

State of Oklahoma

Information Technology Accessibility Standards

Published July 1, 2005
Effective when rules are approved

Version 1.0 Issued by the Office of State Finance

Table of Contents

Preface	3
1.0 Purpose	4
2.0 Scope	4
3.0 Introduction.....	4-5
3.1 General Overview.....	5
3.2 Definitions.....	5-7
3.3 Application of the Standards.....	7-9
3.4 Exceptions to the Standards.....	9-10
3.5 Equivalent Facilitation.....	10
3.6 Complaint Process	10
4.0 Technical	10-11
4.1 Technical Overview	11
4.2 Software Applications and Operating Systems	11-12
4.3 Web-based Intranet and Internet Information and Applications	12-15
4-4 Telecommunications Products	15-16
4.5 Video or Multimedia Products.....	16-17
4.6 Desktop and Portable Computers	17-18
4.7 Information, Documentation and Support.....	18
4.8 Self-Contained, Closed Products	18

Information Technology Accessibility Standards

Preface

The contents of this document include the Information Technology Accessibility standards to comply with the law passed by the Oklahoma Legislature and signed by the Governor of Oklahoma in 2004. The standards apply to all state agencies, as defined. As such, they apply equally to all state employees, contractors or any entity that deals with the State of Oklahoma.

The Office of State Finance will communicate the standards to all state agencies. In turn, all agencies are required to review the Policy and make all staff members aware of their responsibility.

It is recognized that some agencies have their own proprietary systems that may not conform to the standards indicated in this document or it would cause the agency an undue burden to comply. Any exceptions or undue burden are to be documented and be available on request.

Information Technology Accessibility Standards

1.0 Purpose

These standards are intended to advise agencies on the procedures necessary to ensure compliance with Oklahoma law requiring electronic and information technology accessibility and the related information technology accessibility standards. The purpose of the law indicates that state agencies, when developing, procuring, maintaining or using information technology, or when administering contracts or grants that include the procurement, development, upgrading or replacement of information technology, shall ensure, unless an undue burden would be imposed on the agency, that the information technology allows employees, program participants and members of the general public with disabilities access to and use of information and data that is comparable to the access and use by individuals without disabilities.

2.0 Scope

Each state agency shall work diligently to assure compliance with the provisions of the Oklahoma law regarding electronic and information technology accessibility through statewide implementation of information technology accessibility standards issued by the Information Services Division of the Office of State Finance.

The law covers all state agencies. "State agency" is defined in the law as any office, officer, bureau, board, counsel, court, commission, institution, unit, division, body or house of the executive or judicial branches of the state government, whether elected or appointed, excluding political subdivisions of the state. State agency shall include the Oklahoma State Regents for Higher Education, the institutions, centers or other constituent agencies of the Oklahoma State System of Higher Education, the State Board of Career and Technology Education and Technology Center school districts.

Overview

3.0 Introduction

The State of Oklahoma's Information Technology (IT) Accessibility Standards provide direction for complying with Oklahoma law regarding electronic and information technology accessibility. The law requires state agencies to make information technologies accessible to individuals with disabilities and was adopted to:

- ❑ Reduce information technology barriers.
- ❑ Provide new opportunities for individuals with disabilities.
- ❑ Encourage the development of new technologies to adhere to these goals.

Oklahoma law for electronic and information technology accessibility and the related development of information technology accessibility standards applies to all State departments and agencies as defined by law and requires that members of the public and state employees with disabilities have access to information that is comparable to the access available to others. These standards apply to all information technologies subject to the conditions as specified in the General Exception section of this document and its attachments.

