POLICY ISSUE
INFORMATION

November 16, 2001 SECY-01-0204

FOR: The Commissioners

FROM: William D. Travers
Executive Director for Operations

SUBJECT: IMPROVING THE NRC PUBLIC WEB SITE

PURPOSE:

To report on the status of the project to redesign NRC's public Web site.

DISCUSSION:

This paper reports on the results of stakeholder input on a prototype of a redesigned NRC public Web site, documents the major changes that were made in response to stakeholder input, and informs the Commission of the staff's readiness to deploy the redesigned site. We also provide information on our communication plan, implementation of Web site management controls, training for staff that post information to the site, and plans for future enhancements to the redesigned site.

In light of the review of our public Web site that is currently occurring in response to the events of September 11, we have changed our strategy for deploying the redesigned site. The staff believes that it will be more efficient to incrementally rebuild the public site using the "redesign" format instead of modifying the existing site. Content will be restored over the next several weeks in the new format until the entire site is rebuilt. Based on commission guidance, material will be reviewed for sensitivity before it is restored.

In its first report on the project, SECY-00-0052 (February 29, 2000), the staff described several actions in response to Item 5 of Staff Requirements Memorandum (SRM) 991109A, concerning NRC's public Web site and access to information. In the most recent report, SECY-00-0241 (December 28, 2000) the staff provided a further update on one of those actions, the project to redesign NRC's Web site. That report covered the Web site objectives, redesign process, the intention to further involve the public through review of a prototype, and the approach for implementing changes to the site.

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The work leading up to deployment of the redesigned site was led by the Office of the Chief Information Officer with substantial guidance and assistance from a Web Redesign Steering Committee chartered by the Executive Director for Operations and the Chief Information Officer, and a Web Redesign Working Group consisting of the staff who do much of the posting to our current site. Many other staff throughout the agency also contributed to this effort.

Scope of the Redesign

The original scope of the redesigned site included all document collections that were available at nrc.gov prior to September 2001, (over 50,000 pages), nearly all of the other content (over 1000 pages), and some new descriptive and contextual information, principally in “Nuclear Materials” and “Fuel Cycle Facilities.” The original scope is, however, currently under review as a result of the terrorist attacks of September 11, 2001.

Stakeholder Review of the Prototype

On July 11, 2001, a prototype of the redesigned Web site was made available to a cross-section of external stakeholders, including licensees, public interest groups, industry, State officials, members of the international regulatory community, researchers, members of the media, consultants, and others in accordance with our OMB clearance for this information collection. The NRC staff was also provided an opportunity to comment. The comment period ended on July 31, 2001.

Stakeholder input on the prototype consisted of responses to a validated 10-question System Usability Scale and 3 questions concerning how well the site met the objectives of enhancing public participation in the regulatory process, improving understanding of NRC’s goals and mission, and making it easy to find desired information. Users were also asked about their satisfaction with each main area of the site and provided the opportunity to make free-form comments. A full report on the results of stakeholder review is provided in Attachment 2. The process used is described in Section 1.3 of the report.

It is important to note that the feedback was received on the prototype and not a finished product. The prototype demonstrated the structure and layout of our proposed design, as well as a significant portion of the planned content (several hundred pages covering at least two levels in nearly all major areas of the site). It did not include all of the content and features that the redesigned Web site will include. For example, the site search feature was not enabled for the prototype and although the index pages for document collections indicated the structure of the collections, the actual documents (over 50,000 pages) were not present. Content still
under development was indicated either by placeholder pages or "dummy" links. Users were told of these limitations in the introduction to the site, but some did not seem to understand or just did not like that these functions, features, and documents were unavailable, and they commented on them as such.

Summary of Feedback

The analysis suggests that overall, users are more satisfied with the prototype than with NRC’s current public Web site, although they do have some concerns and recommendations. Results from a questionnaire of user satisfaction (the System Usability Scale) showed that

they did accept this Web site design, with the satisfaction score markedly improved from the results of the original study based on the current Web site. Overall respondent ratings of the current
NRC Web site from our earlier study had ranged from 7.5 to 87.5 (on a 100 point scale), with an average of 54.2. For the prototype, scores ranged from 20.0 to 100 with an average of 70.0. (See Section 1.4 of Attachment 2 for a further summary of the user feedback and Section 4 of Attachment 2 for a full discussion of the feedback findings.)

Comments made by the users during the testing indicated that they liked many aspects of the redesign. Positive comments are listed in Section 2 of the report.

Suggestions for improvement led to a number of recommendations for each main category. Each category of comments and the associated number of recommendations adopted by the Web Redesign Steering Committee are shown in Table 1.

