would significantly affect the certification of the airplane, which is imminent, the FAA has determined that prior public notice and comment are unnecessary and impracticable, and good cause exists for adopting these special conditions immediately. Therefore, these special conditions are being made effective upon issuance. The FAA is requesting comments to allow interested persons to submit views that may not have been submitted in response to the prior opportunities for comment described above.

List of Subjects in 14 CFR Part 25

Aircraft, Aviation safety, Reporting and recordkeeping requirements.

The authority citation for these special conditions is as follows:

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

The Special Conditions

Accordingly, pursuant to the authority delegated to me by the Administrator, the following special conditions are issued as part of the type certification basis for Dornier Model 328–300 airplane.

1. *Protection from Unwanted Effects of High-Intensity Radiated Fields (HIRF).* Each electrical and electronic system that performs critical functions must be designed and installed to ensure that the operation and operational capability of these systems to perform critical functions are not adversely affected when the airplane is exposed to high intensity radiated fields external to the airplane.

For the purpose of these special conditions, the following definition applies:

Critical Functions. Functions whose failure would contribute to or cause a failure condition that would prevent the continued safe flight and landing of the airplane.

Issued in Renton, Washington, on April 15, 1999.

John J. Hickey,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service, ANM–100.

[FR Doc. 99–12744 Filed 5–19–99; 8:45 am]

BILLING CODE 4910–13–P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 27

[Docket No. SW00S; Special Condition No. 27–00S–SC]

Special Conditions: Bell Helicopter Textron Canada Model 427 Helicopters, High Intensity Radiated Fields

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final special condition; request for comments.

SUMMARY: This special condition is issued for Bell Helicopter Textron Canada (Bell) Model 427 helicopters. These helicopters will have a novel or unusual design feature associated with the installation of electronic systems that perform critical functions. The applicable airworthiness regulations do not contain adequate or appropriate safety standards to protect systems that perform critical control functions, or provide critical displays, from the effects of high-intensity radiated fields (HIRF). This special condition contains the additional safety standards that the Administrator considers necessary to ensure that critical functions of systems will be maintained when exposed to HIRF.

DATES: The effective date of this special condition is May 11, 1999. Comments must be received on or before July 6, 1999.

ADDRESSES: Comments on this special condition may be mailed in duplicate to: Federal Aviation Administration, Office of the Regional Counsel, Attention: Rules Docket No. SW00S, Fort Worth, Texas 76193–0007, or deliver in duplicate to the Office of the Regional Counsel at 2601 Meacham Blvd., Fort Worth, Texas 76137. Comments must be marked: Rules Docket No. SW00S. Comments may be inspected in the Rules Docket weekdays, except Federal holidays, between 8:30 a.m. and 4:00 p.m.

FOR FURTHER INFORMATION CONTACT: Jorge Castillo, FAA, Rotorcraft Directorate, Rotorcraft Standards Staff, Fort Worth, Texas 76193–0110; telephone 817–222–5127, fax 817–222–5961.

SUPPLEMENTARY INFORMATION: The FAA has determined that notice and opportunity for prior public comment hereon are impracticable because these procedures would significantly delay issuance of the approval design and thus delivery of the affected aircraft. In addition, notice and opportunity for prior public comment are unnecessary since the substance of this special condition has been subject to the public comment process in several prior instances with no substantive comments received. The FAA therefore finds that good cause exists for making this special condition effective upon issuance.

Comments Invited

Interested persons are invited to submit such written data, views, or arguments as they may desire. Communications should identify the regulatory docket or special condition number and be submitted in duplicate to the address specified above. All communications received on or before the closing date for comments will be considered by the Administrator. The special condition may be changed in light of the comments received. All comments received will be available in the Rules Docket for examination by interested persons, both before and after the closing date for comments. A report summarizing each substantive public contact with FAA personnel concerning this rulemaking will be filed in the docket. Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this special condition must include a self-addressed, stamped postcard on which the following statement is made: ''Comments to Rules Docket No. SW00S.'' The postcard will be date stamped and returned to the commenter.

