



National Advisory Council for Environmental Policy and Technology

November 18, 2008

The Honorable Stephen L. Johnson
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Re: NACEPT's Review of EPA's Strategy for Improving Access to Environmental Information

Dear Administrator Johnson:

In May 2008, the U.S. Environmental Protection Agency (EPA) requested that the National Advisory Council for Environmental Policy and Technology (NACEPT) conduct a critical review of EPA's *Draft Information Access Strategy* (hereinafter referenced as the Access Strategy or Strategy). In response to the charge (attached), NACEPT formed a workgroup consisting of eight NACEPT members and four external members who were selected for their experience in the field of information access (see attached list of workgroup members and their affiliations). The workgroup conducted its review of the Access Strategy from mid October 2008 to November 2008. This advice letter represents the consensus view and recommendations of the workgroup and of the full NACEPT Council.

NACEPT would like to commend EPA staff for preparing a well-written and clearly organized Access Strategy. EPA did an admirable job of distilling diverse input from stakeholders in an Access Strategy that is internally consistent but still responsive to what was heard from stakeholders. In addition, the inclusive approach that EPA used to reach out and listen to stakeholders to develop the Access Strategy deserves recognition and acknowledgement. NACEPT recognizes that this Access Strategy is the just the beginning of a challenging journey ahead for EPA in implementing the Access Strategy.

As EPA moves forward to implement the Access Strategy, NACEPT encourages the Agency to focus on two priority activities. First, improve the usability of the EPA website. Although our specific recommendations include reorganization and rethinking of the website's indexing and retrieval applications, we recommend strongly that EPA acquire the inexpensive software that will allow access by external search engines such as Google or Yahoo. Such software will make the website much more accessible to average citizens searching for information.

Secondly, EPA should utilize the website itself to continue the outreach effort begun in the Dialogue process. Although conducting a series of workshops around the country cannot be

achieved on a yearly basis, NACEPT believes such face-to-face gatherings have value and should be conducted every two or three years. In the interim, however, EPA can include feedback questions as part of the website experience. The Agency also should consider establishing a website user blog and/or worksite to allow users to provide suggestions for improvements on a real-time basis. Such features are within the current capability of the site and would illustrate the Agency's commitment to input and continuous improvement.

EPA should also take full advantage of on-line technologies to facilitate public feedback and ongoing dialogue. One example is the non-point source pollution list serve, which performs as an on-line chat room for a diverse group of people concerned about non-point sources of pollution. This type of communication tool could be expanded to other programs within EPA. EPA's regional offices should also be fully engaged in reaching out to the public on environmental conditions, issues, and priorities in each region, and soliciting feedback from the public on how environmental information can be effectively communicated.

In conclusion, NACEPT commends EPA for the thoughtful and well written Access Strategy and hopes this review provides useful feedback to you in taking the next steps to complete and implement the Strategy. Attached are the specific answers to the questions posed in our charge. We wish to express our sincere appreciation for the opportunity to support the EPA in this effort. We also thank the valuable contribution of our workgroup members, as well as the EPA staff who provided valuable support to this effort. We are available to offer any additional advice that you may require in the future.

Sincerely,

/Signed/

John L. Howard, Jr.
NACEPT Chair

Attachments

cc: Jeff Crane, Workgroup Co-Chair
Carolyn Green, Workgroup Co-Chair
Marcus Peacock, Deputy Administrator
Charles Ingebretson, Chief of Staff
Ray Spears, Deputy Chief of Staff
Molly O'Neill, Assistant Administrator, Office of Environmental Information
Mike Flynn, Director, Office of Information Analysis and Access
Rafael DeLeon, Director, Office of Cooperative Environmental Management
Sonia Altieri, NACEPT Designated Federal Officer

Specific Comments Responding to EPA's Strategy for Improving Access to Environmental Information

As a result of our critical review, NACEPT offers the following findings and recommendations to strengthen the Access Strategy.

Finding #1:

EPA does not address the importance of data quality in the Access Strategy, nor does the Strategy clearly articulate EPA's approach for improving data quality.

Recommendations:

1. NACEPT recommends that EPA make transparent in its Access Strategy the way it addresses data quality issues or consider developing a separate companion strategy on data accuracy. The Access Strategy talks about pedigree and source of data, but there is not a direct acknowledgement of how data quality and accuracy should be distinguished. EPA should more clearly articulate its implementation strategies for improved data accuracy, or reference planning or ongoing data accuracy efforts that are arising in other contexts.
2. NACEPT recommends that EPA find a way to differentiate the data that have gone through more rigorous data quality standards than data that have not. Links to metadata could help with distinguishing data that are highly accurate by giving the context of the data and helping users discern the level of accuracy.
3. NACEPT recommends that EPA conduct an assessment of the expense associated with meeting various levels of data/information quality. EPA's audiences need to understand that ensuring and providing high quality information is an expensive undertaking.

