

Section 508

Handbook AS-508

August 2002 Transmittal Letter

- A. Purpose of this Handbook. This handbook contains information about the requirements of Section 508 of the Rehabilitation Act. Your functional organization can use the information in this handbook to understand, achieve, and maintain Section 508 compliance.
- B. Availability. This handbook is available online only. It can be found at:
 - http://blue.usps.gov/cpim (internal USPS); click on HBKs for a list of handbooks.
 - http://www.usps.com/publications.
- C. Obsolete MI. This handbook obsoletes Management Instruction AS-860-2002-1, *Section 508 and USPS Information Technology Accessibility.*
- **D.** Where to Send Questions and Comments. Send your comments, questions, or additional information about this handbook in writing to:

MANAGER TECHNOLOGY AND STANDARDS US POSTAL SERVICE 475 L'ENFANT PLAZA SW RM 2801 WASHINGTON DC 20260-1533

E. Effective Date. This handbook is effective immediately.

Robert L. Otto

Robert L. Otto Vice President Information Technology

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1 Policy and Responsibilities

This handbook provides policies, roles and responsibilities, and guidelines for Postal Service compliance with Section 508 of the Rehabilitation Act. This law requires that Electronic and Information Technology (EIT) purchased by the Postal Service on and after June 21, 2001, must conform to the Electronic and Information Technology Accessibility Standards published in the *Federal Register* by the Architectural and Transportation Barriers Compliance Board (Access Board) in December 2000.

1-1 Who Should Use This Handbook?

This handbook is intended for use by persons:

- Who have been assigned a role in the Postal Service's response to Section 508.
- Involved in the requirement determination, purchase, or approval of EIT for use by the Postal Service.
- With questions and issues concerning the accessibility of EIT.

1-2 Background

1-2.1 Requirements of the Law

Section 508 of the Rehabilitation Act is a law that requires federal agencies, including the Postal Service, to procure EIT that is accessible to persons with disabilities. Congress directed the Access Board to create technical standards for compliance, mandated revisions to purchasing regulations, and provided directions for agencies to establish remedies for non-compliance.

1-2.2 Postal Service Strategy

The Postal Service's strategy regarding this law is to incorporate the requirements of this law into its standard business practices. To implement this strategy, the Postal Service did the following:

- Revised existing purchasing regulations.
- Revised complaint and inquiry processes.
- Created postal-specific technical guidelines.

- Remediated existing Web sites, where appropriate.
- Established processes for long-term institutionalization to ensure ongoing compliance with Section 508.

Electronic and Information Technology, as specified in subpart B of the EIT Accessibility Standards, includes the following products and services:

- Software applications and operating systems.
- Web-based intranet and Internet information and applications.
- Telecommunications.
- Video and multimedia.
- Self-contained, closed products.
- Desktop and portable computers.

1-3 Policy

The Postal Service complies with the legal requirements of Section 508 for all of its purchases on and after June 21, 2001.

The Postal Service incorporates provisions for compliance into its existing procedures and creates new ones where needed.

The IT organization, through the Technology and Standards function (or other designee), provides overall coordination and guidance for Section 508.

Each functional organization within the Postal Service must comply with the portions of Section 508 that apply to EIT for which that functional organization is responsible.

The following stewards must provide policies, guidance, and support for specific technical aspects of how to comply with Section 508:

- The manager, Business Solution Services, Information Technology (or the equivalent organization), is the steward for software applications and operating systems.
- The manager, Business Solution Services, Information Technology (or the equivalent organization), is the steward for web-based intranet and Internet information and applications.
- The manager, Telecommunications, Information Technology (or the equivalent organization), is the steward for telecommunications products.
- The manager, USPS TV and Photography, Public Affairs and Communications (or the equivalent organization), is the steward for video and multimedia products.
- The manager, Technology Support, Information Technology (or the equivalent organization), is the steward for self-contained, closed products.
- The manager, Advanced Computing Environment, Information Technology (or the equivalent organization), is the steward for desktop and portable computers.

DEFINITIONS

Electronic Information Technology (EIT) — In the Postal Service, this definition is identical to the term *information technology* as used in the *Purchasing Manual* (PM).

Self-Contained, Closed

Products — Products that generally have embedded software and are commonly designed in such a fashion that a user cannot easily attach or install an assistive technology. Examples are: information kiosks, information transaction machines, copiers, printers, calculators, and fax machines.

Steward — One responsible for being knowledgeable about a specific EIT product class and providing guidance and support to the Postal Service on compliance activities related to that class.

DEFINITIONS (cont'd)

Accessibility Standards — A document published by the Access Board that defines the criteria for compliance with Section 508.

Functional Organization —

An individual vice president (VP) organization within the Postal Service that executes tasks within its area of expertise, and is responsible for discrete functions within the organization, including acquisition of EIT that it controls or funds. The following corporate organizations or offices must provide policies, guidance, and support specific to their organizational corporate role in support of Section 508 compliance:

- The manager, Equal Employment Opportunity Compliance and Appeals, Labor Relations (or the equivalent organization), is the steward of the Section 508 employee complaint processes.
- The manager, Consumer Affairs Operations, Office of the Consumer Advocate (or the equivalent organization), is the steward of the Section 508 consumer complaint processes.
- The manager, Supply Management Infrastructure, Supply Management (or the equivalent organization), is the steward of Section 508 purchasing policies.
- The Chief Counsel, Purchasing and Commercial Protection Law, Office of the General Counsel (or the equivalent organization), is the steward for rendering legal advice concerning the requirements of Section 508.

1-4 Roles and Responsibilities

1-4.1 **IT Organization**

The manager, Technology and Standards, Information Technology organization, is responsible for:

- Coordinating overall activities undertaken by the Postal Service in responding to Section 508.
- Providing guidance on the provisions of the EIT accessibility standards not covered elsewhere in this document. This may include Subpart A (General), Subpart C (Functional Performance Criteria), and Subpart D (Information, Documentation, and Support) of the standards.
- Preparing biennial reports for the U.S. Attorney General as required by Section 508.

1-4.2 Functional Organizations

Each functional organization has a responsibility to:

- Follow the guidance provided by this document as they purchase EIT products and services.
- Designate a vice president (VP) liaison to coordinate Section 508 activities within that individual organization.
- Know the specific provisions of Section 508 that apply to, and have an impact on its business operations.
- Consider applicable provisions of Section 508 to develop purchasing strategies.
- Respond to any Section 508 inquiries or complaints from the public according to 39 CFR 255, Access of Persons with Disabilities to Postal

Service Programs, Activities, Facilities, and Electronic and Information Technology, regarding EIT controlled by the functional organization.

- Respond to any Section 508 inquiries or complaints from employees according to Publication 133, What You Need to Know About EEO, regarding EIT controlled by the functional organization.
- Provide information on the status of Section 508 EIT compliance as required.
- Bear the cost of compliance and litigation for its organization.
- Ensure continued compliance of EIT controlled by the functional organization.

1-4.3 Stewards (Subpart B Standards)

For each class of EIT specified in subpart B of the EIT Accessibility Standards, there is a Postal Service steward.

These stewards have the following responsibilities for their class(es) of EIT:

- Provide technical guidance and support to enable the Postal Service to comply with Section 508 when purchasing EIT.
- Help functional organizations to respond to inquiries and complaints concerning the class of technology for which they are the stewards.
- Create technical guidance for each class of EIT.
- Coordinate between stewardships to ensure that interpretations rendered by stewards are consistent.

The manager, Business Solution Services, Information Technology (or the equivalent organization), is responsible for the stewardship of software applications and operating systems. This includes non-web software for business applications.

The manager, Business Solution Services, Information Technology (or the equivalent organization), is responsible for the stewardship of web-based intranet and Internet information and applications. This includes all browser-accessible applications.

The manager, Telecommunications, Information Technology (or the equivalent organization), is responsible for the stewardship of telecommunications products. This includes telephony, interactive voice response (IVR) systems, data, and other telecommunications equipment and services.

The manager, USPS TV and Photography, Public Affairs and Communications (or the equivalent organization), is responsible for the stewardship of video and multimedia products. This includes training materials and promotional materials.

The manager, Technology Support, Information Technology (or the equivalent organization), is responsible for the stewardship of self-contained, closed products. This includes kiosks, copiers, printers, calculators, mail-processing equipment, scanners, fax machines, point-of-sale terminals, and other equipment.

The manager, Advanced Computing Environment, Information Technology (or the equivalent organization), is responsible for the stewardship of desktop and portable computers. This includes EIT such as employee workstations and laptops.

1-4.4 Specific Organizations and Offices

The following describes the roles and responsibilities for specific organizations and offices:

The manager, Consumer Affairs Operations, Office of Consumer Advocate (or the equivalent organization), is responsible for the consumer complaint processing procedures, to include updating the following to add provisions regarding Section 508:

- Regulations for complaints, 39 CFR 255, to include provisions regarding Section 508.
- Postal Operations Manual (POM), to include provisions regarding Section 508.
- Other affected policy documents.

The manager, Equal Employment Opportunity Compliance and Appeals, Labor Relations (or the equivalent organization), is responsible for employee complaint processing procedures, to include updating the following to add provisions regarding Section 508:

- Employee and Labor Relations Manual (ELM), to include provisions regarding Section 508.
- Publication 133, What You Need To Know About EEO, to include provisions regarding Section 508.
- Other affected policy documents.

The manager, Supply Management Infrastructure, Supply Management (or the equivalent organization), is responsible for ensuring that Section 508 requirements are addressed in purchasing policies.

