

United States Environmental Protection Agency
National Service Center for Environmental Publications (NSCEP)

Target User Accessibility Review: NSCEP/NEPIS – EPA's Gateway to Free Digital & Paper Publications

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Background: The *NSCEP/NEPIS - EPA's Gateway to Free Digital & Paper Publications* Web site (<http://www.epa.gov/nscep/>) provides free access to nearly 35,000 EPA publications. The National Service Center for Environmental Publications (NSCEP) (formerly NCEPI) is part of EPA's Online Library System (OLS) and makes EPA publications available in electronic format (PDF). The National Environmental Publications Internet Site (NEPIS) was integrated with the NSCEP in January 2007 and added more than 26,000 documents to the NSCEP digital database. It serves the general public, librarians, educators, students and researchers, advocacy groups, policymakers, and EPA staff. Users can retrieve documents online, download, and print them. EPA collections being digitized will be available through NEPIS.

This report discusses the results of an accessibility test conducted with a group of representative users. The report also includes a description of search and navigation issues identified during an expert review. The site was reviewed based on a series of criteria that impact a user's ability to access the site, identify pertinent materials, and successfully retrieve the sought item(s) (see Exhibit 1). Actions are suggested that would improve the efficiency and user response to this important EPA information dissemination resource.

Accessibility Test Results: To evaluate the accessibility of EPA reports by means of the NEPIS system, two testing sessions were conducted in which participants were given specific search tasks. Participants were selected to represent potential NEPIS users, including the general public, librarians, educators, students and researchers, and individuals associated with advocacy groups. The navigation patterns of each participant were carefully documented and comments on the structure, look and feel, and navigation were noted.

In general, accessibility tests with target users confirm that the NEPIS system is functional and provides an important venue through which to identify and obtain EPA publications. While we have identified numerous changes that we believe would improve the site's effectiveness and overall functionality, we did not identify any flaws that would require immediate and/or extensive change.

Exhibit 1 **Summary of Key Factors that Affect the Accessibility of a Web Site and its Content**

Navigation and visibility: the site should always keep users informed about where they are and where they can go.

Recognition rather than recall: all objects, actions, and options on the site should be visible and broadly understandable.

System/real world match: the site should speak the user's language.

Consistency and standards: users should not have to wonder whether different words, actions, or situations mean the same thing.

User control and help: the site should help users recognize, diagnose, and recover from errors; help information should be succinct and easy to search.

Purpose/target audience: the purpose of the site and the audience for whom the site is intended should be apparent; and the site should not contain information that is irrelevant or rarely needed.

Coverage: the breadth and depth of the site's content should be appropriate to the site's purpose and target audience.

Accuracy: the site should provide information that is accurate, free of errors, and well-written.

In brief, the NEPIS accessibility testing activities revealed the following issues (improvement recommendations are *italicized*):

General

- ▶ Although targeted for use by the general public, key aspects of the site are written in the technical parlance of professional librarians; and some of the site's basic features and functions appear to be designed primarily for librarians. For example, *Browse All Online Publications* takes the user to a list of EPA publication numbers. This information is not meaningful to the typical user, and may actually constitute a distraction. The site does not take the needs and capabilities of other user groups sufficiently into consideration.
 - ✓ *Seek to eliminate technical jargon*
 - ✓ *Revise the basic search logic for a lay audience, consider hiding or removing features that are "librarian-oriented"*
- ▶ People have become accustomed to the search format, logic, and structure of popular search engines, such as *Google*. The partitioned search structure of NEPIS tended to confuse many users, who were often unsure regarding which category to use.
 - ✓ *Generally, and to the degree possible, approximate the functionality and look and feel of NSCEP/NEPIS search capabilities to those of popular search engines, such as Google, especially with regard to default options.*
- ▶ The *Icon Guide* and *Help* links are difficult to locate.
 - ✓ *Display Icon Guide and Help links higher up on the page for improved visibility and/or place in a permanent left column bar.*
- ▶ On the Homepage, the title is too long and the double acronyms (NSCEP/NEPIS) are off-putting.
 - ✓ *Keep site heading as is, but spell out both acronyms in the paragraph immediately following the title.*
- ▶ Some users were unclear about the purpose of the site.
 - ✓ *Define the purpose of the site clearly in the paragraph immediately following the title. Perhaps start with a "Welcome" section and then include a brief description of NEPIS and NSCEP. Mention that they are components of EPA's Online Library System and that they were recently integrated to provide one-stop access to EPA's hardcopy and digital publications (similar language to "Notice" at the bottom of the page). Consider replacing "premiere" with premier, or simplify by using "primary" or "one-stop." Ensure visual consistency by keeping font size and color uniform (i.e., use italics, caps and bolding sparingly). Consider removing the italics from "Featuring." Be consistent in the use of bold text, i.e.,*

