in the regulations that explicitly addresses requirements related to electrical power supply transients by stating that any electronic equipment installed on the aircraft shall not cause essential loads to become inoperative due to electrical power supply transients or transients from other causes.

2. The proposed standard may serve to clarify the objective of the other related regulations in part 25, described above.

3. With the addition of the proposed new paragraph, part 25 would be harmonized with JAR-25.

**What is the Effect of the Proposed Standard Relative to Current Industry Practice?**

The proposed action is in line with current industry practices. Manufacturers of U.S. products are already meeting the proposed requirement by complying with other current standards in part 25.

**What Other Options Have Been Considered and Why Were They Not Selected?**

The only other option considered was to retain the current text of § 25.1431 and not adopt the JAR text. However, the FAA decided against this for two reasons:

First, adopting § 25.1431(d) would have no significant additional impact on the cost of type certification, since it is consistent with standard design practices currently used to meet other part 25 regulations relevant to electrical installations. In other words, the requirements of proposed § 25.1431(d) essentially are met already when an applicant properly demonstrates compliance with § 25.1309(e), § 25.1351(b), and § 25.1353(a). Adopting the proposal would neither reduce nor increase the requirements beyond those that exist in the currently published regulations.

Second, adopting the proposal would eliminate an identified Significant Regulatory Difference (SRD) between the wording of part 25 and JAR-25, without affecting currently accepted industry design practices. The benefits of eliminating an SRD such as this are that more consistent interpretations of the rules can be expected, and the relations between regulatory authorities may be improved.

**Who Would Be Affected by the Proposed Change?**

The proposed change could affect manufacturers and operators of transport category airplanes. However, since the proposed change does not result in any practical changes in requirements or practice, there would not be any significant effect.

### **Is Existing FAA Advisory Material Adequate?**

The FAA does not consider that additional advisory material is necessary.

### **What Regulatory Analyses and Assessments Has the FAA Conducted?**

#### **Regulatory Evaluation Summary**

Proposed changes to Federal regulations must undergo several economic analyses. First, Executive Order 12866 directs that each Federal agency shall propose or adopt a regulation only upon a reasoned determination that the benefits of the intended regulation justify its costs. Second, the Regulatory Flexibility Act of 1980 requires agencies to analyze the economic impact of regulatory changes on small entities. Third, the Trade Agreements Act (19 U.S.C. section 2531-2533) prohibits agencies from setting standards that create unnecessary obstacles to the foreign commerce of the United States. In developing U.S. standards, this Trade Act requires agencies to consider international standards and, where appropriate, that they be the basis of U.S. standards. Fourth, the Unfunded Mandates Reform Act of 1995 requires agencies to prepare a written assessment of the costs, benefits and other effects of proposed or final rules that include a Federal mandate likely to result in the expenditure by State, local, or tribal governments, in the aggregate, or by the private sector, of \$100 million or more in any one year (adjusted for inflation.)

In conducting these analyses, the FAA has determined that this proposed rulemaking has benefits, but no costs, and that it is not “a significant regulatory action” under section 3(f) of Executive Order 12866. This proposed rulemaking would not have a significant economic impact on a substantial number of small entities, reduces barriers to international trade, and imposes no unfunded mandates on State, local, or tribal governments, or the private sector.

Because there are no apparent costs associated with this proposal, it does not warrant the preparation of a full economic evaluation for placement in the docket. The

basis of this statement and for the above determinations is summarized in this section of the preamble. The FAA requests comments with supporting documentation in regard to the conclusions contained in this section.

Presently, airplane manufacturers must satisfy both part 25 of Title 14, Code of Federal Regulations (14 CFR) and the European joint aviation requirements (JAR) certification standards to market transport category aircraft in both the United States and Europe. Meeting two sets of certification requirements raises the cost of developing a new transport category airplane often with no increase in safety. In the interest of fostering international trade, lowering the cost of aircraft development, and making the certification process more efficient, the FAA, JAA, and aircraft manufacturers have been working to create to the maximum possible extent a single set of certification requirements accepted in both the United States and Europe. These efforts are referred to as harmonization.

