

3. Checklists & Protocols

OUTCOME FRAME

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INTRODUCTION

What do you want -- that is under your control -- from your NEPA program? How will you know when you have it?

Most unsuccessful NEPA efforts fail because they have not asked, and answered, these two vital questions. The NEPA process is not simply an environmental compliance box to check off, but can be extremely beneficial both to the agency decision maker and to the environment. You know that to be successful, each agency project must be designed to accomplish specific goals, and have identified specific evidences of success by which to track and measure the results. It is the same with the NEPA process itself, through which agency projects are planned and implemented.

In addition, it is important to understand various other components of a successful NEPA process, such as its institutional or organizational context, how other aspects of the agency or organization will be affected, barriers to success, available resources, and necessary steps and timetables for completion.

This protocol walks you through these questions systematically, so that the basis for success will be built into each NEPA process you design.



OUTCOME FRAME PROTOCOL

What do you want?

How will you know when you have it?

What is the context for this outcome?

How will this outcome affect other aspects of the project or the organization?

What stops you from having this outcome already?

What resources do you already have that will contribute toward the outcome?

What additional resources do you need?

What are at least three ways to accomplish this outcome?

What's the first step?

By when will the first step be accomplished?

IDENTIFYING SIGNIFICANT ENVIRONMENTAL ISSUES PROTOCOL

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INTRODUCTION

“Identifying significant environmental issues” is supposed to be one of the principal objectives of scoping, but no formal guidance exists for accomplishing this vital task. Consequently, some NEPA practitioners compensate by including everything anyone brings up, including issues that are not really significant, or those that more properly are political, logistical, social or economic, while others narrow the range of issues too much.

It is important to realize that at the initial issue-identification stage, it’s OK to include non-environmental issues as long as they are *clearly labeled* as such, and as long as all parties (especially in the public) understand the different categories of issues being included. Why? Because the subsequent environmental analysis will necessarily revolve around *environmental* issues, and it is important not to mislead any of the parties at this early stage of exploration and analysis.

It is also important to realize that those *non-environmental* issues that are highly valued by various parts of the public, or by other agencies, provide a vital part of the context or decision space for the project. Therefore, it is often useful to include some discussion of these important political, logistical, social or economic issues as background for the public and the decision-maker. But do not confuse them with *environmental* issues that will be covered by *environmental* analyses and resolved through *environmental* solutions.

“Identifying significant environmental issues” is at the very least a three-step process:

1. Identify “issues” as distinguished from other types of input
2. Identify environmental issues as distinguished from other types of issues
3. Determine which environmental issues are significant, and which are not

Each of these steps may have several sub-parts, and each should involve as many members of the Interdisciplinary Team as possible to ensure that everything important is included, and nothing trivial is included.

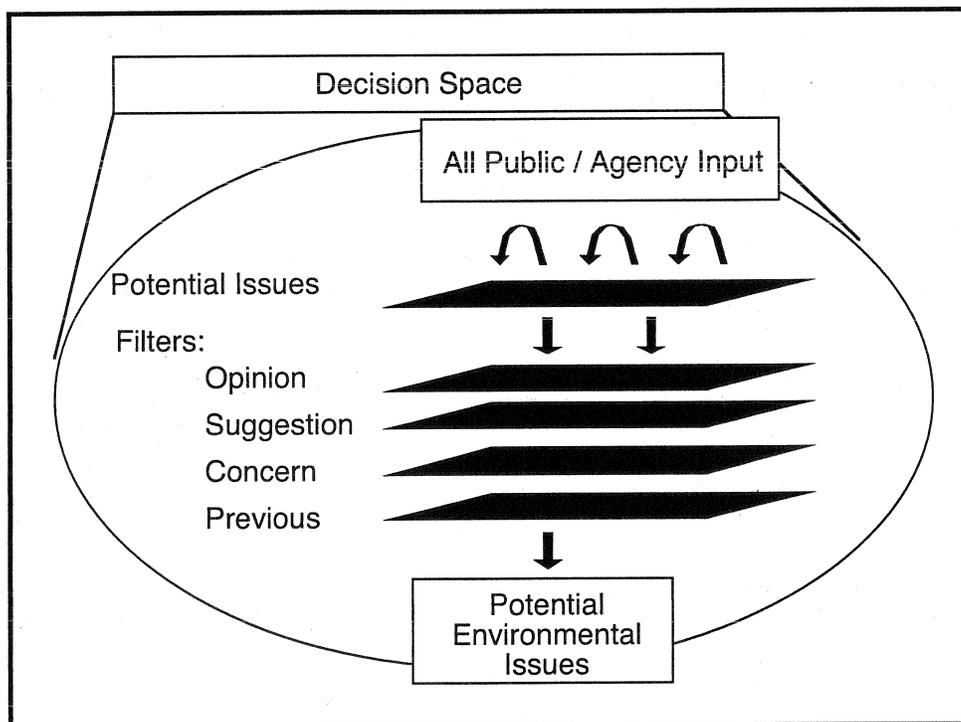
It is often helpful to think of these steps as having different size screens in a sieve, as shown in Figures 1, 2 and 3, below.

Keep in mind that these guides are just that, guides. Issues may arise that, for various reasons, the Interdisciplinary Team or decision-maker may wish to retain or eliminate. The purpose of this protocol is to provide a systematic method for identifying the various kinds of issues, and making their selection more consistent across agencies and projects. Remember that decisions about which issues to retain and eliminate should be documented in the administrative record for future use during project review or litigation.

Step 1: Identify Issues

During scoping, agencies will receive many types of input from internal staff, the public and other agencies. This input comes in all kinds of forms, and is of varying degrees of relevance to the subsequent analysis and decision. Some of this input is simply suggestions or opinions; some represents real issues that will affect how the project is defined, analyzed, and accomplished. While the first category can help delimit the context and the nature of the decision space for the project, it is the second category that is crucial for analysis and the ultimate decision. The steps that follow may help distinguish *issues* from these other categories of input. Be aware that none of the boundaries are sharp, and that opinions, suggestions, and concerns about such topics as threatened or endangered species, cultural resources, Environmental Justice, etc. may reflect the need to identify these specific *environmental* issues for analysis in Step 3.

Figure 1. Sorting Input to Identify Potential Environmental Issues



A. Identify and Eliminate Opinions

Opinions come in many forms, most of which boil down to “I like...” or “I don’t like....” While these may help to define the decision space, provide a preview of support or opposition, or point the way to underlying environmental issues that should be analyzed, by themselves they are only opinions and should not be carried forward as issues.

B. Identify and Eliminate Suggestions

Suggestions often take the form “You should...” or “You should not....” As with opinions, suggestions (especially if they come from staff, from agencies with jurisdiction by law or expertise, or from established advocacy groups) should be taken seriously and evaluated for their feasibility. Also, any “suggestions” for needed studies or project alternatives should be very carefully evaluated and this evaluation documented in the administrative record prior to the next step.

C. Identify and Eliminate Concerns

Concerns often take the form “I am worried about...” or express some opinion which may appear unrealistic or even silly to the Interdisciplinary Team. As with opinions and suggestions, concerns may represent larger environmental issues, or serious underlying problems with agency credibility, and thus may provide a preview of potential litigation topics.

D. Identify and Eliminate Topics Already Covered

If topics raised in internal, public or agency input have been covered adequately in previous NEPA analyses, they need not be revisited unless circumstances have changed enough to warrant a new look. For example, additions to threatened or endangered species lists will require enough analysis to determine whether the new species will be affected by the project, although threatened or endangered species as a whole may or may not become a *significant* environmental issue in Step 3, below.

