

Washington State DOT “Tool Kit” and Its Helpful Hints for NEPA Writers

by **Larry Freeman, PhD**
The Shipley Group, Senior Consultant

The Washington State Department of Transportation (WSDOT) published on its web site a “Reader-Friendly Environmental Document Tool Kit” (“Tool Kit” in later references). I recently reviewed the “Tool Kit” and found its suggestions to be thoughtful and useful. The following article reviews some of the writing suggestions in the “Tool Kit.”

My main purpose in this review, however, is to summarize and discuss seven writing strategies for complex team-written documents.

(The internet address for the Washington State Department of Transportation is <http://www.wsdot.wa.gov/Environment/ReaderFriendly.htm>. All my citations to the “Tool Kit” are from this online document.)

The seven writing strategies listed below are the core principles behind Shipley Group training for National Environmental Policy Act (NEPA) writers and NEPA project leaders. These same core strategies, it turns out, are consistent with many of suggestions in the WSDOT NEPA “Tool Kit.” This consistency is why I found the “Tool Kit” to be a thoughtful and useful publication. The “Tool Kit” suggestions show that WSDOT NEPA contributors are struggling with the same communication problems that NEPA writers confront in all federal and state agencies.

I recommend the “Tool Kit” to NEPA project managers or to NEPA writers working on NEPA compliance documents (Environmental Impact Statements or Environmental Assessments). The “Tool Kit” will give you tools and insights about how to make your own NEPA documents more reader friendly. Remember that a reader-friendly document is always clearer and that clarity is essential for full legal compliance with the National Environmental Policy Act.

Here are the seven core strategies for managers, writers, and other contributors to complex team-written NEPA documents:

- 1. Develop and communicate a detailed vision of the final reader-friendly document (hard copy, web, or both): its technical and legal requirements, its format and organization, and its production steps.**
- 2. Choose a qualified team, from experienced project leaders/managers to the legally needed technical experts and to other helpful specialists (editors, graphic artists, and computer coordinators).**

3. **Identify and record quality standards for these team contributors to follow as they work toward the vision (from step 1).**
4. **Develop clear (and written) task assignments for and with each contributor and set and track realistic deadlines.**
5. **Build early and frequent reviews and usability tests into each project step.**
6. **Make feedback from the reviews and usability tests as constructive as possible. Don't neglect to praise contributors who meet deadlines and whose work is exemplary.**
7. **Plan for and fund a lessons-learned step, where all contributors identify and record techniques that did or did not work and then communicate their findings to agency or departmental employees.**

These seven suggestions are broad and include many tasks properly viewed as project management. Technical and governmental writing is inherently a project management product. Writing from a single writer still might be language-driven effort, but the writing produced necessarily contributes to a final team product. The success of the final document depends on its overall design and appearance, not the skills of a single writer. Conversely, excellent personal writing skills will not save a document that is conceptually flawed or poorly designed.

A version of these seven strategies appears in the Shipley Group's *Documentation Strategies for Environmental Writers*. The wording of the seven suggestions above is a little different from the version under Project Management in our *Documentation Strategies* volume, but their intent and scope are the same.

For nearly 10 years Shipley Group consultants have discussed many NEPA and general writing topics in short newsletter articles. All of the topics discussed below under the seven strategies appear in one or more newsletters. Go to www.ShipleyGroup.com; click on "Environmental Training" and then "Enews" (in the top horizontal menu). Under Enews you will find an archive of newsletter articles going back to 2002. The newsletter titles usually link to topics of interest to NEPA practitioners. For example, newsletter 54 discusses "Telling a NEPA Story." Its content overlaps with "Tool Kit" recommendations, as discussed below. Its theme is that the analogy to story telling is valuable if it reminds NEPA team members to remember that they are working with and writing for real people. The traditional story teller had an audience and spoke responded to that audience. NEPA writers would do well to remember this analogy. Below I briefly discuss each of the seven writing strategies listed above. Under each strategy, I summarize the WSDOT NEPA approach and then explain the Shipley Group interpretation of the same strategy.

