REQUIREMENTS DOCUMENT (REVISED 07/2001)

PURPOSE

The Requirements Document establishes the operational framework and performance baseline for an acquisition program. The Requirements Document becomes the performance baseline in the Acquisition Program Baseline at the Investment Decision.

DESCRIPTION

The Requirements Document is the primary force driving the search for a realistic and affordable solution to mission need during Investment Analysis. The initial Requirements Document is developed early in Investment Analysis by the sponsoring line of business. It translates the "need" in the Mission Need Statement into initial toplevel requirements addressing such concerns as performance, supportability, physical and functional integration, human integration, security, test and evaluation, implementation and transition, quality assurance, configuration management, and in-service management. The initial Requirements Document must *not* describe a specific solution to mission need, and should not preclude leasing, commercial, or non-developmental solutions. During Investment Analysis, these initial requirements are evaluated against the cost, benefits, schedule, and risk of various candidate solutions and brought into balance with an affordable solution.

At the Investment Decision, the Requirements Document defines exactly the operational concept and requirements the approved acquisition program is intended to achieve. It is the basis for evaluating the readiness of resultant products and services to become operational. Sponsor requirements not included in the Requirements Document at the Investment Decision are returned to the sponsoring line of business for disposition.

NOTE: The Requirements Document is NOT a design specification; it contains only toplevel requirements.

APPROVAL

The Associate Administrator of the line of business with the mission need approves the Requirements Document and all changes to it.

DISTRIBUTION (Revised 06/2001)

Distribute copies of the approved Requirements Document to all headquarters, regional, and other personnel associated with the program. Send a copy to ACM-1, NAS Configuration Management and Evaluation Staff, which maintains a central repository of approved acquisition documents for the Joint Resources Council.

CONTENT (Revised 06/2001)

The following summarizes the content of the Requirements Document. A complete template and instruction is located in FAST via the Internet at http://fast.faa.gov. The Requirements Document template must be used when preparing the Requirements Document.

Signature Page. Include: the title "Requirements Document" and name of the acquisition program; signature of the Associate Administrator of the line of business with the mission need and signature date; name, organizational code, phone number, and FAX number of the line of business focal point for the Requirements Document. (Revised 06/2001)

Table of Contents. List every section, subsection, and other element in the Requirements Document and provide the page number.

Background. Briefly describe the mission need and how the proposed capability will satisfy the need. Describe any substantive changes to the Requirements Document since the Investment Decision, and explain why the changes were needed. (Revised 06/2001)

Operational Concept. Briefly describe the operational environment and intended service life for the required capability. Include how it will be used in the operational environment, and how it will affect major users (e.g., controllers, pilots, flow control). Define hardware and software maintenance requirements. Quantify the total number of units or scope of services that are required. Define any schedule constraints.

Technical Performance. Define operational and functional requirements the new capability must provide to satisfy mission need. Define product characteristics and performance requirements.

Physical Integration. Define requirements associated with integrating the products of the acquisition program into the physical environment (e.g., real estate, space, environment, energy conservation, heating, ventilation, air conditioning, grounding, bonding, shielding lightning protection, cables, hazardous materials, power systems and commercial power, telecommunications, special considerations).

Functional Integration. Define functional integration requirements associated with integrating the new capability into the operational environment. This includes integration with other elements of the National Airspace System, as well as with non-National Airspace System elements. It also includes software integration, spectrum management, and standardization. (Revised 06/2001)

Human Integration. Define human-product integration requirements to achieve optimum performance from a total product perspective. Define requirements related to employee heath and safety. Define requirements associated with special skills and capabilities for operators, maintainers, or support personnel.