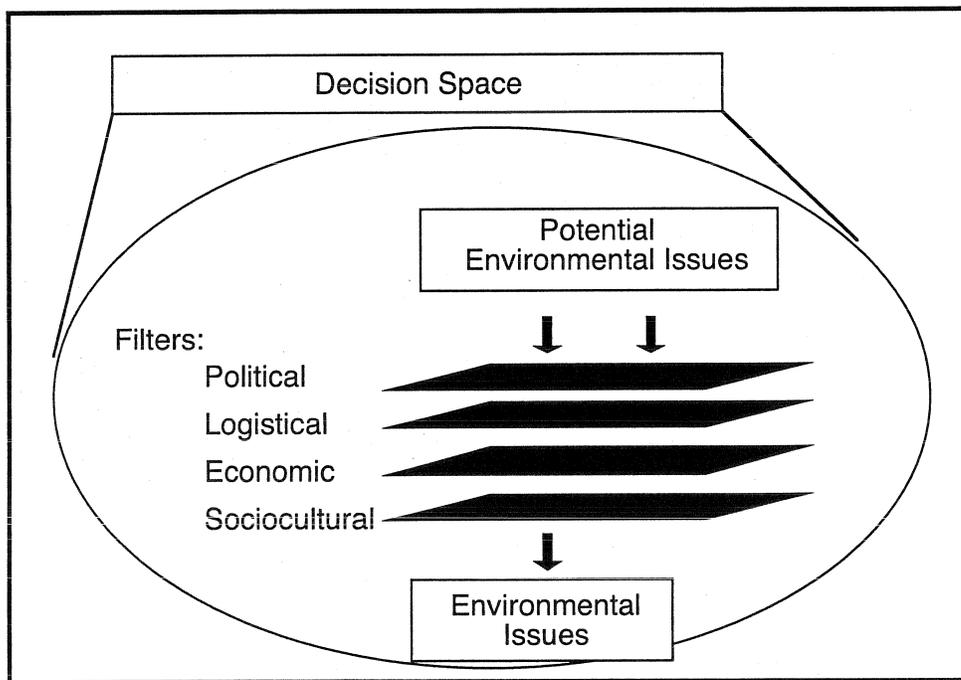
Step 2: Identify Environmental Issues

The result of applying the four filters in Step 1 is a list of *potential environmental issues*, which will then be passed through the four filters shown in Figure 2. It is extremely important to recognize that some topics in Step 2, especially those related to socio-economics, may need to be analyzed in the NEPA document although, strictly speaking, they are not *environmental*. NEPA is, after all, about the *human environment*, which is defined broadly in 40 CFR 1508.14 “to include the natural and physical environment and the relationship of people with that environment.” The

section goes on to say, "When an Environmental Impact Statement is prepared and economic or social and natural or physical environmental effects are interrelated, then the Environmental Impact Statement will discuss all of these effects on the human environment."

As with Step 1, topics that fall out because of the various Step 2 filters are still important to evaluate. It's just that a NEPA document, or an agency decision about a specific project, rarely can resolve a political, logistical, economic, or sociocultural issue per se. These types of issues help to define the context and decision space for the project, and may give clues to potential litigation, but are usually outside the control of the agency and often exceed the scope of the specific project being considered.

Figure 2. *Sorting Input to Identify Environmental Issues*



A. Identify and Eliminate Political Issues

Political issues are often very seductive to the NEPA analyst. But questions of environmental or other principles, proper use of taxpayer dollars, nature of decision processes, etc., are not usually available for the agency to decide as part of its project planning process. Usually, the solution to these questions lies with some kind of legislative process, at the local, state, or national level. Sometimes, the solution lies at a higher level within the agency itself. In either case, agency staff should be careful to identify a political issue as such, and bring it to the attention of the proper authorities.

B. Identify and Eliminate Logistical Issues

Logistical issues constitute those aspects of a project such as timing, technology, sometimes funding or source of funds, staffing, staging, and the like. Scoping input that raises logistical issues is really raising questions about alternative ways of conducting the project. Logistical issues should be carefully evaluated, and those that meet the purpose and need and are feasible from the technical and economic standpoint should be carried over into a list of potential alternatives for more detailed evaluation by the Interdisciplinary Team.

C. Identify Economic Issues

Economic issues, like sociocultural issues (see 2D, below) are special because *by themselves* they will not trigger an Environmental Impact Statement. Therefore, it is important to understand that the purpose of this filter is to determine whether any economic issues exist, that may need to be analyzed along with any natural and physical environmental issues in the NEPA document. Many projects have no economic issues. For those that do, it is vital to obtain appropriate analytical expertise, which often must come from outside the agency. Hence, the importance of identifying such issues early during the scoping process, and determining their relationship to the natural and physical environmental issues more traditionally analyzed by the agency.

D. Identify Sociocultural Issues

Sociocultural issues, like economic issues (see 2C, above) are special because *by themselves* they will not trigger an Environmental Impact Statement. Therefore, it is important to understand that the purpose of this filter is to determine whether any sociocultural issues exist, that may need to be analyzed along with any natural and physical environmental issues in the NEPA document. Many projects have no sociocultural issues. For those that do, it is vital to obtain appropriate analytical expertise, which often must come from outside the agency. Hence, the importance of identifying such issues early during the scoping process, and determining their relationship to the natural and physical environmental issues more traditionally analyzed by the agency.

Step 3: Identify Significant Environmental Issues

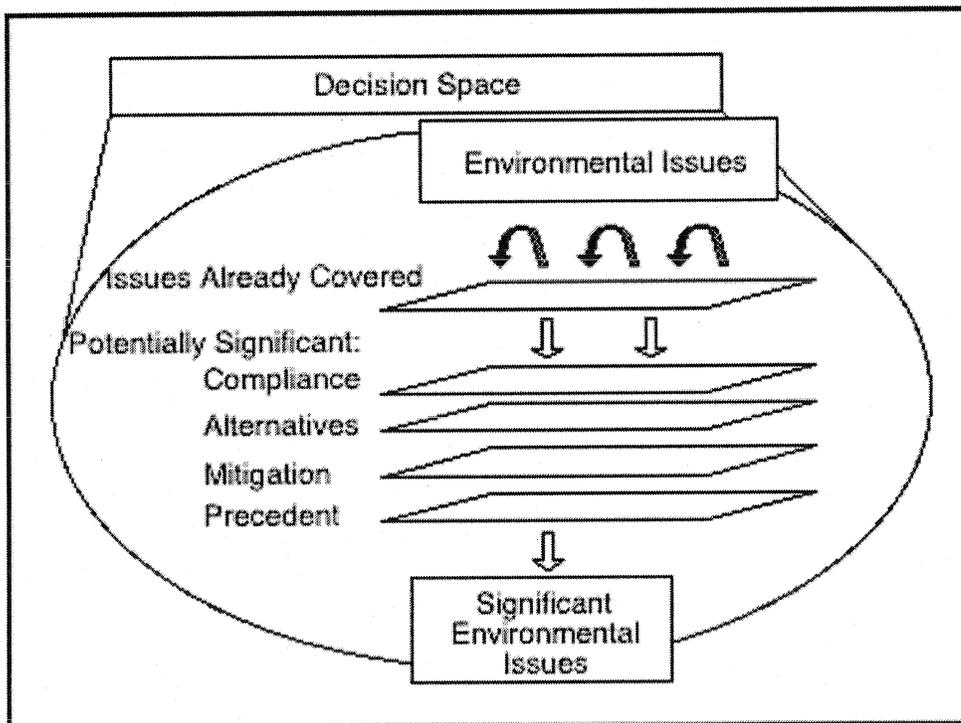
The issues that pass all the filters in Step 2 are properly considered to be *environmental* in nature, and are the proper focus of a NEPA document. The final step in the process is intended to sort these remaining issues into two categories:

1. Those which will be examined in detail and described in the NEPA document, and
2. Those which will be studied enough to ensure nothing important is overlooked, but will not be examined in detail.

All but one of the filters in this Step operate to *keep issues in the mix for analysis*. Figure 3, below, illustrates the filters in Step 3.

As described above in Step 1D, issues that have already been covered in a NEPA analysis need not be revisited unless the situation has changed enough to warrant it. As issues become more clearly defined through the filters in Step 2, it is often useful to double-check and ensure that you are not keeping an issue in that should be eliminated, or eliminating one that should be kept in for analysis.

Figure 3. Filtering Environmental Issues to Identify Significant Environmental Issues



A. Significant Environmental Issues Related to Compliance with Environmental Law

Environmental issues related to compliance with environmental laws and regulations should be considered significant until shown to be otherwise through field surveys, analyses, required consultations, permit conditions, or monitoring. For example, if surveys have demonstrated that no threatened or endangered species or cultural resources exist that will be impacted by the project, and the appropriate Section 7 and Section 106 consultations have been carried out and documented in the administrative record, threatened or endangered species and cultural resources have been shown to be “not significant” for the purposes of further NEPA analysis. Similarly, if threatened or endangered species may exist in the project area but no field surveys have yet been carried out, threatened or endangered species should be considered “significant” for the purposes of initial analysis, even though it may be downgraded later. If impacts on a given resource without mitigation are expected to be over some regulatory threshold, that resource should be considered “significant” for the purposes of analysis.

Health and safety compliance may serve as a filter here, as well. Keeping in mind the broad definition of “human environment,” make sure all required health and safety standards are being met with the proposed action and alternatives, and that any required permits, reports, audits, inspections, consultations, and similar tasks have been accomplished and documented in the administrative record.