National Environmental Publications Internet Site (NEPIS) is currently bold, while National Service Center for Environmental Publications (NSCEP) in the next sentence is not. The Adobe/PDF disclaimer takes up valuable real estate at the top of the homepage and is not relevant to this page, which does not contain links to PDF documents.

- ▶ Many users were unaware that the site contains only EPA publications.
- ✓ *Clearly state upfront that the site only enables users to access EPA publications.*

Search

- ▶ There was confusion between the search function at the top of the page (*Search All EPA / This Area*) and the NSCEP/NEPIS search functions.
 - ✓ *It should be clarified that these two search mechanisms access different collections of information. The format and location of the “Search the Collection” textbox are not noticeable enough. The textbox should catch the users eye immediately and facilitate easy access to available search features. Consider moving the textbox up and adding design features that make it more visible (color, font size, buttons, etc.). The tools and guidance materials displayed should be structured by relevance. “User Guide” and “Help” link to the same page. To avoid confusing the user, be consistent in the use of page names and associated links.*
 - ✓ *Make NSCEP/NEPIS more visible, e.g., buttons / tabs instead of links.*
- ▶ Session participants frequently misunderstood the meaning of the search fields.
 - ✓ *Users suggested linking the search fields to a glossary or relevant section in the Users Guide.*
- ▶ The group did not seem to understand the need for what was perceived as two separate “advanced” search options. The *Fields Search* feature allows users to search for documents using an *EPA Publication Number, Title, Page Count*, and/or *Publication Year*. Subjects in our exercises were not clear regarding the logic behind this feature, especially as a stand-alone search strategy. In the first place, the *Title, EPA Publication Number* and (approximate) *Publication Year* can all be searched through either the *Simple* or *Advanced Search* features. None of the of the accessibility test subjects in either of the sessions seemed inclined to use the *Fields Search* feature.
 - ✓ *Consider combining Field Search and Advanced Search.*
 - ✓ *Structure the combined Advanced Search similar to a public library catalog or Google Advanced Book Search,*

http://books.google.com/advanced_book_search). Suggested search fields include:

- *Publication Title*
- *Author / Office*
- *Type of Publication (e.g., technical report, brochure, book, etc.)*
- *Publication Year / Period*
- *Keyword / Subject*

- ▶ The search fields specified below struck some test participants as confusing and unnecessary.

✓ Consider the deletion / modification of:

— *in Fields Search:*

- *EPA Publication No.*
- *Page Count (enable to search ranges (e.g., "<20 pages") and specify this capability to users).*
- *Results Precision (Fuzziness).*

— *in "Advanced Search":*

- *Date document was added to the library.*
- *Results precision (fuzziness).*
- *Rank search results on "Ascending." This option seemed cryptic to most users, and non-sensical to others ("Why would I want to see the least relevant results first?").*
- *Develop and include more obvious definitions of "Hit density" and "Number of hits."*
- *Choose what to display (users suggested moving this option to the Search Results page).*

- ▶ The default settings for *Select the dates to search (Advanced Search) / Select your archive (Fields Search)* make it cumbersome for users to search one particular time period only.

✓ *No date ranges should be selected in the default setting (instead of all selected) to enable easy selection of individual time periods.*

✓ *Include the option to "select all" / "deselect all" (additional checkbox).*

- ▶ Consider including a clear, ordinary language topic search feature, similar to *Browse Topics* on EPA's Home page. Users could drill down using keywords pre-selected by EPA, e.g., 1) select climate change, 2) select energy use, 3) select office, which would lead to a group of documents pertaining to energy conservation in an office environment.

- ▶ When a user mistakenly enters the search term "climage," the search engine should offer "do you mean 'climate'?"