1. Develop and communicate a detailed vision of the final reader-friendly document (hard copy, web, or both): its technical and legal requirements, its format and organization, and its production steps.

A vision of a NEPA document grows from many sources: the NEPA statute, relevant case law, prior NEPA documents written by an agency, and the experience of contributors with NEPA compliance tasks. A critical assumption is that all interested and involved contributors should help frame the initial vision. Important contributors would include decision makers, managers, project leaders, technical editors, and all necessary resource specialists (for example, engineers, geologists, biologists, and economists). As I note below (in suggestion 4), a carefully prepared project/document vision is really a good start toward task assignments for all NEPA team members. To repeat, all contributors should help create the vision.

An early step in this initial vision is for the NEPA team to decide if the primary product is a traditional hard copy (printed) copy or a web version. This decision is important because, for example, if the EIS uses oversized pages, the resulting electronic version may not be convenient for a reader to review on a computer screen.

Many agencies are finding that the public is increasingly using the web version or an electronic version on a CD. Shipley now recommends that the web/electronic version be the primary one, so all text and graphics should be designed for the web and then moved over into a printed copy. Text and graphics in the web version and the printed copies should be identical so that no legal inconsistencies exist. Readers should find both the web and printed copies easy to use, especially as they navigate from major point to point. The WSDOT “Tool Kit” adds one other conceptual ingredient to this initial vision—that is, the following four reader-friendly goals for each NEPA document:

- Tell a Story
- Engage the Reader
- Make it Visual
- Make it Brief

These four goals are directly related to the WSDOT observation in the “Tool Kit” that many of their recent EISs and EAs were too technical, too detailed, and reader unfriendly. This perception was the basis for their creation of the “Tool Kit.” Each of the six chapters in the “Tool Kit” applies these four goals to a variety of NEPA tasks and presents examples of how to achieve each of the four goals.

If these “Tool Kit” goals interest you, I recommend that you go to the WSDOT web site for further details and rich examples, especially of different ways to conceptualize graphics for NEPA documents. Notice, however, that these goals are

implicitly focused on documents, not web versions. If you are now working more on web versions, the same basic goals would apply but with some necessary adjustments for web conditions (such as screen size or menu design).

Two suggestions in the “Tool Kit” relate directly to the necessary shared initial vision of the final NEPA document.

Suggestion 1: A Style Sheet for a Document or Web Page

One “Tool Kit” suggestion is that writers develop or choose a style sheet early in the process. Appendix A to the ‘Tool Kit’ presents a simple style sheet, and Appendix B applies this suggested style sheet to an electronic format, called the Document Creator. The Document Creator is a product licensed to WSDOT; you cannot use the Document Creator unless you are working on or contributing to a WSDOT document.

The Shipley approach recommends an early style sheet. A style sheet is essential whether you are working on a traditional document or on a web version. Decisions in a style sheet, such as number of columns and the number and types of headings, necessarily affect how the text is written. For example, paragraphs for a 40-character-wide column need substantial revision if original draft paragraphs fit a full page format using a column that has 70 or 80 characters. Also, early agreement about the headings, including reference numbers for major headings, allows cross references even before the draft text under headings is in place. The Shipley approach is that all text written should be as close as possible to the format of the text in the final document. Late-stage rewriting and reorganization to fit a format or match a last-minute style sheet are signs of project inefficiency. Such late-stage rewriting was common decades ago in the production of printed documents.

With a clear vision of the final product, including a comprehensive style sheet, writers should prepare draft text and graphics that require very little late-stage editing and rewriting.

Suggestion 2: A Detailed Outline for the Document/Web Site

A second “Tool Kit” suggestion is that writers collaborate on a detailed outline for all contributors to use. This detailed outline goes beyond the usual outline, which is sometimes sketchy, to include rich content notes and to identify proposed graphics. Notice, again, that an outline is more familiar to writers of documents. Writers/designers of web product often think more of menus and the sequence of screens, along with search options and other linkage features.