Table 1 - User Survey Recommendations

Categories of Suggestions	Number of Recommendations			
	Adopted for Immediate Implementation	**Adopted for Implementation After Initial Deployment**	**Deferred Pending the Post-9/11 Review**	**Not Adopted**
Home page design	8		1	
Visibility of information	6	1		1
Navigation support	1			
Diversity of user needs and organization of information	3		1	
Placement of information		1		
Tone and presentation of information	2			1
Accessibility and performance	2			
Total	22	2	2	2

Twenty two of the 28 recommendations were accepted for implementation before initial deployment of the redesigned site. Some of the more significant changes are:

- Make important and popular information such as “News and Information” and radiation protection information more visible and accessible from the home page.

- Add more items to the drop-down menus on the home page so that users can more easily find such items as the Telephone Directory, rulemaking, and emergency response information.

- Add “Quick Links” pages for Reactors, Materials, and Waste so that regular users can go directly to frequently accessed information.

- Redesign the home page to reduce load time. Optimize graphics elsewhere at the site to improve page load times.

The two recommendations that will be implemented over a longer period are:

- Ensure that all important and frequently accessed information appears above the fold (on the first visible screen) on all pages. Some pages, including the home page, will be revised to address this suggestion prior to the initial deployment. Other pages will be reviewed and changed where appropriate after the initial deployment.

- Consider adding information directly to some of the lower level pages rather than linking to the information. This will be addressed on a case-by-case basis after initial deployment.

The two recommendations deferred pending the result of the current review in response to the events of September 11 are:

- Under Home Page Design - Make popular event reports more readily accessible on the home page.

- Under Diversity of User Needs and Organization of Information - Change “Facilities-by-State” to “Facility Info Finder” and provide access by facility and region as well as by state. At present, all facilities information is undergoing review and the final “Facility Information Finder” site will likely be reduced in scope in light of the terrorist attacks.

The two recommendations that were not accepted are:

- Under Visibility of Information - Create a more direct link to ADAMS. The Steering Committee felt that having ADAMS in the drop down list for the Electronic Reading Room on the home page was sufficient. It was agreed to add a link to ADAMs on the “News and Information” page.

- Under Tone and Presentation - Develop a home page that projects a greater concern for public health and safety. The Steering Committee did not feel that the home page needed significant changes to address this recommendation. Several minor changes are being made related to this recommendation. The name of the “About Radiation” link on the home page was changed to “Radiation Protection” and the content of that section is being modified to reflect the name change. Also, as a result of other recommendations, both the “Radiation Protection” and “Report a Safety Concern” links are being enlarged and moved so they appear on the screen without scrolling.

A more complete listing and discussion of comments from both external stakeholders and NRC staff that contained recommendations for improvement are available in Section 3 of Attachment 2.

Improvements Made

The redesign of site content into a clear, logical, and transparent organization gives it a structure that allows the agency to be more flexible to changing requirements, such as the content reviews that are currently underway.

The staff has reviewed and checked the quality of all the existing material as part of the process of mapping it to the new design. Attachment 3 lists some of the most significant improvements to the site as a whole and Attachment 4 lists specific improvements that have been made to document collections. Using the best practice principle of "post once/link many," the staff has enhanced the design of pages to avoid duplicate posting of information, while improving the overall accuracy and timeliness of page updates/maintenance in a cost effective manner.

All content, including the document collections, is being reviewed for conformance with requirements of Section 508 of the Rehabilitation Act as part of the redesign process. As a result of that review, the vast majority of information at the site will be accessible to users with disabilities. Scanned images of incoming documents will also be accessible to users with disabilities. However, these documents will not be proofread for errors and re-scanned since this would be very labor intensive and costly.

Deployment of the Redesigned Site

The staff planned to fully deploy the redesigned site as replacement for the old site in December 2001, but those plans have changed. Instead of deploying the entire redesigned site at one time as originally intended, the staff plans to repost material incrementally using the redesigned format as the review proceeds. As this process begins, the staff will post a notice on the home page of the existing site explaining what to expect. A Federal Register Notice will also be published. Users who attempt to access pages on the old site will either be directly forwarded to the correct page on the new site or be given instructions for locating the appropriate page on the new site. Users who need additional help will be provided with a means to contact a member of the staff for assistance.

Resources for the Redesign

Table 2 summarizes the resources expended for the redesign in thousands of dollars. The table includes resources expended by offices with a significant presence on NRC's public Web site (those with representatives on the Web Redesign Steering Committee). Most of the FTE resources expended by the offices were used to provide new material where needed and to review the conversion and reformatting of existing material.

