SMG 3130.3

FDA STAFF MANUAL GUIDES, VOLUME III - GENERAL ADMINISTRATION

PERSONNEL

REASONABLE ACCOMMODATION AND ACCESSIBILITY

ELECTRONIC AND INFORMATION TECHNOLOGY ACCESSIBILITY FOR INDIVIDUALS WITH DISABILITIES UNDER SECTION 508 OF THE REHABILITATION ACT AMENDMENTS OF 1998

Effective Date: 03/07/2006

1. PURPOSE

This Guide establishes procedures for issuing administrative policy, procedures, and instructions in the form of directives relating to Section 508 of the Rehabilitation Act of 1973, as amended. These directives are written to implement Department of Health and Human Services (HHS) instructions, to set forth FDA organizations and delegations of authority, and to develop procedural guidance when HHS has not covered the subject.

Under Section 508, agencies must provide employees and members of the public who have disabilities access to electronic and information technology that is comparable to the access available to employees and members of the public who are not individuals with disabilities. The law applies to Federal agencies when they develop, procure, maintain, or use electronic and information technology. Section 508 was enacted to eliminate barriers in information technology, to make available new opportunities for people with

disabilities, and to encourage development of technologies that will help achieve these goals.

2. REFERENCES

This policy is based on the following Federal Laws and Guidance:

- 29 USC §794d - Section 508 of the Rehabilitation Act of 1973, as amended
- Public Law 105-220 - Workforce Investment Act of 1998
- 36 CFR Part 1194 - Electronic and Information Technology Accessibility Standards; Final Rule
- 48 CFR, Chapter 1, Parts 2, 7, 10, 11, 12, and 39 -Federal Acquisition Regulations; Electronic and Information Technology Accessibility
- 29 CFR 1614.203 - Federal Sector Equal Employment Opportunity
- 29 USC §§ 791 and 794 - Section 504 of the Rehabilitation Act of 1973, as amended
- 40 USC §25 - Information Technology Management Reform Act of 1996 (Clinger-Cohen Act)
- Public Law 101-336 - Americans with Disabilities Act of 1990
- Department of Health and Human Services Policy for Section 508 Electronic and Information Technology (January 2005)

3. BACKGROUND

The electronic and information technology (EIT) revolution offers many challenges, but none as daunting as the assurance of accessibility and usability of critical technologies to all people, including those with disabilities. In many ways, the "wired universe" of EIT has acted as a liberating communications catalyst for people with disabilities. Yet, the rapid advances in this sector can also pose serious technological barriers for people with disabilities, including Federal employees, if accessibility is not assured.

According to the Survey of Income and Program Participation (SIPP) conducted by the U.S. Bureau of the Census, there are 54 million Americans with some level of disability (Census 2000). About half of those experience severe disability. Of working age people (age 15-64), 18.7%, or 32.1 million,

have a disability. These numbers are expected to continue to increase due to the aging of the U.S. population.

According to the Presidential Task Force (*Re-charting the Course: Turning Points*) there are 167,902 Federal employees with reportable disabilities or functional limitations. The Federal government is working to become a "model" employer in terms of hiring, accommodating, and promoting people with disabilities. The Presidential Task Force on Employment of Adults with Disabilities, Executive Order 13163, requires the Federal government to hire 100,000 individuals with disabilities over the next five years, and establish procedures to promote the development of consistent policies and procedures for providing reasonable accommodation. The New Freedom Initiative (http://www.whitehouse.gov/news/freedominitiative/freedominitiative.html) is part of this effort and implementation of Section 508 is a critical element of this coordinated initiative.

People with disabilities are an underutilized labor pool in a time when the Federal government is competing with private industry for the best people. Succession planning for upcoming vacancies may want to consider new employees from alternative labor pools. To attract and retain the best-qualified employees, a work environment must demonstrate a welcoming atmosphere for people with disabilities. The practical application of this is to create an inclusive workspace that is free of both physical and technological barriers.

There is a special emphasis on EIT as it has fundamentally changed the workplace, and is expected to continue to shape the work environment in the future. EIT can be either a barrier to or facilitator of employment for individuals with disabilities depending on its level of accessibility. If the technology available is accessible, it will support and facilitate the accommodation process for individuals required by Sections 501 and 504 of the Rehabilitation Act.

4. POLICY STATEMENT

The policy of the FDA is to provide access to its programs, services, information, and data to employees and the public with disabilities that is equal to the level of access that is provided to those without disabilities. The FDA complies with the legal requirements of Section 508 for all of its purchases of electronic or IT equipment made on or after June 21, 2001. All Electronic and Information Technology (EIT) systems or products shall be accessible to the public and to employees with disabilities, unless the technology does not exist in the marketplace, or it would impose an undue burden on the agency (see page 8 for additional exceptions that may apply.)

5. RESPONSIBILITIES AND PROCEDURES

Successful implementation of Section 508 requires the support of and is the responsibility of every person employed by the FDA (including contractors). Some activities covered are:

- Design or development of IT systems requirements
- Development of web pages and content
- Requesting the purchase of any electronic or information technology, or involvement in the procurement or IT development process
- Major revisions to existing electronic or information technology
- Ensuring all presentations, including video and broadcasts, are accessible to people with disabilities
- Strategic IT activities and IT Governance.

These activities play an active role in the implementation of Section 508.

Even if there are not any people with disabilities currently working within your office, someone may be hired who has a disability, or through an illness or accident, someone within your staff may become disabled while on the job. Assistive technology related accommodations for staff can be obtained on a case-by-case basis via the Department of Defense's Computer/Electronic Accommodations Program (CAP)[1] and additional services are available via the USDA's TARGET Center (on-site assessments and demonstrations of assistive technology). Questions regarding reasonable accommodations for FDA employees should be directed to the FDA's Reasonable Accommodations Team within the Office of Equal Employment Opportunity and Diversity Management (301-827-4840.)

Each FDA employee is responsible for implementing the provisions of Section 508 of the Rehabilitation Act as you carry out the FDA mission. Whether you:

- Prepare documents (ex. PowerPoint, Excel, Word, and PDF files)
- Present information inside or outside of the agency
- Prepare documents for posting to the Internet or Intranet

[1] DOD CAP provides Assistive Technology free of charge to FDA and other Federal Agencies as a form of accommodation to provide a qualified staff person with a disability the capacity to perform the essential function of their job

- Purchase or develop software or equipment

Section 508 should play a role in your decision-making, helping you become more effective in taking action for the agency. Section 508 is one of the electronic government (E-Government) initiatives included in the President's Management Agenda. The FDA is committed to institutionalizing Section 508, ensuring that its standards and requirements are fully implemented and will become a part of daily operations.

