

**UNITED STATES GOVERNMENT**  
*National Labor Relations Board*  
**Office of Inspector General**



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# **NLRB Technology Initiatives as Related to the Rehabilitation Act**

OIG-AMR-49-05-06

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September 2005

INSPECTOR GENERAL



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## NATIONAL LABOR RELATIONS BOARD

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WASHINGTON, DC 20570

September 26, 2005

I hereby submit a review of National Labor Relations Board (NLRB) Technology Initiatives as Related to the Rehabilitation Act, Report No. OIG-AMR-49-05-06. This review was conducted to evaluate the Agency's compliance with sections 501 and 508 of the Rehabilitation Act.

This year is the 15<sup>th</sup> anniversary of the Americans with Disabilities Act (ADA). At an anniversary celebration, the Secretary for the Department of Homeland Security commented, "In the 15 years since the law was passed and implemented, the ADA has enabled society to benefit from the skills and talents of individuals with disabilities, and has led to fuller, more productive lives for all Americans." Although the Federal government is not included in the ADA, the Rehabilitation Act was amended in 1992 to apply the same standards; thereby providing the same benefits to the Federal workforce.

Section 501 of the Rehabilitation Act prohibits employment discrimination against individuals with disabilities in the Federal sector. Administrative Policy Circular 03-04, Reasonable Accommodation Procedures, states that it is the Agency's policy to provide reasonable accommodations to qualified disabled employees or applicants, unless to do so would cause an undue hardship to the Agency.

NLRB provides reasonable accommodations consisting of assistive technology devices and services through the Department of Defense Computer/Electronic Accommodations Program (CAP) at no cost to the Agency. During FY 2004, eight employees were provided reasonable accommodations which included six pieces of assistive technology. In addition, CAP provided training to use a screen reader and the evaluation of a workstation. These items would have cost approximately \$4,350 had they been purchased by the Agency.

No electronic and information technology reasonable accommodation requests were denied. The Human Resources Branch (HRB) received nine reasonable accommodation requests related to electronic and information technology in FY

2004. Eight of these requests were filled. One request was not processed because the employee failed to provide the necessary supporting medical documentation.

One Help Desk employee handles special needs software, hardware, and CAP. The individuals requesting reasonable accommodations that we interviewed provided positive feedback on the assistance provided by the Help Desk.

Section 508 of the Rehabilitation Act requires that Federal agencies provide employees with disabilities access to and use of information and data that is comparable to that provided to Federal employees without disabilities. Section 508 also requires that individuals with disabilities, who are members of the public seeking information or services from a Federal agency, have access to and use of information and data that is comparable to that provided to members of the public without disabilities. An exception to these requirements exists if they would impose an undue burden on the agency.

The Agency's Internet and Intranet pages were generally in compliance with section 508 requirements. Some pages included data tables that did not identify row and column headers appropriately, and some pages were not readable by assistive technology. The most common deficiency was that many Internet pages did not meet the requirement to provide users a method to skip repetitive navigation links.

An exit conference was held on August 8, 2005 with the Chief Information Officer (CIO) and representatives of HRB and the Procurement and Facilities Branch. A draft report was sent to the CIO on August 10, 2005. We recommended that the CIO work with the Deputy Executive Secretary to implement two recommendations. These recommendations were to correct all data tables to allow them to be read accurately by a screen reader and to add skip repetitive navigation links to applicable Internet and Intranet pages.

The CIO had no comment on the findings and has already completed corrective actions for the two recommendations made in the draft report. Therefore, we have no recommendations in the final report. The CIO's comments are presented in their entirety as an appendix to this report.



Emil T. George  
Assistant Inspector General for Audits

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## **BACKGROUND**

The National Labor Relations Board (NLRB or Agency) administers the principal labor relations law of the United States, the National Labor Relations Act (NLRA) of 1935, as amended. The NLRA is generally applied to all enterprises engaged in interstate commerce, including the United States Postal Service, but excluding other governmental entities as well as the railroad and the airline industries. The Fiscal Year (FY) 2005 appropriation authorizes 1,875 full-time equivalents that are located at Headquarters, 51 field offices throughout the country, and 3 satellite offices for Administrative Law Judges. NLRB received an appropriation of \$251,875,000 for FY 2005, less an across-the-board reduction of .83 percent, leaving a net spending ceiling of \$249,784,438.

