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Federal Aviation Administration

Standard

COMMERCIAL EQUIPMENT, MARKET RESEARCH FOR

INITIATED BY: AES-120

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1. SCOPE

1.1 Scope. This standard identifies the information required from potential suppliers when responding to a market research by the Federal Aviation Administration (FAA) prior to the procurement of commercial equipment for the National Airspace System (NAS).

1.2 Purpose. The purpose of this standard is to establish a uniform method for FAA to accomplish the market research and analysis as specified in the Federal Acquisition Regulation (FAR), Part 11. It provides for developing and collecting information impartially and for encouraging maximum practicable competition.

1.3 Use. This standard is to be used as an attachment to market research requests by FAA for commercial equipment. Information received from potential vendors will be used as a base for preparation of the Procurement Request Package. This standard will not be a referenced document in the Procurement Request Package.

2. APPLICABLE DOCUMENTS

2.1 Government documents. The following documents of the issue in effect on the date of the market research request, form a part of this standard to the extent specified herein. In the event of conflict between the documents referenced herein and the content of this standard, the contents of this standard shall be considered a superseding requirement.

PUBLICATIONS:

Regulations

FCC Rules and Regulations

Volume II, Part 2	Frequency Allocations and Radio Treaty Matters; General Rules and Regulations
Volume V, Part 87	Aviation Services
Volume X, Part 68	Connection of Terminal Equipment to the Telephone Network

Manuals

NTIA Manual	National Telecommunications and Information Administration Manual of Regulations and Procedures for Radio Frequency Management

Code of Federal Regulations

Title 10	Nuclear Regulatory Commission Rules and Regulations
Title 21	FDA Regulations
Title 29	OSHA Regulations

(Copies of specifications, standards, drawings, and publications required by suppliers in connection with specified procurement functions should be obtained from the procuring activity or as directed by the contracting officer).

2.2 Non-Government documents. The following documents of the issue in effect on the date of the market research request, form a part of this standard to the extent specified herein. In the event of conflict between the documents referenced herein and the contents of this standard, the contents of this standard shall be considered a superseding requirement.

OTHER PUBLICATIONS:

Codes

NFPA 70	National Electrical Code (NFPA Publications, National Fire Protection Association, 470 Atlantic Ave., Boston, MA 02210)

Technical society and technical association specifications and standards are generally available for reference from libraries. They are also distributed among technical groups and using Federal agencies.

3. REQUIREMENTS

3.1 Regulations. The potential supplier is requested to provide confirmation of compliance of the equipment to government regulations. Examples are as follows:

a. FCC Rules and Regulations. Volume II, Part 2, Frequency Allocations and Radio Treaty Matters; Volume V, Part 87, Aviation Services; FCC type acceptance of communication and navigation equipment; Volume X Part 68, Connection of Terminal Equipment to the Telephone Network; FCC registration of equipment that interfaces or connects to public or private telephone networks.

b. National Telecommunications and Information Administration Manual of Regulations and Procedures for Radio Frequency Management (NTIA Manual).

c. Code of Federal Regulations. The design of all equipment, including marking and labeling, for which a federal standard exists under the Code of Federal Regulations. Examples are: Radioactive Material, Title 10; Radiation Control, Title 21; and Occupational Safety and Health Act (OSHA) Regulations, Title 29.

3.2 Documentation. The potential supplier is requested to provide the following information/documentation if available:

a. The availability of and a brief description of initial and operational procedures including installation and grounding requirements.

b. Safety precautions and hazards.

c. Manufacturer of the equipment if not manufactured by the supplier.

d. Source for technical data and assistance including repair facilities.

e. Guarantees and warranties.

f. Performance specifications and environmental requirements such as power, cooling, electromagnetic interference (EMI) control, temperature limits and humidity ranges.

g. The availability of and a brief description of the parts list of replaceable items and interchangeability information including source of part numbers.

h. The availability of and a brief description of wiring and schematic diagrams including internal transient protection if any.