5.1. Scope of Section 508

Section 508 applies to Federal departments and agencies; it does not apply to recipients of Federal funds, and does not regulate the private sector. The technical provisions cover technology procured by Federal agencies directly and under contract with private entities, but apply only to those products directly relevant to the contract and its deliverables. While Section 508 does not apply directly to the private sector, EIT vendors selling to Federal agencies should document that their hardware and software meet all applicable Section 508 technical provisions, either directly or through equivalent facilitation.

Section 508 was originally added to the Rehabilitation Act in 1986, establishing general guidelines for technology accessibility. In 1998, Section 508 was amended to require that EIT developed, procured, maintained, or used by Federal agencies, including the U.S. Postal Service be accessible to people with disabilities. This amendment significantly expands and strengthens the technology access requirements in Section 508 by creating binding, enforceable standards and incorporating those standards into Federal procurement regulations. Federal agencies must now use these standards in EIT acquisitions, as well as in-house development of websites and software.

Consistent government-wide standards will make it easier for Federal agencies to meet existing obligations and make technology systems accessible to people with disabilities, and promote competition in the technology industry by clarifying the Federal market's requirement for accessibility in products intended for general use. The amended Section 508 also establishes a complaint procedure and reporting requirements, which further strengthen the law.

The requirements of Section 508 apply to an agency's procurement of EIT, as well as to the agency's development, maintenance, or use of EIT. Individuals with disabilities may only enforce Section 508 with respect to procurements. However, they may also enforce rights under Sections 501

and 504 of the Rehabilitation Act, which impose related obligations on agencies and, in the case of 504, on recipients of Federal Funds.

Violations of Section 508 have significant ramifications, including:

- Administrative complaints
- Civil actions including remedial damages
- Significant adverse public reaction to FDA not meeting the needs of people with disabilities

5.2. Definition of EIT

In Section 508, and consistent with the Clinger-Cohen Act of 1996, electronic and information technology is defined to include any equipment or interconnected system or subsystem of equipment that is used in the automatic acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission, or reception of data or information. It includes computer hardware, software, networks, telephones, copiers, fax machines and peripherals as well as many electronic and communications devices commonly used in offices. Video and multimedia products are also covered.

5.3. Standards

The Architectural and Transportation Barriers Compliance Board (Access Board) was charged with developing technical and functional provisions to establish a minimum level of accessibility. The Board issued its Electronic and Information Technology Accessibility Standards on December 21, 2000. Procurements covered by the standards became enforceable on June 21, 2001. On April 25, 2001, a final rule was published that incorporates the Access Board's standards into the Federal Acquisition Regulation (FAR). The FAR changes became effective June 25, 2001.

The Section 508 technical provisions include:

- Requirements specific to various types of technologies (Subpart B of the Access Board's standards)
  - Web-based information or applications
  - Telecommunications products
  - Video or multimedia products

- ❖ Self-contained, closed products (information kiosks, copiers, fax machines, printers, etc.)

- ❖ Desktop and portable computers

- Functional performance criteria focusing on the functional capabilities of covered technologies (Subpart C), i.e. compatibility with assistive technologies that some people with disabilities use for information and communication access.

- Requirements for information, documentation, and support (Subpart D).

The complete list of technology-specific provisions are outlined in Attachment E. Additional information can be found online about Section 508 Law (Section508.gov).

5.4. Exceptions to Section 508

- Purchases that would pose an undue burden on the agency

- Purchases of non-accessible EIT (or less than 100% compliant EIT) when there is no compliant EIT available in the commercial marketplace that also meets the other technical specifications (commercial non-availability)

- Systems used for national security, military command, weaponry, intelligence, and cryptologic activities, but not routine business and administrative systems used for other defense-related purposes or by defense agencies or personnel; This has been determined to not apply to the FDA, and this exception will not be granted except by written petition to the Section 508 Official

- "Back office" equipment (i.e., servers, telephone switching equipment) used only by service personnel for maintenance, repair or similar purposes

- EIT acquired by a contractor that is incidental to the contract

All exceptions require appropriate documentation and approval, depending on the exception used. If an exception is granted, the agency is still responsible for providing information and data to individuals with disabilities through the customary "reasonable accommodation" process outlined in Sections 501 and 504 of the Rehabilitation Act of 1973.

5.4.1. Undue Burden

Undue burden means significant difficulty or expense. An undue burden justification is required when the decision is made to purchase EIT that is not fully compliant due to significant difficulty or expense of making EIT fully compliant. To determine whether acquisition of EIT that meets the applicable technical provisions would impose an undue burden, FDA must consider the difficulty or expense of compliance relative to all Departmental resources available to the program or component for which the product is being acquired. If an undue burden is justified, FDA must provide an alternative means of access that allow the individual to use the information and data.

Significant case law surrounds the term "undue burden". It is essential that FDA employees be aware that the threshold for meeting this exception is significant, and that the standard for undue burden includes *some business disruption beyond increased cost*. The Associate Commissioner for Management and Budget is the final approval level for FDA's undue burden claims. Each undue burden exception will be determined on a case-by-case basis and will require annual renewal by the FDA Section 508 Official (see Attachment C).

5.4.2. When Accessible EIT is Not Available-Commercial Non-Availability

When acquiring commercial items, an agency must comply with those accessibility standards that can be met with supplies or services that are available in the commercial marketplace in time to meet the agency's required delivery requirements. When accessible EIT is not available, the market research performed and standards that cannot be met must be documented and forwarded to the Section 508 Coordinator (see Attachment B).

5.4.3. Other Exceptions to Section 508

Section 508 compliance is not required if the EIT can be classified as an exception. These exceptions would typically be determined either before the completion of the Purchase Request, or during the offer/proposal evaluation. For risk mitigation purposes, all purchases totaling over fifteen thousand dollars ($15,000) require an additional form to document the exception (See Attachment D: Documentation of Non-Finding). Once completed, this form should be sent to the FDA Section 508 Coordinator for approval and processing. The 508 exceptions that should be documented with this form include:

- ❖ EIT for a national security system

- ❖ EIT located in spaces frequented only by service personnel for maintenance, repair, or occasional monitoring of equipment ("back office")

- ❖ EIT acquired by a contractor

The Section 508 standards list other considerations that are exempt from compliance with the Section 508 statute. No forms are required to document these exceptions.

- ❖ Installation of accessibility software or technology devices at a workstation of a non-disabled employee, such as screen readers and enlarging image software.

- ❖ Purchasing or making products available at a location other than where the EIT is provided to the public.

- ❖ Fundamental alteration in the nature of a product or its components, such as thermostats.