The Chief Counsel, Purchasing and Commercial Protection Law, Office of the General Counsel (or the equivalent organization), is responsible for advising the Postal Service functional organizations, the IT organization, and stewards on the legal aspects of Section 508, including the following:

- Notifying functional organizations of updates to relevant statutes and related interpretations.
- Recommending procedures and policies to conform to ongoing legal requirements of Section 508.
- Updating legal publications as needed.
- Responding to Section 508-related inquiries from functional organizations that need legal advice.

1-4.5 Individual Responsibility for Presenting Inquiries and Complaints

The following describes the roles and responsibilities for an individual presenting a complaint or inquiry:

- An individual with a disability who is filing an inquiry or complaint (as a member of the public) is responsible for complying with the Postal Service's procedures for processing public complaints.
- An employee with a disability who is filing an inquiry or complaint is responsible for complying with the employee complaint processing procedures.

Exhibit 1-4, Roles and Responsibilities, summarizes the information in this chapter.

1-5 Where to Get More Information

For more information on Section 508 and the Postal Service's response, contact the manager, Technology and Standards, Information Technology organization.

Web sites: http://www.section508.gov

http://www.access-board.gov http://blue.usps.gov/508web (internal USPS)

REFERENCES

Section 508 Of the Rehabilitation Act (29 U.S.C. 794d), as amended, http://www.section508.gov.

Electronic and Information Technology Accessibility Standards, Architectural and Transportation Barriers Compliance Board, 36 CFR Part 1194, (65 FR 80500, December 21, 2000), http://216.218.205.189/ sec508/508standards.htm.

Exhbit 1-4 Roles and Responsibilities

This individual	In this organization	Is responsible for	And will take these steps
Manager, Technology and Standards	Information Technology	 Coordinating overall 508 issues. 	 Provide guidance or provisions not covered by other stewards. Prepare biennial reports.
Manager, Business Services	Information Technology	 Providing guidance and support on: Software applications and operating systems. Web-based internet and intranet information and applications. 	 Provide technical guidance and support for EIT purchases. Help functional organizations respond to inquiries and complaints within their area of expertise. Create technical guidance for the class of EIT within their
Manager, Telecommunications Manager, USPS TV and	Information Technology Public Affairs and	Providing guidance and support on telecommunications products. Providing guidance and support on	 Provide technical guidance and support for EIT purchases. Provide technical guidance and support for EIT
Photography	Communications	video and multimedia products.	purchases.
Technology Support	Information Technology	Providing guidance and support on self-contained, closed products.	 Provide technical guidance and support for EIT purchases.
Manager, Advanced Computing Environment	Information Technology	Providing guidance and support on desktop and portable computers.	 Provide technical guidance and support for EIT purchases.
Manager, Office of Equal Employment Opportunity	Labor Relations	Providing guidance and support on the Section 508 employee complaint	 Update the Employee and Labor Relations Manual (ELM) to include provisions regarding Section 508.
(EEO) Compliance and Appeals Environment		process.	 Update Publication 133, What You Need To Know About EEO, to include provisions regarding Section 508.
			 Update other policy documents affected by Section 508.
Manager, Supply Management Infrastructure	Supply Management	Providing guidance and policy on the purchasing requirements of Section 508.	 Ensure that Section 508 requirements are addressed in purchasing policies.
Chief Counsel, Purchasing and Commercial Protection	Office of the General Counsel	Providing legal advice on Section 508 legal requirements.	 Notify functional organizations of updates to relevant statutes and related interpretations.
Law			 Modify procedures and policies to conform to ongoing legal requirements of Section 508.
			 Update legal publications as needed.
			 Respond to Section 508-related inquiries from functional organizations.

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2 Section 508 Exceptions and Related Documentation

This chapter provides policy and guidance for justifying and approving a purchasing request for electronic and information technology (EIT) that does not meet the technical standards and functional performance criteria for accessibility cited by Section 508 of the Rehabilitation Act.

2-1 Background

Section 508 of the Rehabilitation Act requires that EIT purchased by the Postal Service on and after June 21, 2001, comply with the Section 508 Electronic and Information Technology Accessibility Standards (or updates). The standards were published in the *Federal Register* by the Architectural and Transportation Barriers Compliance Board (Access Board) in December 2000.

The standards identify exceptions where the purchase of non-compliant EIT can occur. This includes the case where purchasing compliant EIT would impose an undue burden. *Undue burden* means a significant difficulty or expense.

Whenever compliant EIT is commercially available in time to meet the delivery requirements of the requiring organization, but the requiring organization makes a decision to purchase non-compliant EIT, then documentation and appropriate approvals are required that justify the decision.

Note: For purposes of this chapter, the term *EIT* is equivalent to the Postal Service's use of the term *information technology* (IT) as defined in the *Purchasing Manual* (PM).

2-2 Policy

The Postal Service complies with the legal requirements of Section 508 for all of its purchases of EIT on and after June 21, 2001. The Postal Service is committed to purchasing compliant EIT.

There are exceptions, as described in this chapter, to the requirement to purchase compliant EIT.

When the purchase of an EIT solution falls within one or more of the general exceptions listed in section 2-5.1, the Postal Service requires that the rationale for the exception be documented in the contract file. When the purchase of an EIT solution would result in an undue burden to the Postal Service, an undue burden justification must be prepared, as described in this chapter, by the requiring organization.

2-3 Approvals

The vice president (or equivalent) of the requiring organization must approve the undue burden justification document.

2-4 Roles and Responsibilities

These roles and responsibilities are specific to the persons involved in the requirement determination, purchase, or approval of EIT for the Postal Service.

2-4.1 **IT Organization**

The IT organization is responsible for:

- Providing the policy and guidelines for exception determination.
- Providing policy and guidance on the documentation required for exceptions.
- Providing technical advice and guidance on exceptions.

2-4.2 Requiring Organization

Each requiring organization is responsible for:

- Following the policies and guidance provided by this chapter.
- Conducting market research, as a member or in support of the purchasing team, to find compliant solutions.
- Creating and preparing documentation and obtaining required approvals for an undue burden justification.

2-4.3 Supply Management

2-4.3.1 Contracting Officer

Each contracting officer, as the business leader of the purchasing team, is responsible for:

- Providing purchasing-related advice and assistance regarding undue burden justification.
- Ensuring that exceptions are documented in the contract file.
- Reviewing, analyzing, and determining the completeness and/or appropriateness of the undue burden documents.

- Requesting additional information or clarification from the requiring activity concerning exceptions or undue burdens, if necessary.
- In the case of an indefinite delivery contract, conducting periodic reviews to validate the continuing exception status of EIT available under the contract, including the existence of an undue burden.

2-5 Exceptions

2-5.1 General Exceptions

This section describes the general exceptions identified in the Section 508 standards and/or in the *Purchasing Manual*. Purchases made after invoking a general exception must be documented in the contract file. General exceptions include:

- 1. Purchases of EIT required for national security as described in the Electronic and Information Technology Accessibility Standards, 36 CFR Section 1194, Subpart 1194.3(a).
- 2. Purchases of EIT acquired by a supplier incidental to a contract.
- 3. Purchases of EIT to be located in spaces frequented only by service personnel for maintenance, repairs, or occasional monitoring of equipment.
- 4. Purchases of EIT that are less compliant than other EIT available in the commercial marketplace, but that meet all the accessibility standards that can be met within the time frame required by the Postal Service.
- 5. Orders of noncompliant EIT against indefinite delivery contracts or ordering agreements that already have appropriate exception documentation in the contract file.
- 6. Purchases of non-complaint EIT when no compliant EIT is available in the commercial marketplace.

2-5.2 Undue Burden Exception

An undue burden occurs when both of the following conditions apply:

- The purchase of the more compliant EIT would impose a significant difficulty or expense to the Postal Service and
- A resulting decision is made to purchase EIT that is less compliant with Section 508 than what is available in the commercial marketplace.

2-5.3 Fundamental Alteration

Section 508 standards do not require the purchase of EIT that would require a fundamental alteration in the nature of a product or its components.

2-5.4 Local Buys

Although EIT obtained under local buying authority (see ASM 722) is not subject to the requirements of this chapter, persons using local buying authority are encouraged to obtain EIT which complies with the applicable accessibility standards to the maximum extent possible.

2-6 Preparing Undue Burden Justification

Undue burden justification is required when the EIT purchase meets the conditions stated in the undue burden portion of this chapter. The rationale for such a determination must be based on the fact that purchase of the most compliant EIT would constitute an undue burden to the Postal Service. The undue burden justification documentation addresses why, and to what extent, compliance with each applicable provision of Section 508 creates an undue burden.

An undue burden justification template is provided in appendix 2-A of this chapter. The requiring organization must complete the template and include sufficient detail to establish that an undue burden exists. The contracting office must retain a copy of the documentation with the necessary approvals in the contract file.

Template for Undue Burden Justification Documentation

This template provides guidance for preparing an undue burden justification document. The requiring organization must use this template when:

- A decision is made to purchase electronic and information technology (EIT) that is less compliant with Section 508 than what is available in the commercial marketplace, and
- The purchase of the more compliant EIT would impose a significant difficulty or expense to the entire program or component for which the product is being purchased.

Instructions

- Prepare written documentation addressing the applicable sections below. The depth of detail provided will vary depending on such items as the dollar value of the purchase, importance to the agency, number of potential users, business or operational impact, and other issues.
- Obtain purchasing and legal advice, as needed, throughout the process.
- Obtain necessary approvals and signatures.
- Provide completed justification documentation to the contracting officer.
- Update the Enterprise Information Repository (EIR) system, where appropriate.