Background

On September 16, 1996, Bell applied for a type certificate for the Model 427 helicopter. The Bell Model 427 helicopter is a 6-passenger (8 including crew) normal category helicopter with a four-bladed rotor. It is powered by two Pratt and Whitney 206D engines with a gross weight of 6000 pounds.

Type Certification Basis

Under the provisions of 14 CFR 21.17, Bell must show that the Model 427 helicopter meets the applicable provisions of the regulations as listed below:

- 14 CFR 21.29
- 14 CFR Part 27 as amended through and including amendment 27–31 and amendment 27–33
- 14 CFR Part 29 as amended through and including amendment 29–40, as it affects FAR Part 27 Appendix C
- The Amendments of 14 CFR Part 34 and Part 36 in effect on the day the Type Certificate is issued
- National Environmental Policy Act of 1969
- Noise Control Act of 1972

• Any Special conditions, Exemptions, and Equivalent Safety Findings deemed necessary

In addition, the certification basis includes certain special conditions and equivalent safety findings that are not relevant to this special condition.

If the Administrator finds that the applicable airworthiness regulations do not contain adequate or appropriate safety standards for these helicopters because of a novel or unusual design feature, special conditions are prescribed under the provisions of § 21.16.

In addition to the applicable airworthiness regulations and special conditions, the Bell Model 427 helicopter must comply with the noise certification requirements of 14 CFR part 36; and the FAA must issue a finding of regulatory adequacy pursuant to § 611 of Public Law 92–574, the ''Noise Control Act of 1972.''

Special conditions, as appropriate, are issued in accordance with § 11.49, as required by §§ 11.28 and 11.29(b), and become part of the type certification basis in accordance with § 21.17(a)(2).

Special conditions are initially applicable to the model for which they are issued. Should the type certificate for that model be amended later to include any other model that incorporates the same novel or unusual design feature, the special conditions would also apply to the other model under the provisions of § 21.101(a)(1).

Novel or Unusual Design Features

The Bell Model 427 helicopter will incorporate the following novel or unusual design features: Electrical, electronic, or a combination of electrical electronic (electrical/electronic) systems that perform critical control functions, or provide critical displays. Examples of such critical control functions and displays are electronic flight instruments that will be providing displays critical to the continued safe flight and landing of the helicopter during operation in Instrument Meteorological Conditions (IMC), and Full Authority Digital Engine Controls (FADEC) that will be performing engine control functions that are critical to the continued safe flight and landing of the helicopter during Visual Flight Rules (VFR) and Instrument Flight Rules (IFR) operations.

Discussion

The Bell Model 427 helicopter, at the time of application, was identified as incorporating one and possibly more electrical/electronic systems, such as electronic flight instruments and FADEC. After the design is finalized, Bell will provide the FAA with a preliminary hazard analysis that will identify any other critical functions that are performed by the electrical/electronic systems, and are required for safe flight and landing.

Recent advances in technology have given rise to the application in aircraft designs of advanced electrical/electronic systems that perform critical control functions, or provide critical displays. These advanced systems respond to the transient effects of induced electrical current and voltage caused by HIRF incidents on the external surface of the helicopter. These induced transient currents and voltages can degrade the performance of the electrical/electronic systems by damaging the components or by upsetting the systems' functions.

Furthermore, the electromagnetic environment has undergone a transformation not envisioned by the current application of § 27.1309(a). Higher energy levels radiate from operational transmitters currently used for radar, radio, and television. Also, the number of transmitters has increased significantly.

Existing aircraft certification requirements are inappropriate in view of these technological advances. In addition, the FAA has received reports of some significant safety incidents and accidents involving military aircraft equipped with advanced electrical/electronic systems when they were exposed to electromagnetic radiation.