5.5. Equivalent Facilitation

The standards published by the Architectural and Transportation Barriers Compliance Board, commonly called the Access Board, provide that agencies may accept EIT offered by vendors that uses designs or technologies that do not meet the applicable technical provisions in Subpart B but provide substantially equivalent or greater access to and use of a product for people with disabilities. (See 36 CFR 1194.5.) This is referred to as "equivalent facilitation."

Equivalent facilitation is not an exception or variance from the requirement to provide comparable access. Rather, it is a recognition that technologies may be either developed or used in ways not envisioned by the technical provisions in Subpart B but still result in the same or better functional access as would be provided by strictly meeting the provisions in Subpart B. Functional outcome - not form - is key to evaluating whether a technology results in "substantially equivalent or greater access." In effect, meeting the functional performance criteria in Subpart C of the Board's standards is the test for equivalent facilitation.

For example, an information kiosk which is not accessible to a person who is blind might be made accessible by incorporating a telephone handset connected to a computer that responds to touchtone commands and delivers the same information audibly that is provided on the screen.

In short, the concept of equivalent facilitation is designed for the marketplace to offer innovative solutions. For this reason, agencies must draft their solicitations for EIT so that products that offer equivalent facilitation are considered along with those that strictly meet the technical provisions of Subpart B of the standards.

5.6. Complaint Procedure

This law establishes a complaint procedure and reporting requirements that further promote compliance. Section 508 provides that any individual with a disability may file a complaint alleging that FDA fails to comply with Section 508 in providing accessible electronic and information technology. The FDA shall apply the complaint procedures established to implement Sections 501 & 504 of the Rehabilitation Act for resolving allegations of discrimination in a federally conducted program or activity. Under Sections 501 & 504, individuals may also sue an agency in Federal court to correct an alleged violation. Employment related complaints should be forwarded to the Office on Equal Employment Opportunity and Diversity Management (301-827-4840); non-employment related complaints and other complaints filed by employees, applicants for employment at the Department, or from members of the public alleging a failure to comply with Section 508 are forwarded to the HHS Office for Civil Rights (OCR) for investigation and resolution (202-619-0403 www.hhs.gov/ocr.)

5.7. DOJ Reporting Requirements

Section 508 requires Federal agencies to report to the Department of Justice on a biennial basis the extent to which their electronic and information technology is accessible and usable by individuals with disabilities.

5.8. HHS Reporting Requirements

The Department's Office on Disability has mandated the following assessment and reporting requirements from all HHS Operating Divisions.

- The FDA will conduct a yearly Organizational Assessment in the first quarter of the fiscal year (a baseline assessment was conducted in December of 2005.)The consolidated report of FDA's Section 508 compliance will be submitted to the Office on Disability by December 31 of year. This assessment shall include:

  - Identification of the current level of compliance of websites, systems, and other EIT

- ❖ Identification of the processes in place that can be used in implementing Section 508 (e.g., EEO complaint procedures, OCR process, system life cycle development processes, budget processes, and strategic planning processes).

- ❖ Identification of the level of FDA personnel awareness relative to Section 508 requirements

- ❖ Identification of the level of Section 508 support available throughout the agency and existing contractors

- ❖ Other information needed for the upcoming Department of Justice survey

- The FDA shall develop a yearly Section 508 Compliance Report based on results of the organizational assessment, to be submitted to the HHS Office on Disability. Priorities will be determined to minimize risk and ensure compliance. This will include budget information, development and implementation of procedures, training, and timelines/check points. The compliance plan should also include measures for determining progress and success. These measures will conform to mandated reporting requirements from the HHS Office on Disability, and include known metrics from previous DOJ surveys. Examples of measures include:

  - ❖ Number of FDA personnel who have taken Section 508 training

  - ❖ Number of complaints determined valid

  - ❖ Number of web pages that comply with the Section 508 standards

  - ❖ Number of EIT products available

  - ❖ Budget for Section 508 related activities

  - ❖ Accessible telecommunications gateways

  - ❖ Exceptions claimed

- Quarterly reports of FDA's approved and denied commercial non-availability and undue burden exceptions, as well as other exception requests shall be submitted to the HHS Office on Disability. Supporting documentation for each approved or denied exception should also be included with the report.

- ❖ Copies of commercial non-availability forms, including documentation and approval signatures from the Section 508 Coordinator

- ❖ Copies of undue burden forms, including documentation and approval signatures from the Section 508 Official, the Associate Commissioner for Management. Undue burden assessments for significant difficulty or expense must consider all HHS resources available for which the product or service is being developed, procured, maintained, or used. Each undue burden exception will be determined on a case-by-case basis and will require annual renewal by the FDA Section 508 official on behalf of the FDA Commissioner.

5.9. Procurement Regulations Under Section 508

Section 508 uses the Federal procurement process to ensure that technology acquired by FDA is accessible. The following information is an overview of Section 508 procurement requirements:

- By statute, the enforcement provisions of section 508 apply only to electronic and information technology *procured on or after the effective date (6/21/01).*

- Section 508 does not authorize complaints or lawsuits to retrofit technology procured before this date to meet the Section 508 standards.

- Although Section 508's enforcement mechanisms apply only to procurement, FDA does also require access to technology *developed, used or maintained by FDA.*

- While manufacturers are not required to modify their products, FDA is required to give priority to procuring products, that comply with the Section 508 standards.

- All Section 508 requirements are subject to commercial availability and do not apply if doing so would cause significant difficulty or expense for FDA. This is principle of Undue Burden.

Detailed information regarding procedures for procurement under Section 508 may be found at http://intranet.fda.gov/ocio/section508.

6. ORGANIZATION STRUCTURE

The following sections provide suggested roles and responsibilities for the CIO, Section 508 EIT Accessibility Coordinator, and members of the Section 508 EIT Accessibility Team.

6.1. FDA Leadership

6.1.1. Division Head-FDA Commissioner

The FDA Commissioner has overall responsibility for Section 508 compliance. Executive responsibilities include:

- ❖ Fostering and promoting Section 508 compliance within the agency
- ❖ Appointing the Section 508 Official and Coordinator(s) for the agency
- ❖ Participating in the planning and execution of compliance activities
- ❖ Budgeting the resources necessary to institutionalize Section 508 activities

6.1.2. Section 508 Official-Associate Commissioner for Management

In addition to the executive responsibilities outlined above, the Section 508 Official's responsibilities include:

- ❖ Leading FDA's efforts in Section 508 compliance
- ❖ Sponsoring the FDA Section 508 Work Group
- ❖ Approving of all requests for undue burden exceptions to Section 508
- ❖ Advocating for Section 508 program resources necessary to institutionalize Section 508 activities
- ❖ Working with the FDA management team to resolve issues and align resources to attain compliance

6.1.3. Chief Information Officer (CIO)

- ❖ Establishing and implementing EIT policy in support of Section 508

- ❖ Establishing minimum ISA requirements to reflect Section 508 standards issued by the Access board and HHS