Information Technology Accessibility Standards

The State of Oklahoma IT Accessibility Standards are based on the standards developed to implement Section 508 of the Rehabilitation Act, as amended by the Workforce Investment Act of 1998 and partially on the World Wide Web Consortium (W3C) Accessibility Guidelines. For further information on Section 508 Standards and W3C guidelines go to:

- ❑ Federal Section 508 Electronic and Information Technology Accessibility Standards <http://www.access-board.gov/sec508/508standards.htm>
- ❑ World Wide Web Consortium Accessibility Guidelines <http://www.w3c.org/WAI/>

NOTE: Exact Section 508 terminology is frequently used to minimize potential confusion resulting from different wording between these standards and Section 508. However, the wording and content of Section 508 have not been adopted in all situations. Modifications to Section 508 wording have been made to clarify or adapt the standards consistent with Oklahoma resources and needs. State departments and agencies should use these state standards to comply with the Oklahoma law requiring IT accessibility.

3.1 General Overview

These standards cover technology procured or developed by state departments or agencies and apply only to those products directly relevant to the contract and its deliverables. Products covered by the standards shall comply with all applicable standards, e.g. software products will comply with the software standards, unless an undue burden would be imposed. Standards provide direction for documentation of undue burden.

An exception clarifies that the standards do not apply to technology that is incidental to a state contract. Thus, those products that are not specified as part of a contract with a state agency would not need to comply with the standards. For example, a firm that produces a report for a state agency under a contract would not have to procure accessible computers and word processing software even if they were used exclusively for the contract; however, compliance would be required if such products were to become the property of the state agency as contract deliverables or if the state agency purchased the products to be used by the contractor as part of the project. If a state agency contracts with a firm to develop its Web site, the standards would apply to the new Web site for the agency but not to the firm's own Web site.

These standards also cover technology procured by grantees or contractors who receive dollars from a state department or agency administering a grant or contract program when the program includes the allotment of funding for the procurement, development or upgrading of information technology. As with the previous example, if the grantee's purchase or development of information technology is incidental to the grant program purpose, these standards do not apply. However, if the purchase or development is an integral part of the grant program the standards do apply.

3.2 Definitions

The following definitions apply to these standards:

Information Technology Accessibility Standards

- ❑ **Accessibility.** This term means compliance with nationally accepted accessibility and usability standards, such as those established in Section 508 of the Rehabilitation Act, as amended by the Workforce Investment Act of 1998.
- ❑ **Accommodation.** Accommodations are changes in the way things are customarily done that enable individuals with disabilities to enjoy equal access and benefits. Most often in these standards the term refers to the provision of effective communication through delivery of auxiliary aids and services such as qualified interpreters, note takers, transcription or captioning, qualified readers, Braille, video description and assistive devices.
- ❑ **Alternate formats.** Alternative formats usable by people with disabilities may include, but are not limited to, Braille, ASCII text, large print, recorded audio and electronic formats.
- ❑ **Alternate methods.** Alternative methods are different means of providing information, including product documentation, to people with disabilities. Alternate methods may include, but are not limited to, voice, fax, relay service, TTY, Internet posting, captioning, text-to-speech synthesis and audio description.
- ❑ **Assistive Technology Device.** Any item, piece of equipment or product system, whether acquired commercially off the shelf, modified or customized, that is used to increase, maintain or improve functional capabilities of individuals with disabilities.
- ❑ **Captioning.** Captions are a written representation of audio or dialogue that accompanies video information. Captions are similar to subtitles but also convey non-dialogue auditory information that is important to the video, such as laughter.
- ❑ **Electronic content.** Electronic information presented in an aural, visual or textual manner, which is produced, manipulated or provided by information technology, including, but not limited to, formats such as word processor documents, spreadsheets, PDFs, images, slideshows/presentations and markup languages.
- ❑ **Individual with Disabilities.** Any individual who is considered to have a disability or handicap for the purposes of any Federal or Oklahoma law.
- ❑ **Information Technology.** Any electronic information equipment or interconnected system that is used in the acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission or reception of data or information, including audio, graphic and text.
- ❑ **Operable Controls.** A component of a product that requires physical contact for normal operation. Operable controls include, but are not limited to, mechanically operated controls, input and output trays, card slots, keyboards or keypads.
- ❑ **Self-Contained, Closed Products.** Products that generally have embedded software and are commonly designed in such a fashion that a user couldn't

Information Technology Accessibility Standards

easily attach or install assistive technology. These products include, but are not limited to, information kiosks and information transaction machines, copiers, printers, fax machines, voting machines and other similar types of products.