This proposed rulemaking would add a new § 25.1431(d) to part 25, to incorporate the “more stringent” requirement of paragraph 25.1431(d) of the JAR. The FAA has concluded for the reasons previously discussed in the preamble that the adoption of these JAR requirements into part 25 is the most efficient way to harmonize these section(s) and in so doing, the existing level of safety will be preserved.

The FAA estimates that there are no costs associated with this proposal. A review of current manufacturers of transport category aircraft certificated under part 25 has revealed that all such future aircraft are expected to be certificated under part 25 of both 14 CFR and the JAR. Since future certificated transport category aircraft are expected to meet the existing section 25.1431(d) of the JAR requirement and this proposed rulemaking adopts the same JAR requirement, manufacturers would incur no additional

cost resulting from this proposal. Furthermore, this proposed rulemaking is in line with current industry practices as stated in the Radio Technology Commission for Aeronautics (RTCA) DO-160D, Environmental Conditions and Test Procedures. The DO-160D sets forth the standard procedures and environmental test criteria for testing airborne equipment for the entire spectrum of aircraft from light general aviation aircraft and helicopters through the “Jumbo Jets” and SST categories of aircraft. Examples of tests covered include vibration, power input, radio frequency susceptibility, lightning and electrostatic discharge. This standard is an internationally recognized standard of testing. Thus, the FAA expects any additional cost imposed by this proposal to be minimal. In fact, manufacturers are expected to receive cost-savings by a reduction in the FAA/JAA certification requirements for new aircraft. The FAA, however, has not attempted to quantify the cost savings that may accrue due to this specific proposed rulemaking, beyond noting that while they may be minimal, they contribute to a large potential harmonization savings. The agency concludes that because there is consensus among potentially impacted airplane manufacturers that savings will result, further analysis is not required.

#### **Initial Regulatory Flexibility Determination.**

The Regulatory Flexibility Act of 1980 (RFA), of 1980 as amended, establishes as a principle of regulatory issuance that agencies shall endeavor, consistent with the objective of the rule and of applicable statutes, to fit regulatory and informational requirements to the sale of the business, organizations, and governmental jurisdictions subject to regulation. To achieve that principle, the RFA requires agencies to solicit and consider flexible regulatory proposals and to explain the rationale for their actions.

Agencies must perform a review to determine whether a proposed or final rule will have a significant economic impact on a substantial number of small entities. If the

determination is that the rule will, the Agency must prepare a regulatory flexibility analysis as described in the RFA.

However, if an agency determines that a proposed or final rule is not expected to have a significant economic impact on a substantial number of small entities, section 605(b) of the RFA provides that the head of the agency may so certify and a regulatory flexibility analysis is not required. The certification must include a statement providing the factual basis for this determination, and the reasoning should be clear.

The FAA believes that this proposed rule would not have a significant economic impact on a substantial number of small entities for two reasons. First, the net effect of the proposed rule is minimum regulatory cost relief. The proposed rule requires that new transport category aircraft manufacturers meet just the “more stringent” European certification requirement, rather than both the United States and European standards. Airplane manufacturers already meet or expect to meet this standard as well as the existing part 25 of 14 CFR requirement. Secondly, all United States transport-aircraft category manufacturers exceed the Small Business Administration small-entity criteria of 1,500 employees for aircraft manufacturers. United States part 25 airplane manufacturers include: The Boeing Company, Cessna Aircraft, Gulfstream Aerospace, Learjet (owned by Bombardier), Lockheed Martin, McDonnell Douglas (a wholly-owned subsidiary of The Boeing Company), Raytheon Aircraft, and Sabreliner Corporation. Given that this proposed rule is only minimally cost-relieving and that there are no small entity manufacturers of part 25 airplanes, the FAA certifies that this proposed rule will not have a significant economic impact on a substantial number of small entities.