Security. Define requirements relevant to physical security, contractor-unique security, all information and information systems security, and personnel security. (Revised 06/2001)

System Safety Management. Define high-level safety requirements, which meet the safety goals determined by the hazard identification process. Include requirements, which may not relate to specific hazards such as those from standards, laws, regulations, and lessons learned from similar systems. (Added 12/1999)

Integrated Logistics Support. Define supportability requirements for the following as appropriate: staffing, supply support, support equipment, technical data, training and training support, first and second level repair, packaging, handling, shipping, and transportation. (Revised 02/2001)

Test and Evaluation. Define test and evaluation requirements including mandatory evaluations of safety, environmental, and energy conservation issues prior to joint acceptance and inspection. Specify whether independent operational test and evaluation is required. State whether operational testing will be required at the FAA William J. Hughes Technical Center before testing at an operational site. (Revised 06/2001)

Implementation and Transition. Define requirements related to transition from the current capability to the new capability so as to not disrupt on-going National Airspace System operations. Implementation requirements typically encompass implementation planning, pre-installation checkout, installation and checkout, site integration, system shakedown, dual operations, and removal/disposal of replaced systems, equipment, land, facilities, and other items. (Revised 06/2001)

Quality Assurance. Define quality assurance requirements for such functions as contractor status reporting, metrics, inplant Quality Reliability Officers, independent verification and validation, vendor quality assurance, and Capability Maturity Model assessment of the software development processes of potential suppliers.

Configuration Management. Define requirements for the configuration management of hardware, software, facilities, data, interfaces, tools, and documentation.

In-Service Management. Define requirements for monitoring, assessing, and optimizing the performance of this capability during the in-service management phase of the acquisition lifecycle.

Appendix I. Requirements Correlation Matrix. Where applicable, specify a threshold value and an objective value for each requirement in the Requirements Document using the table format of Appendix I in Requirements Document Template.

Appendix II. Mission Need Correlation Matrix. Develop a correlation matrix that maps where every need in the Mission Need Statement is addressed in the Requirements Document. Use the

table format of Appendix II in the Requirements Document Template.

Appendix III. Definitions. Define important non-standard terms used in the Requirements Document.

Appendix IV. Acronyms. Define all acronyms used in the Requirements Document.

Attachment - Residual Technical Requirements. Specify those final sponsor requirements that are not intended to be satisfied by the acquisition program approved at the Investment Decision. Resolution of these deferred requirements is the responsibility of the sponsoring line of business.

Template for the Requirements Document

(Revised 07/2001)

Using This Template (Revised 07/2001)

This template provides guidance for preparing the Requirements Document. It supplements information found in Appendix B of the FAA Acquisition Management System. Text of the template that is italicized is intended to guide preparation of the Requirements Document. Non-italicized text defines the format and structure of the document (title page, table of contents, section head and numbers, tables and titles). Not all sections of the Requirements Document template apply to every mission need, particularly requirements that will be satisfied by human resource services. Simply state "not applicable" for those sections which do not apply to the acquisition program or candidate solution.

About the Requirements Document (Revised 07/2001)

At the beginning of investment analysis, the initial Requirements Document does not contain any requirement that would unduly restrict the search for solutions to mission need. As investment analysis proceeds, the initial Requirements Document evolves to a set of tailored draft Requirements Documents, each containing the requirements intended to be satisfied by a candidate solution to mission need. Typically, these draft Requirements Documents have a very high degree of commonality, with some parameters tailored to the specific capability to be provided. Sponsor requirements not intended to be satisfied by a candidate solution are compiled in an attachment to each draft Requirements Document. At the Investment Decision, the Requirements Document of the candidate solution selected for implementation becomes the performance baseline of the acquisition program. The attachment containing any unsatisfied requirements is returned to the sponsoring line of business for deposition.

Specifications, standards, executive orders, and mandates are referenced in the appropriate section or subsection of the Requirements Document. Tailor them carefully so only applicable sections are applied. Use industry and international standards to the greatest possible extent.

Appendix I is a Requirements Correlation Matrix that specifies a threshold value and an objective value for each requirement in the Requirements Document, where practical. The threshold value is the minimum performance required for acceptable operational suitability and

effectiveness. The objective value represents a measurable increase in capability that has practical operational benefit to the FAA and its customers.