- ❑ **State agency.** Any office, officer, bureau, board, counsel, court, commission, institution, unit, division, body or house of the executive or judicial branches of the state government, whether elected or appointed, excluding political subdivisions of the State. State agency shall include the Oklahoma State Regents for Higher Education, the institutions, centers or other constituent agencies of the Oklahoma State System of Higher Education, the State Board of Career and Technology Education and Technology Center school districts.
- ❑ **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.
- ❑ **Television Broadcast.** Pertains to any video production that was distributed via an FCC regulated television station, but does not include the same video production distributed or redistributed via the Internet or an internal Intranet.
- ❑ **Teletypewriter (TTY).** An abbreviation for teletypewriter. Machinery or equipment that employs interactive text-based communications through the transmission of coded signals across the telephone network. TTYs may include, for example, devices known as TDDs (telecommunication display devices or telecommunication devices for deaf persons) or computers with special modems. TTYs are also called text telephones.
- ❑ **Undue Burden.** Significant difficulty or expense, including, but not limited to, difficulty or expense associated with technical feasibility.
- ❑ **Video Description.** Video description is the insertion of verbal descriptions about the setting and/or action in a video program when information about these visual elements is not contained in the audio portion of the program. These descriptions supplement the regular audio track of the program. Video descriptions are a way to let people who are blind or have low vision know what is happening on screen. Note: In these standards the term video description is used rather than audio description. The term audio description is reserved for verbal descriptions of live events.
- ❑ **Web pages:** Electronic content connected to the World Wide Web or an intranet and available via a browser.

3.3 Application of the Standards

The following defines the application of the standards:

- (a) Information technology products covered by these standards shall comply with all applicable provisions. When developing, procuring, maintaining or using information technology products (either directly or through administration of contracts or grants), each state department or agency shall ensure that the

Information Technology Accessibility Standards

products comply with these standards, unless an undue burden would be imposed on the agency.

- (1) Information technology products are those as defined by Oklahoma's legislation regarding accessible electronic and information technology.
- (2) State departments or agencies are those as defined by Oklahoma's legislation regarding accessible electronic and information technology.
- (3) Undue burden is as defined by Oklahoma's legislation regarding accessible electronic and information technology.
 - (i) When procuring a product, if an agency determines that compliance with any provision of these standards imposes an undue burden, the documentation by the agency supporting the procurement shall explain why, and to what extent, compliance with each such provision creates an undue burden. This documentation must be maintained with the requisition.
 - (ii) When compliance with these standards imposes an undue burden, agencies shall provide individuals with disabilities the information and data involved by an alternative means of access that allows the individual to use the information and data in accordance with other applicable State and Federal laws such as Title I and Title II of the Americans with Disabilities Act and Section 504 of the Rehabilitation Act.
- (b) When procuring a commercial, off-the-shelf product, the accessibility determination will be conducted as part of the objective evaluation and will be subservient to the general, technical and functional requirements of the procurement specifications. At a minimum, it will be done through review of vendor provided information submitted in the form of the Voluntary Product Accessibility Template (VPAT) or comparable document with judgments made regarding degree of conformance to the access standards. The relative accessibility weighing may be adjusted for due cause based on the specific procurement.
- (c) When developing software applications, web pages or other information technology systems, each covered entity shall require conformance with the applicable technical access standards unless an undue burden would be imposed.
- (d) Except as described under "Exceptions to the Standards" provided below, these standards apply to information technology developed, procured, maintained or used by state departments or agencies directly; or used by a contractor under a contract with a state department or agency which requires the use of such product, or requires the use, to a significant extent, of such product in the performance of a service or the furnishing of a product; or when state departments or agencies administer contracts or grant programs that include a significant allotment of funding for the procurement, development or upgrading of information technology.