Section 501 of the Rehabilitation Act prohibits employment discrimination against individuals with disabilities in the Federal sector. Administrative Policy Circular 03-04, Reasonable Accommodation Procedures, states that it is the Agency's policy to provide reasonable accommodations to qualified disabled employees or applicants, unless to do so would cause an undue hardship to the Agency. A reasonable accommodation is a change in the working environment or in the application process that would enable a person with a disability to enjoy equal employment opportunities.

NLRB provides reasonable accommodations consisting of assistive technology devices and services through the Department of Defense Computer/Electronic Accommodations Program (CAP) at no cost to the Agency. During FY 2004, eight employees were provided reasonable accommodations which included six pieces of assistive technology such as voice recognition software for employees who cannot type, magnification and reading software for employees with impaired vision, a mouse, and a glare screen. In addition, CAP provided training to use a screen reader and the evaluation of a workstation. These items would have cost approximately \$4,350 had they been purchased by the Agency.

Section 508 of the Rehabilitation Act requires that Federal agencies provide employees with disabilities access to and use of information and data that is comparable to that provided to Federal employees who are not individuals with disabilities, unless an undue burden would be imposed on the agency. Section 508 also requires that individuals with disabilities, who are members of the public seeking information or services from a Federal agency, have access to and use of information and data that is comparable to that provided to the public who are not individuals with disabilities, unless an undue burden would be imposed on the agency.

## **OBJECTIVES, SCOPE, AND METHODOLOGY**

This review was conducted to evaluate the Agency's compliance with sections 501 and 508 of the Rehabilitation Act.

We reviewed the Rehabilitation Act, as amended, and implementing regulations to determine the requirements for Federal agencies to make electronic and information technology accessible to people with disabilities, including employees and members of the public. We reviewed Agency policies and procedures including Administrative Policy Circular (APC) 03-04, Reasonable Accommodation Procedures, dated August 25, 2003.

We interviewed employees in the Office of the Chief Information Officer (OCIO), Human Resources Branch (HRB), and Procurement and Facilities Branch (PFB) to determine whether processes and procedures used by the Agency to procure and develop information technology are in accordance with section 508 of the Rehabilitation Act.

We interviewed employees in the OCIO and the Office of Executive Secretary, primarily in the Editorial Branch, to identify Agency policies and procedures that ensure compliance with section 508 requirements for the Agency's Internet and Intranet. We tested 200 Internet pages using freeware and manual verification to determine whether they were compliant. In addition, we determined whether 57 of these Internet pages could be read by a screen reader. We tested 50 Intranet pages using manual verification and a screen reader to determine whether they were section 508 compliant. Three of the 50 Intranet pages were not tested because they were incorrectly linked. We interviewed the Acting Director of Information and the Agency's Internet contractor to review errors identified and determine the cause of these errors.

We interviewed employees in HRB to evaluate the Agency's reasonable accommodation procedures regarding electronic and information technology. We reviewed the nine electronic and information technology reasonable accommodation requests processed in FY 2004 to determine whether they were compliant with applicable procedures and were processed in a timely manner.

We interviewed Help Desk contract employees and three Agency employees with special needs to determine whether the Agency's help desk function can effectively assist employees with disabilities.

This audit was performed in accordance with generally accepted government auditing standards during the period of June 2005 through September 2005. We conducted this audit at NLRB Headquarters in Washington, DC and Region 5 – Baltimore, Maryland.

## **FINDINGS**

The Agency mostly met the requirements of the Rehabilitation Act to provide access to electronic information to employees and the public. Agency Internet and Intranet pages generally met requirements, employees received assistive technology solutions that provided reasonable accommodations to perform their jobs, and the Help Desk was responsive to employees with special needs.