Finding #2:

EPA should elaborate in the Access Strategy how it plans to support front-line providers of information (referenced in *Recommendation 2: Improve People's Understanding of EPA Data and Information to Promote Appropriate Use*). For instance, will EPA provide front-line providers with training, new information resources, analytical tools, or financial support? If EPA anticipates using more active support of front-line provider organizations, EPA should clarify what qualifies a particular group for such support (i.e., neutrality of perspective, groups with a range of perspective, etc.).

Recommendations:

1. NACEPT recommends that EPA design and provide training for front-line providers. EPA librarians are one possible source for this training. As the Access Strategy explains, most people regardless of familiarity with the EPA website, have trouble navigating through EPA's vast collection of information. Restructuring the site to enable people to find the data they need is obviously a recognized priority, but it is unlikely that front-line providers will be able to understand the new structure quickly or in its entirety given the immense amount of information presented on the site. Training for these front-line providers will assist them in

providing assistance to the public in efficiently finding environmental information on the EPA Web site.

2. NACEPT recommends that EPA provide front-line providers with information technology (IT) support to assist in their effective distribution of information to their constituents. Many groups struggle with formatting their information in a way that does not overwhelm their audiences and look like spam. Designing appropriate and effective newsletters is one form of assistance. Specific software may be another form. EPA could support local grassroots organizations with new Web-based technologies described in *Recommendation 4: Use New Web Technologies to Empower People to Find, Understand and Use Environmental Information and Data*. New Web technologies could go a long way in assisting front-line providers. In addition, a new or existing grant program to fund these new technologies for local groups who cannot afford them would ultimately expand the environmental information network beyond the EPA Regional level to the “grass roots” level.

Finding #3:

EPA provides a great deal of environmental information on its Web site, but one specific piece of information that is important but not clearly articulated on the site is EPA’s priorities.

Recommendations:

1. NACEPT recommends that EPA clearly articulate its priorities and post to the Web site the work plans for implementing and accomplishing the priorities.
2. NACEPT recommends that EPA prominently post on its Web site its policy or position on particular environmental issues. Many people seek information on EPA’s position on an environmental issue in order to craft a local work plan that corresponds with a national priority or objective. Visitors to the EPA Web site should be able to visit a topic’s page and immediately know what EPA’s policy is for that topic.

Finding #4:

The EPA should elaborate on specific strategies for “improving available search tools” within *Recommendation 1: Enable People to Find Environmental Data and Information at EPA and Other Federal Agencies*.

Recommendations:

1. NACEPT recommends that EPA include specific strategies for improving its search tools. EPA’s Recommendation 1 within the Access Strategy is a near-term priority to strengthen search capabilities of the EPA Web site, but the goal does not identify specific action steps to achieve the goal. Improving search effectiveness is an active research problem that spans such scientific areas as information retrieval, machine learning, natural language processing, classification, and link analysis.

NACEPT recommends that EPA consider a wide range of questions in developing strategies to improve search effectiveness, for instance:

- a) How can EPA topics pages best be utilized in conjunction with search?

- b) What is the optimum metadata schema? How should the metadata be collected (e.g., manual, automatic, semi-automatic), indexed, and leveraged to improve the search outcome?
 - c) How should search results be presented (e.g., ranked list, ranked clusters, classification hierarchy)? What types of information should be displayed (e.g., related pages, metadata)?
 - d) How can user data (e.g., profile, queries, click-through, search history) be utilized to improve the search experience?
 - e) How can the improvement achieved through this process be applied to other Agency databases?
2. NACEPT recommends that EPA focus on how it can make EPA information more available and searchable for external search engines, such as Google and Yahoo, which is the predominant pathway the public uses to get to EPA information. As discussed at a Senate hearing last December, some public information is not actually accessible through these commercial search engines due to software design issues. By changing the format of its data, EPA could open up a lot more information to effective searches through the sites that the public routinely uses.

Finding #5:

The EPA should more fully articulate in the Access Strategy the Tribes' role as a target audience group and information provider.

