NEPA Project Management: Herding NEPA Cats

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Over 20 years ago, Shipley consultants developed a 2-day course managing an interdisciplinary team (IDT). I taught it several times with no great success. Among other problems, the participants and I discovered that few universal principles existed for managing the IDT cats assigned to a NEPA project. Another complication was that agencies were still struggling with what a NEPA analysis should include and how best to record an analysis.

Shipley shelved this early course. Recently, federal agencies managers have encouraged us to return to the topic of NEPA team management.

The result is that about a year ago we developed and began to teach a new workshop on NEPA project management (with more of a project management perspective than we had in the earlier course). Shipley consultants used the following principles as they developed and initially taught the new workshop:

1. **Analysis tasks and writing are concurrent tasks.**

2. **Managers and NEPA specialists need to take tasks and timelines seriously.**

3. **NEPA compliance always involves some risk taking.**

4. **Managers and NEPA contributors need well-defined quality standards.**

5. **Successful NEPA is primarily a people process and only secondarily a scientific or technical effort.**

Many problems and questions remain as to how best to manage NEPA projects and their associated teams. Today's NEPA teams are still filled with independent spirits (the cats in the title). Each NEPA contributor feels that his or her technical information deserves special attention and just as many pages in the EIS or EA as any other specialist.

Another current problem is that we are still learning how best to track and to record complex team information. Team writing is almost a contradiction in terms because most specialists view writing as a solitary skill. After all, our school experiences viewed writing as something done by an individual; even today, graduate dissertations are one-person projects.

Still, today's NEPA teams are completing NEPA analyses that are much more comprehensive and scientifically valid than ones I saw in 1979 when I first began teaching agency employees assigned to "do" NEPA. And today's teams are writing clearer EISs and EAs than they did even 5 years ago! So in spite of all the problems, we have learned some things about how to manage a NEPA team even if participants are independent, unruly cats.

The National Environmental Policy Act (NEPA) mandated an "interdisciplinary approach" (Section 102(2)(A)). Framers of NEPA saw the virtue of multiple experts and contributors. Over 30 years ago, when NEPA was passed, lawmakers built the need for multiple contributors into NEPA's basic compliance requirements. This need has only become more essential in today's highly technical and scientifically evolving culture.

Note: In the following text, I do not distinguish between a NEPA team leader, who is the day-to-day project manager, and the NEPA decision maker, who signs the final NEPA decision document and has ultimate managerial authority. These two roles do have slightly different responsibilities, but they also share many of the same project management tasks. In particular, the five general management principles I discuss below apply equally well to either management role. In most instances, the two agency managers should be sharing the management tasks.

1. Analysis tasks and writing are concurrent tasks.

Successful NEPA means that contributors have to forecast potential environmental impacts (a technical/scientific step) and to record these impacts in well-written, legally adequate documents.

Under NEPA, therefore, agency decision makers have to manage both the NEPA environmental

analysis (the forecasting of impacts) and the documentation.

Analysis and documentation are concurrent tasks in any successful NEPA project. By "concurrent," Shipley consultants recommend that on day 1 of a project, the project manager, key technical contributors, and decision makers collaborate on a common vision of both the analysis goals and the documentation tasks.

Leaving documentation questions and writing goals for later discussion invites delays and unnecessary revisions of the evolving documentation. Still, an agency training coordinator recently made the following request when speaking of our NEPA project management workshop: "Focus on project management; leave writing for later!"

This coordinator's comment assumes that project management is a separate task from the writing up of results and conclusions. Shipley consultants have often run into this misconception.

Removing writing from routine project management discussions will delay the final project and will make the final documentation more costly.

All of Shipley's major clients over the years have come to realize that technical and scientific tasks are not finished until they have written up their findings. This has been true in the pharmaceutical industry, in the aerospace industry, and in the writing of proposals for Federal government contracts. In each of these specialized contexts, the technical experts (and their managers) need to decide as early as possible what the resulting documents will look like and who will be contributing what to them.