Section I. General

- 1. Program Name.
- 2. Preparer's Name.
- 3. General description of the program.

Section II. Basis for Justifying the Undue Burden Exception

An *undue burden* is defined as "a significant difficulty or expense." When making an undue burden determination, the requiring organization must consider the entire resources available to the program or component for which the product is being purchased. Attempt to include all known facts and situations that influence the justification of significant difficulty or expense.

1. Identify the specific applicable portions of the Section 508 standards for which a decision has been made to purchase something that is less compliant than what is available in the commercial marketplace. Include a description of the market research performed.

2. For each element, describe the significant difficulty or expense. Below are some examples of considerations that may constitute either a significant difficulty or expense.

Considerations	Example		
Incompatibility Consider the Postal Service's IT infrastructure, including security, and the difficulty of integrating the EIT product into that infrastructure	An agency wants to contract with a digital cellular provider for cellular phone service. The agency learns that TTY signal protocols are required, and the agency digital cellular network cannot accommodate them, because the digital cellular network and TTY protocols are not compatible. In order to provide accessible digital cellular phone service, the agency would have to replace its digital cellular network. An evaluation is done and it is determined that this represents an enormous expense and difficulty.		
 Nature and cost of compliance Consider and address these elements in formulating the required cost-benefit analysis as appropriate: Overall financial resources available to the program of the requiring or ordering activity funding the purchase. The number of persons (members of the public and/or Postal employees) affected by noncompliance. 	An agency is going to procure five kiosks for a proof-of-concept on a new way of providing agency information and conducting transactions with its customers. The cost to make the experimental kiosks compliant is more than the cost of the trial itself. However, if the proof of concept is successful, the final implementation would be built to comply with Section 508. In this case, an undue burden could be determined for the proof-of-concept phase of the program.		

Section III. Alternate Means or Format of Access

Describe the alternate access method(s) or format(s) being provided that allows the disabled individual to have access to and use of the information and data comparable to that provided by the less than compliant EIT.

Section IV. Future Purchases

If applicable, describe the plans to obtain compliant EIT in future purchases.

Section V. Comparison of Cost

If applicable, provide a summary of the cost analysis justifying acquisition of the less compliant EIT.

Section VI. Approval

The vice president or person in a higher level of the requiring organization must approve this justification.

Preparer	Name and title	Date
Program Manager	Name and title	Date
Vice President (Required)	Name and title	Date

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3 Web Accessibility Guidelines

These guidelines provide the requirements and specific direction for the universal accessibility of Web-related pages, Web applications, data, and information for Postal Service employees, business partners and customers, regardless of their abilities or disabilities. They will help to ensure that Web-related information is compatible with assistive technologies and compliant with the Access Board standards. This guidance will continue to evolve as federal standards are solidified and information technologies advance to meet the needs of all individuals.

3-1 About This Chapter

This chapter describes how the guidelines were developed, its intended audience, the document structure and use, updates, and reference for additional information.

3-1.1 Sources

The Postal Service considered information from various sources to develop these guidelines, including the following:

Architectural and Transportation Barriers Compliance Board (Access Board), Electronic and Information Technology Accessibility Standard, 36 CFR 1194.22 (Web-based Intranet and Internet Information and Applications) published in the Federal Register (65 FR 80500, December 21, 2000).

Note: The Access Board's standards, as published in the Federal Register, take legal precedence over all other sources of information.

- General Services Administration.
- World Wide Web Consortium (W3C).
- Department of Education.
- Other government agencies.
- Private industry.
- Developers and content owners of postal Web pages, applications, data, information, and documents.

3-1.2 Audience

This chapter applies to all Postal Service personnel who develop Web content for the postal Internet and postal intranet. This includes postal employees, vendors, contractors, and business partners. Web content includes all Web sites, pages, applications, data, information, and documents.

3-1.3 Structure and Use

This chapter is designed to use navigation links to quickly move to a specific Web accessibility guideline.

Each guideline includes a general description, followed by these four sections:

- Rationale: Describes how the issue impacts certain disabilities or assistive technologies.
- **Techniques:** Describes accepted design practices or alternate sources for providing the same information.
- Testing: Provides methods for evaluating accessibility solutions. The testing methods will involve an assistive technology tool such as a screen reader. The screen reader will aid in determining whether the information can be read, interpreted correctly, and is in compliance with the Access Board's standards and adheres to the USPS Section 508 Web Accessibility Guidelines.
- References: Provides Web-based links to additional information related to a specific guideline. These references are provided to developers to help them understand Web design techniques. These links are not intended to supercede either the USPS Section 508 Web Accessibility Guidelines or the Access Board's standards.

Some guidelines reference hypertext markup language (HTML) code and include the following formatting conventions:

- <TAG> References a specific HTML tag
- Attribute References a specific HTML attribute

3-1.4 Updates

The rapid pace of changes in assistive technology may create additional solutions for coding for accessibility. This chapter will be updated periodically to reflect such changes.

Additionally, links to reference information may change since vendors frequently update their accessibility information. If a dead link is encountered, search the vendor's Web site for the topic. All links will be verified and updated with each issuance of this document.

3-1.5 Additional Information

For additional information about Postal Service Section 508 policies, procedures, guidelines, and other related information, go to the <u>USPS</u> <u>Section 508 Web site</u> (*http://blue.usps.gov/508web*) (internal USPS).

3-2 About Accessibility and Compliance

This section provides information on the Federal regulations and compliance issues as they relate to making Web-based Postal Service electronic and information technology (EIT) accessible to persons with disabilities.

3-2.1 Requirements of the Law

The Workforce Investment Act (WIA) of 1998 amended Section 508 of the Rehabilitation Act. This requires Federal departments, agencies, and the U.S. Postal Service to ensure that their electronic and information technology (EIT) is accessible to persons with disabilities, including employees and the public. The WIA's reference to electronic and information technology is interpreted to include Web sites, facsimile machines, copiers, software, computers and other similar technologies.

3-2.2 Non-Compliance

The following are the only acceptable reasons for not achieving compliance:

- The technology is not available in the marketplace. Therefore, the application, data, or document could not be made accessible through Internet programming or coding languages.
- An undue burden has been filed.
- The application, data, or document pre-dates June 21, 2001.

Comparable access to the non-compliant data, application, information, and/or document must be provided through an alternate format or an alternate access method.

3-2.3 Alternate Formats and Alternate Access Methods

When compliance cannot be achieved in any other way, individuals with disabilities must still be provided comparable access to and use of applications, data, information, or documents through an alternate format or an alternate access method.

An alternate format or alternate access must be equivalent in content and functionality to the primary Web source and it must be updated concurrently with the primary Web source. Alternate formats and alternate access methods must be made available at no additional charge.

Electronic alternate formats should be considered as the first preference for comparable Web content. These electronic alternate formats must be posted on the Web in addition to, or in place of, the primary Web source.

- For the postal Internet, electronic alternate formats are restricted to an HTML, plain text or rich text format (RTF) file.
- For the postal intranet, the electronic alternate format may also be one of the native formats used by the Postal Service for its standard suite of office products, e.g., Word, Excel, and PowerPoint.

Only as a last resort should other alternate formats or alternate access methods be considered as comparable access.

- Other alternate formats may include but are not limited to Braille, large print, cassette recordings, and recorded audio.
- Alternate access methods may include but are not limited to voice, fax, relay service, and TTY.

3-2.4 Registration of Web Site Compliance

All Web sites must be registered in the Enterprise Information Repository (EIR) system along with any related non-compliance issues. The EIR system can be accessed through the Postal Service Section 508 Web site <u>Policies</u> <u>and Procedures</u> page (*http://blue.usps.gov/508web/508p1.htm*) (internal USPS). Choose the link for "Section 508 Web Site Registration and Status Reporting".

Section 508 compliance became effective June 21, 2001. Any changes or additions to pre-June 21, 2001, applications, data, information, or documents require that Section 508 compliance be included in the Systems Development Life Cycle (SDLC) and that the EIR system be updated to reflect this change in status.

3-3 About Assistive Technologies

This section describes assistive technologies, provides examples, and lists the approved postal standards for assistive technology products.

3-3.1 Description

In the broadest sense, an assistive technology is any electronic or information technology that enables a person to do something they otherwise could not have done. A variety of assistive technologies currently provide access to the computer system and data.

Examples of assistive technologies include the following:

- A screen reader, which is a speech synthesizer that converts text to speech.
- A screen magnifier, which enlarges the screen display.
- Speech-to-text software, which converts speech to text or software commands.
- Keyboard alternatives such as split or natural keyboards.
- Shortcut keys for all mouse actions.

3-3.2 Postal Standards for Assistive Technologies

The Postal Service has a standard set of assistive technologies that are part of the Infrastructure Tool Kit (ITK). Other assistive technologies will be added to the ITK as the need arises. The current set of ITK assistive technologies is as follows:

Screen Reader Software:

JAWS for Windows 98/95 http://www.freedomscientific.com/ JAWS for Windows 98/95, NT & Windows 2000 http://www.freedomscientific.com/

Screen Magnification Software:

MAGic for Windows 98/95 http://www.freedomscientific.com/

MAGic for Windows 98/95, NT & Windows 2000 http://www.freedomscientific.com/

Speech-to-Text Software:

Dragon NaturallySpeaking for Windows 98/95, NT & Windows 2000 http://www.scansoft.com/naturallyspeaking/

Middleware for Speech to Text and Screen Reader Software: <u>JawBone for Windows 98/95, NT & Windows 2000</u> <u>http://www.ngtvoice.com/</u>

3-4 Web Accessibility Guidelines

This section contains the requirements for the universal accessibility and compliance of postal Web-related pages, applications, data, information, and/or documents. The requirements are provided in the form of a guideline. Coding examples are provided, where appropriate.

