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EPA.gov Information Architecture Strategy

Environmental Protection Agency
OEI/OPA
December 20, 2005

Prepared by Welchman Consulting, llc

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Executive Summary

The web site for the Environmental Protection Agency (EPA) is the online authority for information about US environmental regulations, Federal research and programs. While the depth and breadth of content offers a wealth of information, the sheer volume is overwhelming and frequently leads to frustration and confusion.

As the Agency adopts its Web Content Management Strategic Roadmap, the Offices of Environmental Information (OEI) and Public Affairs (OPA) jointly initiated a new information architecture to support content delivery objectives. Welchman Consulting worked closely with the project team to conduct user research, analyze existing content and survey best practices to provide EPA with a framework for the organization of online content and providing audiences with intuitive access to relevant information.

Based on user interviews and research, the epa.gov site is generally characterized as an online "library" with volumes of content. Visitors frequently expressed appreciation for the amount of information available, but found it was difficult to find what they were looking for due to confusion over labeling, irrelevant search results or inability to differentiate between multiple content types – in short, users are looking for a "card catalog" that will help them quickly sort through information and direct them to the appropriate resources.

Unlike a news or entertainment site, visitors view epa.gov as a utility and are typically on a mission to find a specific piece of information. As a result, few are willing to spend time to browse through multiple indexes and sub-sites hunting for relevant content.

A more robust information architecture that includes better search, audience filters, contextualized content and localization will help users target their information needs and quickly drilldown to relevant content. The information architecture combined with CMS and taxonomy will also enable EPA to provide users with relevant information based on the user's path through the site.

Overall the information architecture strategy embodies the EPA's web mission, which is to provide a single source of citizen-focused information about the protection of human health and the environment.

Project Goals

The EPA is in the process of executing on a new web strategy, which includes a governance model, new processes and the implementation of the Documentum content management system (CMS). These efforts all support the overarching objective to improve citizen-focused services via the internet.

A new Information Architecture (IA) is another critical success factor supporting the agency's objective. IA is the structure of information as it is presented to the end user. Specifically, IA efforts will achieve the following goals:

- **Create more efficient information retrieval** – structure navigation to allow users from each of the primary audience groups (e.g. scientists, industry, special interest groups, citizens, students, media and government officials) to quickly identify and access desired content.

- **Improve user experience** – create an environment where users are guided to a variety of relevant, value-added content and services that make for a more rewarding site visit.

- **Leverage CMS capabilities** – IA should provide a framework that takes full advantage of the features and technical attributes of the new CMS such as the ability to use metadata to contextualize content types.

Project Methodology

Information Architecture is an iterative process that begins with a thorough analysis of existing content and end users to learn where opportunities and challenges exist for information delivery. Based on these findings, the team is able to pull back the layers of the site and reassemble it in a way that will improve the overall service.

Specifically our analysis and recommendations are based on the following qualitative research methods:

- **Content Analysis** – an audit of content that currently exists on the EPA web site to better understand the depth and breadth of topics, naming conventions, audiences, navigation and content types (e.g. press releases, test methods, feature stories, etc)

- **Analysis of Existing User Surveys and Search Logs**– a review of existing information on search terms and surveys help to benchmark current usage and better understand user needs.

- **Focus Groups and User Testing** – a series of meetings where members of a target audience (e.g. scientists) were observed as they discussed their personal experiences using the EPA web site. Following the group discussion, participants were monitored as they went online to complete a series of tasks on the EPA site such as locating a document about a specific topic. These observations provided insight into what each audience group is trying to accomplish when they visit the site and how the EPA can best meet their needs.

- **User Interviews** – one-on-one interviews either in person or over the phone with key audience members such as journalists, academic researchers, environmental advocates and state/local government officials. These discussions provided a more in-depth understanding of audience content needs and web usage.

Additionally, we reviewed information architecture and content strategies currently utilized by the Web Council and various program offices within the EPA to better understand existing practices and methodology.

Through this approach, we gained a thorough understanding of gaps in the overarching information architecture and develop a framework to better support the agency's overall web strategy.

Analysis

Based on the qualitative research, we are able to draw conclusions about EPA's audiences and how they approach the web site. The EPA serves many different audiences, ranging from academic researchers to school-aged children. While these audiences have needs that very widely, the one commonality is that they all regard the EPA site as an online reference "library."

Users tend to view the site as full of valuable information, which they find both helpful and hindering. Regardless of the audience segment, users clearly see value in the amount of information, but expressed concern and frustration about the ability to find relevant information quickly.

Key Findings

The following is a breakdown of key findings that represent challenges and opportunities for defining the new IA:

- **Google is King** – a majority of EPA.gov users enter the web site through a Google search. This is true for novice users as well as those who frequently use the site as a reference tool. When pressed further, users commented that the depth and breadth of content makes it difficult to remember navigation paths and bookmarks often change. Additionally, users find they get better search results within the EPA site when using Google compared to the existing EPA site search tool. Users also cited that EPA is only one of many resources, and when they search they prefer to "cast a wide net" by using Google.

  This information is in keeping with Google's market dominance and the resulting expectation that all web searches should produce weighted results based on relevance.

- **Audience-oriented navigation a.k.a, "Give me access to everything, but point me to what's relevant to me"** – another commonality among the different audiences was the desire to quickly filter out irrelevant content based on their individual needs. For example, technical users (researchers, engineers, program managers, etc) are eager to view information relevant to their job, and do not want to be impeded by consumer-oriented content. General users (non-technical) want access to more scientific data, but only after they have an opportunity to digest "plain English" content.

  All audiences, however, were adamant that they should not have to self-select an audience segment before they're able to view content (e.g. Student, Researcher,

Concerned Citizen…etc). This relates back to the initial "library" concept. With so much content available, users want a "card catalog" that will allow them to quickly identify relevant content, but do not want to be stove-piped into any one section. Users prefer the ability to skim the surface then quickly drill down to deeper content at will.

- **Utility-driven** – the majority of EPA audiences go to the web site to conduct research. Regardless of their background, users are driven by the need to quickly find and digest information about a specific topic. Our research shows that the "Quick Finder" and left navigation are generally the first places people go to and they spend little or no time reading featured content on the homepage. One user even commented, "By the time I get to the EPA site, I've already gotten the news from other sources and now I'm looking for facts." Based on this need, there is an opportunity for the EPA to re-orient homepage real estate to give more prominence to utility-driven features (Quick Finder, search, global navigation).

- **R.O.T (Redundant? Outdated? Trivial?)** – one frustration expressed during focus groups and interviews was the perception that there's dated or conflicting information on the site, especially related to interpretation of regulations and guidance. Despite efforts to maintain "one Agency one voice," users find regional differences in policies and enforcement.

  This is especially frustrating to environmental compliance officers and consultants who are held accountable for regulations. According to one compliance consultant, "I can't trust it's current. I want to know if the regulation says you have to be 'at or near' something how do you interpret that? But EPA's site has conflicting information so I have to call a regional person then write a contact record to protect myself."

  Journalists also commented on perceived discrepancies between published reports and individual interpretation of raw data. One reporter cited a recent example of finding conflicting reports on the EPA site related to safe levels of Benzene in water and Hurricane Katrina. As a result the journalist questioned the credibility of the EPA web site as a source.

- **EPA is not for everyone, or is it?** – technical and non-technical users all had the perception that the EPA site is not intended for general audiences, but based on further exploration, many were pleasantly surprised to find that there is a lot of valuable information for general consumers.

During interviews, technical users explained that they generally use the site because it's a requirement/tool for their work. They also said they would not refer non-technical users to the site, because it could be overwhelming and difficult to navigate unless you know exactly where to go.