Shipley consultants would agree that an outline would be valuable, but we would suggest that it doesn’t fully use the contributors’ innate visual skills. The traditional outline is too focused on text and on the look and feel of a traditional document—that is, text and more text. Writers often bog down deciding whether a topic comes under Section VI.D.5.c or Section VI.D.5.d.

A Visualization Option to the Traditional Outline

For nearly 20 years Shipley consultants have urged NEPA practitioners to borrow a visualization technique (called storyboards) widely used by journalists and by technical writers in other disciplines. For example, website designers often rely on storyboards as a useful tool for developing early concepts. This visualization technique is also used in advertising and in the video world. Some industry writers call this technique prototyping or mocking up.

Regardless of the name, storyboards encourage NEPA teams to begin with a visual plan for the entire document (whether a hard copy or a web version), including all major headings and subheadings and all graphics. Notice that a storyboard incorporates style sheet decisions. A storyboard also uses or covers the main topics in the Council on Environmental Quality's list of major content chapters (CEQ, Section 1502.10). Preparers of a NEPA story start with a lot of well-known givens.

A planning team working on a major NEPA report starts by counting off the projected number of pages (or screens, in a web version). In the web context, the team might initially work on a flowchart with different branching options for different submenus. Next, all contributors—including key decision makers—work through each page or screen sketching and brainstorming desirable content. Possible graphics are essential at this early stage. Writers who write text before they design graphics often find graphics unnecessary. The "Tool Kit" advocates conceptualizing graphics before working on text. Storyboards are an excellent way to encourage writers to work on visuals before traditional text or before a web version is fully fleshed out.

Shipley training materials have examples of storyboards as applied to NEPA documents. We do not, yet, have many good web examples, but we will be adding these in the future. This initial storyboard or prototype can and should build in tools and techniques from the four initial goals in the "Tool Kit":

- Tell a Story
- Engage the Reader
- Make it Visual
- Make it Brief

Shipley consultants believe that a good storyboard is the best way to guarantee that "Tool Kit" goals are integrated into a projected document. For example, planning a tight 3- or 4-page storyboard section on a key resource is a good way to encourage a resource specialist to focus on the main message, not 15 pages of technical filler. The specialist should know that the impact conclusions must be highlighted and evidence must be presented about their context and intensity. Impact indicators (measurement tools) should appear in the storyboard even before the actual impact analyses are finished.

Contrast the preceding thought process and team interaction with an approach that writes down a subject topic for outline point III.B.4. Outlines, even if well annotated, do not invite writers to conceptualize the spatial and graphic needs for the subject. My experience is that writers finally understand that graphics are desirable when confronted with the blank page or several blank pages that could profit from graphics. Note that such graphics are as reader friendly as possible; they are not unedited reproductions of a technical specialist's complex plot of data points or of a dense table with dozens or even hundreds or data points!

2. Choose a qualified team, from experienced project leaders/managers to the legally needed technical experts and to other helpful specialists (editors, graphic artists, and computer coordinators).

The team should include all contributors. Each should have a clear role and responsibilities.

The “Tool Kit” in Chapter 3, subsection 1, discusses the potential contributors to a NEPA team. These include the necessary technical experts, who profile and forecast environmental impacts. Also, an EIS or EA team includes NEPA writers, graphics specialists, and GIS staff. Also suggested is a technical editor, sometimes called the team leader. The “Tool Kit” wisely mentions that budgets may be a concern, possibly limiting available writers and graphics specialists.

The Shipley approach agrees that contributors should possess excellent skills and should include all technical or scientific areas of concern. Most agencies, however, have faced the budget reality that the primary NEPA writers are the same technical experts who do core NEPA technical analyses. So the wildlife biologist both analyzes the effects of an alternative on spotted owls and prepares the legally necessary text (both for the main chapters in an EIS or EA and for backup discipline report). Having a separate NEPA writer is a luxury. Budgets rarely exist for a full-time NEPA writer, and most technical experts dislike a writer's reworking of their technical information.