Appendix II is a Mission Need Correlation Matrix that traces where each need statement in the Mission Need Statement is addressed in the Requirements Document.

Joint Resources Council - Controlled Parameters (Revised 07/2001)

Certain key parameters in the Requirements Document are designated for control by the Joint Resources Council. They are highlighted with bold, underlined text in the Requirements Document. The Joint Resources Council controls only those requirements that are critical to (1) achieving operational effectiveness and suitability, (2) meeting the needs of dependent elements of the National Airspace System, (3) and accruing benefits ascribed to the candidate solution or acquisition program. As a rule of thumb, the Joint Resources Council controls no more than 10 - 20 requirements across all sections of the Requirements Document. Mandatory Joint Resources Council controls are the total number of units for system production, the number of facilities and/or sites to be constructed, or the total level of services to be provided, as appropriate to the acquisition program.

Change Control

The Requirements Document is intended to be a firm and stable foundation for program implementation. As the performance baseline of the Acquisition Program Baseline, it is subject to the change procedures of the Acquisition Program Baseline.

Cost (Revised 07/2001)

The resource estimate in the Mission Need Statement addressed by this Requirements Document is a placeholder in agency's long-range planning in the National Airspace System Architecture. It sets a rough boundary on the acceptable cost of solutions to the mission need.

Schedule

The timeframe in the Mission Need Statement when the new capability must be operational defines the time available to develop and deploy a solution that meets the requirements in this Requirements Document.

Benefits

Benefit requirements at the beginning of Investment Analysis are the benefits defined in the Mission Need Statement.

Requirements Document

for

[enter name of acquisition program]

Change *(#)*

Approved by: *Signature* Date:
(Associate Administrator, Sponsoring Line of Business)

Submitted By: *Signature* Date:
(Appropriate Director, Preparing Organization)

Focal Point

Name

Code

Phone Number

FAX Number

Federal Aviation Administration

800 Independence Avenue SW

Washington, DC 20591

Requirements Document

Table of Contents

4. PHYSICAL INTEGRATION (Revised 07/2001)

- 4.1. Real Property (Revised 07/2001)
  - 4.1.1. Land (Added 07/2001)
  - 4.1.2. Space (Revised 07/2001)
- 4.2. RESERVED (Added 07/2001)
- 4.3. Environmental (Revised 07/2001)
- 4.4. Energy Conservation (Revised 07/2001)
- 4.5. Heating, Ventilation, Air-Conditioning (Revised 07/2001)
- 4.6. Grounding, Bonding, Shielding, and Lightning Protection (Revised 07/2001)
- 4.7. Cables (Revised 07/2001)
- 4.8. Hazardous Materials (Revised 07/2001)
- 4.9. Power Systems and Commercial Power (Revised 07/2001)
- 4.10. Telecommunications (Revised 07/2001)
- 4.11 Special Considerations (Revised 07/2001)

5. FUNCTIONAL INTEGRATION (Revised 07/2001)

- 5.1. Integration With Other National Airspace System (and non-National Airspace System) Elements (Revised 07/2001)
- 5.2. Software Integration
- 5.3. Spectrum Management
- 5.4. Standardization

6. HUMAN INTEGRATION

- 6.1. Human-Product Interface
- 6.2. Employee Safety and Health
- 6.3. Specialized Skills and Capabilities

7. SECURITY (Revised 07/2001)

- 7.1. Physical Security
- 7.2. Information Security (Revised 07/2001)
- 7.3. Personnel Security

8. IN-SERVICE SUPPORT

- 8.1. Staffing
- 8.2. Supply Support
- 8.3. Support Equipment
- 8.4. Technical Data
- 8.5. Training and Training Support
- 8.6. First and Second Level Repair
- 8.7. Packaging, Handling, Storage, and Transportation

9. TEST AND EVALUATION (Revised 07/2001)

- 9.1. Critical Operational Issues

1. BACKGROUND (Revised 07/2001)

Identify the Mission Need Statement addressed by this Requirements Document and summarize the mission need. Describe briefly the deficiency in capability or technological opportunity, and how the proposed capability will satisfy the mission need. Identify National Airspace System assets this capability is intended to replace. Briefly summarize any substantive changes to the Requirements Document since the Investment Decision, and explain why the changes were needed.