Recommendation:

1. NACEPT recommends that EPA articulate the importance of the Tribes in the Access Strategy and the implementation of EPA's information access activities. EPA met with Tribes in the development of the Access Strategy, but their role and input is not fully articulated in the Access Strategy.

The following are two areas in the Strategy, where the Tribes' role can be highlighted.

- a) On Page 3 of the strategy, the diagram entitled "EPA's Information Roles," Tribes should be acknowledged as data collectors for the EPA in the "collectors" column, and Tribes should be listed as a user in the "users" column.
- b) On Page 5 within the information box entitled "National Dialogue Activities at a Glance," Tribes should be listed as one of the target audience groups.

Finding #6:

The EPA should elaborate on the Access Strategy's metadata discussion.

Recommendation:

1. NACEPT strongly supports the Access Strategy's concept that the public needs to have "information about information." The NACEPT recommends EPA add two refinements to the proposal for metadata in the Access Strategy.
- a) EPA's metadata needs to be readable, without the need to refer to codes or glossaries. EPA has had metadata for its databases for some time, but this metadata is designed for use by information technology professionals, not by members of the public who are

trying to determine where the data came from and what questions it is well-suited to answer. Much of the existing metadata is incomprehensible to the average user. EPA should consider using the term “pedigree,” rather than “metadata,” to describe “information about information.”

- b) EPA should ensure that metadata is embedded in its database so it travels with the data when somebody transfers it or downloads it for analysis.

Finding #7:

The Strategy does not articulate if or how EPA will institutionalize mechanisms to obtain feedback from the public.

Recommendation:

1. NACEPT recommends that EPA address and articulate how it plans to make an institutional commitment to soliciting ongoing feedback about the value of the EPA Web site in meeting public information needs. It is clear EPA learned a great deal from the National Dialogue, and EPA needs to stay close to its customers to determine their future needs, which are constantly evolving and changing. EPA should not make long-running assumptions about what its customers want, even if EPA thinks it has a deep understanding of their needs. EPA needs to respect the process of "ongoing learning" about public perceptions and needs.

While EPA can not take on the workload of the Dialogue every year, EPA could do more to understand the public’s information needs. Some strategies could be passive, such as creating opportunities on the Web site for users to provide feedback on what is useful and not as useful. EPA could also implement more active projects that would involve going out to the public to solicit information about their information needs. This could include ongoing analysis of the EPA Website's use, beta-testing of new Web sites, and testing of the overall site (e.g., focus groups) with the public.

Finding #8:

EPA does not articulate in the Access Strategy the response trends from the National Dialogue.

Recommendation:

1. NACEPT recommends that EPA articulate National Dialogue response trends in the appendix of the Access Strategy. For instance, reflect information about the responses provided by States and Tribes, and indications of preferences for different types of information and/or ways to access it.

Finding #9:

The Access Strategy does not address the relationships between this Strategy and other facets of what EPA is doing.

Recommendation:

1. NACEPT recommends that EPA articulate in the Access Strategy the interrelationships between the recommendations in the Strategy and inter-related EPA initiatives. The following are some questions EPA should consider in addressing this recommendation in the Access Strategy:

- a) What are the priority information sources that the public most wants to see, and is this information EPA is collecting?
- b) How is EPA ensuring it is getting quality information into the Agency and then out to the public?
- c) What improvements can be made to further integrate the Access Strategy with the Central Data Exchange (CDX) roll out plan, EPA's Strategic Plan, and the Report on the Environment (ROE)?
- d) What is the overall strategy for getting EPA's information out to people who want it?

Finding #10:

The supplemental Access Strategy document, "Current EPA Activities Related to Access Strategy Recommendations," needs to more clearly define EPA's policy for outdated information.

Recommendation:

1. NACEPT recommends that EPA amend Page 1, Bullet 2 in the supplemental Access Strategy document, "Current EPA Activities Related to Access Strategy Recommendations," to reflect the language in EPA's policy on *Access to Current and Outdated Information on EPA's Web Site* (EPA Order 2190.8, 12/06/2004). Specifically, the bullet should highlight that EPA has a policy of keeping important, though dated information on its Web site. According to the policy, "outdated information means information that no longer reflects current EPA policy, responsibilities and programmatic activities, but that is still useful to the public as reference or background information."

RESPONSE TO CHARGE QUESTIONS

The following are the responses to the charge questions EPA posed to the NACEPT in its review of the Access Strategy:

Does the Access Strategy clearly articulate and address the environmental information access priorities of EPA's major audiences?