### **INTRANET AND INTERNET COMPLIANCE**

The Agency's Internet and Intranet pages were generally in compliance with section 508 requirements. Detailed section 508 requirements pertaining to Internet and Intranet sites appear as an attachment to this report. Some pages included data tables that did not identify row and column headers appropriately, and some pages were not readable by assistive technology. The most common deficiency was that many Internet pages did not provide users a method to skip repetitive navigation links.

#### **Data Tables**

Federal regulations state that row and column headers shall be identified for data tables and 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. Markup identifies items so that users of screen readers can navigate through data tables one cell at a time, and they will hear the column and row headers spoken to them.

Thirty-eight of the 200 Internet pages tested had tables that required the proper identification of row and column headers. Sixteen of these 38 did not identify row and column headers appropriately. Thirty-one pages had tables with two or more levels of row or column headers that required a markup to associate data and header cells. Nine of these 31 did not use markup to associate data cells and header cells correctly.

The contractor stated that a review of data tables was conducted on February 1, 2005, and that deficiencies were found. These deficiencies were reviewed and incorrectly deemed to be invalid or already corrected.

#### **Skip Navigation Links**

Federal regulations require that a method shall be provided that permits users to skip repetitive navigation links. Sighted people can look at any point on a Web site they wish when it's convenient for them. Those using assistive

technology, however, must listen through the same navigation options with each new page they enter.

A majority of the Internet pages tested did not comply with the skip navigation requirement. Of the 200 Internet pages tested, 179 pages were required to allow users to skip repetitive navigation links. Of those, 174 failed this requirement. Of the 50 Intranet pages tested, 10 did not allow users to skip repetitive navigation links. The CIO and the Editorial Branch Chief attributed missing skip navigation links on the Internet and Intranet, respectively, to the accidental disabling or deletion of code when updating other files.

### **Screen Reader**

Federal regulations require providing a text equivalent for every non-text element. This is so that people with vision impairments could use products such as screen readers to translate what's on a computer screen into automated audible output and refreshable Braille displays to access computer-based information.

Fifty of the 57 Internet pages and all of the 50 Intranet pages tested were read by the screen reader. Seven of the 57 Internet pages tested experienced some difficulty when being read or could not be read at all by the screen reader. In addition, we noted some difficulty with reading graphics for one document that was in Portable Document Format (PDF). This is a format from Adobe that enables a document to be distributed on different systems while preserving the layout. Specifically, the screen reader did not provide an accurate description of charts included in the report and in some cases the screen reader completely skipped the chart altogether.

The Editorial Branch Chief stated that Adobe is limited in what it can do and that she has done extensive research on the topic without finding a solution. In addition, she mentioned that the only other option is a HTML document. She noted that a PDF document is used because a document retains its look which is important for legal citations. The Editorial Branch Chief noted that PDF is a recognized format to use on the Web and is used throughout government.

### **REASONABLE ACCOMMODATION REQUESTS**

APC 03-04 outlines the procedures for all reasonable accommodation requests. Since requests for electronic and information technology equipment are handled through the CAP program, only two of the five steps in the identified process apply to CAP requests. The first step involves submitting a request to

the Branch Chief or Office Head with a copy to the first line supervisor, accompanied with appropriate medical documentation. The second required step is to forward the request to the Selective Placement Coordinator in HRB.

CAP Request Forms are completed by either the requesting employee or HRB and submitted online. HRB monitors requests and follows up when necessary.

No electronic and information technology reasonable accommodation requests were denied. HRB received nine reasonable accommodation requests related to electronic and information technology in FY 2004. Eight of these requests were filled. One request was not processed because the employee failed to provide the necessary supporting medical documentation.

Seven requests took an average of 51 days to process from the date of the initial request to approval by CAP. We were unable to determine the length of time to process one request because documentation regarding the date of approval by CAP was not maintained. One request for an ergonomic mouse took 134 days to process. HRB stated that this delay might have been caused by a vacancy in the position that monitors these requests.

## **HELP DESK**

The Help Desk contract requires the contractor to install, configure, test, and maintain all hardware and software. This includes providing technical support for all hardware and software calls received.