Table 3 compares the costs of Web maintenance and management controls for the existing site and the redesigned site. The table shows that the costs for maintaining the redesigned site are somewhat higher than the costs for maintaining the existing site. This may change if the scope of information at the site is permanently reduced as a result of the reviews now occurring in response to the terrorist attacks. The cost of these reviews are not included in these figures.

Table 2 - Resources for Redesign

Web Redesign Activities	FY 2000		FY2001		FY2002	
	$K	FTE	$K	FTE	$K	FTE
OCIO:						
Resources to develop prototype, convert rest of content other than document collections, test and deploy redesigned site.	192	1.1	166	3.5[1]	25	0.9
Obtain and analyze stakeholder feedback on prototype	0	0.0	19	0.1	0	0.0
Convert document collections (over 50,000 pages)	0	0.0	177	0.8	0	<0.1
Purchase authoring tools needed to maintain the new site	0	0.0	28	0.0	0	0.0
All Other Offices:	0	0.0	75	8.3	0	0.5
Total	192	1.1	465	12.7	25	<1.5

Table 3 - Resources for Public Web Site Maintenance and Management Controls

Web Maintenance Activities	FY 2001 (existing site)		FY 2002 (redesigned site)	
	$K	FTE	$K	FTE
Maintenance and management controls for www.NRC.gov site				
OCIO:	232.0	0.6	249.0	1.6[2]
All Other Offices:	224.2	5.2	539.5	7.4[3]
Subtotal	456.2	5.8	788.5	9.0
Maintenance and management controls for non NRC-hosted sites				
All Offices[4]:	461.6	1.0	325	1.0
Total	917.8	6.8	1,113.5	10.0

1 Includes FTE contributions from three OCIO divisions (includes Web staff, management and program staff not assigned full time to the Web program, and rotational employees).

2 Reflects transition from development to maintenance.

3 Includes staff and some managerial FTE for maintenance of content and management reviews under new Web management control process.

4 Includes cost of maintaining the following non-NRC hosted sites: Ruleforum (ADM), Technical Conferences (ADM), Office of State and Tribal Programs (OSTP), Radiation Exposure Information and Reporting System (RES), and the Performance Package Study site (NMSS).

Communication Plan

The staff developed a communication plan for the original Web Redesign, covering deployment of both the prototype and the redesigned site. This plan will be revised to reflect incremental deployment of the redesigned site and includes issuance of a press release, Federal Register Notice, and a notice on the existing Web site. Once the new site becomes functional, the staff plans to work on increasing links to www.nrc.gov from other Internet sites. A brochure and other handouts will be made available at public meetings. Internally, a Network Announcement, office briefings, posters, and other promotional materials will be used to keep the staff aware of deployment progress. OMB clearance will be sought for a permanent feedback form to be posted at the site, and all suggestions will be reviewed and considered for future implementation.

Plans for Future Enhancements

After this deployment, the staff will assess how to enhance the site with new features that require a longer lead time or investment in new technology. Examples are automated posting of content from databases and better integration of the portions of NRC's public Web site that are hosted at DOE laboratories.

DOE-hosted portions of NRC's Web site, which include our rulemaking forum, technical conferences, State and Tribal Programs activities, occupational radiation exposure at NRC licensed facilities, and the Transportation Performance Package Study pages were not part of the redesign. Approaches for better integration of these sites will be reviewed after the initial deployment.

To implement future enhancements, the staff will acquire a Web content management tool. This type of tool will automate some standards and data quality assurance checks, reduce content maintenance resource needs (by eliminating the need for HTML coding), and strengthen implementation of management controls. The staff will prepare a business case for any significant hardware and software investments. Necessary resources will be identified through the normal Capital Planning and Investment Control (CPIC) process and the Planning, Budgeting, and Performance Management (PBPM) process.

Standards, Management Controls, and Training

The staff recognized that several initiatives were needed to maintain the integrity of the new NRC Web site and ensure the timeliness and accuracy of information at the site. Three initiatives are in progress to do so.

The first is to develop Web standards and templates that specify the format of any new material added to the site. The staff is currently finalizing these standards and templates which will help
maintain a "common look and feel" and ensure that the site complies with Section 508 of the Rehabilitation Act.

The second initiative is to develop management controls to specify roles, responsibilities, and accountability for Web site content and adherence to standards. In accordance with its charter, the Web Redesign Steering Committee took an active role in this area. A subcommittee of representatives from EDO, SECY, OPA, NRR, NMSS, RES, and OCIO

developed draft management controls for review by the full Committee. The draft was circulated for office comment and issued as interim policy by the CIO on August 24, 2001. (The controls are available at www.internal.nrc.gov/NRC/Web/CONTROLS/index.html.) They will be incorporated into NRC's Management Directive 3.14. In addition, the staff developed a detailed table of Web page ownership that identifies subsite and document collection ownership at the Web site. This table also clarifies update frequency and accountability for data quality. Dynamic information is expected to be reviewed and updated monthly.