NEPA impact analyses (the technical details) often seem to be the main worry for agency decision makers. Many NEPA decision makers, if asked about a project, summarize details about the proposed action, unacceptable impacts, and associated mitigations. They ignore project milestones related to a finished Environmental Impact Statement (EIS) or an Environmental Assessment (EA). These decision makers seem to assume that the documentation will take care of itself!

A key Shipley training assumption is that analysis/technical tasks are concurrent with the documentation of such tasks. This assumption is surely applicable to NEPA projects. It was also true of a New Drug Application, which pharmaceutical companies submit to the Food and Drug Administration. Even aerospace engineers have found that engineering decisions are concurrent with and depend on written assembly and quality assurance procedures.

For nearly 30 years, Shipley consultants have taught that technical analysis and documentation are concurrent processes. Both begin with a comprehensive and early vision of the final product(s). Both require a project manager and technical experts to identify quality criteria, to agree on milestones (often called deliverables), and to report their progress to senior management.

The newly developed Shipley workshop on project management focuses on both of key managerial tasks. Agency decision makers learn to manage both the analysis process and the parallel EIS or EA.

In simplest terms, on day 1 of the NEPA project, the major participants (decision maker, team leader, specialists, graphics specialists, and writers) should meet to discuss both the necessary impact analyses and the parallel documentation of the analysis.

Participants in the Shipley Project Management workshop examine a generic outline for a Scoping Document or Project Plan. This outline lists all the main analysis steps, and it also asks for all contributors to sketch the resulting document, including its length, its format (whether it will be electronic and in hard copy or both), its organization (if different from the norm), desired graphics, and the necessary technical information (that is, assignments to the various specialists).

By answering all of the preceding questions, the whole NEPA team (including decision makers) should end the initial planning session with a well-defined project plan and with a clear vision of all contributing documents.

2. Managers and NEPA specialists need to take tasks and timelines seriously.

The NEPA project manager should prepare as early as possible a task list (often called a work

breakdown) and a detailed schedule. These two products become tools for the project manager to use to monitor each contributor's progress toward the completion of the NEPA project (both analysis and documentation).

An initial assumption is that very few NEPA projects begin with a task list and a detailed schedule. At most, the NEPA team leader and the decision maker may have discussed an estimated completion date for the EIS or EA. I make this assumption based on feedback from hundreds of NEPA team members, most of whom have told me that they rarely work within or against a detailed schedule.

Task lists are a necessary starting point in any project. Specialists are likely to feel, however, that such a list is unnecessary, perhaps even a waste of time. But no project schedule is possible without such a task list.

Consider the possible tasks for one specialist's input. Tasks might begin with a review of existing inventory information about the project area. This review would include any prior NEPA documentation. How many hours would this review take? Only an hour or two for a routine project, but several days for a large EIS.

Next, the specialist might make an initial field visit to the project. (A recent Park Service checklist makes this site visit one of its compliance requirements.) Then comes the necessary fieldwork, including everything from soil samples to surveys of sensitive plant sites.

All of the preceding steps presume that the specialist is keeping careful written notes, especially of the fieldwork. If possible, most of the notes should be exported into an evolving draft of text for the EIS or EA. Note that this suggestion assumes that the whole team has already begun to work on a very preliminary draft (often called a prototype or storyboard).

At some point, the specialist settles in to complete both the essential text and graphics for the EIS or EA and the backup report (perhaps even a formal appendix for the EIS or EA).

Experience suggests that even the best writers can produce only 5 or 6 pages of draft text in a single day. Then, revision adds another 2 to 3 days to the total (roughly 50 percent of the time spent on the initial draft). Such productivity guesstimations are essential if a manger is to have a realistic sense of just how long it will take a specialist to complete his or her text for an EIS or EA.