The following eleven guidelines and an appendix are contained in this section:

Guideline 1: Adobe Portable Document Format (PDF) Files Guideline 2: Forms Guideline 3: Tables Guideline 4: Frames Guideline 5: Scripts, Applets and Plug-ins Guideline 6: Non-Text Elements Guideline 7: Image Maps Guideline 7: Image Maps Guideline 8: Multimedia Guideline 9: Color Guideline 10: Navigation and Design Guideline 11: Style Sheets Appendix

3-A USPS Web Accessibility Checklist

3-4.1 Guideline 1: Adobe Portable Document Format (PDF) Files

On the postal Intranet, an accessible and fully compliant version of a tagged PDF file does not require that an alternate format or alternate access method be posted. Non-compliant tagged PDF files will still require that an alternate format or alternate access method be posted on the Intranet for use by postal employees.

On the postal Internet, both accessible tagged PDF files and non-compliant PDF files must have an additional alternate format or alternate access method posted for use by the public.

3-4.1.1 Rationale

PDF files may be completely or partially inaccessible to a screen reader or may be read in an illogical order by a screen reader.

An accessible PDF file uses tags to make the content of a character-based document available to a screen reader. Tags define the logical structure of the character-based document such as titles, headings, paragraphs, tables, etc. The underlying process of tagging a PDF file is similar to tagging an HTML or XML file.

The accessible tagged PDF file must be used with the accessible version of Adobe Acrobat Reader v5.x and a Microsoft Active Accessibility (MSAA) compliant screen reader such as JAWS.

3-4.1.2 Techniques

There are four basic steps to generating accessible tagged PDF files:

- The beginning of the process is dictated by an existing source document (file or paper). A document's origin may be an original source file, an Adobe PDF file (character-based or image-based) or a paper document. Each of these requires different procedures. However, all of the procedures will result in a character-based PDF file.
- 2. The second part of the process generates the initial tags (automatically or manually) for a character-based PDF file.
- The third part of the process fine-tunes the Adobe tags for access by a MSAA compliant screen reader and adherence to USPS Section 508 Web Accessibility Guidelines.
- 4. The final step in the process is to determine accessibility and compliance by testing the tagged PDF file using the most recent version of JAWS and the accessible version of Adobe Acrobat Reader.

To be an accessible and fully compliant tagged PDF file, the contents must be read in the logical order intended by the author, must be accessible to the MSAA compliant screen reader, and must adhere to the USPS Section 508 Web Accessibility Guidelines.

On the postal Intranet, an accessible and compliant version of a tagged PDF file does not require that an alternate format or alternate access method be posted. JAWS is the ITK approved screen reader and it is MSAA compliant. Non-compliant tagged PDF files will still require an alternate format or alternate access method be posted on the intranet for use by postal employees.

On the postal Internet, both accessible tagged PDF files and non-compliant PDF files must have an additional alternate format or alternate access method posted for use by the public. Since the MSAA compliant screen reader is required, accessible tagged PDF files can only be supported in the Windows environment. Unlike other PDFs, the accessible tagged PDF is not universally available to screen readers across all platforms. Therefore, an accessible and fully compliant version of a tagged PDF file must still have an alternate format or alternate access method posted on the Internet.

For all non-compliant PDFs, provide an alternate format or alternate access method that will be used in addition to, or in place of, the PDF file when compliance cannot be accomplished in any other way. When alternate formats or alternate access methods are used, they must have equivalent content and functionality to the primary Web source and must be updated concurrently with the primary Web source.

For internal or external postal Web sites, that alternate format may be an HTML, plain text or rich text format (RTF) file. For internal sites only, the alternate format may also be one of the native formats used by the Postal

Service for its standard suite of office products, e.g., Word, Excel, and PowerPoint.

In considering the options suggested above, keep in mind the extent of the conversion and review efforts; the resources required to maintain two separate Web sites; the size of the alternate file format and the time that it will take to load or download the file; the availability of a source file; and the relevancy of existing PDF files. The conversion of PDF files requires extensive review, comparison and validation.

Print-on-demand PDF forms that are available for download must have an associated text description that describes the form along with its number, title, and purpose.

3-4.1.3 **Testing**

- Use the most recent version of JAWS, in conjunction with the accessible version of Adobe Acrobat Reader, to test the tagged PDF file to determine if the contents are in the logical read order intended by the author; all information and links are accessible by JAWS; and it adheres to all other guidelines in this chapter.
- If additional revisions are needed, fine-tune the tags and test again until the tagged PDF file is both accessible with JAWS and adheres to the USPS Section 508 Web Accessibility Guidelines.
- Verify that the content of the alternate format or the alternate access method is equal to the content and functionality of the primary PDF file and is updated concurrently with the primary Web source. Ensure that no information has been lost and that the meaning has remained the same.

3-4.1.4 **References**

For more information on this topic, please check the following links:

- Adobe PDF accessibility information http://access.adobe.com/information.html
- How to Create Accessible PDFs http://access.adobe.com/booklet1.html
- Adobe Acrobat Help web site (Kanisa, Inc.) http://adobedoc.kanisasolution.com/Acrobat5/Help.htm
- <u>USPS Accessible PDF FAQs</u>
 <u>http://blue.usps.gov/508web/pdfhelp.htm</u> (internal USPS)

3-4.2 Guideline 2: Forms

When electronic forms are designed to be completed online, the form must allow access via assistive technologies to information, field elements, and functionality, e.g., associated controls required for completion, review, revision, and submission of the form, including directions and cues.

3-4.2.1 Rationale

Screen readers may have difficulty navigating through interactive forms without some modification to the form.

Forms may require a timed response, e.g., security functions. Assistive technologies may prohibit users from completing that section of the form within the required time frame.

3-4.2.2 Techniques

Construct electronic forms (for completion online) so that assistive technologies such as screen readers can relay the relevant field descriptors when tabbing from field to field. Use logical tabbing order consistently throughout the form.

The assistive technology must be able to edit fields and allow users to read back and/or revise information previously entered into a field.

When a timed response is required, the user must be alerted and given sufficient time to indicate that they need additional time to complete the form.

A <LABEL> tag must identify all form controls, except for form controls that automatically have text descriptions associated with them such as submit buttons. The <LABEL> tag must appear either immediately to the left or right or immediately above the field. Image buttons also need descriptive text associated with the form control. For forms that are laid out inside <TABLE> tags, the <LABEL> tag must appear in the same table cell as the form control.

An implicit label is a label that surrounds a form control with a <LABEL> tag. An explicit label uses the <LABEL> tag with the associated *for* attribute and with the equivalent *id* attribute in the form control. Explicit labeling techniques must be used instead of implicit labeling techniques because implicit labels are not supported universally by screen readers. In addition, users will have difficulty interpreting the form if any text separates implicit labels from associated form controls.

Exhibit 3-4.2.2a Text Box and Buttons Example

Text Box and Buttons Example:
The following graphic is a screen shot of a form with text boxes and buttons. The code for this form immediately follows the screen shot.
Name:
Address:
Submit Query Reset
<form action="/cgi-bin/cgi.pl" method="post"></form>
<label for="Name">Name:</label>
<input id="Name" maxlength="75" name="Name" size="30" tabindex="1" type="text"/> <label for="Address">Address:</label>
<input id="Address" maxlength="75" name="Address" size="50" tabindex="2" type="text"/>
<input name="SubmitButton" tabindex="3" type="submit" value="Submit Query"/> <input name="ResetButton" tabindex="4" type="reset" value="Reset"/>

Exhibit 3-4.2.2b Text Area Box Example

Text Area Box Example:

The following graphic is a screen shot of a text area box. The code for this text area box immediately follows the screen shot.

Explain how your website adheres to the Section 508 Standards:



<form name="text box" method="post" action="test.cfm"> <label for="motives">Explain how your website adheres to the Section 508 Standards:</label> <textarea id="motives" name="motives" tabindex="1"></textarea> </form>

Exhibit 3-4.2.2c Select Box Example

Select Box Example:

The following graphic is a screen shot of a select box. The code for this select box immediately follows the screen shot.

What is your favorite stamp	Paffy Duck Daffy Duck Bugs Bunny Porky Pig Wile E Coyote and Road Runner Sylvester and Tweety			
<label for="Ifavstampl">What is your favorite stamp?</label> <select id="favstamp" name="favstamp"></select> <option value="1">>Daffy Duck</option> <option value="2">>Bugs Bunny</option> <option value="3">>Porky Pig</option> <option value="4">>Wile E Coyote and Road Runner</option> <option value="5">>Sylvester and Tweety</option> 				

Exhibit 3-4.2.2d Check Box Example

Check Box Example:

The following graphic is a screen shot of check boxes. The code for these check boxes immediately follows the screen shot.

Choose a Stamp:

- D Bison
- Red Fox
- □ Eagle

```
<form name="form1" method="post" action="checkbox.cfm">
Choose a Stamp:<br>
<input id="bison" type="checkbox" name="checkbox" value="checkbox" tabindex="1">
<label for="bison">Bison</label><br>
<input id="fox" type="checkbox" name="checkbox2" value="checkbox" tabindex="2">
<label for="fox" type="checkbox" name="checkbox2" value="checkbox" tabindex="2">
<label for="checkbox" name="checkbox3" value="checkbox" tabindex="3">
<label for="checkbox" tabindex="3">
</label for="checkbox" tabindex="3"></label for="checkbox" tabindex="3"></label for="checkbox" tabindex="3">
```

The following graphic is a screen shot of radio buttons. The code for these radio buttons immediately follows the screen shot.

