SECTION 9

ELECTRONIC & INFORMATION TECHNOLOGY ACCESSIBILITY (SECTION 508)

9.1 Objective

Electronic and Information Technology (EIT) procured by the Federal government is mandated to be accessible to and usable by individuals with disabilities. This includes being able to perform all the regular operating functions of the EIT including input and control functions, operation of any mechanical mechanisms, and access to information displayed in visual and auditory form.

Section 508 of the Rehabilitation Act (29 U.S.C. 794d) requires that all available information be accessible to all authorized users.   This includes all audiences, as well as, individuals without disabilities.

It also includes the ability to work with the assistive technologies used to access EIT and should not interfere with the assistive technologies used on a daily basis by people with disabilities. Documentation and services associated with EIT shall also be accessible and usable.

In addition, Section 508 provides the available/alternative resources that meet the minimum requirement of the computer system, which is used by a wide range of users.

9.1.1 References

9.1.1.1 Section 508 of the Rehabilitation Act (29 U.S.C. 794d), as amended by the Workforce Investment Act of 1998 (P.L. 105-220): Electronic and Information Technology Accessibility for Persons with Disabilities.

9.1.1.2 Departmental Information Resource Management Manual (DIRMM), Electronic and Information Technology (EIT), Chapter 2.

9.2 Task and Activities

The tasks and activities are performed by a specific specialist; either by contractor or/and federal employee.   All electronic and information technology (EIT) procured by MARAD must meet the applicable accessibility standards of 36 CFR Part 1194, unless an agency exception to this requirement exists. Exceptions apply to any national security related procurements, currently MARAD does not have any procurements in that category. 36 CFR 1194 implements Section 508 of the Rehabilitation Act of 1973, as amended, and is viewable at http://www.access-board.gov/508.htm.

9.2.1 **Guideline**

The guideline provides a starting point for developers. Developers are responsible to read the guideline, before the implementation of electronic information and technology in the MARAD organization. The Guideline is available upon request from the MARAD CIO, Section 508 Coordinator.

9.2.2 AccMonitor

AccMonitor is an enterprise Section 508 compliance application for checking how web-based applications comply with the Section 508 EIT Accessibility Standards, web-based Intranet and Internet Information and Applications (1194.22). This is a free tool used by Department of Transportation 508 Coordinators, Managers, Web Developers, and Supporting Staff.

9.3 Roles and Responsibilities

9.3.1 Investment Manager – The investment/program manager is responsible and accountable for the successful execution of the Project that is compliant with Section 508. The Investment Manager will complete the Product Accessibility Form (See Appendix 9-1), as required, for each product under consideration. For each procurement, the Investment Manager shall complete a Section 508 Determination and Certification for EIT Purchase (See Appendix 9-2). This form must be fully completed and provided to the procurement office with the purchase request.

9.3.2 Section 508 Coordinator – The Section 508 Coordinator ensures that all products and services are accessible for people with disabilities and Section 508 compliant. The Section 508 Coordinator also oversees the complaint process and makes a plan of action to solve any issues. The Section 508 Coordinator encourages Section 508 training. The Section 508 Coordinator will ensure availability of several tools such as AccMonitor, Section 508 Guidelines, Checklists, and Websites for managers to conduct Section 508 compliance checks.

9.3.3 Contracting Officer – The contracting officer is responsible and accountable for procurement actions and contract awards that ensure all EIT products are compliant with Section 508.

9.3.4 Web Developers - The web developer is responsible and accountable for designing web pages that are in compliance with Section 508. Web developers are requested to use AccMonitor to validate Section 508 compliance of web pages.

9.4 Deliverables

9.4.1 MARAD's Section 508 Guideline & Checklist

The purpose of the guideline & checklist is to review the EIT ensuring it's compliance with Section 508. Checklists and Section 508 Guidelines can be obtained from the MARAD CIO,

Section 508 Coordinator. Completed checklists are forwarded to the MARAD CIO Section 508 Coordinator for review.