i. The availability of and a brief description of internal or external protection measures that would ensure a delivered equipment failure would not cause undesired failures to other equipment.

j. The availability of and a brief description of maintenance and repair procedures including a list of special tools, test equipment, card extenders, and adaptors, including adjustment, alignment and calibration data.

k. Equivalent government specifications and standards.

l. Government and industry certifications and approvals.

m. Licenses and permits.

n. Options and accessories available.

o. Any additional equipment or accessories required to operate and monitor the equipment including special tooling, test equipment, card extenders, and adaptors.

p. Firmware and software requirements, availability of listings, and other necessary details.

q. Reliability and maintainability information.

r. After-installation services and support.

s. Availability of reference designators.

t. Availability of electrical/electronic operating parameters such as wave shapes, voltages and currents.

u. Provisions for product improvement notification.

v. Automated process device information.

1) classification of the system
2) ANSI standard language supported
3) memory capacity and features
4) number and types of interfaces
5) processing capability
6) listing of available peripheral equipment

3.3 Performance. The potential supplier is requested to provide the manufacturer's equipment specification. If this is not available, then the potential supplier is requested to provide the manufacturer's advertised performance characteristics.

3.4 Design features. The potential supplier is requested to identify and detail the equipment design features. Examples are as follows:

3.4.1 Controls. The identification of the function and operation of control knobs, dials, switches, and buttons.

3.4.2 Meters, indicators, and displays. Direct reading meters, indicators, and displays.

3.4.3 Power cord. The power cord and plug used to connect to the power source conforming to NFPA-70 or other equivalent standards.

3.4.4 Identification. Identification of the equipment with nameplates and labels having part numbers, serial numbers, and nomenclature.

3.4.5 Surfaces subject to corrosion/degradation. Protection of surfaces subject to corrosion and degradation.

3.4.6 Interface requirements. Identification of interface requirements including protocol.

3.4.7 Mating interfaces. Either external cables are provided or the mating connector interfaces are identified to the recommended mating connectors/ adaptors.

3.4.8 Dimensions. The size and weight including restrictions for support and handling.

3.4.9 Software.

a. Upward compatibility with higher performance from the standpoints of expandability and software migration.

b. Provision for software maintenance (new versions of, or corrections to, the operating system software or firmware).

c. Capability to develop/accommodate user developed custom software.

3.4.10 Automated Test Equipment (ATE).

a. The extent to which the equipment is designed for automated test equipment and automated testing.

b. The availability of test requirements documents for use in the design, development, and testing of ATE test program sets.

c. The availability of ATE test program sets including documentation, interface, adapters, and software. The target ATE should also be identified.

3.4.11 Human factors. Identification of standards used in equipment design and any special or unique requirements.

3.4.12 Safety. Identify those safety features which are basic to the design of the equipment with respect to equipment characteristics, method of operation, and environmental influences. Cite those safety standards which are applicable to the equipment.

3.5 Workmanship. The potential supplier is requested to describe the workmanship standards and identify the commercial practices used during fabrication or manufacture of the equipment.

3.6 Inspection and test. The potential supplier is requested to indicate the normal inspection and test that is performed on the equipment. The potential supplier is requested to indicate the availability of providing the documentation and performance of all inspection requirements. The potential supplier is requested to indicate the ability to perform any requested testing at either the supplier's facility or other test site in agreement with FAA.

4. QUALITY ASSURANCE PROVISIONS

This section is not applicable to this standard.

5. PREPARATION FOR DELIVERY

This section is not applicable to this standard.

6. NOTES

6.1 Information to request initiator. Initiators of market research requests should consider including the following items in the package sent to the potential suppliers:

a. Environmental conditions in which the equipment will be required to operate.

b. Specific documentation requirements (see paragraph 3.2).

c. Requirements for performance tests including location (see paragraph 3.3).

d. The intended usage including location within an assembly and other equipment with which the item may be used.

e. The essential operating conditions.

f. Description of interfaces.

g. Space or weight limitations.