B. Significant Environmental Issues Related to Feasible Alternatives

Environmental issues related to feasible alternatives should be considered significant. Such issues may determine which alternative (including the proposed action or No Action) is selected, and hence affect the final decision about the project. For example, if the proposed action would affect threatened or endangered species, while one or more alternatives will not, or would affect different species, threatened or endangered species should be considered a significant issue to carry forward into analysis.

C. Significant Environmental Issues Related to Mitigation

Environmental issues related to mitigation should be considered significant for analysis, even though mitigation ultimately can reduce the impact below a threshold level of significance. Mitigation also often results in different alternatives, which can affect the final decision. Therefore such issues should be treated as significant.

D. Significant Environmental Issues Related to Precedents

Environment issues related to precedents should be considered significant. If the proposed action or alternatives may affect a given resource, area, or issue for the first time, or if the nature of the effects may constitute the first such effects, the resource, area or issue should be considered significant. For example, timber harvest in roadless areas, transport of nuclear waste to a new repository, and construction of a new highway through an existing community could raise environmental issues related to Wilderness values, nuclear safety, and socioeconomics.

E. Other Significant Environmental Issues

Other environmental issues may be considered significant by the Interdisciplinary Team or the decision-maker, based on other criteria than those described here.

IDENTIFYING SIGNIFICANT ENVIRONMENTAL ISSUES PROTOCOL

Step 1. Identify Issues

- A. Identify and Eliminate Opinions
- B. Identify and Eliminate Suggestions
- C. Identify and Eliminate Concerns
- D. Identify and Eliminate Topics Already Covered

Step 2. Identify Environmental Issues

- A. Identify and Eliminate Political Issues
- B. Identify and Eliminate Logistical Issues
- C. Identify and Evaluate Economic Issues
- D. Identify and Evaluate Sociocultural Issues

Step 3. Identify Significant Environmental Issues

- A. Significant Environmental Issues Related to Compliance with Environmental Law
- B. Significant Environmental Issues Related to Feasible Alternatives
- C. Significant Environmental Issues Related to Mitigation
- D. Significant Environmental Issues Related to Precedents
- E. Other Significant Environmental issues

DEVELOPING ALTERNATIVES: A NEPA PROTOCOL

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INTRODUCTION

Developing alternatives is a crucial, and often challenging, part of the project planning process under the National Environmental Policy Act (NEPA). What follows is one tool for systematizing that activity, with the understanding that many other frameworks may exist that can also provide consistency among agencies and between projects.

You will notice that other steps in the NEPA process are essential to completing this one. For example, in the absence of a comprehensive statement of purpose and need, it is not possible to ascertain whether a specific proposed alternative meets that purpose and need; without understanding at least the broad outlines of potential environmental impacts from the proposed action, it is not possible to develop alternatives that avoid or mitigate those impacts.

Therefore, the following protocol presupposes that these other activities have or will take place during alternative development, and provide places to enter appropriate data from other steps in the process.

Section IIA, Background Information, asks for this important data, so it will be available when developing the alternatives in Sections IIB, C, and D.

Section IIB, Action Alternatives, asks the analyst to consider how various factors could alter the proposed action in ways that would avoid or minimize its expected environmental impacts. For example, impacts from the proposed action may be avoided or minimized through mitigation, alternative technologies, change of location or timing, change of scale, and through actions outside the jurisdiction of the agency, or some combination of these alterations. The various alternatives could be displayed in a matrix that shows how the changes reduce the expected environmental impacts of each combination of factors.

Section IIC, No Action, asks the analyst to identify the two main types of No Action alternatives. One may be more appropriate to the specific project; only one No Action alternative is required to be analyzed under NEPA.

Section IID, Environmentally Preferable Alternative, is required only for EISs. The analyst should identify which actions or combinations would best meet the national policy expressed in the National Environmental Policy Act, and describe those in the Record of Decision for the Environmental Impact Statement.



DEVELOPING ALTERNATIVES: A NEPA PROTOCOL

A. Background Information

1. What is the purpose and need for the project?
2. What is the Proposed Action? (include all connected actions 40 CFR 1508.25(a)(1))
3. What are the Significant Environmental Issues?

B. Developing Action Alternatives

1. List the Mitigation Measures for each Affected Resource
2. Describe Technologies other than those proposed that could meet the purpose and need
3. Describe Locations other than those proposed that could meet the purpose and need
4. Describe schedules other than those proposed that could meet the purpose and need
5. Describe Scales other than those proposed that could meet the purpose and need
6. Describe Actions outside the Agency's Jurisdiction other than those proposed that could meet the purpose and need

C. Developing the "No Action" Alternative

1. Describe what would take place if there were no change in the actions now occurring in the project area (i.e., "no new action")
2. Describe what would take place if nothing were to occur in the project area (i.e., "without project")

D. Developing the Environmentally Preferred Alternative

1. Describe the Actions that best promote the Nation's environmental policy as stated in Section 101 of the National Environmental Policy Act

BIODIVERSITY IN NEPA

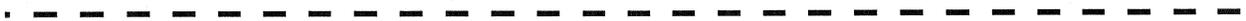
(BASED ON CEQ GUIDANCE, 1993)

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INTRODUCTION

The National Environmental Policy Act requires that agencies consider the effects of their actions on all aspects of the environment; as a basis for maintaining all life on earth, biodiversity is a key component to be explored during project and program planning under NEPA.

This protocol tracks the CEQ guidance "Incorporating Biodiversity Considerations into Environmental Impact Analysis under the National Environmental Policy Act," published in 1993.



BIODIVERSITY IN NEPA

Project Name:

Internal or Pre-Scoping:

- Have Biodiversity concepts and methods been built into the proposal and alternatives?
 - "Big Picture" or ecosystem view
 - Protect communities and ecosystems
 - Minimize fragmentation
 - Promote native species
 - Protect rare and ecologically important species
 - Protect unique or sensitive environments
 - Maintain or mimic natural ecosystems processes
 - Maintain or mimic naturally occurring structural diversity
 - Protect genetic diversity
 - Restore ecosystems, communities and species
 - Monitor for biodiversity impacts

- Have the lead and any cooperating agencies identified Biodiversity as an issue for discussion at interagency meetings?

External or Public Scoping:

- Has the public been notified of the Biodiversity aspects of the proposal and alternatives?
- Have comments been solicited on how Biodiversity principles could be better integrated into the proposal and alternatives?

Analysis of Impacts:

- Has the appropriate scale of analysis been determined?
- What concrete (interagency) goals have been established for maintenance or restoration of Biodiversity in the project area?
- What Biodiversity indicators apply to the proposal or the project area?
- What is the status of the information database for the project area?
- What data gaps exist that must be filled during analysis of the proposal or alternatives?
- What methodology will be used to assess cumulative impacts on Biodiversity at the regional scale?
- Have each of the following steps been completed for Biodiversity analysis?
 - Gathering data
 - Establishing baseline conditions
 - Identifying ecological elements at risk
 - Selecting ecological goals and objectives
 - Predicting likely project impacts
 - Establishing the objectives of mitigation

Mitigation:

- Have potential mitigation measures for Biodiversity impacts been identified?
- Has Biodiversity been addressed in the Environmental Consequences section of the EA or EIS?

Monitoring:

- Have specific monitoring questions been formulated?
- Have indicators been selected?
- Have control areas or treatments been identified?
- Has monitoring been designed and carried out according to plan?
- What is the relationship between indicators and Biodiversity goals and objectives?
- What trends can be identified through analysis?
- Has management been informed and have changes, if necessary, been recommended?

Decision Document:

- Has Biodiversity been identified in the decision document (FONSI, decision memo or equivalent, or ROD) for the project?
- Has a plan been developed to carry out any Biodiversity mitigation measures relied on to reach a FONSI after an Environmental Assessment?
- Has a monitoring plan been identified to ensure any Biodiversity mitigation measures committed to in a ROD or other decision document are monitored?
- Has an enforcement plan been identified to ensure any Biodiversity mitigation measures committed to in a ROD or other decision document are enforced?

General Concerns:

1. Has conservation of biodiversity been acknowledged as a national policy and incorporated into the NEPA process?
2. Have opportunities to participate in regional ecosystem plans been encouraged and sought out?
3. Has information been actively sought from sources within and outside government agencies?

4. Have efforts to improve communication, cooperation, and collaboration between and among governmental and non-governmental entities been encouraged and participated in?
5. Have information about and technologies for managing and restoring Biodiversity been improved through agency actions?
6. Has the information base on which Biodiversity analyses and management decisions are based been expanded?

POLLUTION PREVENTION IN NEPA

(BASED ON CEQ GUIDANCE, 1993)

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INTRODUCTION

Pollution prevention is a vital part of comprehensive environmental planning, and numerous laws, regulations, and other guidance direct agencies, industry, and the public to incorporate pollution prevention components into new and ongoing environmental programs.