The combined effects of the technological advances in helicopter design and the changing environment have resulted in an increased level of vulnerability of the electrical/electronic systems required for the continued safe flight and landing of the helicopter. Effective measures to protect these helicopters against the adverse effects of exposure to HIRF will be provided by the design and installation of these systems. The following primary factors contributed to the current conditions: (1) increased use of sensitive electronics that perform critical functions, (2) reduced electromagnetic shielding afforded helicopter systems by advanced technology airframe materials, (3) adverse service experience of military aircraft using these technologies, and (4) an increase in the number and power of radio frequency emitters and the expected increase in the future.

The FAA recognizes the need for aircraft certification standards to keep pace with the developments in technology and environment and, in 1986, initiated a high priority program to (1) determine and define electromagnetic energy levels; (2) develop and describe guidance material for design, test, and analysis; and (3) prescribe and promulgate regulatory standards.

The FAA participated with industry and airworthiness authorities of other countries to develop internationally recognized standards for certification.

The FAA and airworthiness authorities of other countries have identified two levels of the HIRF environment that a helicopter could be exposed to—one environment for Visual Flight Rules (VFR) operations and a different environment for Instrument Flight Rules (IFR) operations. While the HIRF rulemaking requirements are being finalized, the FAA is adopting a special condition for the certification of aircraft that employ electrical/electronic systems that perform critical control functions, or provides critical displays. The accepted maximum energy levels that civilian helicopter system installations must withstand for safe operation are based on surveys and analysis of existing radio frequency emitters. This special condition will require the helicopters' electrical/electronic systems and associated wiring to be protected from these energy levels. These external threat levels are believed to represent the exposure for a helicopter operating under VFR or IFR.

Compliance with HIRF requirements will be demonstrated by tests, analysis, models, similarity with existing systems, or a combination of these methods. Service experience alone will not be acceptable since such experience in normal flight operations may not include an exposure to HIRF. Reliance on a system with similar design features for redundancy, as a means of protection against the effects of external HIRF, is generally insufficient because all elements of a redundant system are likely to be concurrently exposed to the radiated fields.

This special condition will require the systems that perform critical control functions or provide critical displays, as installed in the aircraft, to meet certain standards based on either a defined HIRF environment or a fixed value using laboratory tests. Control system failures and malfunctions can more directly and abruptly contribute to a catastrophic event than display system failures and malfunctions. Therefore, it is considered appropriate to require more rigorous HIRF verification methods for critical control systems than for critical display systems.

The applicant may demonstrate that the operation and operational capabilities of the installed electrical/electronic systems that perform critical

functions are not adversely affected when the aircraft is exposed to the defined HIRF test environment. The FAA has determined that the test environment defined in Table 1 is acceptable for critical control functions in helicopters. The test environment defined in Table 2 is acceptable for critical display systems in helicopters.

The applicant may also demonstrate by a laboratory test that the electrical/electronic systems that perform critical control functions or provide critical displays can withstand a peak electromagnetic field strength in a frequency range of 10 KHz to 18 GHz. If a laboratory test is used to show compliance with the defined HIRF environment, no credit will be given for signal attenuation due to installation. A level of 100 volts per meter (v/m) is appropriate for critical display systems. A level of 200 v/m is appropriate for critical control functions. Laboratory test levels are defined according to RTCA/DO–160D Section 20 Category W (100 v/m and 150 mA) and Category Y (200 v/m and 300 mA). As defined in DO–160D Section 20, the test levels are defined as the peak of the root means squared (rms) envelope. As a minimum, the modulations required for RTCA/DO–160D Section 20 Categories W and Y will be used. Other modulations should be selected as the signal most likely to disrupt the operation of the system under test, based on its design characteristics. For example, flight control systems may be susceptible to 3 Hz square wave modulation while the video signals for electronic display systems may be susceptible to 400 Hz sinusoidal modulation. If the worst-case modulation is unknown or cannot be determined, default modulations may be used. Suggested default values are a 1 KHz sine wave with 80 percent depth of modulation in the frequency range from 10 KHz to 400 MHz, and 1 KHz square wave with greater than 90 percent depth of modulation from 400 MHz to 18 GHz. For frequencies where the unmodulated signal would cause deviations from normal operation, several different modulating signals with various waveforms and frequencies should be applied.