9.4.2 AccMonitor: Section 508 Tool

The AccMonitor is a tool that will conduct a scan, "spidering" of websites without changing or harming the contents. This tool captures the source code as HTML files and analyses the HTML code for Section 508 issues. These files are also used to produce the custom AccMonitor report for the product being reviewed. This report is provided to the appropriate Project/Investment Manager and MARAD CIO Section 508 Coordinator for review.

9.4.3 Procurement

All electronic and information technology's procurements are required to be compliant with Section 508. The following Website contains detailed guidance on Section 508 requirements: http://www.section508.gov/index.cfm?FuseAction+Content&ID+2

9.4.4 Training Plan

Web developers, Program Managers & Supporting Staff are required to attend Section 508 Training. The MARAD CIO Section 508 Coordinator can be contacted for training requirements and course offerings. All new employees and contractors involved in IT requirements definition, development and procurement must complete Section 508 training.

9.5 Issues for Consideration

MARAD's Managers and Procurement Office shall use the GSA Section 508 database to review products that currently are approved as Section 508 compliant. Investment/Program Managers and Contract Officers will be able to speed up the paperwork and reduce time to process orders by identifying/procuring products that are contained in the GSA Section 508 database.

9.6 Review Activity

The Section 508 Coordinator and Procurement Officer will conduct continuous reviews to ensure MARAD products and services are compliant with Section 508.

The Section 508 Coordinator must be involved in all phases of the System Development Life Cycle (SDLC) (see ITAM Section 3, SDLC). The Section 508 coordinator will be required to coordinate on several of the documents prepared during the SDLC (See ITAM Section 3, SDLC). The Section 508 Coordinator may be called upon to participate in and provide input to the Key Decision Point (KDP) reviews held by the CIO, Information Technology Investment Council (ITIC) or Investment Review Board (IRB).

Appendix 9-1

Product Accessibility Form

The purpose of the Voluntary Product Accessibility Template is to assist Federal contracting officials in making preliminary assessments regarding the availability of commercial Electronic and Information Technology (EIT) products and services with features that support accessibility. It is assumed that offerers will provide additional contact information to facilitate more detailed inquiries.

The first table of the Template provides a summary view of the section 508 Standards as prescribed in 36 CFR Part 1194. The subsequent tables provide more detailed views of each subsection. There are three columns in each table. Column one of the Summary Table describes the subsections of subparts B and C of the Standards. The second column describes the supporting features of the product or refers you to the corresponding detailed table, "e.g., equivalent facilitation." The third column contains any additional remarks and explanations regarding the product. In the subsequent tables, the first column contains the lettered paragraphs of the subsections. The second column describes the supporting features of the product with regard to that paragraph. The third column contains any additional remarks and explanations regarding the product.

Date:
Name of Product:
Contact for more Information:

Summary Table Voluntary Product Accessibility Template		
Criteria	**Supporting Features**	**Remarks and Explanations**
Section 1194.21 Software Applications and Operating Systems		
Section 1194.22 Web-based Internet Inform and Applications		
Section 1194.23 Telecommunications Prod		
Section 1194.24 Video and Multi-media Pr		
Section 1194.25 Self-contained, Closed Pro		
Section 1194.26 Desktop and Portable Con		
Section 1194.31 Functional Performance C		

Section 1194.21 Software Applications and Operating Systems - Detail Voluntary Product Accessibility Template		
Criteria	**Supporting Features**	**Remarks and Explanations**
(a) When software is designed to run on a s that has a keyboard, product functions shall executable from a keyboard where the func itself or the result of performing a function discerned textually.		
(b) Applications shall not disrupt or disable activated features of other products that are identified as accessibility features, where th features are developed and documented acc to industry standards. Applications also sha disrupt or disable activated features of any operating system that are identified as accessibility features where the application programming interface for those accessibili features has been documented by the manufacturer of the operating system and i available to the product developer.		
(c) A well-defined on-screen indication of t current focus shall be provided that moves interactive interface elements as the input f changes. The focus shall be programmatica exposed so that Assistive Technology can t focus and focus changes.		
(d) Sufficient information about a user inte element including the identity, operation ar of the element shall be available to Assistiv Technology. When an image represents a p element, the information conveyed by the i must also be available in text.		
(e) When bitmap images are used to identif controls, status indicators, or other progran elements, the meaning assigned to those im shall be consistent throughout an applicatio performance.		
(f) Textual information shall be provided th operating system functions for displaying t The minimum information that shall be ma available is text content, text input caret loc and text attributes.		