This brief protocol is based on the CEQ guidance of 1993. Through a series of questions, it asks agency planners to think about the implications of their plans, projects, and programs on preventing pollution, and specifically guides agency officials to identify pollution prevention methods, issues, and aspects into all stages of environmental planning under NEPA.

POLLUTION PREVENTION IN NEPA

Project Name:

Internal or Pre-Scoping:

- Have Pollution Prevention concepts and methods been built into the proposal and alternatives?
- Have the lead and any cooperating agencies identified Pollution Prevention as an issue for discussion at interagency meetings?

External or Public Scoping:

- Has the public been notified of the Pollution Prevention aspects of the proposal and alternatives?
- Have comments been solicited on how Pollution Prevention could be better integrated into the proposal and alternatives?

Mitigation:

- Has Pollution Prevention been identified as a potential mitigation measure?
- Has Pollution Prevention been addressed in the Environmental Consequences section of the EA or EIS?

Decision Document:

- Has Pollution Prevention been identified in the decision document (FONSI, decision memo or equivalent, or ROD) for the project?
- Has a plan been developed to carry out any Pollution Prevention measures relied on to reach a FONSI after an Environmental Assessment?
- Has a monitoring plan been identified to ensure any Pollution Prevention measures committed to in a ROD or other decision document are monitored?
- Has an enforcement plan been identified to ensure any Pollution Prevention measures committed to in a ROD or other decision document are enforced?

ENVIRONMENTAL JUSTICE PROTOCOL

(BASED ON CEQ GUIDANCE, DECEMBER 1997)

INTRODUCTION

Environmental Justice is a relatively new issue to be dealt with under NEPA, it is both a social and economic impact issue and an integral component of Public Involvement. The Council on Environmental Quality guidance in response to E.O 12898 includes specific direction on incorporating Environmental Justice considerations into various phases of the NEPA process, but no specific direction on how to incorporate such considerations into specific NEPA documents.

This protocol tracks the CEQ guidance, "Environmental Justice: Guidance under the National Environmental Policy Act," published in 1997.

ENVIRONMENTAL JUSTICE PROTOCOL

Project Name:

General Principles:

Geographic Area to be Affected: (attach map; include connected, cumulative, and similar actions)

Composition of the Affected Area:

Nature of Population	Number of Persons	Source of Data
Total Population of Affected Area		
Minority population		
Low-income population		
Indian tribes		

History of and Potential for Multiple / Cumulative Exposure to Health or Environmental Hazards:

Does the Action or Alternatives Affect:

- The community or population due to physical sensitivity to particular impacts?
- Community structure due to any disruptions associated with the action?
- The physical and social structure of the community due to the nature and degree of anticipated impact?
- Other interrelated cultural, social, occupational, historical or economic factors that may amplify the natural and physical environmental effects of the action?

Identify any Barriers to Effective Public Participation:

- Linguistic
- Cultural
- Institutional
- Geographic
- Other

Identify Methods to Overcome Barriers:

Methods used to Assure Complete Community Representation:

Community Constituency	Actions Taken to Assure Representation
etc.	

Assure Government-to-Government Contacts with Indian Tribes:

Indian Tribe	Tribal Contact	US Government Contact
etc.		

Further Considerations:

Thresholds of Significance:

Human Health / Environmental Hazard	Threshold of Significance
etc.	

Nature of Effect on Target Populations:

Nature of Population	Nature of Effect(s)	Disproportionate?
Total Population of Affected Area		
Minority Population		
Low Income Population		
Indian Tribes		

Considering Environmental Justice in the NEPA Process

1. Scoping

- Does the area affected by the proposed action (including connected, cumulative, or similar actions) include minority or low-income populations or Indian tribes?
- How will the agency’s Public Involvement strategy ensure that these populations participate effectively in the scoping process?

2. Public Participation

- What specific methods are being used to contact minority, low-income and Indian populations, encourage their participation, and remove any barriers identified above?
- Are relevant portions of documents being translated for non-English speakers? [include especially the definition of Affected Environment, and the nature of any environmental impacts, mitigation, monitoring, and the ultimate decision (FONSI or ROD)]

3. Determining the Affected Environment

- Identify geographic area of analysis (including connected, cumulative, and similar actions)
- Determine appropriate scale for demographic analysis (state, county, locality, census tract, block, reservation or portion, etc.)
- Identify distinct cultural practices (subsistence hunting or fishing, use of well water in rural areas, etc.)
- Identify specific rights of Indian tribes or individuals granted by treaty, statutes, Executive Orders, or US government policies

4. Analysis

- Identify any disproportionately high human health or environmental effects on target populations
- Analyze how health and environmental effects are distributed within the affected community (using GIS or other spatial analysis tools)
- Include information obtained through public participation
- Include concise discussion in layman's language of data supporting the Environmental Justice issue and the agency conclusion

5. Alternatives

- As early as possible, encourage members of affected communities to help develop alternatives
- As early as possible, encourage members of affected communities to comment on alternatives

- In an EIS, use both distribution and magnitude of disproportionate effects to determine the “environmentally preferable alternative”
- Consider the views from affected communities
- Consider the magnitude of environmental impacts associated with alternatives that have a less disproportionate effect on such communities

6. Decision Document

- Discuss disproportionately high adverse human health or environmental effects explicitly in the Record of Decision for an Environmental Impact Statement or agency decision document for an Environmental Assessment
- Address Environmental Justice issues when discussing whether all practicable means to avoid or minimize environmental effects were adopted
- Include discussion of how these issues are addressed in any mitigation and monitoring program summarized in the decision
- Translate the decision into non-technical language for non-English speakers

7. Mitigation

- Elicit views of affected populations on mitigation measures
- Consider community views in developing mitigation measures
- Do the mitigation measures identified in an EIS or as part of a FONSI reflect the needs and preferences of affected populations to the extent practicable?

Note: See the full CEQ guidance for definitions of key terms such as “low income,” “minority” and “Indian tribes.”

CUMULATIVE EFFECTS ANALYSIS PROTOCOL

(BASED ON CEQ GUIDANCE, JANUARY 1997)

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INTRODUCTION

How do you analyze and document cumulative effects of a proposed action and alternatives? This analysis protocol tracks the guidance provided by the Council on Environmental Quality, and ensures that all appropriate topics are taken into account during the identification and analysis of cumulative effects.

CUMULATIVE EFFECTS ANALYSIS PROTOCOL

PART I: WHAT DOES THE GUIDANCE REQUIRE?

Step One: Identify Significant Cumulative Effect Issues

Resource(s) Affected Cumulatively:

Type(s) of Cumulative Effects Anticipated:

Single source additive:

Single source interactive:

Multiple source additive:

Multiple source synergistic:

Step Two: Identify the Geographic Scope of Analysis:

Geographic Boundaries for each of the affected resources, ecosystems, and human communities (attach map)

Step Three: Identify the Timeframe for the Analysis

Temporal Boundaries for each of the affected resources, ecosystems, and human communities (past, present, future)

Step Four: Projects to be Analyzed (add extra sheets if necessary):

Project Name	Project Sponsor	Project Time Frame

Primary or Special Analysis Method(s) Used (describe specific method):

Significance Threshold and Criteria (cite scientific basis):

Step Five: Resource Characterization:

- Response of each of the affected resources, ecosystems, and human communities to change
- Capacity of each of the affected resources, ecosystems, and human communities to withstand stresses

Step Six: Stresses Affecting Resources, Ecosystems, and Human Communities:

Description of Stress(es)

Relationship to Regulatory Threshold(s)

Step Seven: Description of Baseline Condition:

Step Eight: Identify Cause-Effect Relationships (attach network or system diagram):

Step Nine: Determine the Magnitude and Significance of Cumulative Effects:

Step Ten: Modify or Add Alternatives and Required Mitigation:

Step Eleven: Monitor Cumulative Effects of Selected Alternative and Adapt Management if Necessary:

WHAT GOES WHERE?

The CEQ guidance suggests that certain specific tasks be accomplished during specific stages of project scoping and environmental analysis, and that certain specific items be included in the various parts of an EIS (or EA, as appropriate). That guidance is summarized in the following protocol.

PART II: WHAT GOES WHERE?