Choose a Product:

© Cancelled Panes

Envelopes

○ First Day Covers

```
<form name="form2" method="post" action="radiobutton.cfm">
Choose a Product:<br>
<input id="cp" type="radio" name="radio" value="cp" tabindex="1">
<label for="cp">Cancelled Panes</label><br>
<input id="envelopes" type="radio" name="radio" value="envelopes" tabindex="2">
<label for="cp">Cancelled Panes</label><br>
<input id="envelopes" type="radio" name="radio" value="envelopes" tabindex="2">
<label for="cp">Cancelled Panes</label><br>
<input id="envelopes" type="radio" name="radio" value="envelopes" tabindex="2">
<label for="cp" concelled Panes</label><br>
</label for="envelopes">Cancelled Panes</label><br>
</label for="fdc" type="radio" name="radio" value="fdc" tabindex="3">
<label for="cp" concelled Panes</label><br/>
```

3-4.2.3 Testing

- Test all forms for accessibility using JAWS. The form must be tested in both the forms mode and the Virtual PC cursor mode. The forms mode ensures that fields can be edited. The Virtual PC cursor mode ensures that responses can be read back or changed by the user.
- Verify that <LABEL> tags, text descriptions, tabbing order, etc., read correctly.
- Verify that the user can ask for additional time to complete a form when timed responses are required.

3-4.2.4 **References**

For more information on this topic, please check the following link:

<u>USPS Accessible Forms FAQs</u>
 <u>http://blue.usps.gov/508web/FormsHelp.html</u> (internal USPS)

3-4.3 Guideline 3: Tables

Tables must be constructed so that they can be easily interpreted by all users and communicate the intent of the author. Identify row and column headers for data tables. Associate data cells with their headers for all tables that have two or more logical levels of row or column headers. The table must be constructed so that it can be read logically from left to right, and from top to bottom. When a data table has one logical level of row or column headers, it is a simple table. Complex tables are data tables that have more than one logical level of row or column headers.

3-4.3.1 Rationale

Screen readers have difficulty interpreting data if the tables are not designed properly. A sighted person can scan down a column and across a row of a rate table. This can be a daunting task for a visually impaired person to listen to this same information with a screen reader.

3-4.3.2 Techniques

Use the <TABLE> tag primarily for the display of tabular data. Non-tabular tables may be used for layout if the table uses appropriate HTML to summarize the intent of the design.

Where appropriate, use the <CAPTION> tag and/or the *summary* attribute for tabular data. It is not necessary to include *summary* attributes in data tables that are nested within a table. However, the outermost <TABLE> tag must contain a <CAPTION> tag and/or *summary* attribute. The content of the <CAPTION> tag is displayed on the screen. The contents of the *summary* attribute are read by the screen reader but not displayed on the screen.

3-4.3.2.1 Simple Tables

When a data table has one logical level of row or column headers, it is a simple table. There are two options for coding simple tables.

The first option is to use the table header $\langle TH \rangle$ tag and the *id* and *headers* attributes. The *id* attribute within the $\langle TH \rangle$ tag is used in the first cell of each column to define the column header. The *id* attribute within the table data $\langle TD \rangle$ tag is used in the first cell of each row to define the row header. The *headers* attribute within the $\langle TD \rangle$ tag of all other cells is used to associate the cell with its corresponding row and column headers.

The second option is to use the *scope* attribute. The *scope* attribute associates a set of <TD> tags with the corresponding <TH> tag. The *scope* attribute within the <TH> tag is used in the first cell of each column to define the column header. The *scope* attribute within the <TD> tag is used in the first cell of each row to define the row header.

Exhibit 3-4.3.2.1a Simple Table Example (using the *headers* and *id* attributes)

Simple Table Example (using the *headers* and *id* attributes):

The following graphic is a screen shot of a simple table that uses the <CAPTION> tag and the *headers* and *id* attributes. The code for this table immediately follows the screen shot.

Weight not over (lbs)	Rate Groups 1 and 2	Rate Groups 3 and 7	Rate Groups 4 and 6	Rate Group 5	Rate Group 8
0.5	\$20.00	\$24.00	\$29.00	\$40.00	\$60.00
1	\$31.00	\$34.00	\$41.00	\$51.00	\$72.00
2	\$31.00	\$34.00	\$41.00	\$65.00	\$87.00
3	\$42.00	\$53.00	\$60.00	\$80.00	\$102.00

<TABLE WIDTH = "66%" BORDER = "1" SUMMARY = "This table summarizes the rates for Priority Mail Global Guaranteed postage rates.">

<CAPTION> Rate Table for Priority Mail Global Guaranteed</CAPTION> <TR> <TH ID= "HEADER1"> Weight not over (lbs)</TH> <TH ID= "HEADER2"> Rate Groups 1 and 2</TH> <TH ID= "HEADER3"> Rate Groups 3 and 7</TH> <TH ID= "HEADER4"> Rate Groups 4 and 6</TH> <TH ID= "HEADER5"> Rate Group 5</TH> <TH ID= "HEADER6"> Rate Group 8</TH> </TR> <TR> <TD ID= "ROW1"><CENTER>0.5</CENTER></TD> <TD HEADERS= "ROW1 HEADER2"><CENTER> \$20.00</CENTER></TD> <TD HEADERS= "ROW1 HEADER3"><CENTER> \$24.00</CENTER></TD> <TD HEADERS= "ROW1 HEADER4"><CENTER> \$29.00</CENTER></TD> <TD HEADERS= "ROW1 HEADER5"><CENTER> \$40.00</CENTER></TD> <TD HEADERS= "ROW1 HEADER6"><CENTER> \$60.00</CENTER></TD> </TR> <TR> <TD ID= "ROW2"><CENTER>1</CENTER></TD> <TD HEADERS= "ROW2 HEADER2"><CENTER> \$31.00</CENTER></TD> <TD HEADERS= "ROW2 HEADER3"><CENTER> \$34.00</CENTER></TD> <TD HEADERS= "ROW2 HEADER4"><CENTER> \$41.00</CENTER></TD> <TD HEADERS= "ROW2 HEADER5"><CENTER> \$51.00</CENTER></TD> <TD HEADERS= "ROW2 HEADER6"><CENTER> \$72.00</CENTER></TD> </TR> <TR> <TD ID= "ROW3"><CENTER>2</CENTER></TD> <TD HEADERS= "ROW3 HEADER2"><CENTER> \$31.00</CENTER></TD> <TD HEADERS= "ROW3 HEADER3"><CENTER> \$34.00</CENTER></TD> <TD HEADERS= "ROW3 HEADER4"><CENTER> \$41.00</CENTER></TD> <TD HEADERS= "ROW3 HEADER5"><CENTER> \$65.00</CENTER></TD> <TD HEADERS= "ROW3 HEADER6"><CENTER> \$87.00</CENTER></TD> </TR> <TR> <TD ID= "ROW4"><CENTER>3</CENTER></TD> <TD HEADERS= "ROW4 HEADER2"><CENTER> \$42.00</CENTER></TD> <TD HEADERS= "ROW4 HEADER3"><CENTER> \$53.00</CENTER></TD> <TD HEADERS= "ROW4 HEADER4"><CENTER> \$60.00</CENTER></TD>
<TD HEADERS= "ROW4 HEADER5"><CENTER> \$80.00</CENTER></TD>
<TD HEADERS= "ROW4 HEADER5"><CENTER> \$80.00</CENTER></TD>
<TD HEADERS= "ROW4 HEADER6"><CENTER> \$102.00</CENTER></TD></Pre> </TR> </TABLE>

Simple Table Example (using the *scope* attribute):

The following graphic is a screen shot of a simple table that uses the *scope* attribute. The code for this table immediately follows the screen shot.

	L'Enfant	Rosslyn	Courthouse	L'Enfant
Bus 1	10:00 am	10:30 am	10:45 am	11:00 am
Bus 2	11:00 am	11:30 am	11:45 am	12:00 pm
Bus 3	12:00 pm	12:30 pm	12:45 pm	1:00 pm

```
L'Enfant

Rosslyn

Courthouse

L'Enfant

<b>Bus 1</b>
 vid vidth="103">10:00 am
vid vidth="103">10:00 am
 10:45 am
11:00 am
<b>Bus 2</b>/td>
 11:00 am
11:30 am
11:30 am11:45 am12:00 pm
<b>Bus 3</b>
12:00 pm
12:30 pm
 12:45 pm
 1:00 pm
```

3-4.3.2.2 Complex Tables

When a data table has more than one logical level of row or column headers, it is a complex table. The *axis* attribute is used to create categories in a complex table.

The table used in the following example lists travel expenses at two locations (San Jose and Seattle) by date and category (meals, hotels and transport).

The caption centered above the table reads, "Travel Expense Report".

The axis attributes or categories of the table are:

- City.
- Travel dates.
- Meal expenses.
- Hotel expenses.
- Transport expenses.

The first row of the table contains these headers: "Meals", "Hotels", "Transport", and "Subtotals". The first row group shows the expenses in San Jose for those categories on August 25 and 26, 1997. Below that row group, the subtotals of all expenses in San Jose are listed.