2. OPERATIONAL CONCEPT (Revised 07/2001)

2.1. Operations (Revised 07/2001)

Briefly describe the operational concept and intended service life for the required capability. This is based largely on agency long-range operational concepts and the National Airspace System Architecture. Explain how the capability will be used in the operational environment, and how it will affect major users (e.g., controllers, pilots, flow control). To the extent known, explain how this operational concept interacts, modifies, and folds into preexisting National Airspace System operations. Assess the impact of this new capability on existing operational rules and procedures. Use block diagrams and flowcharts to illustrate this discussion.

For requirements likely to be satisfied through a manpower services program, describe how the services will resolve an existing or emerging operational or other capability shortfall.

2.2. Maintenance

Describe the intended life of the capability from contractor acceptance inspection through

disposition, including sustainment engineering, pre-planned product improvement, and other in-service management activities such as condition assessment and routine operations and maintenance. Define the intended End of Service Life for this product or service.

For requirements likely to be satisfied through a manpower services program, describe the support concept that will be applied to any facility or equipment needed to support the services program.

2.2.1. Hardware Maintenance

Define hardware maintenance requirements (e.g., in-house FAA maintenance or contractor maintenance, (preventive, preemptive, corrective), first and second level depot repair, lowest level of repair). Indicate any restrictions on who or how maintenance will be done (e.g., FAA or contractor). Define any timephasing requirements for all levels of maintenance (e.g., preventive maintenance not to exceed "x" times per year, depot repair within 30 days, corrective maintenance within 24 hours). Define requirements concerning the degree of on-site and centralized maintenance. Identify whether new equipment will be monitored by RMMS/NIMS.

2.2.2. Software Maintenance

Define requirements for software maintenance (e.g., in-house FAA or contractor). Define requirements concerning the degree of on-site and centralized maintenance. Indicate any restrictions on who or how maintenance will be done (e.g., FAA or contractor). Define any requirements related to release of new software into operational use.

2.3. Quantities and Location

Identify the total number of units or scope of services that will be needed to meet the mission need. Provide as much location information as possible (e.g., initially the number of units per region, evolving to specific locations during Investment Analysis). Include Congressional mandates. Congressional mandates imposed on a program after baselining at the Investment Decision may require a baseline change.

2.4. Schedule Constraints (Revised 07/2001)

Identify the date by which products or services must achieve full operational capability at the first site. Identify the date by which all sites must achieve operational capability. Identify schedule constraints associated with any predecessor and successor interfacing or interdependent National Airspace System elements required to achieve full operational capability. Include Congressional mandates. Congressional mandates imposed on a program after baselining at the investment decision may require a baseline change.

3. TECHNICAL PERFORMANCE (Revised 07/2001)

3.1. Operational and Functional Requirements (Revised 07/2001)

Define operational and functional requirements the new capability must provide to satisfy mission need (e.g., detect, identify, and track aircraft in the en route airspace).

[No requirement should be entered into this section of the initial Requirements Document that is

solution-specific or would unduly restrict the search for solutions to mission need.]

The subsection titles in the following table are representative. Select and/or develop appropriate subtitles to describe operational and functional requirements for the candidate solution or acquisition program.