Scoping

Tasks:

1. Consult with agencies and other interested persons concerning cums issues
2. Evaluate agency planning, the proposed action and alternatives (including no-action) to identify cums issues
3. Evaluate the importance of the cums issues to identify additional resources, ecosystems and communities that should be included in the analysis
4. Identify geographic boundaries of the analysis for each affected resource, ecosystem, or community
5. Identify a time frame for the analysis for each affected resource, ecosystem, or community
6. Determine which other actions should be included in the analysis, and agree among the interested parties on the scope of data to be gathered, methods to be used, how the process will be documented, and how the results will be reviewed

Results:

1. List of cumulative effects issues
2. Geographic boundary and time frame for analysis of each affected resource
3. List of actions contributing to each cumulative effects issue

4. Determine data needs related to Affected Environment and Environmental Consequences, including resource capabilities, thresholds, standards, guidelines, and planning goals

Affected Environment:

Tasks:

1. Identify common cumulative effects issues within the region
2. Characterize the current status of the resources, ecosystems, and human communities identified during scoping
3. Identify socioeconomic driving variables and indicators of stress on these resources
4. Characterize the regional landscape in terms of historical and planned development and the constraints of governmental regulations and standards
5. Define a baseline condition for the resources using historical trends

Results:

1. Data on resources, ecosystems and human communities affected by the proposed action and alternatives (including no action)
2. Data on environmental and socioeconomic stress factors
3. Data on governmental regulations, standards, and plans
4. Data on environmental and social trends

Environmental Consequences:

Tasks:

1. Select the resources, ecosystems, and human communities considered in the project-specific analysis to be those that could be affected cumulatively
2. Identify the important cause-effect relationships between human activities and resources of concern using a network or systems diagram that focuses on the important cumulative effect pathways
3. Adjust the geographic and time boundaries of the analysis based on cumulative cause-effect relationships
4. Incorporate additional past, present, and reasonably foreseeable actions into the analysis as indicated by the cumulative cause-effect relationships

5. Determine the magnitude and significance of cumulative impacts based on context and intensity (40 CFR 1508.27)
6. Modify or add alternatives to avoid, minimize, or mitigate cumulative impacts
7. Determine the cumulative impacts of the selected alternative, including mitigation and enhancement measures
8. Explicitly address uncertainty (40 CFR 1502.22), and reduce it as much as possible through monitoring and adaptive management

Results:

1. Descriptions of resources, ecosystems, and human communities affected cumulatively by each alternative, including no action
2. A comparison matrix showing the cumulative impacts for each alternative (can also be placed in Chapter 2, Alternative)
3. Description of a mitigation program to avoid, minimize, or mitigate cumulative impacts of the selected alternative
4. Description of a monitoring program, including measurable indicators, timeframe, spatial scale, means of assessing causality, means of measuring mitigation efficacy, and provisions for adaptive management for the selected alternative

ENVIRONMENTAL ASSESSMENT

GENERIC ANNOTATED OUTLINE FORMAT

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INTRODUCTION

The purpose of an annotated outline is to operationalize the CEQ and agency requirements, so everyone knows what his or her role and assignments are throughout the document preparation process.

If an Environmental Assessment is supposed to be 10 to 15 pages long (exclusive of appendices), how long should each section be, in order to include the necessary information yet not become more like an EIS than an EA? This format will help each researcher, analyst, and section writer know

- what specific data or topics to include
- how much to include
- what format (maps, tables, text, etc.) to use
- what their deadline is
- who else is available to help
- what information is still missing (when used to track progress)

If your agency has a specific required format, or particular locations for information in addition to that required by the Council on Environmental Quality, simply customize the format as needed for each project.



**ENVIRONMENTAL ASSESSMENT
GENERIC ANNOTATED OUTLINE FORMAT**

Outline Elements	# Pages	Responsible Person(s)	Contents / Data Needs
<p>1.0 Purpose and Need</p> <ol style="list-style-type: none"> 1. Purpose and need for the action 2. Specific objectives of the project 3. List of significant issues to be resolved 4. List of other permits etc. required 5. Location map(s) 6. Relationship to other National Environmental Policy Act actions underway by this or other agencies 7. The agency decision to be made 8. Evaluation criteria and weighting 			<p>This section basically outlines the results of scoping for the project, including the specific measurable project objectives, evaluation criteria, list of significant issues (and elimination of insignificant ones), etc.</p> <p>It sets the scene for the descriptions and analyses that follow in Chaps. 2, 3, and 4.</p> <p><i>Current information needs include:</i></p>

Outline Elements	# Pages	Responsible Person(s)	Contents / Data Needs
<p>2.0 Alternatives</p> <ol style="list-style-type: none"> 1. Description of the proposed action(s), including maps as appropriate 2. Description of alternatives considered and eliminated, along with reasons why 3. Description of No Action 4. Description of other reasonable courses of action that will meet the purpose and need and project objectives 5. Description of any reasonable alternatives not within the jurisdiction of the agency 6. Identify the agency preferred alternative (if any) 7. Comparison of environmental impacts of each alternative, including No Action 8. Mitigation measures 			<p>These need to be <u>alternative ways of meeting the objectives stated in the Purpose and Need</u>, not alternative projects.</p> <p><i>Currently information is needed about:</i></p>

Outline Elements	# Pages	Responsible Person(s)	Contents / Data Needs
<p>3.0 Affected Environment</p> <ol style="list-style-type: none"> 1. A brief description of the physical setting for the proposed action 2. Concise descriptions of each component of the environment that will be affected by the project (keyed to issues in Chapter 1 and to impacts in Chapter 4). 3. Maps and graphics as appropriate 			<p>Currently, information is needed on baseline conditions (the "existing environment") for the following features:</p> <p>*** This section is not required by CEQ for EAs, however, enough information must be provided to make the analysis of impacts (in Chapter 4) meaningful. Often, Chapters 3 and 4 are combined (even in shorter EISs) to enhance clarity and avoid redundancy.</p>

Outline Elements	# Pages	Responsible Person(s)	Contents / Data Needs
<p>4.0 Environmental Consequences</p> <ol style="list-style-type: none"> 1. Direct effects and their significance (including cumulative effects) 2. Indirect effects and their significance (including cumulative effects) 3. Possible conflicts between the proposed action and other agency plans /policies 4. Effects of each alternative, including No Action 5. Energy requirements and conservation potential of alternatives 6. Natural / depletable resource requirements and conservation potential of alternatives 7. Urban quality, historic and cultural resources, and the design of the built environment, including reuse for each alternative 8. Mitigation measures and necessary monitoring 			<p>This section will be completed based on analyses and predictions for each alternative examined in detail, including mitigation measures. A summary will be placed in Chapter 2 as required by 40 CFR 1502.14.</p>

**ENVIRONMENTAL ASSESSMENTS -
COUNCIL ON ENVIRONMENTAL QUALITY REGULATIONS**

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INTRODUCTION

This checklist is based on the Council on Environmental Quality requirements for Environmental Impact Statements in 40 CFR 1500-1508 and the provisions of NEPA itself. It also includes space for customization to agency-specific requirements for both content and format. Because there is less specific regulatory guidance for Environmental Assessments than for Environmental Impact Statements, this checklist is much shorter than the one for Environmental Impact Statements. Because EAs often are used as decision documents as well as the means to determine whether or not to prepare an EIS, certain additional aspects of the affected environment and environmental consequences are included on this checklist although strictly speaking they may not be required for EAs.

Each requirement of the CEQ regulations is cited in column 2. Therefore, this checklist can serve both as a tool for reviewers and a tool for document preparers who wish to ensure that each document complies with all the necessary legal requirements.

**ENVIRONMENTAL ASSESSMENTS -
COUNCIL ON ENVIRONMENTAL QUALITY REGULATIONS
CONTENT REQUIREMENTS**

Project Name:

Reviewed by:

Date:

Documentation Requirement	CEQ / NEPA Reference	+ / -	Remarks
Purpose and Need:			
● brief description	§ 1502.13		
● agency purpose and need	§ 1502.13		
● related to alternatives including the proposed action	§ 1502.13		

Documentation Requirement	CEQ / NEPA Reference	+ / -	Remarks
Alternatives Incl. Proposed Action:			
<ul style="list-style-type: none"> based on information /analysis in sections on Affected Environment and Environmental Consequences 	§ 1502.14		
<ul style="list-style-type: none"> presents impacts in comparative form 	§ 1502.14		
<ul style="list-style-type: none"> sharply defines issues 	§ 1502.14		
<ul style="list-style-type: none"> provides clear basis for choice among options 	§ 1502.14		
<ul style="list-style-type: none"> rigorously explores all reasonable alternatives 	§ 1502.14 (a)		
<ul style="list-style-type: none"> objectively evaluates all reasonable alternatives 	§ 1502.14 (a)		
<ul style="list-style-type: none"> describes alternatives eliminated from detailed study, and states why 	§ 1502.14 (a)		
<ul style="list-style-type: none"> devotes substantial treatment to each alternative examined in detail 	§ 1502.14 (b)		
<ul style="list-style-type: none"> includes reasonable alternatives not within the jurisdiction of the agency 	§ 1502.14 (c)		
<ul style="list-style-type: none"> includes No Action 	§ 1502.14 (d)		
<ul style="list-style-type: none"> range encompasses those to be considered by agency decision maker 	§ 1502.2(e)		