Non-technical users had the expectation that the EPA is a "government" site with a lot of jargon and political/legislative information. Even those who used the site before, were surprised to learn that there was a great deal of practical information (e.g. Green Vehicle ratings), but stressed that they would have never known the information was there or how to go about finding it.

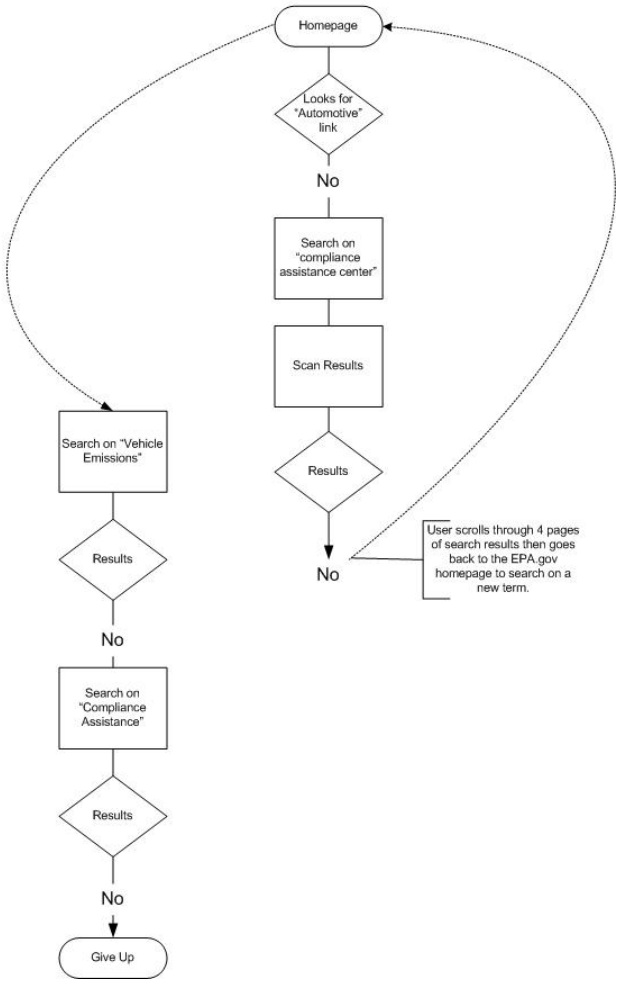
- **Down the rabbit hole** – user testing repeatedly demonstrated that even experienced users get confused by labeling and navigational choices. Relevant examples include usability tests where users gave up after attempting to locate information on open grants and/or commenting on a specific Docket. (see Attachment A). In these scenarios users frequently commented that they felt there were too many options that sounded similar (e.g. Grants and Debarment http://www.epa.gov/ogd/).

  Additionally, users expressed frustration over the volume of search results and inability to quickly skim results to find relevant content. During usability tests about one-half the users zeroed in on the distinction in search results between "Browse EPA Topics," "Recommended Pages," and "Selected Pages." These users felt that was a step toward pointing them in the right direction. Other users found themselves skimming and scrolling through the pages of search results trying to find an appropriate page. Some users even commented that they read the URLs in search results in an attempt to guess at the appropriate section of the site.

In another specific example, technical users were asked to locate an automotive compliance center in a specific region. To complete the task, many users first looked for an "automotive" link then opted to use the search tool. Most were frustrated by the volume of search results and/or thinking they found the information, but realizing they were in the wrong region.

The following diagram represents one user's attempt::

EPA Usability Testing - 9/22/05
User ID: I1
Test: Find the Compliance Assistance Center for the Automotive Sector



Additional Findings

In addition to anecdotal information, the qualitative data collected in previous user surveys and search logs support our findings:

User Surveys
Over the past four years, the EPA has collected data from an opt-in web satisfaction survey. More than 5,000 users participated in the survey and based on that sampling, 57% of users are a first time user, which supports the need for intuitive navigation to guide new users.

Additionally, the majority of respondents (43%) are students and general public, which means top-level labeling and navigation should emphasize plain language standards over scientific or government jargon.

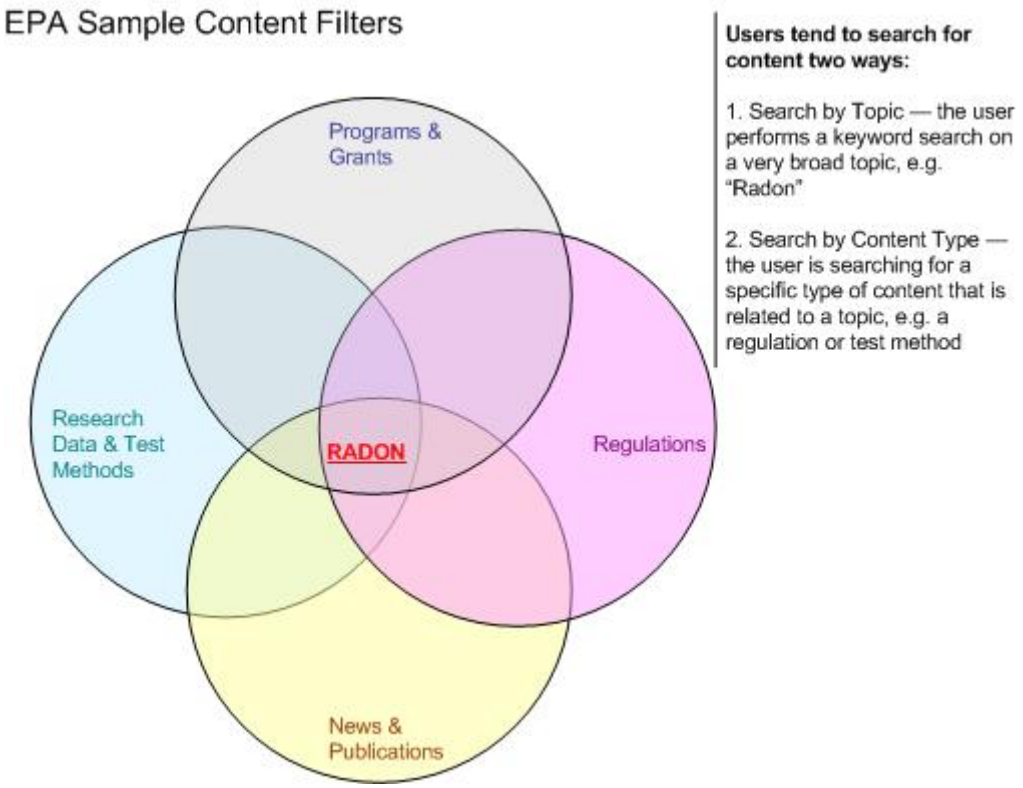
While the survey results imply that the majority of users are first timers and general audiences, it should be noted that those audience segments are more likely to complete a voluntary online survey, therefore inferences from the survey must be tempered so that the scientific, government and industry audiences do not feel alienated

Search Logs
Based on a review of site searches in June 2005, queries tend to focus on the following taxonomy facets:

- Regulations (e.g crf 40, ap42)
- Content Types (e.g. forms, test methods, publications)
- Topics (e.g. Lead, Teflon, Ozone)

These results indicate that audiences tend to take a multifaceted approach to search and expect to filter through content accordingly. What wasn't seen in the search results is an indication that users are conducting searches based on EPA's internal organization, for example, "Office of Air" or "OPA" were not ranked high in the search logs.