Applicants must perform a preliminary hazard analysis to identify electrical/electronic systems that perform critical functions. The term ''critical'' means those functions whose failure would contribute to or cause an unsafe condition that would prevent the continued safe flight and landing of the helicopters. The systems identified by the hazard analysis as performing critical functions are required to have HIRF protection. A system may perform both critical and non-critical functions. Primary electronic flight display systems and their associated components perform critical functions such as attitude, altitude, and airspeed indications. HIRF requirements would apply only to the systems that perform critical functions, including control and display.

Acceptable system performance would be attained by demonstrating that the critical function components of the system under consideration continue to perform their intended function during and after exposure to required electromagnetic fields. Deviations from system specifications may be acceptable but must be independently assessed by the FAA on a case-by-case basis.

TABLE 1.—VFR ROTORCRAFT FIELD STRENGTH VOLTS/METER

Frequency	Peak	Average
10–100 KHz	150	150
100–500	200	200
500–2000	200	200
2–30 MHz	200	200
30–100	200	200
100–200	200	200
200–400	200	200
400–700	730	200
700–1000	1400	240
1–2 GHz	5000	250
2–4	6000	490
4–6	7200	400
6–8	1100	170
8–12	5000	330
12–18	2000	330
18–40	1000	420

TABLE 2.—IFR ROTORCRAFT FIELD STRENGTH VOLTS/METER

Frequency	Peak	Average
10–100 KHz	50	50
100–500	50	50
500–2000	50	50
2–30 MHz	100	100
30–70	50	50
70–100	50	50
100–200	100	100
200–400	100	100
400–700	700	50
700–1000	700	100
1–2 GHz	2000	200
2–4	3000	200
4–6	3000	200
6–8	1000	200
8–12	3000	300
12–18	2000	200
18–40	600	200

Applicability

As previously discussed, this special condition is applicable to Bell Model 427 helicopters. Should Bell apply at a later date for a change to the type certificate to include another model incorporating the same novel or unusual design feature, the special condition would apply to that model as well under the provisions of § 21.101(a)(1).

Conclusion

This action affects only certain novel or unusual design features on one model series of helicopters. It is not a rule of general applicability and affects only the applicant who applied to the FAA for approval of these features on the helicopter.

The substance of this special condition has been subjected to the notice and comment period in several prior instances and has been derived without substantive change from those previously issued. It is unlikely that prior public comment would result in a significant change from the substance contained herein. For this reason and because a delay would significantly affect the certification of the helicopter, which is imminent, the FAA has determined that prior public notice and comment are unnecessary and impracticable, and good cause exists for adopting this special condition upon issuance. The FAA is requesting comments to allow interested persons to submit views that may not have been submitted in response to the prior opportunities for comment described above.

List of Subjects in 14 CFR Part 27

Aircraft, Air transportation, Aviation safety, Rotorcraft, Safety.

The authority citation for these special conditions is as follows: 42 U.S.C. 7572; 49 U.S.C. 106(g), 40105, 40113, 44701–44702, 44704, 44709, 44711, 44713, 44715, 45303.

The Special Condition

Accordingly, pursuant to the authority delegated to me by the Administrator, the following special condition is issued as part of the type certification basis for Bell Helicopter Textron Canada Model 427 helicopters.

Protection for Electrical and Electronic Systems From High Intensity Radiated Fields

Each system that performs critical functions must be designed and installed to ensure that the operation and operational capabilities of these critical functions are not adversely affected when the helicopter is exposed to high intensity radiated fields external to the helicopter.

Issued in Fort Worth, Texas, on May 11, 1999.

Eric Bries,

Acting Manager, Rotorcraft Directorate, Aircraft Certification Service.