Documentation Requirement	CEQ / NEPA Reference	+ / -	Remarks
<ul style="list-style-type: none"> includes mitigation measures not described elsewhere 	§ 1502.14 (f)		

Documentation Requirement	CEQ / NEPA Reference	+ / -	Remarks
Environmental Consequences:			
<ul style="list-style-type: none"> scientific and analytic basis for comparison of alternatives 	§ 1502.16		
<ul style="list-style-type: none"> consolidates discussion of NEPA requirements: 	§ 1502.16		
<ul style="list-style-type: none"> environmental impacts of proposed action 	102(2)(C) i		
<ul style="list-style-type: none"> adverse effects which cannot be avoided 	102(2)(C) ii		
<ul style="list-style-type: none"> relationship between short-term uses and long-term productivity 	102(2)(C) iv		
<ul style="list-style-type: none"> irreversible and ir retrievable commitments of resources 	102(2)(C) v		
<ul style="list-style-type: none"> alternatives as needed 	102(2)(C) iii		
<ul style="list-style-type: none"> direct effects and their significance 	§ 1502.16 (a)		
<ul style="list-style-type: none"> indirect effects and significance 	§ 1502.16 (b)		
<ul style="list-style-type: none"> conflicts with other plans, policies 	§ 1502.16 (c)		
<ul style="list-style-type: none"> energy requirements and conservation potentials of alternatives and mitigation measures 	§ 1502.16 (e)		

Documentation Requirement	CEQ / NEPA Reference	+ / -	Remarks
<ul style="list-style-type: none"> natural or depletable resource requirements and conservation potentials of alternatives and mitigation measures 	§ 1502.16 (f)		
<ul style="list-style-type: none"> urban quality, historic and cultural resources, and design of the built environment, including reuse and conservation potential of alternatives and mitigation measures 	§ 1502.16 (g)		
<ul style="list-style-type: none"> mitigation measures 	§ 1502.16 (h)		
<ul style="list-style-type: none"> cumulative impacts 	§ 1508.7		

Documentation Requirement	CEQ / NEPA Reference	+ / -	Remarks
Finding of No Significant Impact:			
<ul style="list-style-type: none"> briefly presents reasons why action will not have significant impact 	§ 1508.13		
<ul style="list-style-type: none"> includes Environmental Assessment or summary of it 	§ 1508.13		

SUFFICIENCY PROTOCOL

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INTRODUCTION

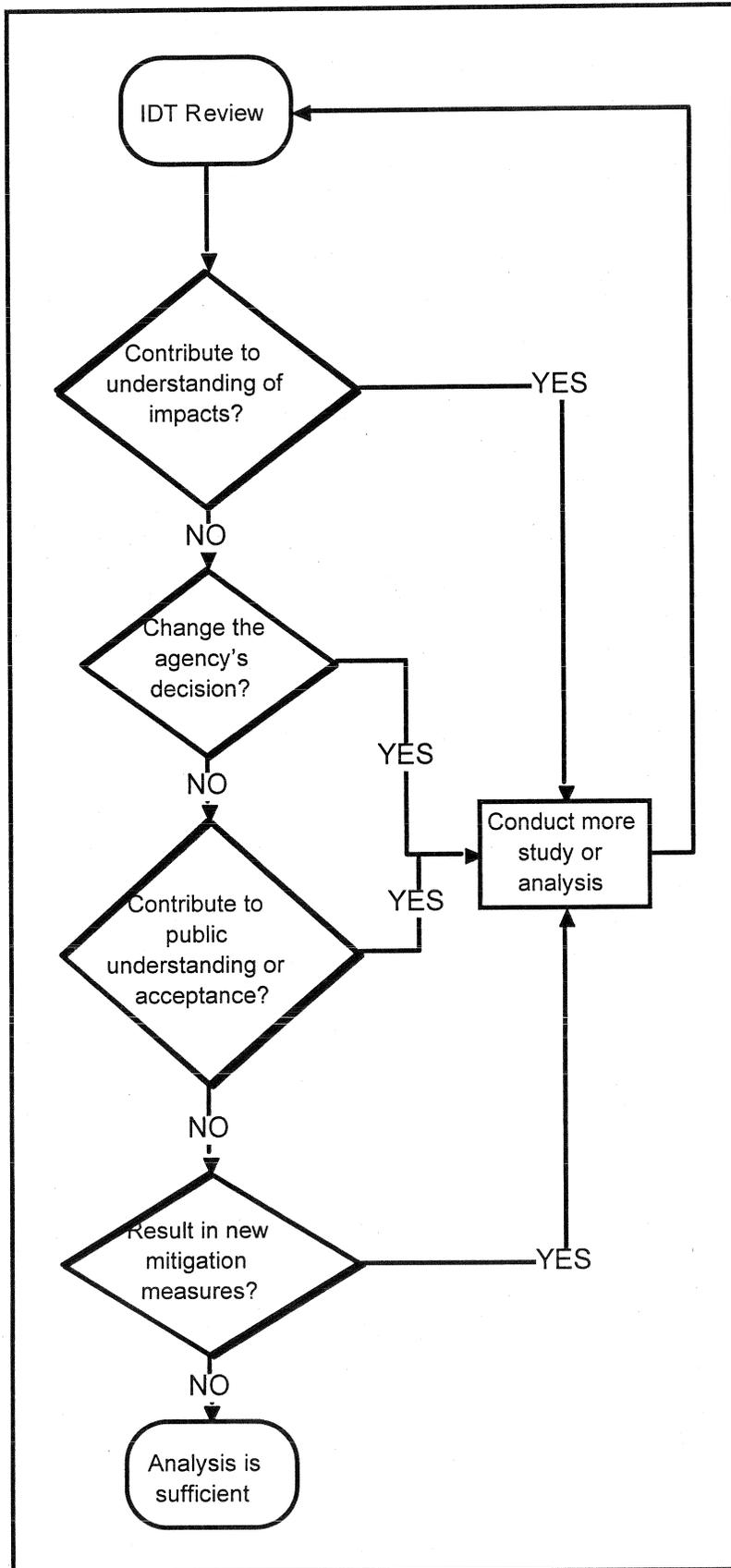
Charles Eccleston describes a set of four tests to determine whether an environmental analysis is sufficient under the National Environmental Policy Act. The following discussion and flow chart are based on his article ("NEPA: Determining When an Analysis Contains Sufficient Detail to Provide Adequate Coverage for a Proposed Action," *Federal Facilities Environmental Journal*, Summer 1995:37-50).

SUFFICIENCY PROTOCOL

- A. *Would more analysis contribute substantially to the understanding of environmental impacts?***
- B. *Would more analysis substantially change the agency's decision?***
- C. *Would more analysis contribute substantially to the public's understanding or acceptance of the proposed action or alternatives?***
- D. *Would more analysis result in new measures that could substantially reduce the project's impacts?***

If any one of these questions is answered "yes," analysis is not yet sufficient.

This protocol must be tempered with the guidance given in the Council on Environmental Quality regulations, 40CFR 1502.22, which outlines a 4-step process for determining how to handle data that is difficult or impossible to obtain. Please refer to that guidance for more information.