As early as possible the specialist should translate the potential list of tasks into a total number of days. Remember that the specialist has to make the initial estimate of days, but that the NEPA project leader (or decision maker) is responsible for approving the specialist's estimate. This approval of the specialist's time balances the agency's estimate of project risk with the overall compliance needs inherent in the project.

Next, the project leader/manager transfers the estimated days into a master schedule that includes all contributors' days. This schedule can be as sophisticated as a complex computer flowchart or as simple as handwritten schedule on a whiteboard or on flipchart pages. In either case, the schedule shows what tasks and times are concurrent and identifies deadlines and interim milestones.

Managers need a detailed schedule in order to make a realistic estimate of the completion date. Managers also need to check to see if one person's draft text is a prerequisite for another specialist's write-up. For example, until the soils section is written up (with sediment estimates), the hydrologist cannot complete the analysis of the potential effects on streams. Such sequential tasks can add weeks or months to the project timeline.

Unfortunately, most NEPA projects move forward without a detailed schedule. Why are schedules so rarely used? One reason is that preparing them is time consuming, and frequent revisions are necessary. Many managers feel that a detailed schedule is more trouble than it is worth.

There are other reasons why schedules are not commonly used. Managers in the land management agencies (for example, the Bureau of Land Management, the Forest Service, or the Park Service) rarely think of writing as something to be timed or measured. Similarly, few field tasks, such as resource surveys, are timed or measured with an eye as to what is an efficient and/or reasonable time for a task's completion.

The result is that many agency managers make assignments without having a sense of exactly how long, for example, it should take a hydrologist to survey the streams in a project area. And managers rarely have a good idea as to how long it should take this same hydrologist to prepare a hydrology report as part of the hydrologist's contribution to a NEPA analysis. One problem is that the submitted hydrology report varies greatly, ranging from a few pages to dozens of pages (depending on the hydrologist's estimate of resource risk). The NEPA project manager should be negotiating with the hydrologist as to the scope of the resulting report. Such would be the case if the manager were really managing all project tasks.

Defining tasks by days and hours is the only way managers can adequately set realistic schedules and hold teams accountable for meeting deadlines.

Interestingly, one of the few times that agency employees discuss detailed tasks and times is when they have to contract out a NEPA analysis and documentation. Then, their contracting officer asks for a detailed list of tasks to be included in a Statement of Work.

Without a detailed and accurate Statement of Work, contractors cannot bid on a project. Or if they bid on a project, the tasks are likely to spin out of control. Contractors submit requests for more money and deadlines slip.

The same could be said for an internal project! If the internal manager does not have an accurate list of tasks and associated times, then internal project management is missing. The internal manager has no way to meet a deadline or calculate just what an EIS or EA costs.

3. NEPA compliance always involves some calculated risk taking.

Risk is inherent in any NEPA compliance effort. Agency decision makers (and NEPA project managers) are responsible for any risk taking because they should be reviewing every compliance task and the time needed for these tasks. See section 2 above for a discussion of tasks and time.

These managerial reviews should determine the appropriate level of analysis (based on both scoping and the potential compliance steps). For example, agency decision makers have the authority for deciding whether a proposed action merits a full EIS, and EA, or a categorical exclusion.

The goal of these reviews is to balance the necessary compliance steps with the potential risk. Managers are always balancing such concerns because they are always dealing with proposed actions (and associated documents) that are not perfect. If they are candid, decision makers will admit that any EIS or EA they sign has some flaws. The good news, from an agency perspective, is that plaintiffs rarely choose to challenge all potential flaws in a routine EIS or EA.

Risk arises in one or more of the following instances:

- The agency or service overlooks an important environmental consideration. Later discovery of the problem delays or changes the project. Often an agency employee discovers the problem even before an outside constituent raises questions.

- The public or another agency (often a state agency) learns about the proposed action and decides to challenge it. Challenges can range from simple letters of protest to formal notice of noncompliance (as in a letter from the State Historic Preservation Officer). In extreme cases, a person or a group might file a court case.