### **International Trade Impact Assessment.**

The Trade Agreement Act of 1979 prohibits Federal agencies from engaging in any standards or related activities that create unnecessary obstacles to the foreign commerce of the United States. Legitimate domestic objectives, such as safety, are not considered unnecessary obstacles. The statute also requires consideration of international standards and where appropriate, that they be the basis for U.S. standards. In addition, consistent with the Administration's belief in the general superiority and desirability of free trade, it is the policy of the Administration to remove or diminish to the extent feasible, barriers to international trade, including both barriers affecting the export of American goods and services to foreign countries and barriers affecting the import of foreign goods and services into the United States.

In accordance with the above statute and policy, the FAA has assessed the potential effect of this proposed rule and determined that it supports the Administration's free trade policy because this proposed rule would use European international standards as the basis for U.S. standards.

### **Unfunded Mandates Reform Act**

Title II of the Unfunded Mandates Reform Act of 1995 (the Act), enacted as Pub. L. 104-4 on March 22, 1995, requires each Federal agency, to the extent permitted by law, to prepare a written assessment of the effects of any Federal mandate in a proposed or final agency rule that may result in the expenditure by State, local, and tribal governments, in the aggregate, or by the private sector, of \$100 million or more (adjusted annually for inflation) in any one year. This final rule does not contain a Federal intergovernmental or private sector mandate that exceeds \$100 million in any year; therefore the requirements of the act do not apply.

## **Energy Impact**

The energy impact of the proposed rule has been assessed in accordance with the Energy Policy and Conservation Act (EPCA) and Public Law 94-163, as amended (43 U.S.C. 6362), and FAA Order 1053.1. It has been determined that it is not a major regulatory action under the provisions of the EPCA.

## **Regulations Affecting Intrastate Aviation in Alaska**

Section 1205 of the FAA Reauthorization Act of 1996 (110 Stat. 3213) requires the Administrator, when modifying regulations in Title 14 of the CFR in a manner affecting intrastate aviation in Alaska, to consider the extent to which Alaska is not served by transportation modes other than aviation, and to establish such regulatory distinctions as he or she considers appropriate. Because this proposed rule would apply to the certification of future designs of transport category airplanes and their subsequent operation, it could, if adopted, affect intrastate aviation in Alaska. The FAA therefore specifically requests comments on whether there is justification for applying the proposed rule differently to intrastate operations in Alaska.

## **Plain Language**

In response to the June 1, 1998, Presidential memorandum regarding the issue of plain language, the FAA re-examined the writing style currently used in the development of regulations. The memorandum requires Federal agencies to communicate clearly with the public. We are interested in your comments on whether the style of this document is clear, and in any other suggestions you might have to improve the clarity of FAA communications that affect you. You can get more information about the Presidential memorandum and the plain language initiative at <http://www.plainlanguage.gov>.

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**List of Subjects in 14 CFR Part 25**

Aircraft, Aviation safety, Electronic equipment, Reporting and recordkeeping requirements.

**The Proposed Amendment**

In consideration of the foregoing, the Federal Aviation Administration proposes to amend part 25 of Title 14, Code of Federal Regulations, as follows:

**PART 25 - AIRWORTHINESS STANDARDS: TRANSPORT CATEGORY**

**AIRPLANES**

1. The authority citation for Part 25 continues to read as follows:

**Authority:** 49 U.S.C. 106(g), 40113, 44701, 44702 and 44704

2. Amend section 25.1431 by adding a new paragraph (d) to read as follows:

**§ 25.1431 Electronic equipment**

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(d) Electronic equipment must be designed and installed such that it does not cause essential loads to become inoperative as a result of electrical power supply transients or transients from other causes.

Issued in Renton, Washington, on May 3, 2001



Lirio Liu Nelson  
Acting Manager  
Transport Airplane Directorate  
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