The second row group presents similar data for expenses incurred in Seattle on August 27 and 28, 1997. Below that row, subtotals of all expenses in Seattle are listed.

The final row of the table lists the combined total expenses for San Jose and Seattle for "Meals", "Hotels", and "Transport". It also provides the total of all money expensed on the entire report.

Exhibit 3-4.3.2.2 Complex Table Example

Complex Table Example:

The following graphic is a screen shot of a complex table. The code for the complex table immediately follows the screen shot and shows how to create categories using the *axis* attribute.

Travel Expense Report						
	Meals	Hotels	Transport	Subtotals		
San Jose						
25-Aug-97						
26-Aug-97	27.28	112.00	45.00			
Subtotals	65.02	224.00	90.00	379.02		
Seattle						
27-Aug-97	96.25	109.00	36.00			
28-Aug-97	35.00	109.00	36.00			
Subtotals	131.25	218.00	72.00	421.25		
Totals	196.27	442.00	162.00	800.27		

<TABLE border = "1" summary = "This table summarizes travel expenses incurred during August trips to San Jose and Seattle">

<CAPTION> Travel Expense Report </CAPTION> <TR> <TH></TH> <TH id = "a2" axis = "expenses">Meals</TH> <TH id = "a3" axis = "expenses">Hotels</TH> <TH id = "a4" axis = "expenses">Transport</TH> <TD>Subtotals</TD> </TR> <TR> <TH id = "a6" axis = "location">San Jose</TH> <TH></TH> <TH></TH> <TH></TH> <TD></TD> </TR> <TR> <TD id="a7" axis="date">25-Aug-97</TD> <TD headers ="a6 a7 a2">37.74</TD> <TD headers ="a6 a7 a3">112.00</TD> <TD headers ="a6 a7 a4">45.00</TD> <TD></TD> </TR> <TR> <TD id="a8" axis="date">26-Aug-97</TD> <TD headers = "a6 a8 a2">27.28</TD> <TD headers ="a6 a8 a3">112.00</TD> <TD headers ="a6 a8 a4">45.00</TD> <TD ></TD>

Exhibit 3-4.3.2.2 Complex Table Example (cont'd)

```
</TR>
<TR>
 <TD><B>Subtotals</B></TD>
<TD headers = "a6 a2" > 65.02</TD>
<TD headers = "a6 a3" > 224.00</TD>
<TD headers = "a6 a4" > 90.00</TD>
<TD>379.02</TD>
</TR>
<TR>
<TH id = "a10" axis = "location">Seattle</TH>
<TH></TH>
<TH></TH>
<TH></TH>
<TD></TD>
</TR>
<TD id="a11" axis ="date">27-Aug-97</TD>
<TD headers ="a10 a11 a2">96.25</TD>
<TD headers ="a10 a11 a3">109.00</TD>
<TD headers ="a10 a11 a4">36.00</TD>
<TD></TD>
</TR>
<TR>
<TD id="a12" axis ="date">28-Aug-97</TD>
<TD headers ="a10 a12 a2">35.00</TD>
<TD headers ="a10 a12 a3">109.00</TD>

<TD headers ="a10 a12 a4">36.00</TD>
<TD></TD>
</TR>
<TR>
<TD><B>Subtotals</B></TD>
<TD headers ="a10 a2">131.25</TD>
<TD headers ="a10 a3">218.00</TD>
<TD headers ="a10 a4">72.00</TD>
<TD>421.25</TD>
</TR>
<TR>
<TD><B>Totals</B></TD>
<TD>196.27</TD>
<TD>442.00</TD>
<TD>162.00</TD>
<TD>800.27</TD>
</TR>
</TABLE>
```

3-4.3.3 Testing

- Test the tables with JAWS to ensure that they read logically left to right and top to bottom and that the content reads in the same order as intended by the author.
- Ensure that all of the relevant data, row headers, and column headers have been properly tagged and can be interpreted correctly.

3-4.3.4 References

For more information on this topic, please check the following links:

- Identify row and column headers http://www.w3.org/TR/WCAG10-HTML-TECHS/#tables
- <u>USPS Accessible Tables FAQs</u> http://blue.usps.gov/508web/TablesHelp.html (internal USPS)

3-4.4 Guideline 4: Frames

The frameset must be constructed so that the user is not dependent upon visual cues in order to navigate the site. Frames must be titled with text that facilitates frame identification and navigation.

3-4.4.1 Rationale

Frames must be titled so that the screen readers can identify them for the visually impaired. Untitled frames make it difficult for the visually impaired to navigate to the content of the Web site.

3-4.4.2 Techniques

Provide a meaningful *title* attribute for each <FRAME> tag. Give both the frame page and frame source pages meaningful <TITLE> tags. Make sure the <TITLE> tag describes the content of the page.

Exhibit 3-4.4.2 Frames Example

Frames Example:

```
<hr>
    <HTML>

    <HEAD>

    <TITLE>USPS Electronic Documents </TITLE>

    </HEAD>

    <FRAMESET COLS= "10%, 10%, 80%" title = "Our library of electronic documents">

    <FRAMESET COLS= "10%, 10%, 80%" title = "Our library of electronic documents">

    <FRAMESET COLS= "10%, 10%, 80%" title = "Our library of electronic documents">

    <FRAMESET COLS= "10%, 10%, 80%" title = "Our library of electronic documents">

    <FRAME src = "logo.html" title = "Company logo frame">

    <FRAME src = "navigation.html" title = "navigation frame">

    <FRAME src = "maincontent.html" title = "Company main content">

    <NOFRAMES> <A href = "companyindex.html" title = "Company index">

    Select to go to an index of the Company's Web site. 

    </NOFRAMES>

    </FRAMESET>

    </HTML>
```

3-4.4.3 **Testing**

- Ensure that each frame page has a meaningful description in the <TITLE> tag.
- Ensure that every <FRAME> tag has a meaningful *title* attribute.

3-4.4.4 **References**

For more information on this topic, please check the following links:

- Frame title http://www.w3.org/TR/WCAG10-HTML-TECHS/#frame-names
- <u>USPS Accessible Frames FAQs</u> http://blue.usps.gov/508web/FramesHelp.html (internal USPS)

3-4.5 Guideline 5: Scripts, Applets, and Plug-ins

When pages utilize scripting languages to display content or to create interface elements, the script must provide meaningful text that can be read by assistive technology. If an accurate message cannot be conveyed by the results of the script, provide an equivalent alternate format or alternate access method.

Provide a link to a plug-in or applet that complies with the Access Board's standard, 36 CFR 1194.21 (Software Applications and Operating Systems) when a Web page requires an applet, plug-in, or other application to be present on the client system to interpret page content.

3-4.5.1 Rationale

Assistive technologies may not support some scripts, applets, or plug-ins. A screen reader will often read the content of the script as a meaningless jumble of numbers and letters.

Scripts that provide information that is not essential to the understanding or navigation on the Web site can still be used and do not need an equivalent alternate format or alternate access method.

3-4.5.2 Techniques

If the results of a script, applet, or plug-in cannot be accessed by the assistive technology or a meaningful message cannot be conveyed through the results of assistive technology, provide an alternate format or alternate access method.

The alternative format or alternate access method must be used in addition to, or in place of, the primary Web page, site, application, information, or data. They must be equivalent to the primary Web source in both content and functionality and must be updated concurrently with the primary Web source.

3-4.5.2.1 Scripts

Scripts that dynamically generate content that cannot be conveyed by an assistive technology must have an equivalent alternate format or alternate access method that can be read by assistive technology. For example, dynamically generated links must be accompanied by redundant text links.

3-4.5.2.2 Applets and Plug-ins

Use the *alt* attribute to provide a text description for applets.

Exhibit 3-4.5.2.2a Applet Example

Applet Example:

<applet code = "gravity.class" width = "200" height = "250"alt="Java gravity applet">...</applet>

Provide a text description of an object within the <OBJECT> tag.

Exhibit 3-4.5.2.2b **Object Example**

Object Example:

```
<OBJECT classid="java:gravity:class"
width = "200" height = "250"> When gravity acts on an object, the weight...</OBJECT>
```

If a plug-in, applet, or other application is necessary to access the content of the Web site, provide a hyperlink to the plug-in. The plug-in must comply with the Access Board's standard, 36 CFR 1194.21 (Software Applications and Operating Systems).

If the plug-in is not accessible, provide an alternate format or alternate access method to the content.

3-4.5.2.3 Java Accessibility

Accessibility-enabled Java applications are not dependent on machines that require assistive technology support. These applications will run on any Java platform with or without assistive technologies. However, to provide access to Java applications, an assistive technology requires more than the Java Accessibility API.

Sun's Java Accessibility Utilities help assistive technologies and interact with applications developed using the Java Accessibility Application Program Interface (API). An application developer can use these APIs directly or indirectly using the Swing toolkit. Developers will be able to create Java applications capable of interacting with assistive technologies such as screen readers, speech recognition systems, and Braille terminals.

Make sure the version number of the Java Accessibility Utilities matches the version number of the Java Platform. For example, Java Accessibility Utilities v1.3 should be used if Java 2 Platform, Standard Edition v1.3 (JDK 1.3) is the version installed on the system where the evaluation is occurring.

Although accessibility support became available in SDK/JDK 1.1.x, it is best to use the Swing user interface development kit that is included in SDK 1.3 or higher. This will provide the highest level of accessibility functions.