- A proposed action goes forward with minimum public disclosure. An individual or an outside group objects but too late for comments to be considered. The public sees the agency as having pulled a fast one! A court case is still possible (assuming implementation is not complete), but the main penalty is loss of credibility.

Notice that responses to risk range from minor changes to the proposed action to its possible cancellation (from adverse public comments or from litigation). The main NEPA legal punishment is an injunction, delaying the action until NEPA litigation is finished. And, of course, if the agency loses in

court, the court will mandate an updated NEPA process and new documentation.

Risk also appears when project information is incomplete or unavailable. The more uncertain the information, the higher the ultimate risk when an agency attempts to forecast impacts for the proposed action and alternatives.

Agencies are never able to devote as much time and attention to project questions as either the public or their own specialists would like. Many specialists would argue for another year's test results before making impact projections. Such instances require an agency decision maker to decide whether additional surveys are needed. Such a decision is managing for the potential risk.

Agency decision makers usually make a final project decision (choose the proposed action or an alternative) knowing full well that the existing analysis is not perfect. As noted above, decision makers know that they often sign documents that have flaws. Hopefully, the remaining flaws are few and none is serious enough to be fatal if the decision is litigated.

4. Managers and NEPA contributors need well-defined (written) quality standards.

Quality standards are written specifications as to what is acceptable both in a NEPA analysis and in the accompanying documentation. Standards usually include the following:

- **NEPA compliance standards (essentially analysis process do's and don'ts)**
- **Writing standards (format, organization, writing style, and language details)**

In the early 1970s, just after NEPA was first passed, **compliance standards** rested with the courts. Later, the Council on Environmental Quality issued its 1978 Regulations, which reflected NEPA compliance requirements, as framed by the case law up to that time.

Agencies have continued to refine and expand what is or is not acceptable in a NEPA analysis and in its documentation. Agency expectations are included in each agency's current implementing procedures. In addition, most agencies have various checklists that essentially cover NEPA compliance requirements.

The inclusion of the no action alternative is one such compliance standard. This alternative is a legal necessity, but I still see agencies struggling with just how to define the no action alternative. So compliance minimums often need a careful explanation if they are to be useful.

Ideally, all managers and all contributors to a NEPA project should have the same compliance checklists in front of them. If they do, then each step in the NEPA analysis is more likely to be legally adequate and, thus, acceptable to the agency's decision maker. Also, an acceptable NEPA analysis is one with a low risk of being delayed or cancelled. See the discussion of risk in section 3 above.

Writing standards for NEPA documents are much less well defined. Agencies often do have some format recommendations, especially as these affect overall readability of the text, thus satisfying the American with Disabilities Act. These format recommendations usually deal with type size and style, margins, headings, but these are fairly superficial standards.

More substantive writing standards are usually assumed rather than specified. Managers often assume that writing from a specialist with a college degree will be acceptable. Sadly, this assumption is not true. Resource specialists are specialists precisely because they wanted to study forestry or hyrdrology, not study writing and editing techniques.

So quality standards for the actual writing of documents are important. Both managers and NEPA contributors need to have some sense of what constitutes an acceptable writing style. I give three examples of such standards below. Without such a common ground, managers and NEPA editors will wind up writing and rewriting text from specialists, who, in turn, are frustrated because the manger is continuing to reject what, to the specialist, is perfectly acceptable text.

Interestingly, early court decisions in the 1970s often spoke of the need for NEPA documents to be clear and understandable to the common reader. Early court decisions also identified difficult technical concepts, mandating that in revised text, agencies

clarify confusing technical concepts. The courts were beginning to look at the basic writing in these early NEPA documents.

So the quality of a document's writing is both a legal question and a readability question.