Information Technology Accessibility Standards

- (e) These standards apply to all information technology purchased after the effective date of these standards, providing the solicitation process was not initiated prior to the effective date.
- (f) These standards apply to all information technology developed and/or substantially modified or substantially enhanced after the effective date of these standards, providing the procurement and/or development process was not initiated prior to the effective date.

3.4 Exceptions to the Standards

The following defines the exception to the standards:

- (a) These standards do not apply to any information technology operated by state departments or agencies, the function, operation or use of which involves intelligence activities, crypto logic activities related to public safety, command and control of law enforcement, equipment that is an integral part of a weapon or weapons system or systems which are critical to the direct fulfillment of public safety or intelligence missions. Systems which are critical to the direct fulfillment of public safety or intelligence missions do not include a system that is to be used for routine administrative and business applications (including payroll, finance, logistics and personnel management applications).
- (b) These standards do not apply to information technology that is acquired by a contractor or grantee incidental to a contract or grant, provided the technology does not become State property upon the completion of the contract.
- (c) Except as required to comply with these standards, state departments and agencies are not required to install specific accessibility-related software or attach an assistive technology device to information technology products unless required by other applicable State or Federal laws.

NOTE: In general, compliance with these standards provides built-in access features in products or provides compatibility with add-on assistive technology devices. Compliance with these standards does not necessarily ensure access needed by individual people with disabilities as an additional assistive device may be required, a substitute product may be required or another type of accommodation may be needed to meet their individual needs. Provision of assistive technology, substitute products with specific access features and other types of accommodation should be done in accordance with the requirements of applicable State and Federal laws, e.g. the Americans with Disabilities Act and Section 504 of the Rehabilitation Act.

- (d) When state departments or agencies provide public access to information or data through information technology, agencies are not required to make products owned by the agency available for access and use by individuals with disabilities at a location other than where the information technology is provided to the public, or to purchase products for access and use by individuals with disabilities at a location other than that where the information technology is provided to the public.

Information Technology Accessibility Standards

- (e) These standards shall not be construed to require a fundamental alteration in the nature of a product or its components.
- (f) Products located in spaces frequented only by service personnel for maintenance, repair or occasional monitoring of equipment are not required to comply with these standards.

3.5 Equivalent Facilitation

Nothing in these standards is intended to prevent the use of designs or technologies as alternatives to those prescribed in these standards provided they result in substantially equivalent or greater access to and use of a product for people with disabilities.

Agencies may accept IT offered by vendors, which uses designs or technologies that do not meet the applicable technical provisions, but provide substantially equivalent or greater access to and use of a product for people with disabilities. 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 recognition that technologies may be developed or used in ways not envisioned by the technical provisions of this document but still result in the same or better functional access. Functional outcome – not form – is the key to evaluating whether a technology results in "substantially equivalent or greater access."

3.6 Complaint Process

Agencies shall designate an accessibility compliance representative(s) responsible for ensuring compliance to Oklahoma law for electronic and information technology accessibility and the related information technology accessibility standards.

Effective one year after the effective date of the Oklahoma information technology access standards, any individual may file a complaint alleging that a state department or agency fails to comply with Oklahoma law for electronic and information technology accessibility and the related information technology accessibility standards.

The procedure to be followed by any individual who alleges given information technology owned or managed by the State or its authorized agent does not comply with Oklahoma law for electronic and information technology accessibility and the related information technology accessibility standards are defined in Title 260, Chapter 15.

4.0 Technical

The purpose of technical standards is to implement Oklahoma legislation regarding accessible electronic and information technology. The statute requires that when state agencies develop, procure, maintain, use or administer contracts or grants that include the procurement, development or upgrading of information technology, state employees with disabilities have access to and use of information and data comparable to the access and use by state employees who do not have disabilities, unless an undue burden would be

Information Technology Accessibility Standards

imposed on the agency. The legislation also requires that individuals with disabilities, who are members of the public seeking information or services from a state agency, have access to and use of information and data comparable to that provided to the public who do not have disabilities, unless an undue burden would be imposed on the agency.