- ❖ Providing an employee to serve as an agency Section 508 Coordinator

6.1.4. Director of the Office of Equal Employment Opportunity and Diversity Management (OEEODM)

- ❖ Establishing and implementing EIT policy in support of Section 508

- ❖ Establishing policies and procedures governing the complaint and alternative dispute resolution procedures

- ❖ Accepting and investigating employment-related complaints alleging a failure to comply with Section 508 (non-employment related complaints are referred to the Office for Civil Rights, HHS)

- ❖ Providing an employee to serve as an agency Section 508 Coordinator

6.1.5. The Office of Acquisitions and Grants Services (OAGS)

- ❖ Assuring that acquisition policy and procedures are in place to support Section 508 requirements

- ❖ Advising on the development of Section 508 contract language for use in procurements

- ❖ Providing procurement assistance and guidance to FDA offices in the conduct of procurements to achieve compliance with Section 508

- ❖ Appointing an agency Section 508 Work Group Liaison(s)

6.1.6. The Office of Public Affairs (OPA)

- ❖ Providing overall direction, management, and oversight of the FDA website content and assures that programs are in place to help FDA center developers comply with Section 508

- ❖ Appointing an agency Section 508 Work Group Liaison(s)

6.1.7. Center/Office Directors

- ❖ Ensuring that Center/Office practices and procedures adhere to Section 508 requirements

- ❖ Appointing an agency Section 508 Work Group Liaison(s)

- ❖ Identifying sponsors, as applicable, for all undue burden exception requests (these sponsors are responsible for completing and submitting the undue burden documentation package to the Section 508 Coordinator, and will be asked to meet with the FDA Section 508 Work Group to justify the undue burden exception.)

6.2. FDA Section 508 Coordinator(s)

The Section 508 Coordinator(s) will lead the agency's efforts to assemble a Section 508 Work Group, develop, and execute a Section 508 Implementation Plan. Under the leadership of the Coordinator(s), the Workgroup will determine FDA's Section 508 policy and guidance and develop a strategy for implementing, communicating, and evaluating FDA's Section 508 activities. Some of the responsibilities of the 508 Coordinator(s) manage include:

- Represent, when absent or unavailable, their respective appointing authorities and FDA Section 508 Official regarding 508 issues. This includes all discussions, decisions, and planning activities where Section 508 may be a factor in the agency's deliberations.

- Oversee the components and processes of FDA's Section 508 Program, including drafting specific policies, procedures, training, and forms to implement or refine this SMG. These may supersede the forms and process listed in this SMG.

- Provide progress reports and ad hoc information related to the implementation of Section 508 policies and procedures to the FDA Section 508 Official and the Commissioner, upon request.

- Establish and conduct regular meetings of the FDA Section 508 Work Group. Assign responsibilities to the team according to members' areas of expertise.

- Coordinate and assure education and awareness of all employees within the agency, add disability awareness and accessibility training into agency training programs.

- Monitor the Access Board (www.access-board.gov) and the General Services Administration (GSA) (www.section508.gov) web sites for new guidance and training opportunities.

- Prepare procedures for the development of requirements.

- Develop and implement methods for monitoring adherence to Section 508 policies and procedures.

- Develop market research procedures and methods to monitor adherence to these procedures.

- Develop an intranet page to share 508 information and link to the Section 508 standards, internal guidelines, points of contact, and available training,

- Coordinate the annual Section 508 assessment of Section 508 Compliance mandated by HHS.

- Coordinate and contribute input to the Report to the Department of Justice and Quarterly Reports to HHS's Office on Disability.

- Respond to other information requests on Section 508, coordinating with other involved organizations and stakeholders as necessary.

- Together with the Section 508 Official, represent FDA at HHS and government-wide meetings regarding Section 508, including the HHS Section 508 Program Team.

6.3. FDA Section 508 Work Group

Following GSA guidelines of May 10, 1999, the FDA Work Group has the following responsibilities:

- Serve as a clearinghouse for Section 508 issues, resolving those where appropriate and recommending next steps for those that cannot be resolved.

- Provide recommendations and expertise to the Section 508 Coordinators regarding Section 508 implementation issues and solutions.

- Support the development of policies and procedures to ensure Section 508 compliance and communicating them to FDA employees.

- Respond to reporting requirements from HHS and the Department of Justice on Section 508 compliance.

- Integrate Section 508 accessibility needs into agency budget plans, strategic plans, and EIT capital plans.

- Work with software and web site vendors/developers on accessibility issues relating to EIT systems.

- Participate in monitoring, measurement, and disclosure activities including usability testing and priority setting.

- Provide sources of education and training to key personnel within the department/agency on how Section 508 will affect their organizations, what services and support are available, and procurement changes (FAR) that will affect the purchase of any new equipment or software.

6.4. FDA Requesting Officials (e.g. iProcurement users and Project Officers)

In accordance with the FAR and HHS policy, the requesting official (not the contracting official) must:

- Identify technical specifications, statements of work, and minimum requirements to be submitted with the purchase request.

- Identify which 508 standards apply to the procurement.

- Perform market research to determine the availability of compliant products and services (using vendor web sites and the Section 508 web site, which will link to vendors who describe their accessibility).

- Identify which exceptions would apply, if any.

- Obtain appropriate approvals for exceptions.

- Ensure that the products and services delivered comply with the required standards.

- Participate in mandated HHS training on Section 508.

6.5. FDA Authorizing Officials (Managers who approve procurements for their office)

- Ensure that the requesting official has complied with responsibilities under Section 4.4 of this policy.

- Respond to any Section 508 inquiries or complaints from employees or members of the public, referring them to the Section 508 Coordinator(s) as appropriate.

- Participate in mandated HHS training on Section 508.

6.6. FDA Contracting Officers

- Ensure that the statement of work and resulting contract or other agreement contain appropriate Section 508 requirements, unless an exception is approved.

- Maintain in the contract file appropriate records to account for exceptions, non-availability, or undue burden determinations for EIT purchases.

- Involve the FDA's Section 508 Coordinators regarding any Section 508 adverse issues or exceptions, such as "undue burden."

- Participate in mandated HHS training on Section 508.

7. TOOLS, TRAINNIG, AND TECHNICAL ASSISTANCE

The FDA's Section 508 webpage (http://intranet.fda.gov/ocio/section508) has information on creating accessible documents, purchasing guidance, and forms. This site includes an extensive list of available tools and systematic guidance materials. Information on Section 508 tools, training, and technical assistance are regularly updated. Examples of guidance materials available on the Section 508 web page include:

- Accessible Document Creation in Microsoft Products

- Accessible PDF Document Creation

- Links to HHS-supplied trainings and other resources

7.1. Mandatory Training for Managers and Purchasers

In order to ensure that Section 508 is well understood, HHS has mandated that all managers, purchasers, and other Section 508 affected employees take annual Section 508 Training. This is a two-phase training; the first phase is available on-line at http://intranet.hhs.gov/508/training. For more information on the second phase of the Section 508 training, go to http://www.hhs508.org.