The Access Strategy does a good job of defining the needs and priorities of a broad scope of users—Agency staff, academia, members of general public, etc.

Does the Access Strategy achieve an appropriate balance of perspectives expressed by EPA's major information audiences?

EPA did a commendable job of distilling a lot of diverse input from stakeholders in a Strategy that is internally consistent but still responsive to what was heard from stakeholders. The Access Strategy clearly lays out the steps EPA took in reaching out to the audiences and developing the recommendations. The Strategy also does a good job of acknowledging that everyone who comes to the Web site has different backgrounds and information needs. Given the breadth of EPA's audience, it is difficult to predict all of their needs, but the Strategy covers this well.

Is the Access Strategy clearly written and understandable for members of EPA's information audiences?

The Access Strategy is well-written, clearly organized, and of high quality.

ACCESS STRATEGY GENERAL EDITS

- On Page 12, the box on Custom Search Folders is a duplicate of the box on Page 10.
- On Page 3 of the strategy, in the diagram entitled "EPA's Information Roles," EPA is referred to as "who" under the User column but the Agency is not a "person."
- On Page 14, EPA mentions two new initiatives: (1) Environmental Decision Support Center; (2) Chemical Right to Know Site with ECOS. It would be valuable to know more about those two initiatives.

Charge for NACEPT Review of EPA's Strategy for Improving Access to Environmental Information

9-17-08

Introduction

The U.S. Environmental Protection Agency has requested that NACEPT conduct a critical review of EPA's Strategy for Improving Access to Environmental Information. The purpose of the Strategy is to:

- Present the information access priorities identified in EPA's National Dialogue on Access to Environmental Information, a six-month public outreach effort sponsored by EPA's Office of Environmental Information. The National Dialogue is seeking comment from the Agency's major information audiences on a variety of topics related to their information needs and access preferences.
- Identify key opportunities that EPA should consider, both in the form of technology trends and potential collaborations with other public and private providers of information.
- Identify both short- and long-term goals and actions aimed at addressing information access priorities of EPA's major audiences for environmental information.

Background

Molly A. O' Neill, EPA's Assistant Administrator for the Office of Environmental Information and Chief Information Officer, has launched a *National Dialogue on Access to Environmental Information* to learn about the environmental information needs and access preferences of EPA's major information audiences. Environmental information is a key strategic resource for accomplishing EPA's mission. Easy access to high quality environmental information is critical for supporting sound decisions by EPA and its many environmental stakeholders in federal, state and local governments, business, communities, academia and the news media. The goal of the National Dialogue is to assist the Agency in developing an Information Access Strategy for enhancing access to its own environmental information, as well as make EPA information more valuable through collaboration with other environmental stakeholders.

The National Dialogue responds to two major trends. First, is the explosive growth in demand for environmental information, most clearly evidenced by exponential increases in both the number of visitors to EPA's Web site and information downloads. EPA will engage its key information audiences directly in discussion of their information needs and access preferences. The second trend is in the growth in data stores and systems, as well as in electronic and print access points throughout government, non-governmental public and private institutions. Modern data search and retrieval technologies make public access to many of these sources of information possible. To harness the full potential of these technologies, however, EPA must seek better collaboration among information providers. The National Dialogue will engage information providers in discussion of how best to enhance the relevance, quality and timeliness of environmental information for meeting real world environmental information needs.

During the course of the National Dialogue, EPA will seek comment on a variety of topics related to information needs and access preferences. We will explore how new technologies might be used to better organize information data, and develop opportunities for collaboration. The intent of the dialogue is to inform our long-term Information Access Strategy.

Charge Questions

- Does the strategy clearly articulate and address the environmental information access priorities of EPA's major audiences?
- Does the strategy achieve an appropriate balance of perspectives expressed by EPA's major information audiences?
- Is the Access Strategy clearly written and understandable for members of EPA's information audiences?

Review Materials

- Draft Strategy (length: approximately 25 pages)
- A briefing on the audience priorities identified in EPA's National Dialogue
- A briefing on the results of EPA's scan of information technologies capable of addressing the information needs and access preferences of the Agency's information audiences

Schedule and Milestones

- Form NACEPT Workgroup on Access to Environmental Information – July 1
- Brief Workgroup on information audience priorities and technology scan – early October
- Submit Draft Access Strategy to Workgroup to begin review – mid-October
- Workgroup discusses preliminary findings – November 13-14 NACEPT meeting (Washington, DC)
- Full NACEPT Council reviews and approves advice letter – mid-December

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