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**NOW THAT IT'S ALL ON THE WEB, WHERE DO WE GO FROM HERE?
THIRD-GENERATION WEB WORK**

Submitted by Energy Information Administration, U.S.¹

Invited Paper

The first generation of web work basically was to create a website. Have a presence on the Internet. Get some information out there.

The second generation was to populate the site, to get lots of information out there. This work may also have involved the first redesign of the site to improve navigation and usability.

Now web teams are facing a third generation of issues: How to make the information more useful to customers? How to find out what customers think of our site? How to customize the site to make information easier to find and understand? How to present information in a more web-friendly (rather than paper-friendly) way?

During 2002 the Energy Information Administration (EIA) has undertaken a number of web improvement projects to make the information on our website more accessible and understandable and to solicit suggestions and make improvements in response to customer feedback.

Web Customer Survey

In February 2002 EIA fielded a web customer survey. The 8-question survey (see Figure 1) was designed to "popunder" after a customer left our site and closed their browser. The invitation to take the survey was a simple screen with choices to link to the survey or to close the window.

The survey was live for one calendar week, to include both weekday and weekend customers. On the second day we sent a direct invitation to participate in the survey to our 20,000 listserv customers who had signed up to receive automatic email from EIA. The email message included a small description telling them the purpose of the survey and a link to the survey. These are some of our more important customers and we wanted to make sure we heard from some of them.

¹ Prepared by Colleen Blessing.

In one week we received almost 4,500 responses, with 2,400 coming in that second day in response to the listserv invitation.

Results of the web survey:

- Most customers were repeat web users. Frequency of use:
 - Daily 11%
 - Weekly 52%
 - Monthly 29%
 - First time 8%

- Overall satisfaction with the site:
 - Very Satisfied 42%
 - Satisfied 56%
 - Dissatisfied 2%
 - Very Dissatisfied 0%

- An estimated 19% of respondents were international customers.

- What did customers say?
 - They loved the site. Top notch. The best. Fabulous. Good use of tax dollars.
 - The staff are wonderful, knowledgeable, courteous and timely in responding.

Several new products created just for the web were praised.

But:

- The navigation is confusing, frustrating.
- They often have trouble finding what they are looking for.
- The data aren't updated often enough.
- The search engine stinks.
- Continued problems with jargon, locating historical data, data discrepancies.

The results of the survey gave us many improvement ideas.

Figure 1. EIA's Web Customer Survey

eia.doe.gov
Energy Information Administration

OMB #1901-0302
Form Expires: 7/31/02

Website Customer Survey

1) Which category best describes your organization?

- Business/Industry
- Government
- Research/Consulting
- Academia
- Finance
- General Public
- Other

2) How often do you use our site?

- Daily
- Weekly
- Monthly or less
- First-time user

3) How familiar are you with the energy industry and energy terms?

- Very familiar
- Somewhat familiar
- Not very familiar
- Not familiar at all

4) EIA is thinking about adding a "my EIA" feature to our site. This feature would allow you to customize our home page with your favorite EIA links (like a "my Yahoo" page.) If we offered this service, would you use it?

- Yes
- Some
- No
- Not sure
- Not familiar with concept

5) What were you looking for when you came to EIA's site? (for example: fuel information, prices, forecasts...)

Web Customer Feedback

For many years EIA has had a static feedback button on a couple of our web pages and we have collected a lot of valuable feedback. Recently we decided to make two changes to this mini-survey: 1) We modified the questions to try to solicit more actionable feedback, and 2) We plan to post the feedback link on all major second-level content pages.

The old questions were: Was the site easy to use? (Yes, somewhat, no) and, Did the information meet your needs? (Yes, somewhat, no) Often we found that people would say the information didn't meet their needs, but, unless they mentioned specific problems in their response to the open question at the end, we had difficulty determining what their problem was.

Our new feedback questionnaire (see Figure 2), posted Sept. 1, 2002, asks for specific information:

What were you looking for when you came to this site?

Did you find what you were looking for?

Describe any trouble you had finding what you were looking for?

Questions and comments are routed back to the authors of the second-level pages they came in through. For example, a question or comment that came in through the coal page would be routed to the author of the coal page. Each feedback message is sent via email to the appropriate staff member, with the webmaster receiving copies of all messages. The webmaster spotchecks to make sure proper staff have received the messages and gets involved if the message is of some particular importance. Each office answers their mail "in their own manner". There is no formal quality audit mechanism.