Section 1194.21 Software Applications and Operating Systems - Detail
Voluntary Product Accessibility Template

Criteria	Supporting Features	Remarks and Explanations
(g) Applications shall not override user sele contrast and color selections and other indi display attributes.		
(h) When animation is displayed, the inforr shall be displayable in at least one non-anir presentation mode at the option of the user.		
(i) Color coding shall not be used as the on means of conveying information, indicating action, prompting a response, or distinguish visual element.		
(j) When a product permits a user to adjust and contrast settings, a variety of color sele capable of producing a range of contrast lev shall be provided.		
(k) Software shall not use flashing or blink text, objects, or other elements having a fla blink frequency greater than 2 Hz and lowe 55 Hz.		
(l) When electronic forms are used, the forr allow people using Assistive Technology to access the information, field elements, and functionality required for completion and submission of the form, including all direct and cues.		

Section 1194.22 Web-based Internet Information and Applications - Detail
Voluntary Product Accessibility Template

Criteria	Supporting Features	Remarks and Explanations
(a) A text equivalent for every non-text ele shall be provided (e.g., via "alt", "longdesc element content).		
(b) Equivalent alternatives for any multime presentation shall be synchronized with the presentation.		

Section 1194.22 Web-based Internet Information and Applications - Detail Voluntary Product Accessibility Template		
Criteria	**Supporting Features**	**Remarks and Explanations**
(c) Web pages shall be designed so that all information conveyed with color is also av without color, for example from context or markup.		
(d) Documents shall be organized so they a readable without requiring an associated sty sheet.		
(e) Redundant text links shall be provided f each active region of a server-side image m		
(f) Client-side image maps shall be provide instead of server-side image maps except w the regions cannot be defined with an avail geometric shape.		
(g) Row and column headers shall be ident for data tables.		
(h) Markup shall be used to associate data and header cells for data tables that have tw more logical levels of row or column heade		
(i) Frames shall be titled with text that facil frame identification and navigation		
(j) Pages shall be designed to avoid causing screen to flicker with a frequency greater th Hz and lower than 55 Hz.		
(k) A text-only page, with equivalent inforr or functionality, shall be provided to make site comply with the provisions of this part. compliance cannot be accomplished in any way. The content of the text-only page shal updated whenever the primary page change		
(l) When pages utilize scripting languages t display content, or to create interface eleme the information provided by the script shall identified with functional text that can be re Assistive Technology.		
(m) When a web page requires that an appl plug-in or other application be present on tl client system to interpret page content, the must provide a link to a plug-in or applet tl		

Section 1194.22 Web-based Internet Information and Applications - Detail Voluntary Product Accessibility Template		
Criteria	Supporting Features	Remarks and Explanations
complies with §1194.21(a) through (l).		
(n) When electronic forms are designed to completed on-line, the form shall allow peo using Assistive Technology to access the information, field elements, and functional required for completion and submission of form, including all directions and cues.		
(o) A method shall be provided that permits to skip repetitive navigation links.		
(p) When a timed response is required, the shall be alerted and given sufficient time to indicate more time is required.		

Note to 1194.22: 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: Paragraph (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, (j) - 7.1, (k) - 11.4.

Section 1194.23 Telecommunications Products - Detail Voluntary Product Accessibility Template		
Criteria	Supporting Features	Remarks and Explanations
(a) Telecommunications products or system which provide a function allowing voice communication and which do not themselv provide a TTY functionality shall provide a standard non-acoustic connection point for Microphones shall be capable of being turn and off to allow the user to intermix speech TTY use.		
(b) Telecommunications products which in voice communication functionality shall su all commonly used cross-manufacturer non		