[FR Doc. 99–12743 Filed 5–19–99; 8:45 am]

BILLING CODE 4910–13–U

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 9 and 63

[IL–64–2–5807; FRL–6345–7]

RIN 2060–AF29

National Emission Standards for Hazardous Air Pollutants for Ferroalloys Production: Ferromanganese and Silicomanganese

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: This action finalizes national emission standards for hazardous air pollutants (NESHAP) for ferroalloys production: ferromanganese and silicomanganese. This rule was proposed under the title of ''national emission standards for hazardous air pollutants for ferroalloys production.'' The EPA changed the title of the final rule to reflect the specific ferroalloy produced (ferromanganese and silicomanganese) at the only existing source to be regulated. The EPA also has deleted the proposed applicability to ferrochromium production with this action and withdrawn the proposed rule for ferronickel production facilities.

The EPA has identified ferromanganese and silicomanganese facilities as major sources of hazardous air pollutants (HAP) emissions of manganese. Manganese can adversely affect human health. The effects of chronic human exposure to environmental levels of manganese through inhalation include subtle but not insignificant effects on the central nervous system. These effects, reported in workers exposed to manganese, include slow visual reaction time, loss of eye-hand coordination, and imprecise hand movements caused by small tremors. The NESHAP requires affected sources to meet emission standards that reflect the application of maximum achievable control technology (MACT).

DATES: *Effective Date.* The final rule is effective May 20, 1999.

Judicial Review. Under Clean Air Act section 307(b), judicial review of this nationally applicable final action is available only by the filing of a petition for review in the U.S. Court of Appeals for the District of Columbia Circuit within 60 days of publication of this rule. Under section 307(b)(2), the regulations that are the subject of this action may not be challenged later in civil or criminal proceedings brought by EPA in reliance on them.

ADDRESSES: *Docket.* All information considered by the EPA in developing this rulemaking, including public comments on the proposed rule and other information developed by the EPA in addressing those comments since proposal, is located in Public Docket No. A–92–59 at the following address: Air and Radiation Docket and Information Center (6102), U.S. Environmental Protection Agency, 401 M Street, S.W., Washington, DC 20460. The docket is located at the above address in Room M–1500, Waterside Mall (ground floor), and may be inspected from 8:00 a.m. to 5:30 p.m., Monday through Friday. Materials related to this rulemaking are available upon request from the Air and Radiation Docket and Information Center by calling (202) 260–7548 or 7549. The FAX number for the Center is (202) 260–4400. A reasonable fee may be charged for copying docket materials.

FOR FURTHER INFORMATION CONTACT: Mr. Conrad Chin, Metals Group, Emission Standards Division (MD–13), U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711; telephone (919) 541–1512; facsimile (919) 541–5600, electronic mail address ''chin.conrad@epamail.epa.gov'.

SUPPLEMENTARY INFORMATION:

Regulated Entities

This action regulates entities that are industrial facilities producing ferromanganese or silicomanganese. Regulated categories and entities include those sources listed in the following primary Standard Industrial Classification code: 3313, Electrometallurgical Products, Except Steel.

This description provides a guide for readers regarding entities regulated by this final action. It lists the types of entities that the EPA is aware of that would be regulated. To determine whether a facility is regulated, the owner or operator should examine the applicability criteria in § 63.1650 of the rule. At this time, the EPA knows of only one facility (the Elkem Metals Company plant in Marietta, Ohio) that is subject to the final rule. Direct questions regarding the applicability of this action to a particular entity should be directed to the person listed in the preceding **FOR FURTHER INFORMATION CONTACT** section or the relevant permitting authority.

Electronic Access

This document, the regulatory text, and other background information are available in Docket No. A–92–59, by request from the EPA's Air and Radiation Docket and Information Center (see **ADDRESSES**), or through the EPA web site at: http://www.epa.gov/ttn/oarpg.

Preamble Outline

The information presented in this preamble is organized as follows:

I. Background

A. What Is the Statutory and Regulatory Authority for the Final Rule?

Section 112 of the Clean Air Act (Act) requires that the EPA promulgate regulations to control HAP emissions