One Help Desk employee is devoted to special needs software, hardware, and CAP. The individuals interviewed provided positive feedback on the assistance provided by the Help Desk.

## **PROCUREMENT**

Federal regulations state that unless an exception applies, 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. Federal regulations require documentation of nonavailability of section 508 compliant products and services, but not that these procurements met applicable requirements.

The General Services Administration offers a Buy Accessible Web page that was created primarily to ease market research for Federal agencies and to help Federal workers conform to section 508 by allowing them to easily find and buy

the most accessible information technology products and services. Although encouraged to participate in the Buy Accessible program, vendors are not required to do so. If they choose to participate, vendors can download a product accessibility template developed by the Information Technology Industry Council. The template will be posted on vendor Web pages and subsequently will be linked to the Buy Accessible database. Government purchasers who visit the Buy Accessible Web site can then search the database by specific service or product to complete their market research and view the links provided by participating vendors.

OCIO does not have procedures in place to ensure section 508 compliance of products and services purchased. These procedures would include determining whether the procurement was subject to section 508 requirements and identifying available products and services that meet the requirement.

**Requirements for Web-based Intranet and Internet Information and Applications**

Requirements related to deficiencies identified appear in bold print.

	<b>Requirement</b>	<b>Description</b>
(a)	<b>A text equivalent for every non-text element shall be provided (e.g., via "alt", "longdesc", or in element content).</b>	<i>A text equivalent means adding words to represent the purpose of a non-text element. This provision requires that when an image indicates a navigational action such as "move to the next screen" or "go back to the top of the page," the image must be accompanied by actual text that states the purpose of the image. This provision also requires that when an image is used to represent page content, the image must have a text description accompanying it that explains the meaning of the image.</i>
(b)	Equivalent alternatives for any multimedia presentation shall be synchronized with the presentation.	<i>This provision requires that when an audio portion of a multimedia production is captioned, as required in provision (a), the captioning must be synchronized with the audio. Synchronized captioning would be required so someone reading the captions could also watch the speaker and associate relevant body language with the speech.</i>

	<b>Requirement</b>	<b>Description</b>
(c)	Web pages shall be designed so that all information conveyed with color is also available without color, for example from context or markup.	<i>This requires that some other method of identification, such as text labels, must be combined with the use of color. When colors are used as the sole method for identifying screen elements or controls, persons who are color blind as well as those people who are blind or have low vision may find the Web page unusable.</i>
(d)	Documents shall be organized so they are readable without requiring an associated style sheet.	<i>Style sheets can enable users to define specific viewing preferences to accommodate their disability. For instance, users with low vision may create their own style sheet so that, regardless of what Web pages they visit, all text is displayed in extra large font. If designers set up their pages to override user-defined style sheets, people with disabilities may not be able to use those pages.</i>
(e)	Redundant text links shall be provided for each active region of a server-side image map.	<i>When a Web page uses a server-side image map to present the user with a selection of options, browsers cannot indicate to the user the URL that will be followed when a region of the map is activated. Therefore, the redundant text link is necessary to provide access to the page for anyone not able to see or accurately click on the map.</i>
(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.	<i>Unlike server-side image maps, the client-side image map allows an author to assign text to each image map hot spots. This feature means that someone using a screen reader can easily identify and activate regions of the map.</i>

	<b>Requirement</b>	<b>Description</b>
(g)	<b>Row and column headers shall be identified for data tables.</b>	<i>These provisions permit the use of tables, but require that the tables be coded according to the rules of the markup language being used for creating tables. Large tables of data can be difficult to interpret if a person is using a non-visual means of accessing the Web.</i>
(h)	<b>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.</b>	<i>These provisions permit the use of tables, but require that the tables be coded according to the rules of the markup language being used for creating tables. Large tables of data can be difficult to interpret if a person is using a non-visual means of accessing the Web.</i>
(i)	Frames shall be titled with text that facilitates frame identification and navigation.	<i>Frames provide a means of visually dividing the computer screen into distinct areas that can be separately rewritten. Unfortunately, frames can also present difficulties for users with disabilities when those frames are not easily identifiable to assistive technology.</i>
(j)	Pages shall be designed to avoid causing the screen to flicker with a frequency greater than 2 Hz and lower than 55 Hz.	<i>This provision is necessary because some individuals with photosensitive epilepsy can have a seizure triggered by displays that flicker, flash, or blink, particularly if the flash has a high intensity and is within certain frequency ranges.</i>
(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.	<i>Text-only pages must contain equivalent information or functionality as the primary pages. Also, the text-only page shall be updated whenever the primary page changes.</i>