Both the Forest Service and the Bureau of Land Management have experimented with NEPA writers who are not resource experts. Often such writers are English majors, with an occasional journalism student thrown in. Such designated NEPA writers learn early that they do not have the time nor the expertise to write up technical analysis information for all resources. Instead, NEPA writers have turned out to be most efficient and useful when they assume a team coordination role. They might, for instance, attend an early team meeting and push the participants to begin work on the document vision (as described above in suggestion 1). Next, they might ask all technical specialists to meet with them about the scope of their projected drafts and the role of impact indicators as a valuable tool for estimating effects. These are crucial front-end processes, but often overlooked. Then late-stage in a NEPA process, the designated NEPA writer is a primary editor, as well as coordinating peer reviews among the contributing technical specialists.

If these early steps are overlooked, a NEPA team leader/writer will likely receive, weeks or months later, a rambling 20- or 30-page report from a technical expert. Conclusions, if present, are not clear, and the rationale for possible conclusions needs major revision. Does the team leader rewrite the report or merely rephrase key sections? Rewriting is always difficult and in some cases impossible. Whatever happens, the project is delayed as the team leader works for an acceptable version of key information. No wonder many NEPA projects/documents take years to complete!

The preceding problems are why Shipley consultants have found that in 90 percent of the NEPA team situations, a technical expert writes up key information, following the detailed vision of the document, as captured in a detailed outline or, better, in a storyboard. This same technical expert is responsible for any necessary revisions to the draft materials. The team writer/editor (or team leader) provides feedback but does very little draft writing and rewriting.

The Shipley approach advocates that technical experts be involved in the initial visualization, as described above. A good storyboard would identify, for example, that the wildlife biologist would have 3 pages to prepare for the EIS on the spotted owls. The biologist reviews these pages or screens, including projected graphics, with the team leader or team editor. Then the biologist writes text and prepares graphics to fit into the storyboard model. Some eventual reworking and editing would be necessary, but the biologist would be responsible for the key text and any necessary revisions.

3. Identify and record quality standards for these team contributors to follow as they work toward the vision (from step 1).

Quality standards for a NEPA project include the following:

- NEPA Project Management Standards
- NEPA Content Standards (Legal or Compliance Requirements)
- Document/Web Standards (Writing, Editing, Graphics, and Software Features)

The “Tool Kit” mainly discusses bullet three: reader-friendly documents, both their writing and their graphics. So I will emphasize writing standards in the following discussion. My examples will also focus on printed documents rather than web versions. Shipley training materials do have checklists on each of the three quality areas. Quality writing standards appear in almost every chapter of the “Tool Kit.” For example, Chapter 2, subsection 2, identifies Question-and-Answer headings as a useful reader-friendly tool. Chapter 3, subsection 10, lists a number of other reader-friendly ideas, beginning with a recommendation to avoid *impact*; instead use *effect (n.)* or *affect(v.)*. Such listed standards are interesting, but they do not come together into a single useful checklist for writers to use; instead, all sorts of standards are covered in the “Tool Kit,”

chapters 2 through 5. Readers are likely to finish the “Tool Kit” without a clear list in mind of the major standards. This is one of the practical shortcomings of the “Tool Kit.” As noted above, Shipley training materials have stand-alone checklists for several different types of quality standards. All NEPA team members and contributors should have such checklists in front of them before they begin to work on an EIS or EA. The “Tool Kit” is especially strong in its discussion of how to simplify graphics by making them reader friendly. Chapter 1 credits Edward Tufte and his publications with providing guidance for WSDOT graphics on reader-friendly documents. Tufte is well known and highly respected. I recommend his publications (and web site). Also, in Chapter 2 the “Tool Kit” explores options to the traditional NEPA matrix comparing impacts. Review their proposed options. How usable would their approach be in your own EISs or EAs?

