The Shipley Group
Environmental Training • Consulting • Staffing

Feature Article
October 2013

Efficiently Scoping NEPA Documents: Storyboards!

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

This newsletter summarizes a scoping strategy from a recent Shipley Group workshop. This strategy was a storyboard approach for planning chapters and sections for a major Environmental Impact Statement (EIS).

A storyboard approach encourages National Environmental Policy Act (NEPA) writers to view an EIS or EA as a visual product, not a text-heavy environmental report. Consider that current printed EISs are beginning to use some of the format options from documents created for web publication:

- Highlighted chunks of information
- Very short paragraphs
- Lists (with links to other screens)
- Graphics with interpretive captions
- Informative headers and footers

A storyboard approach also allows many contributors, both writers and reviewers, to collaborate efficiently. For example, in the Shipley workshop mentioned above, some 10 tables of 3 or 4 contributors worked on 10 resource topics. Each table had resource specialists from the EIS contractor, plus one or more agency specialists for that same resource. After a morning of work, tables had an initial design/vision for each resource section. These visions included estimated page counts and well-designed pages, with key information highlighted by using features listed above in the bullets.

You'll notice that about 40 contributors were engaged in these initial storyboards. Consider how rare it is to get this level of collaboration early in a NEPA process (before text is written).

Text comes later. This initial collaboration will make the writing of the text more efficient. With a common vision, employees of the EIS contractor are less likely to write long, rambling resource reports (a common NEPA inefficiency). Such traditional reports often require extensive rewriting and even changes in their scope. Such extensive revisions usually signal poor initial coordination. They also signal wasted time and money!

Such reworked sections are clearly inefficient. Often, the delivery of the Drat EIS is weeks or even months late. Project costs also increase with each revised and reworked section.

Listed below are some basic principles that guided the storyboard session described above.

1. **Follow the design decisions as set in the storyboard step; these decisions include projected headings, subheadings, graphics, and the following six emphasis techniques.**
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, paragraphs, and even sentences.**
4. **Keep paragraphs short and replace long paragraphs, as appropriate, with graphics or displayed lists.**
5. **Keep sentences short—with an average length under 20 words; a 15-word average is even better.**
6. **Repeat key words or concepts in successive sentences so that the content has a convincing logic trail for readers to follow.**
7. **Choose simple, conversational language and avoid complex terms, acronyms, and technical abbreviations.**

The goal of these seven principles is a document or a website that is 100 percent clear. Writers must take control of their content so that readers cannot miss key content. The following newsletter text briefly comments on the seven principles.

If you are unfamiliar with storyboards, archived Shipley newsletter 61 (November 2008) is available at http://www.shipleygroup.com/news.html.

1. Follow the design decisions as set in the storyboard step; these decisions include proposed headings, subheadings, graphics, and the following six emphasis techniques.

Design precedes the writing of text if your NEPA process is to be efficient.

Writers should delay work on the text until they have a conceptual design of the document to be created. They should be setting content priorities throughout the storyboard process. From a legal perspective, context and intensity information about projected impacts is crucial. Writers should decide where context and intensity information will appear and how it will be marked as important. Will it have a shaded box or will it be a marginal callout? Does it need its own numbered subheading?

Here is a NEPA example from the storyboard process. An air quality specialist might label a blank shaded storyboard box "Impacts of action alternatives on carbon monoxide levels." The quantified levels may not be calculated until months later, but the specialist has an assigned page and a shaded box waiting for the projected levels of carbon monoxide.

In the preceding example, writers write in order to fill in the established design. This approach differs from the traditional practice of having to rework a rambling draft report of uncertain length from each resource contributor. Perhaps the EIS or EA only needs 4 or 5 pages of concise text from each resource specialist to tell its NEPA story! A rambling resource report is an inefficient detour, costing money and time.

This example is not unusual. Years ago, I was helping a major Federal agency to rework a Draft EIS. The team leader had received a 100-page draft of the air quality impacts section. The EIS team leader asked if I could summarize the air quality information, with an estimated target of maybe 12 pages of usable text for the EIS. I declined the assignment, not being an expert on air quality. But if I had accepted, my revision would have delayed the EIS for a week or two and would have increased my consulting bill to the agency. And this delay was coming from only one poorly planned resource report.

The 100-page draft text on air quality was a waste of time and money. Even worse, it blocked efficient and timely assembly of the draft text for the EIS. Sadly, NEPA team leaders often comment that submitted draft reports require major revisions before fitting into an EIS or EA.