4.1 Technical Overview

These standards identify criteria specific to various types of technologies, including:

- ❑ Software applications and operating systems
- ❑ Web-based information or applications
- ❑ Telecommunication products
- ❑ Video and multimedia products
- ❑ Desktop and portable computers
- ❑ Information, documentation and support

At this time, standards have not been established for ***self-contained - closed products*** due to the lack of specifications and availability of products related to this category.

4.2 Software Applications and Operating Systems

The standards in this section provide for improved access and usability for people with vision, motor and/or cognitive disabilities. For example, one provision requires alternative keyboard navigation, which is essential for people who are blind or have low vision or for people with motor or dexterity disabilities who cannot rely on pointing devices, such as a mouse. Other provisions address animated displays, color and contrast settings, flash rate which can affect epileptic seizures and electronic forms, among others.

The standards follow:

- (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.

Information Technology Accessibility Standards

- (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.

4.3 Web-based Intranet and Internet Information and Applications

The standards are based on the Federal Section 508 Electronic and Information Technology Accessibility Standards developed by the Access Board as well as the access guidelines, version 1.0, developed by the Web Accessibility Initiative of the World Wide Web Consortium. These provisions ensure access for people with visual, hearing, motor and cognitive disabilities who rely on various assistive products to access computer-based information, such as screen readers. Screen readers translate the computer screen display into automated audible output and refreshable Braille displays. Certain conventions, such as verbal tags or identification of graphics and format devices, such as frames, are necessary so that these devices can "read" them for the user in a sensible way. The standards do not prohibit the use of Web site graphics or animation. Instead, the standards help ensure that such information is also available in an accessible format. Generally, this means use of text labels or descriptors for graphics and certain format

Information Technology Accessibility Standards

elements. (HTML code already provides an "Alt Text" tag for graphics, which can serve as a verbal descriptor for graphics.) This section also addresses the usability of multimedia presentations, image maps, style sheets, scripting languages, applets and plug-ins, and electronic forms.

The standards apply to state Web sites but not to private sector Web sites (unless a site is provided under contract to a state agency, in which case only that Web site or portion covered by the contract would have to comply).

Definitions

The following definitions apply to these standards.

- ❑ **Flicker.** A repeated, rapid or fluctuating variation of brightness, contrast or position on a display.
- ❑ **Key pages.** Pages that represent the upper portions of a website's hierarchy with respect to navigation including home pages of major subdivisions of content or services.
- ❑ **Meaningful text equivalent.** Text that accurately and thoroughly conveys the content of a non-text element.
- ❑ **Modification.** Alterations or deletions in a web page, document or component, except where the changes are the result of:
 - Automated retrieval of information from a database;
 - Content retrieved, framed or otherwise imported from an external site or web-based service;
 - Replacement of digital publications received from outside sources.

The standards follow:

- (a) A meaningful text equivalent for every non-text element shall be provided (e.g., via "alt", "longdesc", or in element content) except for captioning of audio information which shall comply with (b) of this section.
- (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. Ensure that foreground and background color combinations provide sufficient contrast when viewed by someone having color deficits or when viewed on a black and white screen.
- (d) Documents shall be organized so that they are readable without requiring an associated style sheet.

Information Technology Accessibility Standards

- (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 and elements shall be designed so that screen flicker does not occur between frequencies 2Hz and 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 these standards when compliance cannot be accomplished in any other way. The content of the text-only page shall be updated whenever the primary page changes. The non-accessible version must be as accessible as possible.
- (l) When pages utilize scripting or other programmatic elements to display content, the information provided by the script shall also be provided in an equivalent text format that can be processed and interpreted by assistive technology. When pages utilize scripting or other programmatic elements to create user interfaces, user interaction shall be input device independent.
- (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 Oklahoma Software Applications and Operating Systems standards (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.
- (q) Use valid, industry recognized web programming standards including a document type definition or the equivalent.