(For those interested in more discussion of graphics, Shipley Group newsletter 39 (February 2005) discusses NEPA graphics and reviews a book on graphics by Howard Wainer, *Visual Revelations: Graphical Tales of Fate and Deception from Napoleon Bonaparte to Ross Perot*.)

As another example of the writing standards from the “Tool Kit,” Chapter 2, subsection 3, on “How do you tell a story?” lists several criteria (indirect writing standards because they blend content and points of writing style and because they are very general):

- Organize your document and develop an outline.
- Explain the problem and why people should care
- Write clearly and use simple language
- Highlight benefits associated with your project.

Notice that the preceding bulleted criteria are high-level answers to the question in the subheading: “How do you tell a story?” The principles (and the analogy) come from Joseph Williams, whose *Style: 10 Lessons in Clarity and Grace* has been a popular text on written prose style for nearly 30 years. The “Tool Kit” recommends Williams’ book and applies to NEPA documents some of the specific writing principles Williams discusses.

An example of the sort of guidance Williams identifies and then illustrates is his discussion of sentence emphasis in his *Style, Toward Clarity and Grace* (Chicago: The University of Chicago, 1990). Sentence emphasis appears in Chapter 4 of *Style*. As one of the guiding principles/strategies, Williams notes: “Put at the end of your sentence the newest, the most surprising, the most significant information: information that you want to stress—perhaps the information that you will expand on in your next sentence” (p. 48). For centuries writers have relied on the power of the periodic sentence (a sentence that ends on its most important or stressed point). Old-fashioned orators routinely built periodic sentences into their speeches.

Today's writers are not likely to find a periodic sentence very useful (even if they knew what constituted a periodic sentence). Periodic sentences are emphatic and powerful if the reader continues reading to the end. Periodic sentences are still useful in speeches, but even there, the introductory preview is increasingly popular.

Shipley consultants increasingly meet business and technical readers who do not get the end of each and every sentence, nor to the end of paragraphs. They are skip-and-scan readers. They are unlikely to grant a writer the time and attention necessary to savor individual sentences and lengthy paragraphs. As skip-and-scan readers, their eyes move from opening lines in a paragraph to the next opening line for the next paragraph. They pause to read only if something matches what they are looking for. Reading in this context is more retrieval of information, not the following of a sequential argument down a page or across several pages.

Williams is brilliant in assessing the clarity and grace of a passage of written prose. His prose examples are extremely effective, but most of them come from texts that are not very technical in content nor in writing style. His analysis of readability most clearly applies to readers who follow the logical flow from sentence to sentence in an entire paragraph or in passage of several paragraphs. Notice that Williams' assumption is that readers are going to read a whole paragraph or passage.

Williams says nothing about what document design and page layout contribute to the overall clarity and grace of a document (or computer screen). This omission signals that his focus is on text and language, which are increasingly taking a secondary role in many business and technical documents.

An excellent technical document—such as NEPA EIS or EA—necessarily begins with its design and appearance. Quality begins with design. Writing (style, language, and sentence structure) is an important but secondary concern. This reversal of priorities is the key to current documentation efforts. Traditional writers do and did start with blocks of text; next editors pruned and reworked the text, adding headings and graphics. This traditional approach worked well in the pre-computer era. It is less and less useful in today's business and technical environments.

Increasingly, a printed EIS or EA is more like a choppy encyclopedia or online reference, with a series of separate entries or screens on different impact topics. The information deliberately appears in chunks. Text is short and fragmented, and retrieval is the goal. Summaries (and conclusions) must appear in openings or in early screens. Backup or supporting information is moved to later screens or even falls off into backup files. These features of current NEPA documents are why I mention basic usability below in my discussion of suggestion 6. Usability is a better way to talk about and to measure clarity than more traditional notions of readability and plain language. Usability is also familiar to folks who work on screen design and web page layouts. They can and often do

test their products by checking their usability features. I discuss usability below under suggestion 5.