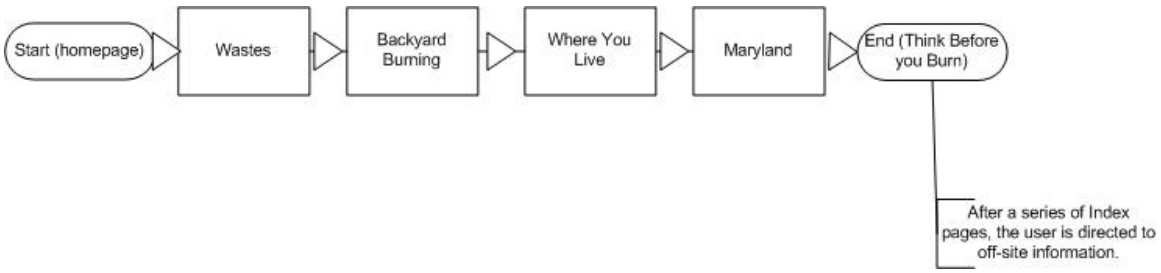
The following diagram illustrates how different audience segments use multi-faceted taxonomies to filter information:



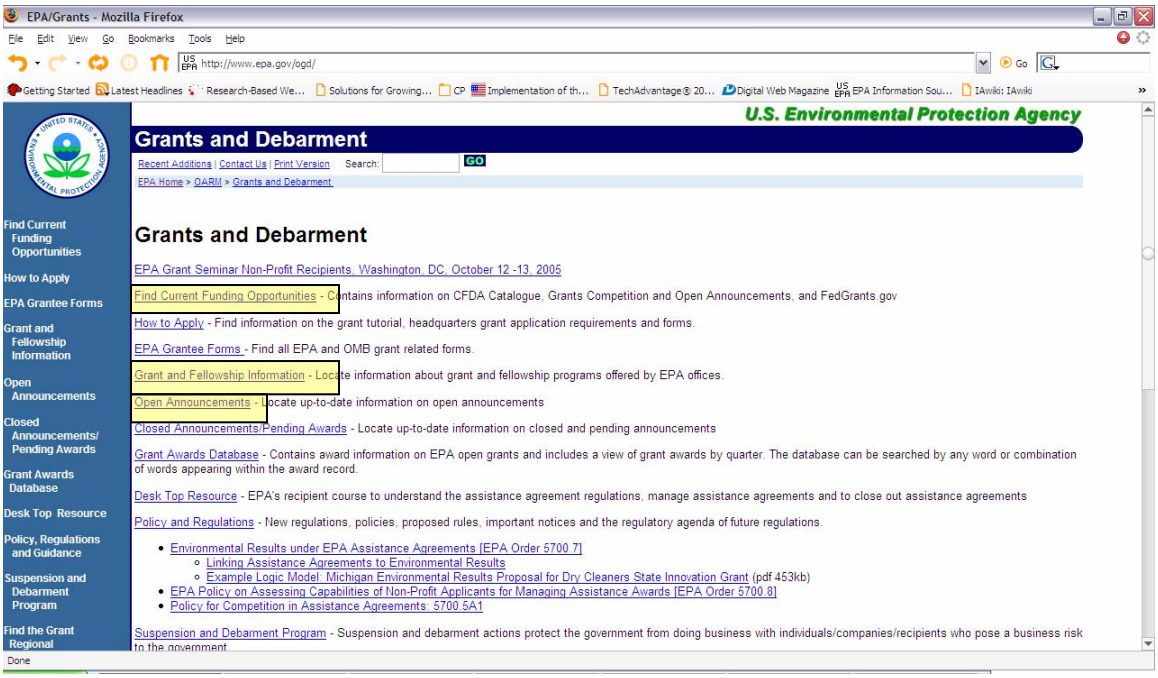
Content Analysis

More than 400 pages of the existing EPA.gov site were reviewed and cataloged in an effort to assess current efforts to organize and present online information (see Attachment B). Existing content tends to be extremely "index"-oriented meaning there are several pages where users are presented with a series of links. The expectation is that each link will take the user to a destination page, but on EPA.gov, these indexes tend to lead to further indexes and creates a series of steps before a user may reach the desired piece of content.

For example, if a user in Maryland is interested in finding out whether or not they can burn leaves in their backyard, browsing through the EPA site would resemble this path:



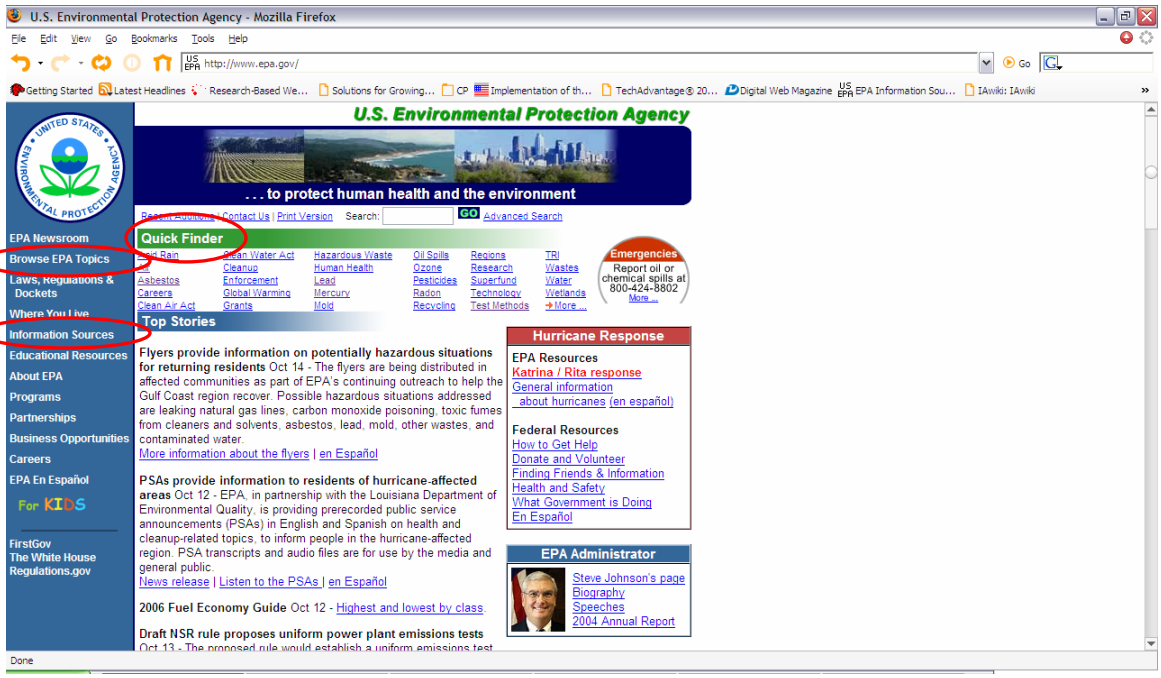
Similarly, users are given several link options to pursue, but no clear direction on which is right for them – each seems potentially relevant and consequently users may make many attempts before they find the information they're seeking. As an example, under "Grants" (http://www.epa.gov/ogd/), users are presented with these options:



Understandably, users may feel overwhelmed when considering the options of selecting "Find Current Funding Opportunities" versus "Open Announcements" or "Grant Information." They all imply similar results and during the usability testing, several participants commented on the inability to differentiate between the choices.

The use of acronyms (e.g. CFDA) and jargon (e.g. Debarment) may also contribute to user confusion. In this instance, it appears that content is structured based on EPA's internal organization and not according to OMB's Web policy, which states that all Federal public sites, "must be written and organized from the audiences' point of view."

The Agency does provide users with many opportunities to find information by browsing through topics. Unfortunately, users again could be confused by competing resources that seem similar based on the current labeling. Specifically on the homepage users are given the option to browse through the following topical indexes:



Similarly, further down on the homepage is a section called "Popular Resources" where users have the option to browse both topics and information sources.