Both agency managers and NEPA contributors should have a list of minimum writing standards that text will meet. Examples would include the following:

1. Make major impact conclusions highly visible (perhaps even opening sections and subsections with major conclusions).

2. Support each impact conclusion with a consistent and clear rationale that builds sentence by sentence.

3. Cite carefully the bibliographic information on resource studies and reports, and provide brief summaries of the content being cited and an explanation of its relevance to the specific details of the project or site.

The preceding quality standards are focused on substantive content problems, not minor editing or proofreading errors. As such, managers and editors should properly be concerned if a specialist's resource information fails to meet these and other writing standards. Writing that does not meet these standards is usually not legally credible.

Writing standards should be available to all NEPA managers and to all specialists before they write a lot of text. Otherwise, initial text will require extensive rewriting. The more rewriting necessary, the more costly and time-consuming the documentation process becomes.

Extensive revision is usually the sign of poor project management.

Shipley's Clear Writing for NEPA Specialists covers the preceding three writing standards and other related standards. But even this workshop opens with the recommendation that the key decision maker and all the NEPA team contributors develop an initial vision of the final document. If properly done, this vision should precede all text and graphics and should assist all contributors to meet the relevant writing standards.

Shipley's NEPA Project Management encourages managers to develop both compliance standards and writing standards for NEPA contributors to use as they work on projects.

5. **Successful NEPA is primarily a people process and only secondarily a scientific or technical effort.**

Successful NEPA depends on the people skills of the NEPA manager and all contributors. Attendees at Shipley workshops often start discussing NEPA's "interdisciplinary approach" by listing necessary resources that need to be involved in a specific project. After all, if a project has air quality impacts of concern, an air quality specialist needs to be a contributor.

Attendees next address the people skills that all participants need to bring to the process. The most frequently suggested one is that participants need to have a sense of humor. This suggestion says a lot about the NEPA process! Besides a sense of humor, participants need to be able cooperatively to discuss the proposed action and alternatives. Cooperative and honest discussion helps guarantee that the resulting alternatives represent all affected resources, not the resources represented by one or two of the most vocal specialists.

Shipley consultants in NEPA Project Management routinely suggest that the NEPA team manager take time in the first team meeting to discuss everyone's role in the analysis and documentation processes. Key topics in this discussion are the following:

1. To what degree is the team's success dependent on the people skills of all contributors?

2. How will the team members make decisions—for example, a decision to include a key mitigation in one or more alternative?

3. What options does the team have if team members cannot agree about an analysis conclusion?

4. How should disagreements within the team be documented?

5. Who should be responsible for feedback to team members as to quality of their team contributions? Should this feedback occur one-on-one or in a team session

6. What are the team members' roles as reviewers of the evolving documents? Who has the main responsibility for reworking or revising preliminary information that is unclear and unconvincing?

7. Who has the final authority for signing the FONSI (and choosing between alternatives)? What kinds of advice, if any, should NEPA team members provide this "final authority"?

Even though the team has discussed the preceding in an early meeting, project managers should revisit these topics as necessary.

Of particular importance, NEPA project managers need to provide good feedback on team processes throughout the process. One such strategy is to end each meeting with an award to the contributor who best helped the discussions to be constructive and efficient.

Many other strategies are possible, but managers are often reluctant to provide honest feedback. Feedback on a person's behavior in a team is often more touchy than commenting on their writing skills. Both sorts of feedback can become personal very quickly, so many project managers stay away from honest feedback.

The result of such avoidance is that team processes and writing skills often improve very little from project to project. An uncooperative and unproductive specialist remains so until retirement!

Still, people skills are important, and feedback on these skills is essential for a successfully managed NEPA process.

And, yes, NEPA compliance presumes the best scientific projections of future impacts. These projections are, however, neither efficient nor useful unless all contributors use their best people skills to make NEPA compliance an efficient and productive interdisciplinary process.

Related Shipley Group Workshops:

Project Management for Environmental Specialists
September 28-30, 2005
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