Shipley newsletter 53 (November 2006) discusses plain language, readability, and comprehensibility as NEPA minimums. Without such minimums, a NEPA document does not meet legal standards. See www.ShipleyGroup.com for a link to this newsletter. Note rule 3 in the following list from a recent Shipley training manual on clear writing.

- 1. Follow the headings and subheadings developed in your initial storyboard/prototype.**
- 2. Preview content so that readers can predict what comes next in a section or on a single page.**
- 3. Move key information up and left in sections, subsections, and even sentences.**
- 4. Keep paragraph short (on average) and replace long paragraphs with graphics and displayed lists.**
- 5. Keep sentences short—with an average length fewer than 20 words; a 15-word average is even better.**
- 6. Repeat key words or concepts in successive sentences so that the content has a logical, convincing thread for readers to follow.**
- 7. Choose simple, conversational language and avoid complex terms, acronyms, and technical abbreviations.**

These Shipley standards start with the visual appearance of text and headings on a page, as recorded in a storyboard. All criteria, especially number 3, rely on the visual nature of the text. They depend only secondarily on the ebb and flow of words and sentences. This Shipley approach is not unique to Shipley consultants. Increasingly in today's business and technical culture, key information is conveyed in accessible (reader friendly?) chunks. And increasingly, major documents, including reference tools, appear on the Internet, where writers have to rely on design, not dense text. Web writing is usually discussed in terms of chunks or menus of information, with links to other chunks and menus. The assumptions about web text are increasingly important for the parallel documents produced in a traditional manner.

The preceding seven criteria are the basis for the Shipley training entitled Clear Writing for NEPA Specialists. (We recently changed the title to Advanced Technical Writing for NEPA Specialists. This change was made for copyright purposes.) As stated, the seven Shipley criteria are quite general, even vague. But Shipley training materials contain

illustrative examples and clarifying explanations. We also settled on only these seven principles as a way of keeping our suggestions down to a manageable number. All NEPA writers, especially technical specialists, should have a list of the seven Shipley criteria before they write a sentence of text. . All of their written draft materials should meet these criteria. And of course, editors of draft materials should use these same criteria in their suggestions for revisions and rewriting.

Unfortunately, many team leaders assume that team members already know how to write up their technical information. But many technical specialists are not very effective writers. Team leaders all too often receive drafts that fail to state clear NEPA impact conclusions (especially a context and intensity for the projected impacts). These same drafts usually fail to tell the story behind the conclusions. The basic writing from such technical specialists is certainly not reader friendly. And writing from technical specialists often fails to contribute to the overall message, as captured in an initial storyboard.

What other quality criteria are important?

NEPA has a number of legal requirements—for example, the no action alternative, cumulative impacts, and the purpose and need statement. These have their own minimum requirements, which are really quality standards. These requirements, which have changed over the years, are very important for the overall legal success of the document. If these legal points are not clear and logical, the document fails, no matter how well written.

I assume that WSDOT has one or more checklists on the NEPA compliance minimums, and that such checklists would be used in conjunction with the “Tool Kit.”

4. Develop clear (and written) task assignments for and with each contributor and set and track realistic deadlines.

A writer’s name on specific storyboard pages is a good beginning for a clear task assignment. Storyboard pages give writers valuable information about the needed text and graphics. When they begin to write, they are filling in identified gaps with known information, not brainstorming unknown content.

Often technical experts get little more than the assignment of the general topic, as in a statement that Casper or Josie will be our noise person. What does such a vague “assignment” indicate? Neither the agency nor the person assigned has a clear and explicit sense of all tasks involved.

A well-defined task is that task halfway prepared. The reality is that many NEPA task assignments are management by blank check. If Josie is assigned the noise task, how many days in the field does this mean? Does Josie contribute to the design of alternatives? If she does, how many team meetings does this include? Is Josie responsible for preparing a WSDOT response to a technical comment letter questioning WSDOT

noise projections? Just how important are noise impacts for decision makers who must choose between alternatives? Is noise even considered a significant issue?