These redundant or "sound alike" labels may make it more difficult for the average user to know where to begin and gives the impression that these links could lead down different paths. As a result, users may fear that they risk a wrong selection and/or they have to browse through multiple sections before finding which path is the right one for them.

IA Strategies for EPA.gov

Through our analysis we identified four key challenges that the Information Architecture needs to address:

- Users view the EPA web site as a massive reference library with no clear "card catalog" to help them find their way through the volumes of content.

- According to users, there is no such thing as "too much" information, as long as it's properly identified to provide users with context.

- The EPA serves many audiences, but sometimes it's hard for users to distinguish between technical and non-technical content.

- Users feel there are too many terms and links that sound alike and lead to confusion and/or frustration.

As the Agency moves forward with the implementation of the web mission and efforts to meet OMB Federal web initiatives, the following strategic approach to Information Architecture will support the Agency's goals to use the web site to promote "one voice" and provide all audiences with greater access to EPA's wealth of resources.

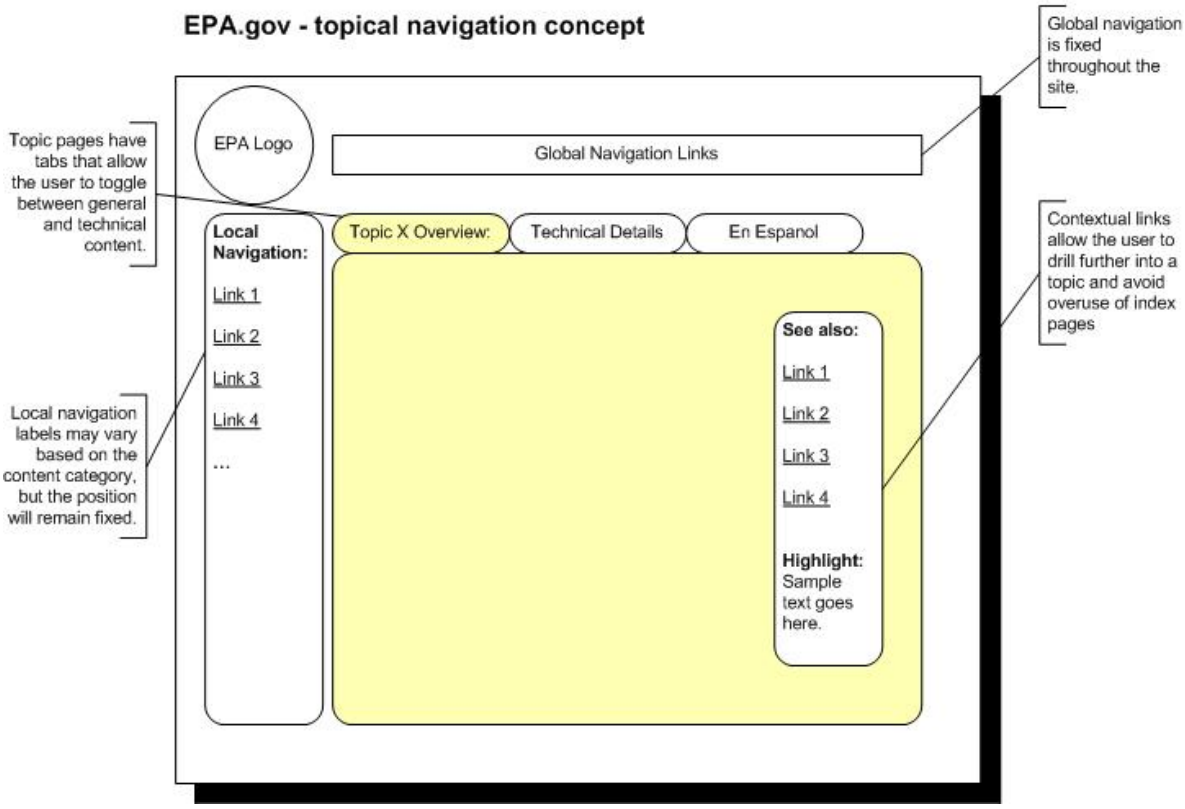
Strategy #1 – Facilitate more efficient information retrieval by providing a standard toolset for navigating through topical content. Through analysis of search logs and interviews, we learned that users frequently search and browse by topics like "mold" and not by program offices such as "indoor air." Additionally, one of the points made consistently by users was the inability to distinguish between technical and non-technical, or consumer-oriented, information.

A reorganization of navigational tools and groupings of like content will package topical content so that information is easier to find and explore. Building on the "Topics Lite" concept already utilized by the Agency, topic-based content could be capped with a general information page that allows the user to quickly view and process key information such as, definition, photo, related links and contact information.

Specific recommendations for topic pages include:

- Create topic pages that allow users to toggle between technical and non-technical content (e.g. Mercury).
- Provide contextual links to related content types (e.g. regulations, databases or test methods).

- Consolidate topical navigation tools for more intuitive browsing (e.g. combine Quick Finder, Popular Resources and Topics Lite).
- Incorporate navigational tools that enable one-click access to popular content (e.g. pull-down menus and contextual links).



Strategy #2 – Create a more rewarding user experience by providing a familiar platform. In addition to providing context for topic-based content, the basic framework of the site needs to be consistent on every page. Creating and managing strict standards on such a large site can be difficult, but these fundamental principles will greatly improve user experience throughout the site:

- **Standardize global navigation on every page on the site**. Global navigation includes persistent links in the header/footer to basic information (e.g. contact us, about us, FOIA, etc) as well as the primary links that enable a user to jump into main sections of the site, similar to the sections of a newspaper.

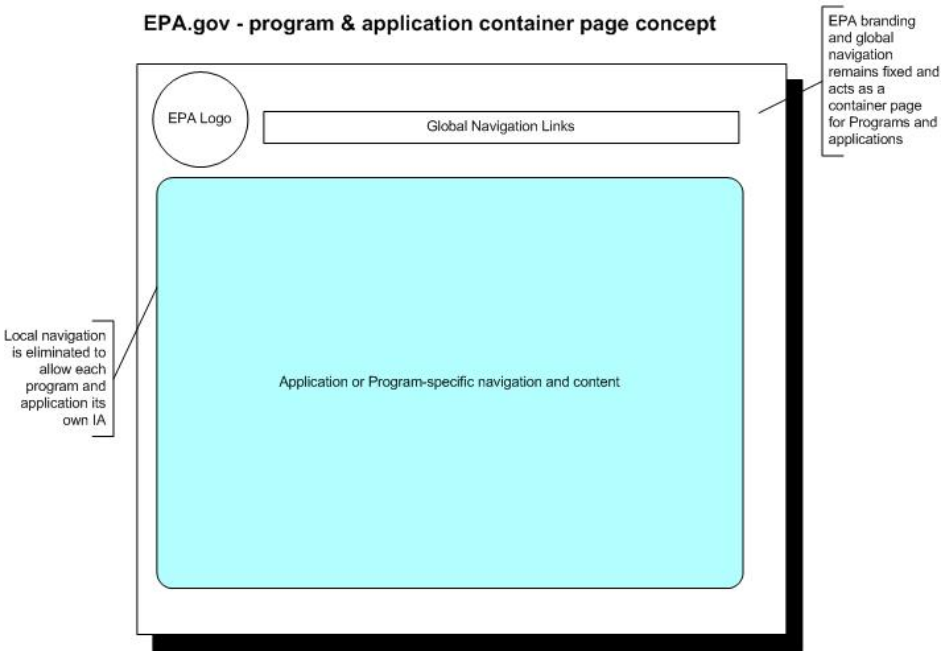
- **Anchor local navigation and manage labeling/taxonomy within each section.** Once a user jumps into a major section of the site, they will view "local navigation," which are the links specific to that section. These links are separate from the global navigation and they may vary between sections. It's critical, however, that the placement and controlled vocabularies used in local navigation are consistent. For example, if the Agency determines that "publications" is the appropriate term to describe printed documents, then any section of the site that has links to documents will label that link "publications." This standardization will help mitigate the risk of confusing labels or "sound alike" sites.