DocIt™ Protocol

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Project Name:

Responsible Agency:

Cooperating Agency(ies):

A. NEPA Process

Process Step	Type of Document	Document Specifies	+/-	
1. Notices	Notice of Intent (EIS only)	Initial – as published		
		Revised – as published		
	Notice of Availability (EIS)	As published		
	NEPA Project list			
	Notice of Decision			
	Official News Releases	As published		
2. Scoping	Public Notice(s)			
	Official News Release(s)			
	Meeting Reports			
	Mailing List(s)			
	Public Input*	Agency Input		
		Organization Input		
		Individual Input		
	Analysis Records			

Process Step	Type of Document	Document Specifies	+/-
3. IDT	Members	Criteria for Selection – leader, members	
		List, subject matter and qualifications	
		Changes / revisions to list(s)	
	Meetings	Agendas	
		Minutes / reports	
	Correspondence	[Internal IDT, including email]	
	Consultants	List, subject matter and qualifications	
		Scopes of work	
	Approvals	Decision-maker sign-offs	
		Contract approvals	
	4. Internal agency coordination	Formal direction / policy	Requests for direction / policy
Responses			
Headquarters		Meeting agendas	
		Meeting minutes / reports	
		Correspondence	
		Decisions	
		Agreements	
Regional Office		Meeting agendas	
		Meeting minutes / reports	
		Correspondence	
		Decisions	
		Agreements	
Adjacent units		Meeting agendas	
		Meeting minutes / reports	
		Correspondence	
		Decisions	
		Agreements	

Process Step	Type of Document	Document Specifies	+/-
5. External Coordination	Proponent (if any)	Meeting agendas	
		Meeting minutes / reports	
		Correspondence	
		Agreements	
	US Fish & Wildlife Service (ESA Section 7)	Meeting agendas	
		Meeting minutes / reports	
		Correspondence	
		Biological Assessment / Evaluation	
		USFWS Biological Opinion	
	State Historic Preservation Officer (NHPA Section 106)	Meeting agendas	
		Meeting minutes / reports	
		Correspondence	
		Agreements	
		Permit applications and Permit(s)	
	US Army Corps of Engineers (Section 404 permit)	Meeting agendas	
		Meeting minutes / reports	
		Correspondence	
		Agreements	
		Permit applications and Permit(s)	
Bureau of Indian Affairs	Meeting agendas		
	Meeting minutes		
	Correspondence		
	Agreements		
Governments: Tribes	Meeting agendas		
	Meeting minutes / reports		
	Correspondence		
	Sacred sites consultations		
	Treaty rights consultations		
	Agreements		

Process Step	Type of Document	Document Specifies	+/-
	Governments: State	Meeting agendas	
		Meeting minutes / reports	
		Correspondence	
		Permit application(s)	
		Agreements / Permits	
	Governments: County	Meeting agendas	
		Meeting minutes / reports	
		Correspondence	
		Agreements	
	Governments: Local	Meeting agendas	
		Meeting minutes / reports	
		Correspondence	
		Agreements	
	Other government(s)	Meeting agendas	
		Meeting minutes / reports	
		Correspondence	
		Agreements	
	Other coordination: citizens' groups, NGOs, interagency committee, task force, etc. – specify	Meeting agendas	
		Meeting minutes / reports	
		Correspondence	
		Agreements	
6. DEIS	Draft EIS (or EA) itself**		
	Transmittal letter		
	Mailing list		

Process Step	Type of Document	Document Specifies	+/-
7. Comments	Notices		
	Meetings	Meeting agendas	
		Meeting minutes / reports	
	List of commenters		
	EPA review (EIS only)	Review letter	
		Meeting minutes / report	
		Correspondence	
	Public comment*	Agency Input	
		Organization Input	
		Individual Input	
	Analysis Records		
	Response to comments		
8. FEIS	FEIS (or EA) itself**		
	Transmittal letter		
	Mailing list		
9. Decision	ROD itself (EIS)		
	FONSI (EA)		
	Other decision documents		
10. Other	Maps, computer runs***		

* Can also be arranged by input type, i.e., letters, telephone, Internet, etc.

** Include any maps, charts, etc. made publicly available.

*** Include any working copies of maps, final computer runs, etc. used in the analysis.

B. Issue Areas*

Issue Area	Type of Document	Document Specifies	+/-
1.	Research	Background information	
		Field methods / notes	
		Monitoring reports	
	Analysis	Significance indicators / criteria	
	Reports	Work products	

Issue Area	Type of Document	Document Specifies	+/-
2.	Research	Background information	
		Field methods / notes	
		Monitoring reports	
	Analysis	Significance indicators / criteria	
		Reports	Work products
3.	Research	Background information	
		Field methods / notes	
		Monitoring reports	
	Analysis	Significance indicators / criteria	
		Reports	Work products
[etc.]			

* Issues examined in detail should be identified here, along with appropriate work papers, criteria, lists of references, etc. Specific regulatory correspondence (e.g., Section 7 consultations) should be placed with agency coordination materials.

Issues eliminated from detailed consideration should also be listed, along with the background information that led to their elimination. For example, if an issue has been dealt with in a separate NEPA document, provide a reference to (or copy of) that document; if an issue has been eliminated because analysis showed it to be not relevant to the decision, provide evidence in the form of analysis records or meeting minutes / approvals.

C. References Cited

Copies of all references cited in the EA/EIS should be available to the public, and for any potential appeal or litigation process. As a minimum, this section of the record should contain physical copies of all hard-to-get materials (e.g., out-of-print, file copies of internal reports, maps, contractor reports, etc.). For more widely available materials, the record should contain a photocopy of the cover and/or first page, along with ISBN number and publication data. It may also be appropriate to photocopy the relevant portions of the publication that were relied on in the research or analysis for the EA/EIS.

There are two main ways to organize these materials: (1) all together alphabetically, and (2) by issue area or topic. For ease of retrieval, organize them the same way the "references cited" list is organized in the EA/EIS.

PUBLIC INVOLVEMENT TECHNIQUE

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INTRODUCTION

There are basically two categories of Public Involvement techniques: face-to-face, and at-a-distance. Face-to-face techniques are usually more expensive, work better with smaller groups, and are oriented toward achieving specific results. At-a-distance techniques are usually less expensive, can work with very large groups, and may be intended to convey more general information. This protocol will help you select from the wide range of techniques in each category those which will best enable you to accomplish your Public Involvement goals for a particular project.

Face-to-Face Techniques

Face-to-face techniques, generally speaking, consist of meetings, show-me trips, and various kinds of committees. Within this category, however, lies a multitude of specific formats, each with its own features and applications.

PUBLIC INVOLVEMENT TECHNIQUE

Technique	Features	Applications
Meetings <ul style="list-style-type: none"> • Mass meeting • Workshop • Hearing • Forum • Charette • Town meeting • Open house • Briefing • Professional conference 	<ul style="list-style-type: none"> • one-to-many or many-to-many • with or without a facilitator • formal or informal • relatively expensive • complex planning process <ul style="list-style-type: none"> • agenda and outcomes • location, logistics • transcript or minutes • participants invited • large- or small-group formats • usually a one-time event 	<ul style="list-style-type: none"> • sharing opinions or facts • reaching consensus • exploring options • establishing credibility • airing differences of opinion • learning from each other • presenting technical data • satisfies the “auditory” types

Technique	Features	Applications
	<ul style="list-style-type: none"> • can create a legal record 	
<p>Show-me Trips</p> <ul style="list-style-type: none"> • Site visits • Observation decks • Comparison trips • Restricted open houses 	<ul style="list-style-type: none"> • often complex logistics • timing may be crucial • relatively expensive • usually for smaller groups 	<ul style="list-style-type: none"> • often the best way to get data • satisfies the “show me” types • establishes openness • essential to resolve some issues • satisfies the “visual” types
<p>Committees</p> <ul style="list-style-type: none"> • Working group • Focus group • Advisory committee • Watchdog committee • “Blue Ribbon Panel” • Negotiation group • Task force 	<ul style="list-style-type: none"> • requires time commitment • usually a many-time event • usually for smaller groups • requires minutes or transcript • may result in a report • requires careful outcome plans • FACA compliance needed • can create a legal record 	<ul style="list-style-type: none"> • creates buy-in from members • creates long-term relationship • problem-solving format • sharing technical information • establishes credibility • get outside expertise / opinion • provides objectivity • satisfies the “kinesthetic” types
<p>Other</p> <ul style="list-style-type: none"> • Interview • Ombudsman • Door-to-door canvassing 	<ul style="list-style-type: none"> • highly tailored to needs • usually one-on-one • can be expensive • require follow-through 	<ul style="list-style-type: none"> • essential in some situations • gathers detailed information • resolves problems objectively • establishes responsiveness

At-a-Distance Techniques

These techniques depend on some form of mass media, either print or electronic. They can be interactive or not, one-time or continuous, technical or image-oriented. This category contains myriad possibilities; it is important to remember to use them effectively.