3-4.5.3 **Testing**

- Test with JAWS to ensure that all content from scripts, applets or plug-ins is accessible.
- Ensure that the applet or plug-in is compliant with the Access Board's standard, 36 CFR 1194.21 (Software applications and Operating Systems).
- Use the most recent version of the JAWS screen reader with the Java Access Bridge and the Java plug-in to test Java applications for accessibility. Developers can ensure that the environment is set up appropriately by using the quick check utilities from the Sun Web site. Set up is not required for either the Java Access Bridge or JAWS.
- Verify that the content of the alternate format or alternate access method is equivalent to the content and functionality of the primary Web source and is updated concurrently with the primary Web source. Ensure that no information has been lost and that the meaning has remained the same.

3-4.5.4 **References**

For more information on this topic, please check the following links:

- Java accessibility http://www-3.ibm.com/able/accessjava.html
- Writing accessible Java applications http://www-3.ibm.com/able/snsjavag.html
- Sun's JAVA Accessibility Utilities http://www.sun.com/access/downloads/#sun
- Java developer's forum http://developer.java.sun.com/developer/community/chat/index.html
- Trace Center examples of accessible Java http://www.trace.wisc.edu/world/java/java.htm

3-4.6 Guideline 6: Non-Text Elements

A descriptive text equivalent must be provided for all non-text elements that render information required for comprehension of the content, as well as those that facilitate navigation (images, graphs, charts, or animation).

3-4.6.1 Rationale

A chart or graph is essentially an image with detailed information. Animation is an image that has movement associated with it. Screen readers cannot interpret images without associated text.

3-4.6.2 Techniques

Use the *alt* attribute to provide a descriptive text equivalent that summarizes the content of each non-text element.

Provide a text equivalent for animations using the *alt* attribute. If a longer description is necessary, use the *longdesc* attribute or "D-Link" alternative.

Exhibit 3-4.6.2a *Alt* Attribute Example

Alt Attribute Example:

The following graphic is a screen shot of an image that has an *alt* attribute associated with it. The code for this image immediately follows the screen shot.



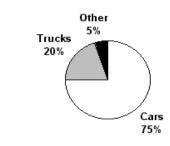
When a short alternative descriptive text is not sufficient to adequately convey the information from a non-text element, use the *longdesc* attribute to provide a longer, more detailed description. This requires the creation of an additional HTML file that stores the more detailed information about the non-text element. The *longdesc* attribute is placed within an image tag to link the description or data to the image.

Exhibit 3-4.6.2b *Longdesc* Attribute Example

Longdesc Attribute Example:

The following graphic is a screen shot of an image that has a *longdesc* attribute associated with it. The code for this image immediately follows the screen shot.

Percentage of Cars Through Toll Booth



For images that are not used for comprehension or navigation and for images that are redundant, use a blank *alt* attribute to ignore the image. Examples of this include a block of color or a transparent graphic that is used as a filler/spacer, design element or an image used as a background.

Exhibit 3-4.6.2c Blank *Alt* Attribute Example

Blank Alt Attribute Example:

Another alternative to providing a more detailed description of an image is the "D-Link" (description link).

Exhibit 3-4.6.2d D-Link Example

3-4.6.3

D-Link Example:

 [D]

3-4.6.3 **Testing**

- Mouseover the image to verify that descriptive text appears for each image.
- Turn images off in the browser. Each image must be replaced with its equivalent descriptive text.
- Click on the links provided by the *longdesc* attribute or "D-Link" to ensure that the user is taken to the appropriate description.

3-4.6.4 **References**

For more information on this topic, please check the following link:

Text equivalents http://www.w3.org/TR/WCAG10/wai-pageauth.html#tech-text-equivalent

3-4.7 Guideline 7: Image Maps

Use client-side image maps, whenever possible, in place of server-side image maps, except when the regions of a server-side image map cannot be defined with an available geometric shape. Provide equivalent redundant text links for all server-side image map hot spot areas.

3-4.7.1 Rationale

Screen readers cannot read images. However, image maps are accessible when a descriptive text equivalent is provided for each hot spot area.

A client-side image map contains all of the information about the image map. It is stored within the HTML document and interpreted through the browser. The server-side image map is external to the HTML document. A server-side image map requires a script on a Web server that identifies the hot spots and their corresponding uniform resource locators (URL). When a server-side image map is used, browsers cannot indicate to the user which URL will be followed when a region of the map is activated.

3-4.7.2 Techniques

Use the *alt* attribute within the and <AREA> tags to provide a descriptive text equivalent for all hot spot areas of a client-side image map.

Exhibit 3-4.7.2a Client-Side Image Map Example

Hot spots located in a server-side image map must have redundant text links.

Exhibit 3-4.7.2b Server-Side Image Map Example (with redundant text links)

Server-Side Image Map Example (with redundant text links):

The following code is an example of a server-side image map.

```
<a href="img/imgmap1.map">
<img src="imgmap1.gif" ALT="Please use the following links instead of this
imagemap." ismap>
</a>
</br>
[ <a href="a.htm">Section A</a> | <a href="b.htm">Section B</a> | <a href="c.htm">Section C</a> | <a
href="d.htm">Section D</a> | <a href="e.htm">Section B</a> ]
```

3-4.7.3 **Testing**

- Mouseover the active regions of the client-side image map to ensure that an equivalent text description appears for each hot spot.
- Verify that all redundant text links in a server-side image map work properly.

3-4.7.4 Reference

For more information on this topic, please check the following link:

Redundant text links http://www.w3.org/TR/WCAG10-TECHS/#tech-redundant-server-links

3-4.8 Guideline 8: Multimedia

Provide equivalent alternate formats or alternate access methods for any multimedia presentation and synchronize them with the presentation.

3-4.8.1 Rationale

Audio content, without captions or transcripts, is not accessible to the hearing impaired. Videos, without text descriptions, are not accessible to the visually impaired. In both cases, the information needs to be provided in an alternate format or alternate access method.

3-4.8.2 Techniques

Provide synchronized captions or transcripts of audio content.

Provide text and audio descriptions of the action occurring in the video.

Provide a descriptive text equivalent for *earcons* or *soundcons* (audio clips), if the information in the audio clip helps the user to interpret the content of that Web site.

Provide a link to any player or plug-in that is required in order to render multimedia.

Update alternate formats and alternate access methods concurrently with the audio and video Web content.

3-4.8.3 Testing

- Search for all audio and video objects. Ensure that each audio and video object has a corresponding equivalent accessible alternate format.
- Verify that the content of the alternate format or alternate access method is equivalent to and updated concurrently with the content of the primary audio and video Web source. Ensure that no information has been lost and the meaning has remained the same.
- Use JAWS to ensure that the player or plug-in is accessible.
- Ensure that the plug-in or player itself is compliant with the Access Board's standard, 36 CFR 1194.21 (Software Applications and Operating Systems).

3-4.8.4 **References**

For more information on this topic, please check the following link:

Synchronize equivalents http://www.w3.org/TR/WCAG10-TECHS/#tech-synchronize-equivalents

3-4.9 Guideline 9: Color

Web pages must be designed so that all information required for navigation or meaning is independent of the ability to identify specific colors.

3-4.9.1 Rationale

People who cannot differentiate between certain color combinations or have low vision may have difficulty navigating or interpreting content that is dependent upon the ability to identify color.

When foreground and background colors are too close to the same hue, they may not provide sufficient contrast between colors.

3-4.9.2 Techniques

Identify information in such a way that the message is not conveyed through color alone. For example, do not instruct a user to "Select an item from those listed in green." Instead, relay that information without referring to color.

Use colors and shades that have sufficient contrast.

3-4.9.3 Testing

- Test the content without colors by viewing it with a monochrome monitor or changing the Windows scheme to "High Contrast White" (Control Panel > Display > Appearance > Scheme > High Contrast White).
- Ensure that the information on the Web site can be viewed when using high contrast appearance settings, e.g., white on black.

3-4.9.4 **References**

For more information on this topic, please check the following links:

- Colors http://www.w3.org/TR/WCAG10-TECHS/#tech-color-convey
- Web/Computer color chart for the color blind http://www.toledo-bend.com/colorblind/colortable.html

3-4.10 Guideline 10: Navigation and Design

Provide a method that will permit users of assistive technology the option to skip repetitive navigation links. A descriptive text link must be used instead of a URL hyperlink. URL hyperlinks have no meaning to the visually impaired user.

Page design cannot cause the screen or screen element to flicker or blink with a frequency greater than 2 Hertz (Hz) and lower than 55 Hz. When a timed response is required, alert the user and give them sufficient time to indicate that additional time is necessary.

3-4.10.1 Rationale

It is common for Web authors to place navigation links at the top, bottom, or side of every new Web page. This technique can render the use of a Web site very difficult for persons using a screen reader because screen readers move through pages reading from top to bottom. The use of repetitive navigation links forces persons with visual impairments to re-read these links when moving to every new page.

A lengthy URL or a hypertext link such as "click here" does not clearly indicate the destination or purpose of the link. Descriptive test links enable assistive technology to provide information that describes the destination or purpose of the link.

Some individuals with photosensitive epilepsy can have a seizure triggered by displays which flicker or flash at a certain intensity or frequency.

A disability can have a direct impact on the speed with which a person can read and move around a Web page. The Web page may expire if a response is not received within a specified time.

3-4.10.2 Techniques

To facilitate easy tracking of page content, insert a descriptive text link before a repetitive navigation link so that users will be able to go directly to the main content of the page.