Section 1194.23 Telecommunications Products - Detail Voluntary Product Accessibility Template		
Criteria	**Supporting Features**	**Remarks and Explanations**
proprietary standard TTY signal protocols.		
(c) Voice mail, auto-attendant, and interact voice response telecommunications system be usable by TTY users with their TTYs.		
(d) Voice mail, messaging, auto-attendant, interactive voice response telecommunicati systems that require a response from a user a time interval, shall give an alert when the interval is about to run out, and shall provid sufficient time for the user to indicate more is required.		
(e) Where provided, caller identification an similar telecommunications functions shall be available for users of TTYs, and for user cannot see displays.		
(f) For transmitted voice signals, telecommunications products shall provide 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 allow user to adjust the receive volume, a functio be provided to automatically reset the volu the default level after every use.		
(h) Where a telecommunications product d output by an audio transducer which is norr held up to the ear, a means for effective ma wireless coupling to hearing technologies s provided.		
(i) Interference to hearing technologies (inc hearing aids, cochlear implants, and assistiv listening devices) shall be reduced to the lo possible level that allows a user of hearing technologies to utilize the telecommunicati product.		
(j) Products that transmit or conduct inform or communication, shall pass through cross manufacturer, non-proprietary, industry-sta		

Section 1194.23 Telecommunications Products - Detail Voluntary Product Accessibility Template		
Criteria	**Supporting Features**	**Remarks and Explanations**
codes, translation protocols, formats or oth information necessary to provide the inforn or communication in a usable format. Technologies which use encoding, signal compression, format transformation, or sin techniques shall not remove information ne for access or shall restore it upon delivery.		
(k)(1) Products which have mechanically o controls or keys shall comply with the follc Controls and Keys shall be tactilely discern without activating the controls or keys.		
(k)(2) Products which have mechanically o controls or keys shall comply with the follc Controls and Keys shall be operable with o hand and shall not require tight grasping, pinching, twisting of the wrist. The force re to activate controls and keys shall be 5 lbs. (22.2N) maximum.		
(k)(3) Products which have mechanically o controls or keys shall comply with the follc If key repeat is supported, the delay before shall be adjustable to at least 2 seconds. Ke repeat rate shall be adjustable to 2 seconds character.		
(k)(4) Products which have mechanically o controls or keys shall comply with the follc The status of all locking or toggle controls shall be visually discernible, and discernibl either through touch or sound.		

Section 1194.24 Video and Multi-media Products - Detail Voluntary Product Accessibility Template		
Criteria	**Supporting Features**	**Remarks and explanations**
(a) All analog television displays 13 inches larger, and computer equipment that includ analog television receiver or display circuit shall be equipped with caption decoder circ		

Section 1194.24 Video and Multi-media Products - Detail Voluntary Product Accessibility Template		
Criteria	**Supporting Features**	**Remarks and explanations**
which appropriately receives, decodes, and displays closed captions from broadcast, ca videotape, and DVD signals. As soon as practicable, but not later than July 1, 2002, widescreen digital television (DTV) display measuring at least 7.8 inches vertically, DT with conventional displays measuring at le inches vertically, and stand-alone DTV tun whether or not they are marketed with disp screens, and computer equipment that inclu DTV receiver or display circuitry, shall be equipped with caption decoder circuitry wh appropriately receives, decodes, and displa closed captions from broadcast, cable, vide and DVD signals.		
(b) Television tuners, including tuner cards use in computers, shall be equipped with secondary audio program playback circuitr		
(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 cor 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 aud described.		
(e) Display or presentation of alternate text presentation or audio descriptions shall be selectable unless permanent.		

Section 1194.25 Self-contained, Closed Products - Detail Voluntary Product Accessibility Template		
Criteria	**Supporting Features**	**Remarks and explanations**