- **Division Heads** (including STAFFDIV Heads)
- **CIOs** (or Executives having Division-wide responsibility for IT activities)
- **Authorizing Officials** (Managers and Supervisors having the authority to approve purchase requests, accept proposals, or otherwise make acquisition decisions for their organizations)
- **Requesting Officials** (any employee whose duties include initiating iProcurement acquisitions requisitions, writing or evaluating RFP/RFIs, or any other role in determining or evaluating IT technical requirements or informing product choice)
- **Program Managers, Project Managers, IT Development Leads and COTRs** (Staff at any level responsible for directing IT projects, overseeing acceptance of electronic or information technology (EIT) deliverables, or managing/supervising EIT development staff)
- **Procurement** (Acquisitions) Officials
- **EEO staff**

7.2. Free Section 508 information and training from GSA

GSA provides additional information on www.section508.gov including best practices, free training on various 508-related subjects, frequently asked questions, and other information. GSA's free online training includes:

- Designing Accessible Websites
- Accessible Conferences
- Buying Accessible E&IT (Requiring Officials and Contracting Officers)
- Additional Accessibility & Usability Concerns
- Accessible Video and Multimedia
- Building and Buying Accessible Software
- Buying Accessible Computers
- Opening Closed Products
- IRS Course on Software Development

The General Services Administration (GSA), as part of its statutory responsibility to provide technical assistance for Section 508 implementation, has developed the 'Buy Accessible Wizard' to guide requiring officials and acquisition professionals in their efforts to comply with the requirements of section 508. The Wizard can assist in determining if Section 508 applies to an EIT acquisition, identifying which specific standards apply to the products or services being acquired, developing solicitation language, initiating market research, and documenting the acquisition to ensure compliance. Additionally, the Wizard assists government purchase cardholders to ensure that micro-purchases, which are no longer exempt from the Section 508 requirements, include the appropriate accessibility considerations. The Wizard, which was recently awarded an authority to operate after completing a thorough certification and accreditation process, is available for use by all Federal Agencies. The Wizard is available at www.buyaccessible.gov.

8. EFFECTIVE DATE

The Section 508 laws became effective on June 21, 2001. The effective date of this guide is March 7, 2006.

9. Document History -- SMG 3130.3, Electronic and Information Technology Accessibility for Individuals with Disabilities Under Section 508 of the Rehabilitation Act Amendments of 1998

STATUS (I, R, C)	DATE APPROVED	LOCATION OF CHANGE HISTORY	CONTACT	APPROVING OFFICIAL
Initial	03/07/2006	n/a	OEEODM/Diversity Management Staff (HFA-715)	Georgia Coffey, Director, OEEODM

Attachment A

Glossary of Terms

Term	Definition
Access Board	The Architectural and Transportation Barriers Compliance Board (Access Board) is an independent Federal agency whose primary mission is to promote accessibility for individuals with disabilities. The Rehabilitation Act Amendments of 1998 requires the Access Board to publish standards setting forth a definition of electronic, information technology, and the technical and functional performance criteria necessary for such technology to comply with Section 508.
Alternate Formats	Formats that are usable by people with disabilities. Those formats may include, but are not limited to Braille, ASCII text, large print, recorded audio, and electronic formats that comply with Section 508 standards (36 CFR § 1194.4).
Alternate Methods	Different means of providing information to users of products, including product documentation such as voice, fax relay service, TTY, internet posting, captioning, text-to-speech synthesis, and audio description (36 CFR § 1194.4).
Assistive Technology (AT)	Any item, piece of equipment, or system whether acquired commercially, modified, or customized, that is commonly used to increase, maintain, or improve functional capabilities of individuals with disabilities. This may include screen readers, which allow persons who cannot see a visual display to either hear screen content or read the content in Braille.
Commercial Item	Any item that can be purchased off-the-shelf and used without making changes, except those designed within the equipment or software. Reference FAR Subpart 2.101 for a comprehensive definition of "commercial item."

Attachment A

Term	Definition
Commercial Nonavailability	Refers to circumstances where no commercial items are available that meet the applicable Access Board's technical provisions (directly or through equivalent facilitation) in time to satisfy the agency's delivery requirements. If products are available that meet some, but not all, applicable provisions, agencies cannot claim a product as a whole is nonavailable just because it does not meet all of the applicable technical provisions. The requiring official must document commercial nonavailability in writing (FAR.203(c) and 36 CFR 1194.2(b)).
Disability	A physical or mental impairment that substantially limits one or more major life activities. The average person can perform these activities with little or no difficulty. Examples include walking, seeing, hearing, breathing, learning, caring for oneself, and performing manual tasks.
Electronic and Information Technology (EIT)	Includes "Information Technology" and any equipment or interconnected system or subsystem of equipment that is used in the creation, conversion, or duplication of data or information. The term includes, but is not limited to, telecommunication products (such as telephones), information kiosks and transaction machines, World Wide Web sites, multimedia, and office equipment such as copiers and fax machines. The term does not include any equipment that contains embedded Information Technology that is used as an integral part of the product, but the principal function of which is not the acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission, or reception of data or information. For example, HVAC (heating, ventilation, and air conditioning) equipment such as thermostats or temperature control devices, and medical equipment where Electronic Information Technology is integral to its operation, is not Electronic Information Technology.

Attachment A

Term	Definition
Equivalent Facilitation	A provision called "equivalent facilitation" is included in the Access Board standards to encourage creative solutions to the issues of accessibility. It is not a "waiver" from the requirement to provide accessibility, but recognition that future or existing technologies may provide "substantially equivalent or greater access" compared to the ways described in the technical standards.
FAR	Federal Acquisition Regulations. The Section 508 citation of the FAR is 48 CFR, Chapter 1, Parts 2, 7, 10, 11, 12, and 39 Health and Human Services Section 508 Program Team (HHS 508 PT) The Program Team, consisting of membership from each Operating Division and Staff Division and chaired by the HHS Office on Disability Section 508 Coordinator, provides guidance and direction for the HHS Section 508 program. It develops policies and processes; recommends undue burden and commercial nonavailability exceptions to the Office on Disability; and, as request, conducts studies and surveys on the effectiveness of the Section 508 Program.
Market Research	A process used to collect, organize, maintain, analyze, and present data for the purpose of maximizing the capabilities, technology and competitive force of the marketplace to meet an organization's needs for supplies or services. Market research information will differ depending on whether the research is being conducted to develop a requirements document, support preparation of a solicitation, or both. Market research examples are available on the Section 508 Website at http://www.section508.gov.