	<b>Requirement</b>	<b>Description</b>
(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.	<i>Web page authors have a responsibility to provide script information in a fashion that can be read by assistive technology. When authors do not put functional text with a script, a screen reader will often read the content of the script itself in a meaningless jumble of numbers and letters.</i>
(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).	<i>This provision requires that Web pages that provide content such as Real Audio or PDF (Adobe Acrobat's Portable Document Format) files also provide a link to a plug-in that will meet the software provisions. It is very common for a Web page to provide links to needed plug-ins. It places a responsibility on the Web page author to know that a compliant application exists, before requiring a plug-in.</i>
(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.	<i>Currently, the interaction between form controls and screen readers can be unpredictable, depending upon the design of the page containing these controls. HTML forms pose accessibility problems when Web developers separate a form element from its associated label or title.</i>

	<b>Requirement</b>	<b>Description</b>
(o)	<b>A method shall be provided that permits users to skip repetitive navigation links.</b>	<i>This provision provides a method to facilitate the easy tracking of page content that provides users of assistive technology the option to skip repetitive navigation links. Web developers routinely place a host of routine navigational links at a standard location often across the top, bottom, or side of a page. If a nondisabled user returns to a Web page and knows that he or she wants to view the contents of that particular page instead of selecting a navigation link to go to another page, he or she may simply look past the links and begin reading wherever the desired text is located.</i>
(p)	When a timed response is required, the user shall be alerted and given sufficient time to indicate more time is required.	<i>Web pages can be designed with scripts so that the Web page disappears or "expires" if a response is not received within a specified amount of time. Many forms, when they "time out" automatically, also delete whatever data has been entered. The result is that someone with a disability who is slow to enter data cannot complete the form. For this reason, when a timed response is required, the user shall be alerted via a prompt and given sufficient time to indicate whether additional time is needed.</i>

## **APPENDIX**

**UNITED STATES GOVERNMENT**  
***National Labor Relations Board***  
**Office of the Chief Information Officer**

**Memorandum**

September 9, 2005

To: Jane E. Altenhofen  
Inspector General

From: Richard D. Westfield  
Chief Information Officer



Subject: Draft Report "NLRB Technology Initiatives as Related to the Rehabilitation Act" (OIG-AMR-49)

Your draft report, dated August 10, 2005, states that while the Agency's public Web site generally was in compliance with Section 508 requirements, some pages included data tables that did not identify row and column headers appropriately, and some pages were not readable by assistive technology. Our contract with AT&T to host the site includes, among other things, a requirement to monitor Section 508 compliance using industry-accepted tools and practices. Paul Baitinger of AT&T informed us that the common deficiency identified in your report, namely, not providing users with a method to skip repetitive navigation links, was due to a temporary technical difficulty at their end.

Prior to the IG review, according to Mr. Baitinger, AT&T had performed its semi-annual Section 508 compliance scan on February 1, 2005. At that time, the code for skip navigation links was present. Subsequently, AT&T inadvertently disabled the code while updating other files. It corrected the problem after being notified of the anomaly, which it would have discovered with the next compliance scan. In addition, AT&T has worked with employees in the Executive Secretary's Office and the Division of Information to correct defects related to the data tables and with the pages which experienced some difficulty when being read or could not be read at all by the screen reader. We are satisfied that the issues presented in your report regarding the **nrlb.gov** pages have been corrected and that the Agency is in compliance with Section 508.

cc: The Board  
General Counsel