Section 1194.25 Self-contained, Closed Products - Detail Voluntary Product Accessibility Template		
Criteria	**Supporting Features**	**Remarks and explanations**
(a) Self contained products shall be usable people with disabilities without requiring a user to attach Assistive Technology to the product. Personal headsets for private lister are not Assistive Technology.		
(b) When a timed response is required, the shall be alerted and given sufficient time to indicate more time is required.		
(c) Where a product utilizes touchscreens o contact-sensitive controls, an input method be provided that complies with §1194.23 (k through (4).		
(d) When biometric forms of user identifica control are used, an alternative form of identification or activation, which does not require the user to possess particular biolog characteristics, shall also be provided.		
(e) When products provide auditory output, audio signal shall be provided at a standard level through an industry standard connecto will allow for private listening. The produc provide the ability to interrupt, pause, and r the audio at anytime.		
(f) When products deliver voice output in a area, incremental volume control shall be provided with output amplification up to a at least 65 dB. Where the ambient noise lev the environment is above 45 dB, a volume at least 20 dB above the ambient level shall user selectable. A function shall be provide automatically reset the volume to the defau after every use.		
(g) Color coding shall not be used as the or means of conveying information, indicating action, prompting a response, or distinguish visual element.		
(h) When a product permits a user to adjust and contrast settings, a range of color selec capable of producing a variety of contrast l		

Section 1194.25 Self-contained, Closed Products - Detail Voluntary Product Accessibility Template		
Criteria	**Supporting Features**	**Remarks and explanations**
shall be provided.		
(i) Products shall be designed to avoid caus screen to flicker with a frequency greater th Hz and lower than 55 Hz.		
(j) (1) Products which are freestanding, nor portable, and intended to be used in one loc and which have operable controls shall con with the following: The position of any ope control shall be determined with respect to vertical plane, which is 48 inches in length, centered on the operable control, and at the maximum protrusion of the product within inch length on products which are freestand non-portable, and intended to be used in on location and which have operable controls.		
(j)(2) Products which are freestanding, non portable, and intended to be used in one loc and which have operable controls shall con with the following: Where any operable co 10 inches or less behind the reference plane height shall be 54 inches maximum and 15 minimum above the floor.		
(j)(3) Products which are freestanding, non portable, and intended to be used in one loc and which have operable controls shall con with the following: Where any operable co more than 10 inches and not more than 24 i behind the reference plane, the height shall inches maximum and 15 inches minimum a the floor.		
(j)(4) Products which are freestanding, non portable, and intended to be used in one loc and which have operable controls shall con with the following: Operable controls shall more than 24 inches behind the reference p		

Section 1194.26 Desktop and Portable Computers - Detail
Voluntary Product Accessibility Template

Criteria	Supporting Features	Remarks and explanations
(a) All mechanically operated controls and shall comply with §1194.23 (k) (1) through		
(b) If a product utilizes touchscreens or tou operated controls, an input method shall be provided that complies with §1194.23 (k) (through (4).		
(c) When biometric forms of user identifica control are used, an alternative form of identification or activation, which does not require the user to possess particular biolog characteristics, shall also be provided.		
(d) Where provided, at least one of each typ expansion slots, ports and connectors shall comply with publicly available industry sta		

Section 1194.31 Functional Performance Criteria - Detail
Voluntary Product Accessibility Template

Criteria	Supporting Features	Remarks and explanations
(a) At least one mode of operation and information retrieval that does not require u vision shall be provided, or support for Ass Technology used by people who are blind o visually impaired shall be provided.		
(b) At least one mode of operation and information retrieval that does not require v acuity greater than 20/70 shall be provided audio and enlarged print output working to, or independently, or support for Assistive Technology used by people who are visuall impaired shall be provided.		
(c) At least one mode of operation and information retrieval that does not require u hearing shall be provided, or support for As Technology used by people who are deaf o of hearing shall be provided		
(d) Where audio information is important f		

Section 1194.31 Functional Performance Criteria - Detail Voluntary Product Accessibility Template		
Criteria	Supporting Features	Remarks and explanations
use of a product, at least one mode of opera and information retrieval shall be provided enhanced auditory fashion, or support for a hearing devices shall be provided.		
(e) At least one mode of operation and information retrieval that does not require u speech shall be provided, or support for As Technology used by people with disabilitie be provided.		
(f) At least one mode of operation and information retrieval that does not require f motor control or simultaneous actions and t operable with limited reach and strength sh provided.		

APPENDIX 9-2
Section 508 Determination and Certification for EIT Purchase Requests

See Form Number DOT F 4260.1 (11-04) or current edition. This form can be found by contacting the MARAD Section 508 Coordinator or see DIRMM EIT Chapter 2, Electronics and Information Technology Accessibility.