- ✓ *Default to a fuzzier search logic*
- ▶ The default number of search results displayed is too small.
 - ✓ *Add the ability to set "Choose number of documents to display" to Simple Search.*
 - ✓ *Increase default number of search results displayed.*
- ▶ The database does not allow the user to refine a search without starting over.
 - ✓ *Add the option to refine a search.*

Search Results

- ▶ The shopping cart icon is confusing, and to some users, off-putting. Some test subjects associated the shopping cart symbol with a need to pay for materials.
 - ✓ *Alternatives:*
 - *Use a different icon and rename this feature, e.g.,  "Free Order", or "Available as Hardcopy." *
 - *Rename checkbox column, e.g., "Add to Free Order."*
- ▶ The NEPIS search algorithm seems inefficient or perhaps mis-configured. We conducted several comparative exercises, during which we entered the same search terms and/or boolean structure into NEPIS and Google. Google was always more efficient in locating the document, and in some cases the NEPIS search engine failed entirely to locate the document, even when the full and exact title was being used as the search input. The NEPIS search efficiency should be carefully reviewed and revised/repared as necessary.
- ▶ The search results page does not allow users to specify the file type before downloading a publication.
 - ✓ *The ability to select the file format (html, pdf, tiff) should appear in the initial list of results. *
- ▶ The search results page appears too crowded.
 - ✓ *Increase the spacing between individual results.*

- ▶ Documents that had no *Page* or *Date* information in the search results list tended to confuse test participants (see below), suggesting the need to use a more descriptive message or icon.

| Select | Rank | EPA Pub # | Document Title | Pages | Date | View | Order |
|--------------------------|------|---------------------------|---|-------|------|------|-------|
| <input type="checkbox"/> | 1 | 430R06005 | GLOBAL MITIGATION ON NON-CO2 GREENHOUSE GASES | --- | --- | | |
| <input type="checkbox"/> | 2 | 430R06005 | Global Mitigation On Non-co2 Greenhouse Gases | 430 | 2006 | | |

- ✓ *Although it may be resource prohibitive, it would improve the overall accessibility to EPA documents if entries were edited, updated, and completed as necessary and appropriate.*
- ✓ *As possible, steps should be taken to delete entries.*

Document Display

- ▶ Many participants seemed confused by the *Search in document*.
 - ✓ *Fix or improve the capability to search within a document.*
 - ✓ *Make Search in document results more visible, or more fully explain the logic behind this feature.*
- ▶ Problems with pdf navigation. The document does not always open when clicking on .
 - ✓ *This needs to be fixed.*
- ▶ The participants in our sessions were not sure how to print a document.
 - ✓ *Add a clear Print option.*
- ▶ Only the top part of the document is visible and to view the entire page, the user must scroll a great deal.
 - ✓ *Move document further up on the display page by:*
 - *Moving the links to Simple Search, etc. to left side-bar or deleting them from this page.*
 - *Moving the Search in document feature to the bottom of the page.*
 - *Decreasing the page size of the document.*
- ▶ Generally, participants found the yellow navigation bar and its icons to be somewhat confusing and frustrating. For example, users expressed annoyance that the document

was not centered when they moved to the next page, which forced them to scroll down to continue reading.

- ✓ *Improve the usability of the navigation bar.*
- ✓ *Suggestions provided by participants include:*
 - *Placing navigation bar to the right of the document, not on top, so that it is always accessible to users while reading the document.*
 - *Alternatively, place the navigation bar on the top and the bottom of the page to avoid constant scrolling.*
 - *Create hyperlinks from icons to the respective sections in the Users Guide or include additional hints as mouseovers.*

Users Guide

- ▶ The NSCEP site includes a *Users Guide* that explains the various search options. The *Users Guide* begins with a reference to a former system known as Clarit. We suggest this reference be eliminated or added as a note to the primary text. Current users are confused by a reference to a system that no longer exists.
- ▶ It is critical that the *Users Guide* utilize terminology that is entirely consistent with that employed in the site. Otherwise, the *Users Guide* introduces a new form of uncertainty, causing users to wonder whether a particular instruction does or does not pertain to a specific feature of the site. For example, the *Users Guide* does not employ a heading or title that says *Users Guide*, rather it says *Help*. Similarly, the *Users Guide* sometimes refers to the *Search Results* page, while other times it uses terminology such as *Results Page* or *Results List*. In general, the *Users Guide* needs to be carefully edited. It contains typos and poorly constructed sentences.