- **Introduce conventions for pages containing programs or applications.** While most sections of the site will incorporate a standard structure for local navigation, there are some content types that may require a modified approach. Some EPA programs and partnerships such as, Energy Star, or Enviroene, have their own established brand identity and information architecture.

  Because these programs often involve interagency collaboration, it is not always possible for them to conform to the EPA page template and IA, however, there are standards that can be set for the "container" pages that serve as a frame around the program pages that will provide users with a frame of reference and the ability to easily return to the familiar EPA structure.

  Legacy databases and applications may also have the same challenge and cannot be expected to be re-configured. New applications, programs and partnership pages should be checked against the IA standards to ensure compliance with the universal structure of navigation and page layout.

  Existing program and applications, in the meantime, will adapt the "container page" template as a way to provide users with a common framework and easy access back to the main section of the EPA site.



Strategy #3 – Leverage CMS capabilities to alleviate click-through confusion. Many users expressed frustration and confusion when confronted with too many sound-alike choices (e.g. "Grant Opportunities" vs. "Open Grant Announcements"). Similarly users commented that they felt long index and search results pages presented them with too many choices and not enough context.

To alleviate confusion, there are some key recommendations based on our analysis and best practices cited by the OMB ICGI web guidelines.

- **Use clear, task-oriented language to alleviate the confusion of sound-alike sites.** This helps both technical and non-technical/general users, especially those who are first-time or infrequent visitors and not familiar with the EPA's organizational structure. Incorporating action verbs into the navigation will give users context before they click:
  - "Search for Grants"
  - "Comment on a Docket"
  - "Find Local Contacts"

- **Manage the number of sub-index pages so users land on a destination page within two or three clicks.** Users tend to view the EPA.gov web site as a resource tool and want to find information as quickly and efficiently as possible. By managing

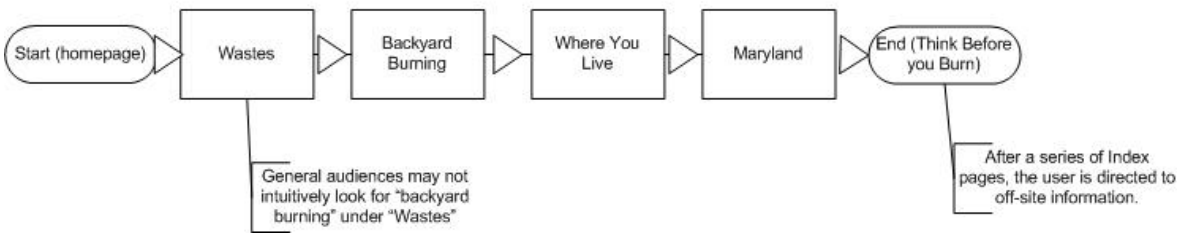
the number of index pages and the categories listed on them, the Agency is able to provide a more direct path for users and simultaneously create a standard where internal offices have to carefully consider where content "lives" on the site. Rather than merely adding another link to another program office web site, each office will now be required to organize content according to the content standards approved by the EPA Web Council and. Workflows and permissions built into the CMS will create checks and balances within the Agency and mitigate the risk of rogue sites or stray pages being added to an index.

- **Consolidate indices by grouping like topics based on audience-oriented tasks.** User confusion may also be mitigated by utilizing more "audience appropriate" language in the way topics are grouped and moving away from internal organizational practices. For example, on the current site information about "backyard burning" is categorized under "Waste." The average user may not intuitively look for backyard burning under the Office of Waste, and as a result may miss the opportunity to use the online resource.

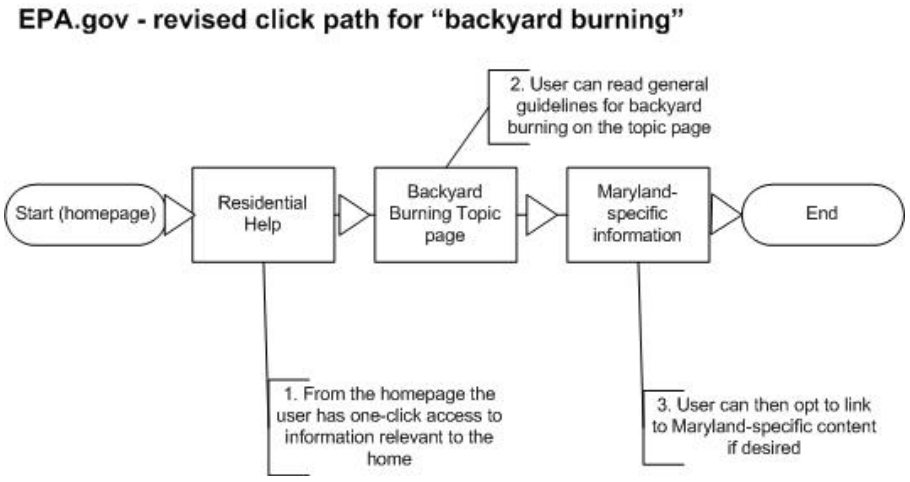
  An alternative solution is to provide users with a clear path to relevant content. For example, content about "backyard burning" may move under the label "Residential Help" or some other term that clearly resonates with general consumers looking for practical information related to the health and environment in their own home.

  As a comparison, below is an example of the 'as is' click path to locate regional information about backyard burning:

EPA.gov - existing click path for "backyard burning"



In contrast, here is that same user scenario, but the path is much shorter:



The second scenario illustrates a few ways the user experience can be improved through labeling and consolidating. First, the homepage includes a link that quickly directs the non-technical user into the area of the site with a focus on consumer/residential information. Second, once the user selects the destination topic, he is presented with a plain language overview about the topic and then has the option to select a relevant link to drill down to more specific content. Here again, the CMS will support the information architecture by using metadata to aggregate and re-purpose content so that a user searching for "backyard burning" will be presented with a single-source of information rather than being confused by variations of the same content sprinkled throughout the web site.

Summary and Implications

Throughout this process, it has become clear that both technical and non-technical audiences agree that there is a wealth of information available on the EPA web site, but their patience for sorting through countless directories is limited. Users in general take a "what's in it for me" approach to the site and typically driven by the need to complete a task.

As a result, the underlying approach to information architecture involves transitioning the site from organization-based navigation to one where topics and tasks are the common threads that sew together content from across the Agency.

This will be achieved by leveraging the CMS and use of metadata so content can follow the "Reuse, Reduce and Recycle" approach to content management:

- **Reuse:** develop universal content that can be repurposed throughout the Agency to complement regional and program office sites.
- **Reduce:** redundant content may be a liability for the EPA and creates confusion for the user. Use CMS workflows and governance to streamline content development.
- **Recycle:** apply IA and taxonomy structure throughout the Agency so that navigation is consistent and easy to use.

The implications of this change are significant. First, the revised information architecture will challenge managers as they communicate and execute policy and process changes. Fortunately, the Agency implemented a web governance model more than a year ago and has proactively involved members of the Web Council throughout the IA process to promote understanding and buy-in across all departments.

Second, the new information architecture involves updates to the taxonomy and enforcement of metadata standards to ensure content can be effectively published and re-used where appropriate. The migration of content into the CMS will support this effort with the use of automated workflows and a structured content migration plan.