Attachment A

Term	Definition
Rehabilitation Act	In 1973, Congress passed the Rehabilitation Act to provide individuals with disabilities opportunities to gain meaningful and productive employment with the Federal government.
Self-Contained Closed Products	Products that generally have embedded software and are commonly designed in such a fashion that a user could not easily attach or install assistive technology. These products include, but are not limited to, information kiosks and information transaction machines, copiers, printers, calculators, fax machines, and other similar types of products.
Telecommunications	The transmission, between or among points specified by the user, of information of the user's choosing, without change in the form or content of the information as sent and received.
Undue Burden	Significant difficulty or expense. In determining whether an action would result in an undue burden, an agency shall consider the difficulty or expense of compliance, and all agency resources available to its program or component for which the product or service is being developed, procured, maintained, or used.
Voluntary Product Accessibility Template (VPAT)	The Voluntary Product Accessibility Template is to assist Federal contracting officials in their acquisition planning responsibilities. The intent of the template is to provide a useful and convenient mechanism for vendors to make preliminary assessments regarding the availability of commercial EIT products and services. GSA maintains the template and is a work in progress. Vendors use of the template is voluntary

Attachment B

HHS EIT Commercial Non-Availability Certification

To be completed by the Requesting Official (Purchase Requestor) for attachment to purchase requests involving Commercial Non-availability Exceptions for Electronic and Information Technology (EIT).

Part (I): List Applicable Standards

Use the Buy Accessible Wizard (http://www.buyaccessible.gov/4) to assist in determining standards that apply. Refer to the Section 508 Technical Standards at www.access-board.gov/508/5 or contact your FDA Section 508 coordinator for more information. List the applicable Standards below or attach a list:

Part (II): Answer the questions below as fully as possible:

- What is your timeframe for purchasing this EIT?
- What were your findings regarding the non-availability of compliant commercial items?
- What applicable technical standards of Section 508 will not be met by each product to be acquired?
- What was the methodology or process by which you ascertained the non-availability of compliant commercial items?
- What sources did you use to investigate the availability of compliant commercial items?
- What is your Plan for providing information to persons with disabilities in an alternate format if proposed noncompliant products or services are purchased?

Part (III): Certify Non-Availability:

I have determined and hereby CERTIFY that the procurement of the applicable EIT product(s) or services required by my organization that are subject to Section 508 of the Rehabilitation Act of 1973, as amended, in accordance with 36 CFR Part 1194, is 'commercially not available', nor expected to become available in a compliant version in time to satisfy agency delivery requirements (36 CFR 1194.2(b) and FAR 39.203(c)). I have conducted the required market research and have not found an accessible product.

_____ _____

Signature of Requesting Official **Printed Name**

_____	_____
Date	**Phone Number**
_____	_____
Signature of Authorizing Official	**Printed Name**
_____	_____
Date	**Phone Number**

Part (IV): Review and Approval by FDA Section 508 Coordinator

( ) Form Complete ( ) **Incomplete** Information missing:
Certification of Non-Availability: ( ) Concur ( ) Denied - Reason:

_____	_____
FDA 508 Coordinator	**Date**

By Direction of FDA Section 508 Official:_____
<Printed Name of Official>

Attachment C

HHS EIT Undue Burden Exception
Determination and Certification (V 1.0)

To be completed by the Requesting Official (Purchase Requestor)

When acquiring commercial items, this Determination is not required to address Sec 508 technical standards of Electronic and Information Technology (EIT) products that are not yet available in the commercial marketplace in time to meet the agency delivery requirements. (Refer to the *Commercial Non-availability Form* if this applies to your requirement.)

For each provision of 36 CFR Part 1194, (see Addendum of *Commercial Non-availability Form*) that an agency finds to be an undue burden, the Requiring Official must explain below why, and to what extent, compliance with each such provision creates an undue burden. A thorough, rational explanation is required by the *HHS Policy for Section 508 Electronic and Information Technology (EIT).*

The format may be expanded for additional space. Relevant attachments, including the *Standards Evaluation Spreadsheet*, are encouraged. Explanations must be adequate to survive protests and litigation challenges.

The data and findings providing the basis for my decision are the following:

1. Products or services required to meet the agency's needs:

2. Dollar value of the acquisition, including any options:

3. Applicable Section 508 standards (see 36 CFR part 1194) that are unmet:

4. Market research performed to locate commercial items that meet the applicable standards:

5. The undue burden (i.e. the significant difficulty or expense the Government would incur in order to comply with a particular standard). If the monetary expense is deemed prohibitive, explain the costs and how they were estimated.

    a. Significant difficulty of compliance:

    b. Significant expense of compliance:

c. Insufficient agency resources available to the agency's program or component for which the goods or service is being acquired (Describe all the available funds):

6. Alternative means of access that will be provided that will allow the individuals with disabilities to use the information or data. (29 U.S.C. 794d (a) (1) (B)). Include effort, labor, costs and time required in the whole process to implement the alternative means. (This information must be sufficiently detailed since it may be used in the procurement process technical evaluation.)

I have determined and hereby CERTIFY that development, procurement, maintenance, or use of the applicable EIT product(s) or services required by my organization that are subject to Section 508 of the Rehabilitation Act of 1973, as amended, in accordance with 36 CFR Part 1194, present an 'undue burden' (36 CFR 1194.4 and FAR 39.204(e)).

_____ _____
Signature **Printed Name**

_____ _____
Date **Phone Number**

Agency 508 Official:

I hereby concur with and support this Determination & Certification of Undue Burden, as required by the *HHS Policy for Section 508 Electronic and Information Technology (EIT).*

_____ _____
Signature **Printed Name**

_____ _____
Date **Phone Number**

_____
Printed Position Title

FDA Section 508 Official:

I hereby concur with and support this Determination & Certification of Undue Burden, as required by the *HHS Policy for Section 508 Electronic and Information Technology (EIT)*.

_____ _____
Signature **Printed Name**

_____ _____
Date **Phone Number**

_____

Attachment C

Printed Position Title

Attach this document to the "Section 508 Determination and Findings for Purchase Requests" form, and affix both to your procurement request.You will need to send a copy to the FDA Section 508 Coordinator, who will compile these requests for quarterly review by the HHS Office on Disability.

Attachment D

HHS EIT Determination and Findings Certification

To be completed by the Requesting Official (Purchase Requestor) for attachment to purchase requests involving Electronic and Information Technology (EIT) totaling over $15,000.