This link may either be displayed to all users or be transparent so that it can be read only by a screen reader. To make a link transparent, use either a 1-pixel GIF that is the same color as the background or a hyperlink. The 1-pixel gif can also be a transparent gif. This GIF file must also have an *alt* attribute that states "Skip navigation" or a hyperlink that is the same color as the background that contains the text "Skip navigation" between the <A HREF> tag and the tag. The user must be taken to the main content of the page.

Exhibit 3-4.10.2a Skip Navigation Example

Skip Navigation Example:

Descriptive text links must state more than *"click here"*. However, it must not be so wordy that it interferes with efficient browsing. URL hyperlinks, which convey little meaning to the visually impaired, must not be used. The display of a URL must be accompanied by the corresponding descriptive text link.

Exhibit 3-4.10.2b Link Example

Link Example:

Go to the USPS Home Page (http://www.usps.com)

Use the *alt* attribute to provide a descriptive text equivalent for an image that is used as a link.

Exhibit 3-4.10.2c Link Images Example

Link Images Example:



Alert the user when a time-out is about to occur. Give the user ample opportunity to answer a prompt asking if the user needs more time. Repeat the process until the user indicates that additional time is not required.

When compliance cannot be achieved, provide an alternate format or alternate access method that will be used in addition to, or in place of, the primary Web page, site, application, information or data. Alternate formats or alternate access methods are intended to be equivalent to the primary Web source in both content and functionality and must be updated concurrently with the primary Web source.

3-4.10.3 **Testing**

- Examine all repetitive navigation links. Ensure that you insert a descriptive text link that will allow a user to skip the repetitive navigation links. Check the link to make sure that it takes the user directly to the main content of that Web page.
- Examine links apart from the body of the document. Make sure that descriptive text still makes sense when read out of context by the screen reader.
- Ensure that a display which flickers or flashes is not within the frequency range of 2 to 55 Hz (or flashes per second), has a peak sensitivity at 20 Hz (or flashes per second), or has a quick change from dark to light (similar to strobe lights).
- Ensure that any time-outs have an option that will allow a user to indicate that additional time is required.
- Verify that the content of the alternate format or alternate access method is equivalent to both the content and functionality of the primary Web source and is updated concurrently with the primary Web source. Ensure that no information has been lost and that the meaning has remained the same.

3-4.10.4 **References**

For more information on this topic, please check the following link:

Avoiding flicker http://www.w3.org/TR/WCAG10-TECHS/#tech-avoid-flicker

3-4.11 Guideline 11: Style Sheets

Documents must be organized so that they are readable without requiring an associated style sheet. Documents must be constructed so that the user is not dependent upon style sheets to interpret the content of the Web page. This does not prohibit the use of style sheets.

3-4.11.1 Rationale

If not organized properly, style sheets may make it difficult for Web pages to be read accurately in browsers that do not support style sheets, or in a browser where a user has disabled support for style sheets. Low vision users may disable or overwrite style sheets so that the font size, colors, or contrast of the Web Page is easier to read.

3-4.11.2 Techniques

Arrange style commands so that the contents make sense and read in the correct order without the associated style sheets.

Make sure that the Web page is useable when the style sheets have been disabled in the browser or the user has elected to activate their user-developed style sheets. If the content has changed or is not useable, provide an alternative Web page in an accessible alternate format.

The following two examples show the use of style commands. The first example is incorrect because it only uses horizontal positioning. In the second example, both horizontal and vertical positioning are used which leads to proper ordering of the sentence, regardless of whether the style sheets are disabled.

Exhibit 3-4.11.2a Incorrect Use of Style Sheets Example

Incorrect Use of Style Sheets Example:

In this example, if a user elected to use their own style sheets or if style sheets were disabled in the browser, the sentence would read incorrectly.

the lazy dog. The quick jumped over brown fox

<STYLE TYPE="text/css"> .part1 /* The quick */ { padding-left: 0; position: absolute; top: 0; color: red; font-size: 14pt; font-family: copperplate gothic bold, fantasy, sans-serif } .part2 /* brown fox */ {padding-left: 100px; position: absolute; top: 25px; color: brown; font-size: 10pt; font-family: times new roman, desdemona, serif } .part3 /* jumped over */ { padding-left: 300px; position: absolute; top: 40px; color: purple; font-size: 18pt; font-family: desdemona, times new roman, serif } .part4 /* the lazy dog */ { padding-left: 350px; position: absolute; top:70px; color: blue; font-size: 24pt; font-family: fantasy, copperplate gothic bold, sans-serif } </STYLE> <DIV class=part4>the lazy dog. </DIV> <DIV class=part1>The quick</DIV>

<DIV class=part3>jumped over</DIV>

<DIV class=part2> brown fox</DIV>

Exhibit 3-4.11.2b Correct Use of Style Sheets Example

Correct Use of Style Sheets Example:

In this example, if a user elected to used their own style sheets or if style sheets were disabled in the browser, the sentence would read correctly.

The quick brown fox jumped over the lazy dog. <STYLE TYPE="text/css"> .part1 /* The quick */ { padding-left: 0; position: absolute; top: 0; color: red; font-size: 14pt; font-family: copperplate gothic bold, fantasy, sans-serif } .part2 /* brown fox */ {padding-left: 100px; position: absolute; top: 25px; color: brown; font-size: 10pt; font-family: times new roman, desdemona, serif } .part3 /* jumped over */ { padding-left: 300px; position: absolute; top: 40px; color: purple; font-size: 18pt; font-family: desdemona, times new roman, serif } .part4 /* the lazy dog */ { padding-left: 350px; position: absolute; top:70px; color: blue; font-size: 24pt; font-family: fantasy, copperplate gothic bold, sans-serif } </STYLE> <DIV class=part1>The guick</DIV> <DIV class=part2> brown fox</DIV> <DIV class=part3>jumped over</DIV> <DIV class=part4>the lazy dog. </DIV>

3-4.11.3 Testing

- Turn the style sheets off in the browser. Ensure that all content can be understood and is in the same logical order as intended by the author.
- Create a blank style sheet and configure your browser to use this style sheet to override all non-user defined style sheets. Ensure that the resulting content can be understood and is in the same logical order as intended by the author.

3-4.11.4 **References**

For more information on this topic, please check the following link:

Style sheet organization http://www.w3.org/TR/WCAG10-TECHS/#tech-order-style-sheets

USPS Web Accessibility Checklist

Use this as a tool for high-level guidance in determining if a Web site is compliant or accessible.

USPS Web Accessibility Checklist					
Guidance		Yes No N/A	Comments		
1	PDF Files: On the postal Intranet, an accessible and fully compliant version of a tagged PDF file does not require that an alternate format or alternate access method be posted. Non-compliant tagged PDF files will still require that an alternate format or alternate access method be posted on the Intranet for use by postal employees. On the postal Internet, both accessible tagged PDF files and non-compliant PDF files must have an additional alternate format or alternate access method posted for use by the public.				
2	<i>Forms:</i> When electronic forms are designed to be completed online, the form must allow access via assistive technologies to information, field elements, and functionality, e.g., associated controls required for completion, review, revision and submission of the form, including directions and cues.				
3	Tables: Tables must be constructed so that they can be easily interpreted by all users and communicate the intent of the author. Identify row and column headers for data tables. Associate data cells with their headers for all tables that have two or more logical levels of row or column headers. The table must be constructed so that it can be read logically from left to right, and from top to bottom. When a data table has one logical level of row or column headers, it is a simple table. Complex tables are data tables that have more than one logical level of row or column headers.				
4	<i>Frames:</i> The frameset must be constructed so that the user is not dependent upon visual cues in order to navigate the site. Frames must be titled with text that facilitates frame identification and navigation.				

	USPS Web Accessibility Checklist				
	Guidance		Comments		
5	<i>Scripts, Applets, and Plug-ins:</i> When pages utilize scripting languages to display content or to create interface elements, the script must provide meaningful text that can be read by assistive technology. If an accurate message cannot be conveyed by the results of the script, provide an equivalent alternate format or alternate access method. Provide a link to a plug-in or applet that complies with the Access Board's standard, 36 CFR 1194.21 (Software Applications and Operating Systems) when a Web page requires an applet, plug-in or other application to be present on the client system to interpret page content.				
6	Non-Text Elements: A descriptive text equivalent must be provided for all non-text elements that render information required for comprehension of the content or that facilitates navigation (images, graphs, charts or animation).				
7	<i>Image Maps:</i> Use client-side image maps, whenever possible, in place of server-side image maps, except when the regions of a server-side image map cannot be defined with an available geometric shape. Provide equivalent redundant text links for all server-side image map hot spot areas.				
8	<i>Multimedia:</i> Provide equivalent alternate formats or alternate access methods for any multimedia presentation and synchronize them with the presentation.				
9	Color: Web pages must be designed so that all information required for navigation or meaning is independent of the ability to identify specific colors.				
10	Navigation and Design: Provide a method that will permit users of assistive technology the option to skip repetitive navigation links. A descriptive text hyperlink must be used instead of a URL hyperlink. URL hyperlinks have no meaning to the visually impaired user. Page design cannot cause the screen or screen element to flicker or blink with a frequency greater than 2 Hertz (Hz) and lower than 55 Hz. When a timed response is required, alert the user and give them sufficient time to indicate that additional time is necessary.				
11	<i>Style Sheets:</i> Documents must be organized so that they are readable without requiring an associated style sheet. Documents must be constructed so that the user is not dependent upon style sheets to interpret the content of the Web page. This does not prohibit the use of style sheets.				

4 Telecommunications

5 Video and Multimedia

6 Software Applications and Operating Systems

7 Desktop Portable Computers

8 Self-Contained, Closed Products

9 Support