Finally, the new information architecture will find success with the adoption of web standards throughout the agency. The Web Council will define and codify new processes and standards for developing and maintaining content relevant to the information architecture. Additionally the Council will continue to evaluate and measure the effectiveness of the IA based on ongoing feedback from audiences and make updates according to user needs.

Attachment A: Focus Group Summaries

Overview
A series of audience focus groups were conducted in September and October to assess current perceptions about the EPA's public web site, www.epa.gov. The sessions were conducted in a facility located in Baltimore, Maryland. Participants were recruited by Welchman Consulting based on criteria approved by the EPA.

There were four sessions conducted in total. They consisted of a forty-minute group discussion facilitated by a moderator. After the group discussion participants were asked to complete a series of individual tasks related to web site usability.

Session I – Wednesday, September 22, 10:00am
Participants in this group all work in the environmental health/compliance field. They consisted of professionals who are consultants, engineers, researchers and sustainable development practitioners.

Session I Participants

Name	Organization	M	Age Est.	Characteristic as web user	Searcher/Brows
E. Quinn	Insect Control Research	F	40s	methodical	browser
C. Schwartz	Archer, Inc	M	30s	pragmatic	searcher
J. Shepley	Greenroof Plants	M	30s	power-user	searcher
J. Jones	Delta Analytical Group	M	50s	methodical	browser
T. Burkett	Biohabitats, Inc.	M	30s	thoughtful, deliberate	searcher

The following are highlights and comments captured during the group session. The session was video-taped and can be viewed in its entirety.

Question: What do you do for a living and how do you interact with the EPA/epa.gov?

E. Quinn	• Works for Insect Control Research, consulting and research firm • Cruises the EPA site a lot to verify what she tells clients • Would like to see more bulleted content

C. Schwartz	• Environmental consulting firm – specifically in regulation compliance assistance and auditing • Knows regulations well, constantly talking with regulations officers and working with Region 4 inspectors
J. Shepley	• Emory Knowl Farms/Greenroofs – established greenroofs nursery as an alternative to treat storm water issues, especially in urban situations • Tries to be green in everyday practice – e.g. uses solar power, vegetable oil cars, etc • Not a heavy user of the EPA site
J. Jones	• Delta Analytical = consultants in pesticide program and toxic substance regulation • Works a lot with OSHA and EPA • Spends a lot of time in the pesticide management section of EPA.gov
T. Burkett	• BioHabitats is involved with eco-reengineering and planning, wetland management • Limited web use outside of local regs, but always looking for great resources such as white papers and research

Question: How are you involved with compliance and where do you go to find regulations?

E. Quinn	• "It's how we tell our clients how to submit or flag a submission." • relies on pesticide regulation notices, policy docs – especially if there's an unresolved issue, will look for policy documents when there are no regulations issued • "the site has so much there. I usually start with OPP and have an idea of where I'm going to go from there"
J. Jones	• "I know what I'm looking for and typically go back to the same document." • "I find it easier to use the web as my file system rather than printing documents" – does not want pages/files to go away • Typically looking for regulations, pesticide regulation notices

	• "It's frustrating when I know a document is there, but I can't remember where." • Thinks an application like Google Desktop would be ideal way to search for information/documents • Usually searches on specific title or subject • Site would be easier to use if it had "portals" based on audience segments • "Pesticides tried to be all things to all people. Each group should have a section and make it more efficient."
T. Burkett	• Tends to tag pages as favorites • Almost always starts with Google and then eventually get to a relevant EPA page/file, would not think of going to EPA first • Prefers Google approach so he can "cast a wide net"
J. Shepley	• "I'm a searcher. Sometimes I like casting a wide net and sometimes I like putting my hook right under the log" • Prefers to have options for searching – either keyword (broad) or pull down menu (specific) • Used example of searching on "grants" to see if he could get Federal money. Spent 10 minutes browsing through the grants section on EPA.gov and gave up to go to a state page
C. Schwartz	• If trying to pin down a regulation he will use the OSHA or EPA site – on either site he will use search or get to the program area first then browse to the regulatory information • 95% of the time he reads the Federal Registry to keep up with new regulations and then go online to follow up on new regulations • Reads CFRs every day and the Federal Reg. as needed • Knows where to go for CFR info, but has a hard time finding EPA's interpretation – different regions have different interpretation and he has to talk to each region. • Would like to have information centralized, similar to the hotline EPA used to have – he remembers how the hotline people used to have a library of information to reference – would like the EPA to revert back to that but make it self-service

	• Biggest problem: "I can't trust it's current. I want to know if the regulation says you have to be 'at or near' something how do you interpret that, but EPA's site has conflicting information so I have to call a regional person then write a contact record to protect myself."

Question: How satisfied are you with the ability to access reliable information on the EPA site?

E. Quinn	• Has a hard time trusting compliance information because it generally does not have a date • Had to call to verify information and gets no real response • "as a consultant it puts you in a bad position because our clients are paying a lot of money for us to give them definitive answers" • Would like to see content with a date published and effective date
C. Schwartz	• Having a freshness date would be a step, but recommends we check out OSHA's interpretive section as a good example • Compliance information is critical for timeliness – it's a liability if you're looking at old or dated materials • Research is different – "When I'm looking for research I'll take everything" Wouldn't mind having older information online as a reference
T. Burkett	• Need to know who has authority with a high degree of certainty – "that's always what the client is looking for"
J. Jones	• Current policy needs to stay online and not expire • New rules should be separate from old rules and regs

Question: What is your satisfaction with the quantity of content on the EPA site?

C. Schwartz	• Would expect to see boiled down stuff for generalists, but some audiences need the official document • Currently he has to search for relevant information – he will do a keyword search then review the abstract for all results and then tries to figure out who the is the intended audience for each "it all comes up in the search without

	distinction and you're not always able to tell if you've been dumped into a regional site"
J. Shepley	• As a small business owner he tends to search for information first on a local level • Would want to see easier access to local content on the EPA site
J. Jones	• "There's no such thing as too much information if there's something your interested in. It has to have context"
J. Shepley	• Would like to see the site resemble a card catalog or Dewey Decimal System like the ones used in a library • Wants to see search results with relevance ratings

Question: What other sites do you use in your jobs?

E. Quinn	• Health Canada's Regulatory Pesticides site • OSHA • NY State DEC site
C. Schwartz	• Air Force Center for Environmental Excellence has good info • Army Environmental Center • Within the EPA site, uses ECHO a lot and the program databases
J. Shepley	• Renewable Energy Catalog has a good state by state directory
J. Jones	• Gave example of looking for information about a chemical used in food prep and searched on both FDA and EPA – found more interpretive information on FDA

Session II – September 22, 2005 2:00 PM
The participants in the second session are also actively engaged with the EPA, but more focused in the non-profit sector. This group included local government program managers, advocacy organizations and researchers.

Session II Participants

T. Reynolds	Anne Arundel County - Recycling Manager	F	40s	both
D. Stolfutz	MD League of Conservation Voters	F	20s	both
M. McEachern	Lead Safe Housing	F	30s	browser
S. Kitlowski	Met Labs	F	20s	browser
J. Pittman	Anne Arundel County - Dept of Public Works	M	50s	searcher
N. Pentz	Balt. County Dept. of Environmental Protection	F	40s	browser

Question: What do you do for a living and how do you interact with the EPA/epa.gov?