2. Preview content so that readers can predict what comes next in a section or on a single page.

Frequent content previews help readers of a document find relevant information. Similarly, users of a website can navigate from topic to topic without experiencing dead ends and misleading content. Both of these examples are priorities in the Plain Writing Act of 2010. For more information about the law, go to www.plainlanguage.gov.

Predictability is important because if readers can predict content, they are more likely to understand and remember the content. So plain language principles would help NEPA documents meet the legal test that they be comprehensible to lay readers.

Previews are like helpful road signs that help readers find relevant information. The goal of 100 percent NEPA clarity means that no reader fails to find the relevant chain of evidence for an impact conclusion.

3. Move key information up and left in sections, subsections, paragraphs, and even sentences.

A good design for either a document or website places major content points where readers cannot miss them. For decades, journalists highlighted important information by using its location on a page. The front page of current newspapers is still using this strategy, with major headlines up and left!

Test a recent document by circling opening words in sections, subsections, and paragraphs. Verify that the circled words reflect the key content.

Also check a sample of sentences. Do the majority open with key content?

Write sentences that open with key content (especially conclusions):

> Impacts on vegetation would be minimal, based on species diversity from agency field surveys in 2009 and 2013 and from the Stuart Johnson report (2005, pp. 38-41) analyzing minor areas of disturbance in well-established dry-land vegetation.

(Not: "Based on species diversity . . ., impacts on vegetation would be minimal.")

Readability studies have shown that readability increases if the majority of sentences in a passage open with main points. Opening sentences with complex conditional clauses often requires readers to reread a passage. These same readers are likely to have problems remembering what a key passage in the text actually said.

Good writing is placing right words in the proper places!

4. Keep paragraphs short and replace long paragraphs, as appropriate, with graphics or displayed lists.

Paragraphs remain one tool for organizing and emphasizing information. But increasingly, writers are exploring other options for emphasizing important content:

1. **Replacing the body of a paragraph with a list (using bullets or numbers)**
2. **Designing a graphic and its caption to replace the whole paragraph**
3. **Limiting paragraph length to no more than 2 vertical inches in a column**
4. **Using bolding to highlight major points (words, phrases, or sentences)**
5. **Pulling major content points into one or more informative subheadings**

Paragraphs remain a very weak emphasis technique. So use them cautiously to mark major content. Instead, experiment with one of options listed above.

5. Keep sentences short—with an average length under 20 words; a 15-word average is even better.

A simple readability strategy is to use a colored marker to mark any sentence longer than 20 words. Then go through the marked sentences, shortening each one if you can. This strategy will likely shave several years off your readability grade/rating.

Classic readability formulas used two variables: average sentence length and average syllables per word. So the longer your sentences and the more multi-syllable words you have, the less readable your document or website becomes.

This conclusion is still accurate even though readable documents have other features that can be measured. For example, the Plain Language website (listed above) suggests measuring how long it takes average readers to find answers to simple questions about a document. This is a usability test, but notice it moves beyond features in the text into a protocol that tests readers' successful work with a document.

Usability tests are an excellent tool, but they take time and possibly money to implement.

So many technical writers and editors still rely on the classic features of the text: average sentence length and average syllables per word. Word processing programs still use these two text variables to

calculate grade levels for sample text passages. These grade levels are good indirect evidence about a document's readability.

6. Repeat key words or concepts in successive sentences so that the content has a convincing logic trail for readers to follow.

A series of sentences should function like a chain of logical observations. Each sentence should repeat an idea or a word from the preceding sentence, with repeated information tying the sentences together. The successive sentences should be readable because of their linked content.

The logical pattern of such linked sentences is predictable. Test your own writing by covering up successive sentences and verifying their overlapping ideas. Can you predict how each sentence links to the one that preceded it?

Predictable information is both easier to read and to remember. So work to build logical chains of evidence in all your NEPA documents.

7. Choose simple, conversational language and avoid complex terms, acronyms, and technical abbreviations.

Reading text aloud has been a time-tested editing tool for decades. As you read text, you will spot your own clumsy phrasing and possible typos.

So test your draft text by reading it aloud. An option is to read to another person, with both of you listening and watching for gaffs.

As a second test, use a colored marker to highlight complex terms, acronyms, and technical abbreviations. Challenge each highlighted term or concept. Is each of the highlighted ideas necessary?

Would another rephrasing be clearer to lay readers? If it would, rework the original text.

Remember the KISS principle!

We invite you to follow up with a call to the Shipley Group office for more information or for a consulting or training opportunity with your company or agency.

Link to Shipley Enews Articles: http://www.shipleygroup.com/news.html