The third initiative is to develop a training course for staff and contractors who develop or maintain information at the redesigned Web site. The course, being developed jointly by OCIO and HR, will incorporate the standards and management controls and will be offered at the Professional Development Center in the first quarter of FY 2002.

Coordination

The Office of the Chief Financial Officer has reviewed this Commission paper for resource implications and has no objections. The Office of the General Counsel has reviewed this paper and has no legal objections.

/RA/

William D. Travers
Executive Director for Operations

Attachments:
1. NRC Web Site Redesign Prototype Survey Analysis
2. List of Major Improvements to NRC's Public Web Site
3. Improvements to Document Collections

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ADAMS DOCUMENT TITLE: Improving the NRC Public Web Site *See previous concurrence

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Attachment 1

NRC Web Site Redesign Prototype Survey Analysis

A copy of the CSC Survey Analysis Report is also located under the following accession number in ADAMS: ML012480087.

Attachment 2

List of Major Improvements to NRC's Public Web Site

1. Clear, logical, and transparent organization into seven main groupings of information

    - Who We Are
    - What We Do
    - Nuclear Reactors
    - Nuclear Materials
    - Radioactive Waste
    - Public Involvement
    - Electronic Reading Room

    These groupings are emphasized by the path information at the top of each page, in the top navigation, and in the site map

2. Multiple views of information replace current office-centric view

    - By function (What We Do)
    - By program (Reactors, Materials, Waste)
    - By Audience (Public Involvement page, toolkits for materials licensees, news and information page targeted for media, employment pages targeted for job seekers, and contract opportunities page targeted for those seeking to do business with NRC)

3. Consistency across the site

    - Standard approach to navigation using path names at top of each page and consistent left-side navigation bar for scrolling through siblings of each page
    - Standard within-page navigation approach
    - Standard top navigation
    - Standard page banner format
    - Standard for document collection index pages
    - Standard use of icons for exit links, glossary terms, pdf documents, and wordperfect documents
    - Standard format for reactor, materials, and waste pages and for all regulated activities pages
    - Consistent approach for pages listed in "Contact Us"
    - Standard format for Frequently Asked Questions

4. More appealing design

5. Clear explanation of what NRC does, especially in "Who We Are" and "What We Do."

6. Top down logic (general to specific) with option for going straight to specific information using quicklinks pages.

7. Visibility for frequently accessed information on the home page

    - Shortcuts on left side of home page for important links
    - Important links in center of page
    - Rollover menus provide direct access to over 50 pages

8. A “home” for high interest but transient issues (Key Topics on home page, reactors, materials, and waste pages)

9. Plain language

10. Accessibility for people with disabilities - The entire site was reviewed for compliance with Section 508 of the Rehabilitation Act.

Attachment 3

Improvements to Document Collections

The following document collections were included:

- 2.206 Petitions
- ACRS Agendas, Letters, and Transcripts
- ACNW Agendas, Letters, Transcripts, and Subcommittee Transcripts
- Commission SECY Papers, Voting Records, Orders, COMs, SRMs, Transcripts, Speeches
- Enforcement Actions, Annual Reports, History, Notices of Enforcement Discretion
- Government Information Locator System
- Generic Communications Bulletins, Generic Letters, Circulars, Information Notices, Regulatory Issue Summaries
- Inspection Manual
- News Releases
- NUREG Reports Abstracts, Brochures, Contract Reports, Grantee Reports
- NUREG-Series Staff Reports
- Title 10 of the Code of Federal Regulations

The following tasks were performed on each collection:

Compliance with Section 508 of the Rehabilitation Act

- All image tags were updated to include alternate text as required for 508 compliance to ensure that a textual description of each graphic is available to screen readers.
- All data tables were given a “summary” attribute, and header rows and columns were indicated using coding standards laid out by the W3C and the Access Board.
- Frame tags were appended with title and name attributes
- Alternate text was provided where color was solely used to convey meaning

Improved navigation

- Navigation aids were placed at the bottom of each file

More accurate search results

- Title tags (with meaningful content) were added to each file missing a title tag

Consistency Across the Site/Conformance to Redesign Standards

- A reference to the site style sheet was placed in the header
- All font tags were removed and in some cases replaced with style sheet references to avoid inconsistent fonts
- All widths of tables, images, and other elements were modified to fit on a monitor with a resolution of 800x600
- A reference to the full HTML document type was placed at the top of each file
- All mail to tags were removed

General “clean-up” and quality assurance

- Orphaned non-HTML and old files were removed
- The applicable team leader performed a QC audit of the entire collection