T. Reynolds	• Recycling manager for Anne Arundel County • Generally looking for reference material • Hears about good resources through word-of-mouth
D. Stolfutz	• Web manager for Maryland League of Conservation voters • Uses site to check on regulations, statistics permits and commenting period
M. McEachern	• Collation to End Lead Poisoning in Children • Use the site for reference materials and refer users to brochures • Also will go onto EPA sites to research information in special circumstances (reference recent need to search for information about lead used in lunch box manufacturing)
S. Kitlowski	• Technical writer for MetLabs • Uses site to look up standards
J. Pittman	• Anne Arundel Waste Management

	• Uses a number of sites to research grants and looking for reference materials
N. Pentz	• Baltimore County Dept. of Environmental planning and watershed

Question: How satisfied are you with navigation and language used on the EPA site?

Question: What do you do for a living and how do you interact with the EPA/epa.gov?

M. McEachern	• Thankful for the resource, but info isn't easy to find • You have to do a lot of reading in hope to find something – e.g. lunch box information, the consumer-oriented information was not easily accessible • "I tend to look with a consumer eye and think I would look somewhere else because information is not easily categorized"
T. Reynolds	• Typically looking for something specific, but feels she has to go through many layers • Will click and browse rather than search – searches are generally only 50% successful
J. Pittman	• Feels the homepage is heavy on press releases • It is hard to find info on specific information • Will only spend about 5 minutes searching/hunting • A lot of the homepage content seems important for political reasons, but maybe there should be a separate label for regulations
S. Kitlowski	• There's not enough separation between consumer and research information • Feels there could be links between technical and consume information
M. McEachern	• "As an advocate I want to feel comfortable referring someone to the EPA site, but right now fear they'll get lost"

N. Pentz	• "I wouldn't even think of referring a non-technical person to the EPA"
J. Pittman	• "I would be interested in knowing EPA's thought on their intent when building the site" – cant' tell if it is citizen based or agency-based

Question: If you had to select an audience for yourself, what would you name it?

T. Reynolds	• "technical" – always thinks of the EPA site as a technical tool. • Would expect citizens to go to the local/county sites for information and not the EPA
J. Pittman	• "parents" would be too narrow • "homeowner" or "citizen" might be good for more general audiences • General users shouldn't have to filter through so much content
M. McEachern	• The variation of information as it's presented is not clear who the audience is – it could be anyone • "I end up doing the goose chase then give them (clients) the link"
S. Kitlowski	• "I don't feel comfortable sending customers to EPA because it's a liability issue for us"

Question: How do you find information on the EPA site?

J. Pittman	• Typically finds relevant sites by first using a search engine
M. McEachern	• Gets to EPA by way of Google • Finds it easier to search on a specific term in Google to find the right document rather than trying to find the same document by navigating the EPA site
N. Pentz	• Rarely uses bookmarks anymore because of the upkeep
T. Reynolds	• "I'll skip EPA because I know at EPA I'll get lost. It's my last resort"

Question: How do you interact with regional sites?

T. Reynolds	• Programs and grants are allocated by region and she knows to search for them in her region
D. Stolfutz	• Uses other local sites like chesapeakebay.net • "I go there first for EPA info because they break it down by region" • Feels EPA should also provide information for the genera public

Question: How satisfied are you with the ability to find relevant information on epa.gov?

S. Kitlowski	• Feels EPA has potential to appeal to all audiences if they used a more intelligent search model e.g. searching on reg # and keyword would increase accessibility of relevant content to all people who are affected by EPA • Occasionally sees inconsistencies and discrepancies in EPA.gov content
M. McEarchrn	• Would love to be able to refer people to EPA, but only if she felt confident they wouldn't get lost • Assumes the site meets best content standards because it's EPA
T. Reynolds	• Listserv in the past was not region specific and it got overwhelming • Wants to be able to scan information quickly • Technical information should be separated from general content
D. Stolfutz	• Would want to have timely content pushed out to subscribers

Attachment B: Content Analysis

Page ID	Page Name	Document Type
1.0	Newsroom	main index
1.1	News Releases	main index
1.1.1	Sample "by subject" page	index page
1.1.1.1	Sample press release	press release
1.1.2	Sample "by year" page	index page
1.1.3	Sample "by issuing office" page	index page
1.1.4	Sample "by locality" page	index page
1.2	Communicados En Espanol	index page
1.2.1	Sample Spanish-language press release	press release
1.3	Get News by Email	application gateway
1.4	RSS Feeds	index page
1.5	Contacts	index page
1.6	Visiting Labs/Offices	index page
1.7	Regional Offices	index page
1.7.1	Sample Regional Newsroom page #1	index page
1.7.2	Sample Regional Newsroom page #2	index page
1.8	Events Calendar	index page
1.8.1	Sample Event	event detail
1.9	US Govt Newsrooms	index page
1.10	Broadcast News	null
1.11	Public Service Announcements	index page
1.11.1	Sample PSA page	index page
1.11.1.1	Sample PSA detail page	detail page

1.12	Image Gallery	index page
1.12.1	Sample Gallery	index page
1.12.1.1	Sample Maps Page	index page
1.13	Media Kits	index page
1.13.1	Sample Media Kit Page	index page
1.14	Speeches	index page
1.14.1	Sample Speech	speech detail page
1.15	Testimony Page	index page
1.15.1	Sample Testimony	testimony detail page
1.16	EPA History	index page
1.16.1	Timeline	index page
1.16.1.1	Sample timeline feature	feature page
1.16.1.1.1	Sample timeline detail	detail page
1.16.2	History Topics	index page
1.16.2.1	Topics Sub-topics sample	index page
1.16.2.2	Topics Sub-topics sample detail	press release
1.16.3	History Publications	index page
1.16.3.1	History Publications Feature sample	feature page
1.16.4	History Administrators	index page
1.16.4.1	History Administrators sub topic page	index page
1.16.4.2	History Administrators sub topic detail page	feature page
1.16.5	History Organizations	index page
1.16.5.1	History Organizations Detail	detail page
1.16.6	History Photographs	index page
1.16.6.1	History Photographs Detail	detail page
1.17	FOIA	index page
1.17.1	FOIA request	form
1.17.2	FOIA sub-page	index page
1.18	Glossary	index page
1.18.1	Glossary detail	detail page

1.19	Acronyms	index page

Page ID	Page Name	Document Type
2.0	Office of Air and Radiation	main index
2.0.1	News Release	press release
2.0.2	Sub-topic Main Page	main index
2.1	Where You Live Main	index page
2.1.1	Where You Live - Regional	main index
2.1.2	Where You Live - Air Now	main index
2.2	Basic Information Main	main index
2.2.1	Basic Information Air Trends	index page
2.2.1.1	BI/AT - Where You Live	index page
2.2.1.2	BI/AT - Six Pollutants	feature page
2.2.1.3	BI/AT - Acid Rain	feature page
2.2.1.4	BI/AT - Stratospheric Ozone	feature page
2.2.1.5	BI/AT - Toxic Air Pollutants	feature page
2.2.1.6	BI/AT - Visability	feature page
2.2.1.7	BI/AT - International Issues	feature page
2.2.1.8	BI/AT - Special Issues	index page
2.2.1.9	BI/AT - Conclusions	feature page
2.2.1.10	BI/AT - Past Annual Reports	index page
2.2.1.11	BI/AT- Air Quality Data	index page
2.2.1.12	BI/AT - Design Values	feature page
2.3	Indoor Air	main index
2.3.1	IA - Basic Information	index page
2.3.2	IA - Where You Live	map index
2.3.3	IA - En Espanol	index page
2.3.4	IA - A-Z Subject List	index page
2.3.5	IA - Frequest Questions	feature page
2.3.6	IA - Publications	index page