Representative 3.1 Subsection Titles

Subsection Title
3.1.1 Surveillance Processing
3.1.2 Track Processing
3.1.3 Flight Data Processing
3.1.4 Display Information
3.1.5 Data Recording
3.1.6 Data Playback
3.1.7 Traffic Management

3.2. Product Characteristics and Performance Requirements

Define product characteristics and performance requirements. Performance requirements must be achievable, measurable, and specified in operational terms whenever practical.

[No requirement should be entered into this section of the initial Requirements Document that is solution-specific or would unduly restrict the search for solutions to mission need.]

The following subsection titles are representative. Select and/or develop titles appropriate to the candidate solution or acquisition program.

Representative 3.2 Subsections(Revised 07/2001)

Subsection Heading	***Description***
3.2.1 Service Levels	*Define mission scenarios that may imply different levels of acceptable service (e.g., whether performance is different for normal and emergency back-up service, whether peak loading is substantially different from minimum or average loading).*
3.2.2 Recovery	*Define the period of time for the product to recover full service after power loss.*
3.2.3 Reliability, Maintainability,	*Define reliability requirements (e.g., mean time between failure (MTBF)). Define maintainability*

Availability	*requirements (e.g., mean time to repair (MTTR)). Define availability requirements (e.g., full service availability, emergency service availability).*
3.2.4 Enhanceability	*Define requirements related to modularity and the ability of a product's hardware and software components to be improved without requiring changes to components other than those being improved.*
3.2.5 Scalability	*Define requirements related to whether the product must provide for a range of capacity, functionality, and capability for a range of applications.*
3.2.6 Operational Software	*Identify requirements concerning the selection and deployment of operational software (e.g., whether a specific higher order language must be used, whether software must be transferable between platforms).*
3.2.7 Operational Hardware (Revised 07/2001)	*Define requirements concerning operational hardware (e.g., whether modifications are permissible to commercial off-the-shelf hardware products).*

4. PHYSICAL INTEGRATION (Revised 07/2001)

[No requirement should be entered into this section of the initial Requirements Document that is solution-specific or would unduly restrict the search for solutions to mission need.]

Physical integration concerns the integration of a solution into the physical environment. Initially, these requirements will be general, perhaps defined in terms of "not to exceed" values based on existing capabilities. Derived requirements are defined for each candidate solution during Investment Analysis. Many physical integration requirements do not apply to requirements for services, unless equipment or facilities will be acquired to support the services.

4.1. Real Property (Revised 07/2001)

Real property includes owned and leased land and space and other structures under the FAA control.

4.1.1 Land – Define briefly the strategy for acquiring any required real estate, i.e. land, including completion of the National Environmental Protection Act process, the appropriate Environmental Due Diligence Audit and any other applicable environmental law before any agreement to acquire property. Be aware that the lead time for acquisition of real estate may

vary depending on acquisition factors such as market conditions, siting complexities, etc., and should begin soon after the investment decision and in close coordination with the appropriate region/center acquiring organization. (Added 07/2001)

4.1.2 Space – Define briefly the strategy for acquiring the physical space needed to accommodate systems, auxiliary equipment, and personnel both for end-state operations and during transition to the new capability. Depending on need and complexity, acquisition times may vary. Coordination with appropriate acquiring organization is recommended at the earliest possible time. (Revised 07/2001)

4.2 RESERVED (Added 07/2001)

4.3. Environmental (Revised 07/2001)

Define requirements to achieve compliance with the National Environmental Policy Act and other environmental regulations and standards.

4.4. Energy Conservation (Revised 07/2001)

Define requirements to achieve compliance with energy and water conservation mandates of the National Energy Conservation Policy Act.

4.5. Heating, Ventilation, Air Conditioning (Revised 07/2001)

Define heating, ventilation, and air conditioning requirements both during transition and for end-state operations. For services, define requirements for the workforce that will provide the services.

4.6. Grounding, Bonding, Shielding, and Lightning Protection (Revised 07/2001)

Define grounding, bonding, shielding, and lightning protection requirements both during transition to the new capability and for end-state operations. See FAAG2100 and associated standards directives.