Information Technology Accessibility Standards

- (r) Identify the primary natural language of the document.
- (s) A link to the agency's Web site accessibility policy (if existing) and contact information for compliance issues related to the accessibility of electronic and information technology shall be included on home pages and other key pages.

4.4 Telecommunications Products

The standards of this section are designed to ensure access to telecommunications products for individuals who are deaf or hard-of-hearing, individuals with speech disabilities and individuals with low vision or motor disabilities. The standards are designed to ensure access to telecommunications products for individuals who may use assistive technology such as hearing aids, cochlear implants, assistive listening devices and teletypewriters (TTYs). TTYs are devices that enable people who are deaf or hard-of-hearing the ability to communicate over the telephone; they typically include an acoustic coupler for the telephone handset, a simplified keyboard and a visible message display. One requirement calls for a standard non-acoustic TTY connection point for telecommunication products that allow voice communication but also provide TTY functionality. Other specifications address adjustable volume controls for output, product interface with hearing technologies and the usability of keys and controls by people who may have low vision or limited dexterity or motor control.

The standards follow:

- (a) Telecommunications products or systems that provide a function allowing voice communication and do not themselves provide 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, messaging auto-attendant and interactive voice response telecommunications systems shall be usable by TTY users either through direct TTY access or through use of the relay service and by Voice Carry Over (VCO), Hearing Carry Over (HCO), Video Relay Services (VRS) or Speech To Speech users through the relay service.
- (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.

Information Technology Accessibility Standards

- (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. Notwithstanding gain requirements, maximum output shall not exceed 125 db SPL.
- (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 if the volume is capable of greater than 18 dB of gain.
- (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) 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.
- (j) 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. The 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.

4.5 Video or Multimedia Products

Multimedia products involve more than one media and include, but are not limited to, video programs, narrated slide production and computer-generated presentations. Standards address caption decoder circuitry (for any system with a screen larger than 13 inches) and secondary audio channels for television tuners, including tuner cards for use in computers. The standards also require captioning and video description for certain training and informational multimedia productions developed or procured by state agencies in accordance with a time schedule. The standards also provide that viewers are able to turn captioning or video description features on or off.

Information Technology Accessibility Standards

The standards follow:

- (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. 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 stereo and equipped with secondary audio program playback circuitry.
- (c) All training and informational video and multimedia productions, excluding television broadcasts, live Webcasts and live video conferencing, which 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, excluding television broadcasts, live Webcasts and live video conferencing, which contain visual information necessary for the comprehension of the content, shall be audio described.
- (e) Display or presentation of alternate text or audio descriptions shall be user-selectable unless permanent
- (f) Television broadcasts, both live and pre-recorded, are subject to all the rules and regulations as specified by the Federal Communications Commission (FCC) regarding the inclusion of captioning and video descriptions. (See www.fcc.gov)
- (g) An alternate method with equivalent information or functionality shall be provided to make the multimedia content comply with the provisions of these standards, when compliance cannot be accomplished in any other way.

4.6 Desktop and Portable Computers

This section focuses on keyboards and other mechanically operated controls, touch screens, use of biometric forms of identification, and ports and connectors.

The standards follow:

- (a) All mechanically operated controls and keys shall comply with Paragraphs (j.1) through (j.4) as specified under the topic "Telecommunications Products".

Information Technology Accessibility Standards

- (b) If a product utilizes touch screens or touch-operated controls, an input method shall be provided that complies with Paragraphs (j.1) through (j.4) as specified under the topic “Telecommunications Products”.
- (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.

4.7 Information, Documentation and Support

These standards address access to all information, documentation and support provided to end users (e.g., state employees) for covered technologies. This includes user guides, installation guides for end-user installable devices, customer support and technical support communications. Such information must be available in alternate formats upon request at no additional charge. Alternate formats or methods of communication, can include Braille, cassette recordings, large print, electronic text, Internet postings, TTY access and captioning and audio description for video materials.

The standards follow:

- (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.

4.8 Self-Contained, Closed Products

Oklahoma will not adopt standards in this category at this time.