2.3.7	IA - Related Links	index page
2.3.8	IA - Glossary	index page
2.3.9	IA - Hotlines	index page
2.3.10	IA - Media	index page
2.3.11	IA - Kids	index page
2.3.12	IA - Topics Mold	index page
2.3.13	IA - Topics Asthma	index page
2.3.14	IA - Topics Radon	index page
2.3.15	IA - School Tools	index page
2.3.16	IA - In Home	index page
2.3.17	IA - in Business	index page
2.3.18	IA - Partnership	index page
2.3.19	IA - Homeland Security	index page
2.3.20	IA - Inner Agency Committee	feature page
2.4	Transportation and Fuels	main index
2.4.1	TF - Fuels	index page
2.4.1.1	TF - Fuels - Reformulated Gas	index page
2.4.1.2	TF - Fuels - MTBE	index page
2.4.1.3	TF - Fuels - Diesel	index page
2.4.1.4	TF - Fuels - Alternative	index page
2.4.2	TF - Transportation	index page
2.4.3	TF - What You Can Do	index page
2.5	Non-Road Equipment	index page
2.6	Acid Rain	index page
2.7	Ozone Depletion	main index
2.7.1	Ozone Depletion sub-site	main index
2.7.2	Sunwise School Program	main index
2.8	Climate Change	main index
2.8.1	Climate Change - Global Warming	main index
2.8.2	Climate Change - Climate Partners	main index
2.9	Visability	main index
2.9.1	Visability - Basic Info	feature page
2.9.2	Visability - Regional Program	feature page
2.9.3	Visability - Regional Planning	feature page
2.9.4	Visibility - Parks	feature page
2.9.5	Visability - Regulations	index page
2.10	Toxic Air	main index

2.10.1	Toxic Air - About	index page
2.10.2	Toxic Air - Technical Information	main index
2.10.2.1	TA - Tech Info - Rules	index page
2.10.2.2	TA - Tech Info - National Assessment	index page
2.10.2.3	TA - Tech Info - Urban/Great Waters Programs	index page
2.10.2.4	TA - Tech Info - Education & Outreach	index page
2.10.3	TA - Air Links	main index
2.10.3.1	TA - Air Links - New	index page
2.10.3.2	TA - Air Links - Regional Ozone Transport	index page
2.10.3.3	TA - Air Links - Air Toxics	index page
2.10.3.4	TA - Air Links - Ozone and Particulate	index page
2.10.3.5	TA - Air Links - cars and trucks	index page
2.10.3.6	TA - Air Links - clean burning gas	index page
2.10.3.7	TA - Air Links - clear skies	index page
2.10.3.8	TA - Air links - new source review	index page
2.10.3.9	TA - Airl Links - Energy	index page
2.11	Radiation	main index
2.11.1	Radiation - topics	index page
2.11.2	Radiation - information	index page
2.11.3	Radiation - programs	index page
2.12	Grants and Funding	index page
2.13	Publications	index page
2.14	What You Can Do	main index
2.14.1	What You Can Do - At Home	feature page
2.14.2	What you can do - buy smart	feature page
2.14.3	What you can do - drive wise	feature page
2.14.4	What you can do - your health	feature page
2.14.5	What you can do - be informed	feature page
2.15	Technical Tools	index page

Page ID	**Page Name**	**Document Type**
3.0	Office of Research & Development	main index
3.1	About	index page
3.2	Models Methods & DB	index page

3.2.1	Sample Model - Water Quality	index page
3.2.2	Sample Method - Evironmental Test Methods	index page
3.2.3	Sample Database - HEDS	main index
3.2.3.1	HEDS - About	index page
3.2.3.2	HEDS - User Guide	feature page
3.2.3.3	HEDS - Studies	index page
3.2.3.4	HEDS - Related Sites	index page
3.2.3.5	HEDS - Accessibility	feature page
3.2.3.6	HEDS - FAQ	index page
3.3	Grants & Funding	index page
3.4	Jobs	index page
3.5	Research Programs	index page
3.5.1	Research Programs - sample program	main index
3.6	Research Plans and Strategies	index page
3.7	Publications	index page
3.8	Research by Topic	index page
3.9	Spotlights & Profiles	main index
3.9.1	Spotlights & Profiles - sample profile	feature page
3.10	Related Links	index page

Page ID	**Page Name**	**Document Type**
4.0	Region 10 Pacific NW	main index
4.1	First time visitors	index page
4.2	Index A-Z	index page

4.3	Air Quality	main index
4.3.1	Air Quality - Air Topics	index page
4.3.2	Air Quality - Air Toxics	index page
4.3.3	Air Quality - Air Enforcement	index page
4.3.4	Air Quality - Laws and Rules	index page
4.3.4	Air Quality - Permits	index page
4.3.5	Air Quality - Questions & Answers	index page
4.3.6	Air Quality - SIPs	index page
4.3.7	Air Quality - Smoke	index page
4.3.8	Air Quality - Tribal Air	index page
4.4	Clean Up	main index
4.4.1	Clean Up - Brownfields	index page
4.4.2	Clean Up - LUSTS	index page
4.4.3	Clean Up - Spills	index page
4.4.4	Clean Up - Corrective Action	index page
4.4.5	Clean Up - Superfund	index page
4.5	Newsroom	index page
4.5.1	Newsroom - sample release	press release
4.6	Enforcement	main index
4.6.1	Enforcement - NPDES	index page
4.6.2	Enforcement - Air	index page

4.6.3	Enforcement - RCRA	table
4.6.4	Enforcement - Pesticides	index page
4.6.5	Enforcement - PCBs	index page
4.6.6	Enforcement - UIC	index page
4.6.7	Enforcement - UST/LUST	index page
4.6.8	Enforcement - Compliance assistance	
4.6.9	Enforcement - Federal Facilities	index page
4.6.10	Enforcement - Program Management	index page
4.6.11	Enforcement - Compliance monitoring	index page
4.7	Waste and Chemicals	index page
4.8	Business & Industry	index page
4.9	Concerned Citizens	index page
4.10	Information Resources	index page
4.11	Innovative Solutions	index page

Page ID	**5.1.1**	**Document Type**
5.0	Table of Contents	main index
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5.1.1	Air Pollutants	index page
5.1.2	Air Pollution	index page
5.1.3	Air Pollution Control	index page
5.1.4	Air Pollution Effects	index page
5.1.5	Air Pollution - Legal	index page
5.1.6	Air Pollution - Monitoring	index page
5.1.7	Air Quality	index page
5.1.8	Atmosphere	index page

5.1.9	Indor Air	index page
5.1.10	Mobile Sources	index page
5.2	Clean Up	index page
5.2.1	Brownfields	index page
5.2.2	Clean Up Technology	index page
5.2.3	Corrective Action	index page
5.2.4	Costs	index page
5.2.5	Site Assessment	index page
5.2.6	Superfund	index page
5.3	Compliance	index page
5.3.1	Civil Enforcement	index page
5.3.2	Compliance Assistance	index page
5.3.3	Compliance Incentives	index page
5.3.4	Compliance Monitoring	index page
5.3.5	Criminal Enforcement	index page
5.3.6	Delegation	index page
5.3.7	Environmental Liability	index page
5.3.8	Federal Facilities	index page
5.3.9	Multi Media Compliance	index page
5.3.10	Reporting	index page
5.3.11	Settlement	index page
5.3.12	Violation	index page
5.3.13	Voluntary	index page
5.4	Economics	index page
5.4.1	Cost Sharing	index page
5.4.2	Economic Revitalization	index page
5.4.3	Environmental Accounting	index page
5.4.4	Financing	index page
5.4.5	Grants	index page
5.4.6	Regulatory Impact	index page
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5.5.10	Terrestial Ecosystems	index page

5.6	Emergencies	index page
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5.6.9	Poisoning	index page
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5.8.8	Offices & Location	index page
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