Part (I): List Applicable Standards

Use the Buy Accessible Wizard (http://www.buyaccessible.gov/6) to assist in determining standards that apply. Refer to the Section 508 Technical Standards at www.access-board.gov/508/7 or contact your FDA Section 508 coordinator for more information. List the applicable Standards below or attach a list:

Part (II): Certify Availability:

I have determined and hereby CERTIFY that the procurement of the applicable EIT product(s) or services required by my organization that are subject to Section 508 of the Rehabilitation Act of 1973, as amended, in accordance with 36 CFR Part 1194, is 'commercially available', or expected to become available in a compliant version in time to satisfy agency delivery requirements (36 CFR 1194.2(b) and FAR 39.203(c)). I have conducted the required market research and have found an accessible product.

_____	_____
Signature of Requesting Official	**Printed Name**
_____	_____
Date	**Phone Number**
_____	_____
Signature of Authorizing Official	**Printed Name**
_____	_____
Date	**Phone Number**

Attachment D

Part (IV): Review by FDA Section 508 Coordinator or 508-trained procurement official

( ) Form Complete ( ) **Incomplete** Information missing:

_____ _____

FDA 508 Coordinator or Trained Procurement Official) **Date**

By Direction of FDA Section 508 Official:_____
<Printed Name of Official>

Attachment E

Section 508 Technical Standards

Excerpted from the Electronic and Information Technology (EIT) Accessibility Standards (36 CFR Part 1194) as published in the Federal Register of December 21, 2000.

Subpart B -- Technical Standards

§ 1194.21 Software applications and operating systems.

a. When software is designed to run on a system that has a keyboard, product functions shall be executable from a keyboard where the function itself or the result of performing a function can be discerned textually.

b. Applications shall not disrupt or disable activated features of other products that are identified as accessibility features, where those features are developed and documented according to industry standards. Applications also shall not disrupt or disable activated features of any operating system that are identified as accessibility features where the application programming interface for those accessibility features has been documented by the manufacturer of the operating system and is available to the product developer.

c. A well-defined on-screen indication of the current focus shall be provided that moves among interactive interface elements as the input focus changes. The focus shall be programmatically exposed so that assistive technology can track focus and focus changes.

d. Sufficient information about a user interface element including the identity, operation and state of the element shall be available to assistive technology. When an image represents a program element, the information conveyed by the image must also be available in text.

e. When bitmap images are used to identify controls, status indicators, or other programmatic elements, the meaning assigned to those images shall be consistent throughout an application's performance.

f. Textual information shall be provided through operating system functions for displaying text. The minimum information that shall be made available is text content, text input caret location, and text attributes.

g. Applications shall not override user selected contrast and color selections and other individual display attributes.

h. When animation is displayed, the information shall be displayable in at least one non-animated presentation mode at the option of the user.

i. Color coding shall not be used as the only means of conveying information, indicating an action, prompting a response, or distinguishing a visual element.

j. When a product permits a user to adjust color and contrast settings, a variety of color selections capable of producing a range of contrast levels shall be provided.

k. Software shall not use flashing or blinking text, objects, or other elements having a flash or blink frequency greater than 2 Hz and lower than 55 Hz.

l. When electronic forms are used, the form shall allow people using assistive technology to access the information, field elements, and functionality required for completion and submission of the form, including all directions and cues.

§ 1194.22 Web-based intranet and internet information and applications.

a. A text equivalent for every non-text element shall be provided (e.g., via "alt", "longdesc", or in element content).

b. Equivalent alternatives for any multimedia presentation shall be synchronized with the presentation.

c. Web pages shall be designed so that all information conveyed with color is also available without color, for example from context or markup.

d. Documents shall be organized so they are readable without requiring an associated style sheet.

e. Redundant text links shall be provided for each active region of a server-side image map.

f. Client-side image maps shall be provided instead of server-side image maps except where the regions cannot be defined with an available geometric shape.

g. Row and column headers shall be identified for data tables.

h. Markup shall be used to associate data cells and header cells for data tables that have two or more logical levels of row or column headers.

i. Frames shall be titled with text that facilitates frame identification and navigation.

j. Pages shall be designed to avoid causing the screen to flicker with a frequency greater than 2 Hz and lower than 55 Hz.

k. A text-only page, with equivalent information or functionality, shall be provided to make a web site comply with the provisions of this part, when compliance cannot be accomplished in any other way. The content of the text-only page shall be updated whenever the primary page changes.

l. When pages utilize scripting languages to display content, or to create interface elements, the information provided by the script shall be identified with functional text that can be read by assistive technology.

m. When a web page requires that an applet, plug-in or other application be present on the client system to interpret page content, the page must provide a link to a plug-in or applet that complies with §1194.21(a) through (l).

n. When electronic forms are designed to be completed on-line, the form shall allow people using assistive technology to access the information, field elements, and functionality required for completion and submission of the form, including all directions and cues.

o. A method shall be provided that permits users to skip repetitive navigation links.

p. When a timed response is required, the user shall be alerted and given sufficient time to indicate more time is required.

Note to §1194.22:

1. The Board interprets paragraphs (a) through (k) of this section as consistent with the following priority 1 Checkpoints of the Web Content Accessibility Guidelines 1.0 (WCAG 1.0) (May 5, 1999) published by the Web Accessibility Initiative of the World Wide Web Consortium:

Section 1194.22 Paragraph	WCAG 1.0 Checkpoint
(a)	1.1
(b)	1.4
(c)	2.1
(d)	6.1
(e)	1.2
(f)	9.1
(g)	5.1
(h)	5.2
(i)	12.1

Section 1194.22 Paragraph	WCAG 1.0 Checkpoint
(j)	7.1
(k)	11.4

2. Paragraphs (l), (m), (n), (o), and (p) of this section are different from WCAG 1.0. Web pages that conform to WCAG 1.0, level A (i.e., all priority 1 checkpoints) must also meet paragraphs (l), (m), (n), (o), and (p) of this section to comply with this section. WCAG 1.0 is available at http://www.w3.org/TR/1999/WAI-WEBCONTENT-199905058.