4.7. Cables (Revised 07/2001)

Define cable, cable routing, and raisedfloor requirements both during transition to the new capability and for end-state operations.

4.8. Hazardous Materials (Revised 07/2001)

Define requirements *for the handling, eventual removal, cleanup, and recycling of hazardous materials.*

4.9. Power Systems and Commercial Power (Revised 07/2001)

Define power system requirements and commercial power requirements both during transition to the new capability and for end-state operations. Identify harmonic requirements for all contractorprovided equipment, as well as any deviations from current FAA standards.

4.10. Telecommunications (Revised 07/2001)

Define telecommunications requirements both during transition to the new capability and for end-state operations.

4.11. Special Considerations (Revised 07/2001)

Define unique requirements relating to such factors as fiber optics, water and sewer, roadway, and access both during transition to the new capability and for end-state operations.

5. FUNCTIONAL INTEGRATION (Revised 07/2001)

[No requirement should be entered into this section of the initial Requirements Document that is solution-specific or would unduly restrict the search for solutions to mission need.]

Define functional integration requirements associated with integrating the new capability into the operational environment. This involves integration with the approximately 14,000 primary air traffic control and air navigation systems of the National Airspace System. It also includes functional integration with non-National Airspace System elements.

Functional integration requirements typically do not apply to requirements for services.

5.1. Integration With Other National Airspace System (and Non-National Airspace System) Elements (Revised 07/2001)

Identify all other systems, subsystems, networks, facilities, and organizations, including all states and modes of operation (e.g., primary and back-up) that will interface with this capability, and for which Interface Requirements Documents and Interface Control Documents must be developed. Include remote maintenance monitoring and operational command and control integration requirements.

5.2. Software Integration

Identify procedural and technical software interface requirements, as well as specifications, protocols, and standards to ensure compatibility and interoperability with other fielded systems. Identify computer resource constraints (e.g., language, computer, database, architecture, or interoperability constraints). Identify any unique user interface requirements, demonstration needs, and special software certification.

5.3. Spectrum Management

Define requirements for spectrum management, including certification of radio spectrum availability. Ensure spectrum compatibility with the rest of the National Airspace System.

5.4. Standardization

Define requirements to use standard products already in use in the National Airspace System. Define any other standardization requirement to facilitate functional and physical integration. Identify any ICAO, ISO, space management, or other standard to ensure ease of training, logistics, workforce mobility, architecture and engineering, or compliance with international,

national, state and local codes and laws.

6. HUMAN INTEGRATION

Address the following subsections when appropriate to the candidate solution or acquisition program. Add additional subsections as needed.

[No requirement should be entered into this section of the initial Requirements Document that is solution-specific or would unduly restrict the search for solutions to mission need.

6.1. Human/Product Interface

Define human/product interface requirements intended to achieve optimum performance from a total product perspective. Typically, human factors requirements are intended to ensure products are designed and appropriate for the human workforce that will operate, maintain, and support them.

6.2. Employee Safety and Health

Define requirements related to compliance with Occupational Safety and Health Administration mandates and other safety and health regulations and standards (e.g., adequate workspace for maintenance, access to serviceable components, environmentally friendly fuels and oils, proper handling of exhaust, waste disposal, and fall protection). Define health and safety requirements related to optimizing performance and avoiding conditions that degrade performance. Define operating environment requirements related to such factors as lighting, means of egress, temperature, noise, fire protection, stairs, and ladders. Define requirements for sensing or detecting and automatic shut-down for malfunctions that may cause a serious safety or health risk to employees or the public (e.g., microwave radiation exposure due to a radar malfunction).

6.3. Specialized Skills and Capabilities

Define appropriate cognitive, physical, sensory, and performance requirements for operators, maintainers, or support personnel. Define manpower and human performance thresholds and criteria (e.g., the number of operators per equipment, capability or proficiency of operators/maintainers) that influence or shape the operational environment. Define constraints, limitations, and unique or specialized requirements related to training, staffing levels, and personnel skills. Human factors requirements must be consistent with the nature, size, and complexity of the product(s) or services that will be acquired.