More important, who is responsible for guaranteeing that Josie or Casper does not produce sketchy or even inadequate noise estimates? What sort of peer review responsibilities exist? What happens if initial noise projections are unacceptable to the WSDOT decision makers? Is Josie's or Casper's original report deleted then from the legal WSDOT file?

A clear task assignment should link to the projected days for a noise specialist to complete all assigned tasks? These days, in turn, should link to the agency schedule for the project and the agency's decisions as to the priority of the information in relation to the entire NEPA process.

Finally, a clear task assignment includes quality criteria against which to judge the information produced for each task, including both technical discipline reports and resource text for the EIS or EA. Note that these quality criteria are more extensive than a mere outline of the key topics in the technical specialist's discipline report.

5. Build early and frequent reviews and usability tests into each project step.

The WSDOT "Tool Kit" has an excellent overview of review tasks in Chapter 6. This chapter discusses three types of review:

- WSDOT internal review
- Reviews by agencies outside WSDOT
- Comments from all outside interested and affected individuals

The "Tool Kit" suggests developing clear procedures for each of the three levels. The suggestions speak of clear assignments to specific individuals, such as WSDOT decision makers. The "Tool Kit" also summarizes the need for clear tracking of internal comments. In terms of the WSDOT review, the text urges early and frequent review to guarantee the best and most consistent documents.

All of the WSDOT review procedures are legally necessary and practical. Shipley consultants would support all such procedures.

Usability Tests

Shipley consultants have increasingly recommended a slightly different review task—usability tests. Such tests have been common in engineering and software projects for years. A usability test asks a sample of users to spend hands-on time with the product finding if it works as it should and if it works as easily as its creators say it does.

How would such usability tests apply to a NEPA document?

Suppose the creators of the NEPA document (or web version) list several key questions, such as these:

1. What are the major WSDOT alternatives? Which does WSDOT currently favor?
2. How do these alternatives differ in providing for the ease and efficiency of travel?
3. What are the projected benefits of the action alternatives?
4. How do the alternatives differ in regard to these benefits?

Then a random group of WSDOT employees (or even paid members of the public) would be given copies of the questions and a copy of an EIS or EA. Optionally, they would be given a computer screen with the web version of the EIS or EA. Usability works especially well in the web situation because people can record just how many screens they had to open to find answers to one or other of the questions.

Usability findings would then summarize the following sorts of information:

- How long did it take each person to find and record answers to the four questions?
- Do the recorded answers agree 100 percent? (If people recorded different answers, was it because the text was inconsistent or because the information was just hard to find and to understand?)
- What features such as previews, the table of contents, and sidebar summaries most helped the people navigate from point to point and to find the answers?
- What changes in the document/web screens would have helped the people navigate better within the text?
- What changes in the document/web screens would have helped the people more clearly understand the information?

Usability tests are a very accurate way for preparers of an EIS or EA to discover if their NEPA information is reader friendly (and if it is close to 100 percent clear). Usability tests avoid relying solely on internal reviewers, who make their best guesses as to what the public will think when they read a page or survey a graphic. Such internal reviews are valuable, but they are often mistaken in what they estimate the public will think.

Remember, also, that judges have been known to comment on how difficult or how inconsistent a document is. So a very user-friendly, consistent document has legal benefits.

A Challenge

Conduct a usability test, even an informal one, on a recent EIS or EA from your shop. Choose one chapter or major sections. Ask 4 or 5 colleagues to tell you the main point or points of the selected pages. Also, ask several more focused questions about important content points.

Then turn them loose on your EIS or EA. Be sure to get cited pages or sections when they report back to you. The more divergent their answers, the less reader friendly I would suspect your EIS or EA is. And, of course, the less legally defensible the final document would likely be.

Optionally, you can use another agency's or team's EIS. The WSDOT folks have published on their State web site a list of reader-friendly EISs or EAs. Choose one of these and try to answer several key questions (as listed in the text above). How easy or hard is it to find the answers? Are your answers 100 percent clear? (The 100 percent figure means that all readers/reviewers would identify exactly the same content points from the text. A corollary is that even a sloppy reader cannot miss the same main points.)