In the first month we received 30 responses. With the former survey, we received 20-50 responses each month. Having this kind of feedback gives you a good idea of the types of customers who are visiting your site (this month we had more students than in the past couple of months because school just started in September) and what kind of things they are looking for.

The kind of customer who actively chooses to answer the survey seems to have a somewhat different perspective than those (especially the valued listserv customers) who answered the popunder survey described above. These customers were less likely to have found what they were looking for (18 out of the 29) and, probably as a result, are more likely to say they were dissatisfied or very dissatisfied (8 out of 27).

Customer comments have resulted in our changing navigation, renaming links, and adding metadata. Persistent themes (I can't find historical data, for example) are investigated. When people ask who uses our data and whether they are satisfied with our services, we have good information about our web customer base.

The image shows a screenshot of a web browser displaying the EIA (Energy Information Administration) website. The browser's address bar shows "eia.doe.gov". The page header includes the EIA logo and the text "Energy Information Administration". A search bar with a "Go" button is visible. The main content area features a red heading: "We take your feedback very seriously at EIA!". Below this, there are five numbered questions for a customer feedback survey. Question 1 asks for the user's category, with radio button options: Government, Business/Industry, Research/Consulting, Teacher, Student, Library, Media, Private Citizen, and Other (with a text input field). Question 2 asks what the user was looking for, with a text input field. Question 3 asks if the user found what they were looking for, with radio button options: Yes, Partially, No, and Just Browsing. Question 4 asks to describe any trouble found, with a text input field. Question 5 asks for an overall rating, with radio button options: Very satisfied, Satisfied, Dissatisfied, and Very dissatisfied.

eia.doe.gov
eia Energy Information Administration
Home > Feedback
Search EIA by FirstGov Go

We take your feedback very seriously at EIA!

1. Which category best describes you or your organization?

- Government
- Business/Industry
- Research/Consulting
- Teacher
- Student
- Library
- Media
- Private Citizen
- Other, please specify -->

2. What were you looking for when you came to EIA's site?

3. Did you find what you were looking for?

- Yes
- Partially
- No
- Just Browsing

4. Describe any trouble you had finding what you were looking for?

5. Overall, how would you rate your experience using EIA's site?

- Very satisfied
- Satisfied
- Dissatisfied
- Very dissatisfied

Figure 2. EIA Web Customer Feedback Survey

Establishing Web Style Standards

EIA's website is a product of much creativity and many authors. Different parts of the organization developed different navigation, conventions, and look and feel. The web group decided, to be more consistent and to look more professional, that EIA should have style standards for items such as headers, footers, tables, and graphs. We conducted three "writing for the web" classes to introduce and review the new standards. Figure 3 shows the first page of the standards, with examples of approved EIA log/banner art.

Establishing standards is one thing; enforcing them is quite another thing. Many authors appreciate not having to think so much about design, colors, and page layout. But some authors are very protective of their "creativity" rights and have resisted the standards. Ongoing discussions with authors of "creative" (read: nonstandard) pages have tried to emphasize the usability benefits of having standards, (Can you tell what's clickable on your page? Can you read the yellow on gray button names? Is your navigation consistent with other parts of the site?) and the increased usability of not making users have to relearn conventions on each page. For example, unvisited links should be blue, visited links reddish purple. A few people think this convention is boring, just following what

The screenshot shows a web browser window with the following content:

- Page Title:** EIA Style and Standards for Electronic Products
- Navigation:** page elements | text | reports | tables | charts & graphs | images | abbreviations & acronyms | applications
- Table of Contents:**
 - Introduction to Electronic Standards
 - Page Content and Design (what the user sees)
 - Coding & Examples (how to make what you see)
 - Appendix
 - Glossary
 - Checklist
 - Infrequently Asked Questions
- Section: Standard Page Elements**
 - header | footer | background | links
 - Consistency gives polish to a site. High-quality web sites adhere to an established set of style settings consistently throughout the site. It encourages visitors to stay by establishing an expectation of the structure.
 - Header**
 - An EIA logo/banner needs to be placed prominently on the top left of the page. Use one of the examples below. The home page logo will be slightly different to reflect its home status.
- Examples of EIA Logos and Banners:**
 - Example 1: A blue banner with the EIA logo and "Energy Information Administration" text.
 - Example 2: A blue banner with the EIA logo, "www.eia.doe.gov", and "Energy Information Administration" text.
 - Example 3: A blue banner with the EIA logo, "www.eia.doe.gov", and "Energy Information Administration" text.
- Channel/Secondary (or Sub-site) rules:**
 - Replace the Energy Information Administration part of the banner with the appropriate channel logo. Channel logos can be accessed directly from - www.eia.doe.gov/images/
 - NO publication names, table names or report headings in the banner.
 - The EIA part of the logo then needs to be **made clickable** to the home page.
- Search Feature:** Place the search feature on as many pages as possible. This can be put on the upper left or right. It is a great way for lost users to find what they are looking for.
- Footer:** Powered by FIRSTGOV

everyone else does, and they want to use different colors. But sometimes it is good to do what everyone else does so users don't have to think too much about what should be standard conventions. EIA staff is becoming more accepting of standards with training and explanations of the benefits.

Web Audit

Once the web standards were established and distributed, we gave web authors some time to comply and make changes. The web team decided an effective way to evaluate whether the standards were being implemented was to conduct an audit. Twenty members of the web team (many of them web authors themselves) each volunteered to look at 30 pages to check for specific items. Everyone checked someone else's pages; you couldn't audit your own pages. Sample audit questions are shown in Figure 4.

The audit covered a total of 490 pages. Most common failures were header elements (no logos, logo not clickable to home page, missing breadcrumbs), no tags (metatags, alt tags); others included missing dates, tables and graphs not sourced, misleading/bad links, distracting colors or backgrounds, and confusing text/acronyms.

Report cards with audit results were sent to each web author and their management. Some easy-to-fix problems (misspellings, bad links) found by the auditors were quickly rectified, while other more complicated problems (navigation) will be addressed over time. The web team has concluded that this audit was an effective way to get authors to comply with the standards.

Other Web Improvement Projects

- New usability testing. EIA has made progress in improving our website but we have more work to do. The latest round of usability tests included interviews with 21 people, many of them energy experts. We found, not surprisingly, that experts did better finding specific information on our site than non-experts. Metadata (glossary, A-Z terms, footnotes) are very important for non-experts. When users got stuck, they bailed out to Google, did their search and often ended up back in our site. They tended not to use the internal search engine.
- EIA has developed several web-only presentations that have been very popular with users.

http://www.eia.doe.gov/oil_gas/petroleum/data_publications/weekly_petroleum_status_report/wpsr.html This Week In Petroleum

<http://www.eia.doe.gov/emeu/security/esar/esar.html> The Energy Situation Analysis Report

<http://www.eia.doe.gov/neic/quickfacts/quickelectric.htm> Energy QuickStats

- EIA in recent years has focused on kids as one specific user group. User sessions for our Kids Page tripled between 2001-2002, making it the fastest growing page on our site. EIA has worked with an energy education group to get input from elementary students and teachers to help improve the page and make it more usable and understandable to that age group.

Figure 4. EIA Web Audit

Energy Information Administration Web Customer Survey - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Search Favorites Media Print

eia eia.doe.gov Energy Information Administration

Form Never Expires! 4/1/02

Website Audit

Source code page elements...

1) Does the page contain necessary <title> and <meta> tags? (*view source*)

Yes
 No

2) Is the page 508 compliant? (*i.e., does each image have an <alt> tag? - mouse over to see description.*)

Yes
 No

Content elements - does it look like it belongs to the EIA site...

3) Does this page have an EIA logo?

Yes
 No

4) Does page legibility adhere to standards? (*Light backgrounds, dark text and a readable type size?*)

Yes
 No

5) Is the page dated appropriately - date of data or report, next release date, page last modified?

Yes
 No
 Not sure if this is the latest data?

6) Are tables and charts understandable when printed in b/w? (*yes, just print it.*)

http://tonto.eia.doe.gov/audit/www.eia.doe.gov

Start Internet

web audit - Microsoft Out... Website Audit - Message ... Energy Information A...

3:34 PM