7. SECURITY (Revised 07/2001)

7.1. Physical Security

Define requirements related to the physical plant and contractorunique security both for endstate operations and during transition to the new capability.

7.2. Information Security (Revised 07/2001)

Define requirements related to the storage, processing, or transfer of information related to air traffic control or other sensitive information, both for endstate operations and during transition to

the new capability.

7.3. Personnel Security

Define any security requirements related to personnel, security clearances, security training, and access control methods

8. IN-SERVICE SUPPORT

[No requirement should be entered into this section of the initial Requirements Document that is solution-specific or would unduly restrict the search for solutions to the mission need.]

In-service support requirements typically do not apply to requirements for service unless equipment or facilities will be acquired to support the human resources who will provide the services.

Define maintenance and support requirements for the following categories, as appropriate.

8.1. Staffing

Direct person work-hours required to perform operations and maintenance actions.

8.2. Supply Support

Requirements related to obtaining, cataloging, receiving, storing, and issuing items of supply.

8.3. Support Equipment

Tools and equipment required to install and support the operation and maintenance of a facility, system, or equipment. Support facility requirements should be identified in the physical facility element of this document.

8.4. Technical Data

Requirements related to recorded information such as manuals, specifications, drawings, and operational testing procedures to operate a product over its intended lifecycle.

8.5. Training and Training Support

Requirements related to the processes, procedures, course material, and skills necessary to train personnel to install, operate, and maintain a facility, system, or equipment.

8.6. First and Second Level Repair

Requirements related to processes and procedures for on-site and second-level engineering support for both hardware and software.

8.7. Packaging, Handling, Storage, and Transportation

Requirements related to resources and methods to ensure that systems, equipment, and support items are preserved, packaged, handled, and transported safely.

9. TEST AND EVALUATION (Revised 07/2001)

9.1. Critical Operational Issues

[No requirement should be entered into this section of the initial Requirements Document that is solution-specific or would unduly restrict the search for solutions to mission need.]

Define the critical operational issues to be used by Independent Operational Test and Evaluation when determining whether a new capability is operationally acceptable. Critical operation issues typically relate to operational effectiveness which measures the degree to which a product satisfies mission requirements when used by representative personnel in the planned operational environment, and to operational suitability which measures the degree to which a product meets its availability, operability, maintainability, safety, human factors, and support requirements.

Critical operational issues do not apply to requirements that will be satisfied with services provided by human resources.

9.2. Test and Evaluation Requirements (Revised 07/2001)

[No requirement should be entered into this section of the initial Requirements Document that is solution-specific or would unduly restrict the search for solutions to the mission need.]

Define test and evaluation requirements. Include mandatory evaluations of safety, environmental, and energy conservation issues prior to joint acceptance and inspection. Specify whether independent operational test and evaluation is required. State whether operational testing will be required at the FAA William J. Hughes Technical Center before testing at an operational site.

Test and evaluation requirements typically do not apply to services requirements unless equipment or facilities will be acquired to support the services.

The following table contains representative test and evaluation subsection titles that should be addressed when applicable to the candidate solution or acquisition program.

Representative Test and Evaluation Subsection Titles

Subsection Title
9.2.1 System Test Requirements
9.2.2 IOT&E Test Requirements
9.2.3 Field Familiarization Test Requirements

10. IMPLEMENTATION AND TRANSITION (Revised 07/2001)

[No requirement should be entered into this section of the initial Requirements Document that is solution-specific or would unduly restrict the search for solutions to mission need]

Define requirements related to transition from the current capability to the new capability so as to not disrupt services. Implementation requirements typically encompass implementation

planning, pre-installation checkout, installation and checkout, site integration, system shakedown, dual operations, and the removal/disposal of replaced systems, equipment, land, facilities, and other items. For services programs where there will be transitions from an existing services provider to a different services provider, implementation requirements may include training, setting up contacts, office automation, support systems, databases, and operational procedures. The InService Review Checklist (see FAST) identifies implementation concerns. Define any rulemaking changes related to commissioning into the National Airspace System.