6. Make feedback from the reviews and usability tests as constructive as possible. Don't neglect to praise contributors who meet deadlines and whose work is exemplary.

Feedback from reviews, as discussed in suggestion 5, has two purposes. One purpose of feedback is to produce the most accurate, reader-friendly EIS or EA. So the majority of review comments, as summarized in Chapter 6 of the "Tool Kit" record needed corrections and desirable revisions. And to make these review comments understandable and practical, they should be as constructive as possible. By "constructive," most folks would mean that they are positive in tone as well as understandable. A positive tone is important so that the team working on a document does not become defensive and even angry. Also, remember that reviewers can suggest possible revisions of text, but the original team members should be responsible for the actual rewriting and subsequent editing.

A second purpose for review comments and usability findings is to improve the skills of the team who has prepared the EIS or EA. The team members are responsible for everything in the draft document, including all of the writing. Here is when technical experts and the team leader(s) should receive positive and constructive peer review comments on their document design and on their writing skills. If their writing is less than adequate, they need to be told that and given help to improve.

This second purpose links to the comment in suggestion 2 that for most Federal agency EISs or EAs, the writers turn out to be the technical experts who have also done the resource analyses. Most NEPA teams have neither budgets nor time for an independent

writer to “translate” all of the technical information into a readable, consistent text. Even in instances where an outside contractor prepares an EIS or EA, the official team writer usually writes only the more general non-technical sections and leaves technical information for the technical specialists to record and to interpret.

Praise, if merited, is all too rare in the world of NEPA compliance. See suggestion 7 below for my argument that agencies need to build employee improvement into every NEPA project effort. Otherwise, agency teams continue to repeat the same mistakes.

7. Plan for and fund a lessons-learned step, where all contributors identify and record techniques that did or did not work and then communicate their findings to agency or departmental employees.

This final step is often overlooked in projects. Human nature is such that the contributors are so glad to be finished that they don’t want to review all of the steps and problems. If often feel that if they are lucky they won’t be assigned to the next NEPA project.

As I mention above in suggestion 6, agencies need to build learning into their NEPA processes. Writing, for example, is a skill that improves over years, not days or weeks. Technical specialists may have careers of 30 or more years. What a tragedy if these specialists never have a chance to improve their writing skills. This is the message if the agency hires a professional writer who rewrites all of the technical information into a published version. (In some of my training sessions I have had people comment that their managers always rewrite every draft they produce, so they cease trying to write good documents. Their fool manager will change things anyway!).

In my experience only a few NEPA projects receive a lessons-learned review. Individuals may have learned some lessons, but the overall organization fails to get or give feedback. The following is a non-NEPA example of how a project lessons-learned phase works. In major governmental procurement efforts, companies routinely hold reviews of their submitted proposals. These reviews are both internal and external. In a losing situation, a company may request a formal external debriefing from a Federal agency. Such reviews examine how the agency reviewers rated all parts of the company’s proposal. Company managers want to know so that they don’t repeat mistakes on future procurement campaigns.

An external review of an EIS or EA could begin with representatives from the public and from various city and county agencies. Representatives would essentially walk through a usability exercise. Their comments could and likely would cover a range of topics. The goal would be for the agency preparing an EIS or EA to learn what did or didn’t work. Without such feedback, real improvement is minimal.

Internal company reviews of a proposal would discuss findings as to what team activities did or did not work well. This is where the role of a storyboard, for instance, is challenged and debated. Who prepared it? Did it help individual contributors? Did the

storyboard save time (and money) in the preparation of the proposal? What features of the storyboard should we change on the next procurement?

The results of a lessons-learned review should be a set of revised project guidelines for all subsequent NEPA teams. These guidelines would review and reinforce each contributor's role in the creation of the next EIS or EA. They would remind contributors that quality is a team product, not a side benefit.