§ 1194.23 Telecommunications products.

a. Telecommunications products or systems which provide a function allowing voice communication and which do not themselves provide a TTY functionality shall provide a standard non-acoustic connection point for TTYs. Microphones shall be capable of being turned on and off to allow the user to intermix speech with TTY use.

b. Telecommunications products which include voice communication functionality shall support all commonly used cross-manufacturer non-proprietary standard TTY signal protocols.

c. Voice mail, auto-attendant, and interactive voice response telecommunications systems shall be usable by TTY users with their TTYs.

d. Voice mail, messaging, auto-attendant, and interactive voice response telecommunications systems that require a response from a user within a time interval, shall give an alert when the time interval is about to run out, and shall provide sufficient time for the user to indicate more time is required.

e. Where provided, caller identification and similar telecommunications functions shall also be available for users of TTYs, and for users who cannot see displays.

f. For transmitted voice signals, telecommunications products shall provide a gain adjustable up to a minimum of 20 dB. For incremental volume control, at least one intermediate step of 12 dB of gain shall be provided.

g. If the telecommunications product allows a user to adjust the receive volume, a function shall be provided to automatically reset the volume to the default level after every use.

h. Where a telecommunications product delivers output by an audio transducer which is normally held up to the ear, a means for effective magnetic wireless coupling to hearing technologies shall be provided.

i. Interference to hearing technologies (including hearing aids, cochlear implants, and assistive listening devices) shall be reduced to the lowest possible level that allows a user of hearing technologies to utilize the telecommunications product.

j. Products that transmit or conduct information or communication, shall pass through cross-manufacturer, non-proprietary, industry-standard codes, translation protocols, formats or other information necessary to provide the information or communication in a usable format. Technologies which use encoding, signal compression, format transformation, or similar techniques shall not remove information needed for access or shall restore it upon delivery.

k. Products which have mechanically operated controls or keys, shall comply with the following:

   1. Controls and keys shall be tactilely discernible without activating the controls or keys.

   2. Controls and keys shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. The force required to activate controls and keys shall be 5 lbs. (22.2 N) maximum.

   3. If key repeat is supported, the delay before repeat shall be adjustable to at least 2 seconds. Key repeat rate shall be adjustable to 2 seconds per character.

   4. The status of all locking or toggle controls or keys shall be visually discernible, and discernible either through touch or sound.

§ 1194.24 Video and multimedia products.

a. All analog television displays 13 inches and larger, and computer equipment that includes analog television receiver or display circuitry, shall be equipped with caption decoder circuitry which appropriately receives, decodes, and displays closed captions from broadcast, cable, videotape, and DVD signals. As soon as practicable, but not later than July 1, 2002, widescreen digital television (DTV) displays measuring at least 7.8 inches vertically, DTV sets with conventional displays measuring at least 13 inches vertically, and stand-alone DTV tuners, whether or not they are marketed with display screens, and computer equipment that

includes DTV receiver or display circuitry, shall be equipped with caption decoder circuitry which appropriately receives, decodes, and displays closed captions from broadcast, cable, videotape, and DVD signals.

b. Television tuners, including tuner cards for use in computers, shall be equipped with secondary audio program playback circuitry.

c. All training and informational video and multimedia productions which support the agency's mission, regardless of format, that contain speech or other audio information necessary for the comprehension of the content, shall be open or closed captioned.

d. All training and informational video and multimedia productions which support the agency's mission, regardless of format, that contain visual information necessary for the comprehension of the content, shall be audio described.

e. Display or presentation of alternate text presentation or audio descriptions shall be user-selectable unless permanent.

§ 1194.25 Self contained, closed products.

a. Self contained products shall be usable by people with disabilities without requiring an end-user to attach assistive technology to the product. Personal headsets for private listening are not assistive technology.

b. When a timed response is required, the user shall be alerted and given sufficient time to indicate more time is required.

c. Where a product utilizes touchscreens or contact-sensitive controls, an input method shall be provided that complies with §1194.23 (k) (1) through (4).

d. When biometric forms of user identification or control are used, an alternative form of identification or activation, which does not require the user to possess particular biological characteristics, shall also be provided.

e. When products provide auditory output, the audio signal shall be provided at a standard signal level through an industry standard connector that will allow for private listening. The product must provide the ability to interrupt, pause, and restart the audio at anytime.

f. When products deliver voice output in a public area, incremental volume control shall be provided with output amplification up to a level of at least 65 dB. Where the ambient noise level of the environment is above 45 dB,

a volume gain of at least 20 dB above the ambient level shall be user selectable. A function shall be provided to automatically reset the volume to the default level after every use.

g. Color coding shall not be used as the only means of conveying information, indicating an action, prompting a response, or distinguishing a visual element.

h. When a product permits a user to adjust color and contrast settings, a range of color selections capable of producing a variety of contrast levels shall be provided.

i.. Products shall be designed to avoid causing the screen to flicker with a frequency greater than 2 Hz and lower than 55 Hz.

j. Products which are freestanding, non-portable, and intended to be used in one location and which have operable controls shall comply with the following:

1. The position of any operable control shall be determined with respect to a vertical plane, which is 48 inches in length, centered on the operable control, and at the maximum protrusion of the product within the 48 inch length (see Figure 19 of this part).

2. Where any operable control is 10 inches or less behind the reference plane, the height shall be 54 inches maximum and 15 inches minimum above the floor.

3. Where any operable control is more than 10 inches and not more than 24 inches behind the reference plane, the height shall be 46 inches maximum and 15 inches minimum above the floor.

4. Operable controls shall not be more than 24 inches behind the reference plane (see Figure 210 of this part).

§ 1194.26 Desktop and portable computers.

a. All mechanically operated controls and keys shall comply with §1194.23 (k) (1) through (4).

b. If a product utilizes touchscreens or touch-operated controls, an input method shall be provided that complies with §1194.23 (k) (1) through (4).

c. When biometric forms of user identification or control are used, an alternative form of identification or activation, which does not require the

user to possess particular biological characteristics, shall also be provided.

d. Where provided, at least one of each type of expansion slots, ports and connectors shall comply with publicly available industry standards.

Subpart C -- Functional Performance Criteria

§ 1194.31 Functional performance criteria.

a. At least one mode of operation and information retrieval that does not require user vision shall be provided, or support for assistive technology used by people who are blind or visually impaired shall be provided.

b. At least one mode of operation and information retrieval that does not require visual acuity greater than 20/70 shall be provided in audio and enlarged print output working together or independently, or support for assistive technology used by people who are visually impaired shall be provided.

c. At least one mode of operation and information retrieval that does not require user hearing shall be provided, or support for assistive technology used by people who are deaf or hard of hearing shall be provided.

d. Where audio information is important for the use of a product, at least one mode of operation and information retrieval shall be provided in an enhanced auditory fashion, or support for assistive hearing devices shall be provided.

e. At least one mode of operation and information retrieval that does not require user speech shall be provided, or support for assistive technology used by people with disabilities shall be provided.

f. At least one mode of operation and information retrieval that does not require fine motor control or simultaneous actions and that is operable with limited reach and strength shall be provided.

Subpart D -- Information, Documentation, and Support

§ 1194.41 Information, documentation, and support.

a. Product support documentation provided to end-users shall be made available in alternate formats upon request, at no additional charge.

b. End-users shall have access to a description of the accessibility and compatibility features of products in alternate formats or alternate methods upon request, at no additional charge.

c. Support services for products shall accommodate the communication needs of end-users with disabilities.