11. QUALITY ASSURANCE (Revised 07/2001)

[No requirement should be entered into this section of the initial Requirements Document that is solution-specific or would unduly restrict the search for solutions to mission need.]

Define quality assurance requirements. Examples include contractor status reporting, metrics, an in-plant Quality Reliability Officer, independent verification and validation, vendor quality assurance plans, or a documented process for software development. Specify whether a Capability Maturity Model assessment of the software development processes of potential suppliers is required. Identify whether and what ISO or FAA quality standards are invoked.

Quality assurance requirements for services requirements typically relate to ensuring the quality of the services to be provided.

12. CONFIGURATION MANAGEMENT

[No requirement should be entered into this section of the initial Requirements Document that is solution-specific or would unduly restrict the search for solutions to the mission need.]

Define configuration management requirements for hardware, software, data, documentation, interfaces, and tools. These requirements should be appropriate to the nature (e.g., commercial, non-developmental, developmental) and complexity of the product(s) that will be needed to satisfy mission need. Allow flexibility in the management of commercial products.

Configuration management requirements typically do not apply to requirements for services unless equipment or facilities will be acquired to support the services.

The following table contains representative configuration management subsection titles that should be included when applicable to the candidate solution or acquisition program.

Representative Configuration Management Subsection Titles

Subsection Title	***Description***
12.1 Software Configuration Management	*Software configuration management requirements should cover source code, sourcecodelevel programming instructions of programmable firmware devices, test procedures, and test cases.*
12.2 Hardware Configuration	

Management	
12.3 Facility Configuration Management	
12.4 Documentation Configuration Management	

13. IN-SERVICE MANAGEMENT

Define requirements for monitoring, assessing, and optimizing the performance of this capability during the inservice management phase of the acquisition lifecycle. The objective is to determine whether the new capability is working as intended in the operational environment, and whether operational and dollar benefits in the Acquisition Program Baseline are being achieved. These requirements also relate to determining the capacity of deployed assets to meet emerging demand for services so that replacement or upgraded capability can be obtained and in place when needed.

14. SYSTEM SAFETY MANAGEMENT (Revised 07/2001)

[No requirement should be entered into this section of the initial Requirements Document that is solution-specific or would unduly restrict the search for solution to the mission need.]

Define high-level safety requirements, which meet the safety goals determined by the hazard identification process. Include requirements not related to specific hazards such as those from standards, laws, regulations, and lessons learned from similar systems.

Appendix I. Requirements Correlation Matrix

Where applicable, specify in the following table a threshold value and an objective value for each requirement in the Requirements Document. The threshold value is the minimum performance required for acceptable operational suitability and effectiveness. The objective value represents a measurable increase in capability that has practical operational benefit to the FAA and its customers.

Section #	Requirement	Threshold	Objective
	Availability	*.900*	*.995*
	Range	*30 miles*	*40 miles*
	Resolution	*5 square meters*	*2 square meters*

Appendix II. Mission Need Correlation Matrix

Develop a correlation matrix that maps by section number and need statement where every need in the Mission Need Statement is addressed in the Requirements Document. Use table format.

MNS Section Number	*Need Statement*	*RD Section or Sub-Section Number*	*Requirement Statement*

Appendix III. Definitions

Appendix IV. Acronyms

Attachment Residual Technical Requirements

Specify those final sponsor requirements that are not intended to be satisfied by the approved acquisition program. Resolution of these deferred requirements via other Mission Need Statements or product upgrades is the responsibility of the sponsoring line of business.