Technique	Features	Applications
<p>Print Media</p> <ul style="list-style-type: none"> • Newspaper articles • Newspaper advertisements • Legal notices • Magazine articles • Newsletters • Handbills • Press releases • Press conferences • Fact sheets • Briefing books • Technical reports / studies • Library / data repository • Exhibits • Posters • Bulletin board displays • Written surveys with responses 	<ul style="list-style-type: none"> • reach many people / groups • short (or long) lead time • can be done in-house • relatively inexpensive • must be well-designed • can carefully select words • can use clear / bright graphics • can be simple or complex • can be used over and over again • can create a legal record 	<ul style="list-style-type: none"> • ensures consistent messages • reaches many people / groups • gets written feedback • sends information out • conveys technical details • corroborates oral information • satisfies the “visual” types
<p>Electronic Media</p> <ul style="list-style-type: none"> • Telephone contacts • Telephone trees / networks • Telephone conferences • Hot line / 800 number 	<ul style="list-style-type: none"> • can operate in real-time • more vivid than print media • coaching often necessary • technologically sophisticated 	<ul style="list-style-type: none"> • convey timely information • reach those who don't read • convey “sound bites” quickly • shape opinions

Technique	Features	Applications
<ul style="list-style-type: none"> • Television appearances • Television news reports • Televised press conferences • Video-conferencing • Radio appearances • Radio news reports • Radio advertisements • Public service announcements • Advertising on TV or radio • Electronic bulletin boards • CD-ROM or interactive disks • Internet posting • Blogs • Podcasts • Live chat groups • PDA – mobile texting 	<ul style="list-style-type: none"> • may not reach all publics • require careful planning • cost-benefit analysis needed • two-way very expensive • focus is on “sound bites” 	<ul style="list-style-type: none"> • create images • support other channels • satisfy V, A, K, depending

IDENTIFYING YOUR PUBLIC

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INTRODUCTION

This checklist has several parts, and is intended to help you comply with direction from the Council on Environmental Quality to develop scoping specifically for each project, rather than use a “one size fits all” mailing list or Public Involvement technique for every action your agency proposes.

Part I, “Factors to Consider,” lists various geographic, demographic, and other factors that may affect the type, duration, or outcome of your Public Involvement process, and invites you to identify other factors that may be important for this project or for this specific set of stakeholders. Thoughtfully used, it will help you identify suitable Public Involvement techniques, avoid holding meetings on the opening day of hunting season, ensure the use of appropriate languages, help you understand how your public(s) may view your proposal, and give you hints as to how best to get the word out to those who need or want to know about your project.

Part II, “Preliminary List” and Part III, “Sorted List” provide a framework for identifying specific individuals and categories of individuals, based on the factors considered in Part I. For relatively small projects, posting these forms or using them for brainstorming during an Interdisciplinary Team meeting may provide all the names you need. For larger-scale projects, it will be important to ensure that no significant category is omitted, and that known stakeholders are invited to participate throughout the NEPA process.

IDENTIFYING YOUR PUBLIC

PART I: FACTORS TO CONSIDER	
Geography <ul style="list-style-type: none">• urban or rural• size of community• agricultural, industrial base• weather, seasons• nature of access (roads, etc.)• nature of landscape (topog.)•••	

PART I: FACTORS TO CONSIDER

Demographics

- age(s)
- sex(es)
- income & education level(s)
- ethnicity, race, language
- religious affiliation(s)
-
-
-

Interests

- safety
- visual quality
- traffic
- noise
- property values
- cost to taxpayer
- risk of accident
- health (adult, children)
- image of community
- reliability of systems
- trustworthiness of agency
- history of similar projects
-
-

Knowledge Base

- media coverage
- previous participation
- scientific awareness
- community communications
-
-
-

PART I: FACTORS TO CONSIDER

Group Affiliations

- advocacy groups
- community groups
- demographic groups
- civic, fraternal groups
- trade associations
- agencies, non-profits
-
-
-

Beliefs and Expectations

- about science
- about progress
- about development
- about government
- about class, race, outsiders
- about values
- about their identity
- about involvement levels
- about your organization
- about you, personally
-
-
-

Other Characteristics

- criteria words
- chunk size(s)
- representational systems
- outrage factors
-
-
-

PART I: FACTORS TO CONSIDER

Hot Buttons

-
-
-
-
-

PART III: SORTED LIST

Category Name	Names / Affiliations
•	
•	
•	
•	
•	
•	
•	
•	
•	
•	
•	

EA Preparation Protocol

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Preliminary Information

Process and Format Information

1. What is the scoping process for this project?
2. What is the agency's required document format?
3. How many pages will the document be?
4. What formatting tools will be used?
 - Outline method
 - Font and typeface
 - Paragraph style
5. How do authors submit contents?
6. Who is responsible for quality control?
7. Who has approval authority?
8. Where will the project file be kept?

Content Information

1. What is the Purpose and Need for the project? What problems are to be solved by the project, and what objectives will be met by the proposal?
2. What, specifically, does the project consist of?
 - Where, specifically, is the project? (State, county, city?; indoors, outdoors?; urban or rural?; laboratory, forest, lake, farm?)
 - How big is the project? (acres, miles, gallons, square feet)
 - How long will the project continue? (Distinguish construction and operations phases, life-cycle features)
 - What are all of the project components? (Roads, buildings, land alterations, clean-up facilities, parking, recreational features, intakes/outlets, utilities).
 - Which of these components could be considered connected actions?
 - Which of these components could be considered cumulative actions?
 - Which of these components could be considered similar actions?
3. Will any permits be needed for the project?
4. Is this project related to any projects for which other NEPA documents were prepared?
5. What environmental issues (especially "show stopper" issues) may arise during the life of this project? Pay special attention to issues for which CEQ has published guidance: biodiversity, pollution prevention, cumulative effects, and environmental justice.
6. What environmental reports already exist for this project or for very similar projects?
7. What agencies or organizations should be consulted?
8. What decisions will the agency make about this project?

I. Purpose and Need

The Purpose and Need chapter sets the scene and provides the basis for evaluation of alternatives.

1. What is the purpose of and need for the agency action? (Objectives, problems to be solved)
2. Describe the scope of analysis and the nature of the scoping process.
3. What are the significant issues that will be examined in detail?
4. What issues were eliminated from detailed analysis as not significant, and why?
5. What decision(s) must the agency make on the basis of this document?

II. Alternatives including the Proposed Action

The Alternatives chapter describes the proposed action and each action alternative that meets the purpose and need. It also includes a description of the "no action" alternative and a comparison of the effects of each alternative, including "no action."

1. Describe the proposal, including all connected, cumulative, and similar actions, and how it meets the purpose and need described in Chapter 1. Include the size, location, and nature of specific components of the proposal.
2. Describe at least one action alternative that will meet the purpose and need for the project in a different way. Include specific about that alternative, including the size, location, and nature of all connected, cumulative and similar actions.
3. Describe "no action" in detail, and note whether it means "not doing anything" or "not doing anything different" (continuing some existing action).
4. Describe any alternatives eliminated from detailed study: Why were they eliminated?
5. Describe any alternative(s) that fall outside the jurisdiction of the lead agency.
6. Describe any mitigation measures not already covered in the proposed action or alternatives. Include consideration of changes in project design, timing, or location which will avoid or mitigate any potentially significant direct, indirect, or cumulative environmental impacts.

Include a Comparison Matrix showing the comparison of the effects of each alternative, including No Action.

III. Environmental Consequences

Affected Environment

Describe those characteristics of the environment that will be affected directly, indirectly, or cumulatively by the proposed action or alternatives, including No Action.

Organize information on the Affected Environment by resource (or “issue”), or by alternative. Whichever format you choose, make sure the same one is used in the Environmental Consequences section.

Example 1:

By Resource or Issue:

Resource A: Air Quality
Effects of Alternative 1
Effects of Alternative 2
Effects of No Action

Resource B: Biodiversity
Effects of Alternative 1
Effects of Alternative 2
Effects of No Action

Example 2:

By Alternative:

Alternative 1:
Effects on Air Quality
Effects on Biodiversity

Alternative 2:
Effects on Air Quality
Effects on Water Quality

No Action Alternative:
Effects on Air Quality
Effects on Biodiversity

Example #1 may be easier to follow when all of the alternatives affect the same resources, but in different ways; Example #2 may be easier to follow when different alternatives affect different resources.

Environmental Consequences

The purpose of the Environmental Consequences section is to summarize the major data on significant impacts; the focus is on significant impacts that will influence the final decision about the action.

Based on the format selected for Affected Environment, describe the nature (including context and intensity) of the Environmental Consequences for each alternative, including No Action.

The discussion should be tied to the issues identified as “significant” in Chapter 1, Purpose and Need. Describe mitigation measures needed to reduce any potentially significant impacts below the threshold of significance.

Proposed Action:

Action Alternative #1:

Action Alternative #2:

Action Alternative #3:

No Action:

IV. List of Preparers, Reviewers, and Agencies, Organizations and Persons to Whom Copies are Sent

This chapter consists of two kinds of lists: (1) preparers and reviewers of the document, and (2) agencies, organizations and persons consulted during its preparation.

List of Preparers and Reviewers

This table should be keyed to the major issues identified earlier, so that readers can identify the training, background and experience of the preparers who dealt with those issues.

Name	Qualifications	Section Prepared

List of Agencies, Organizations, and Persons to Whom Copies are Sent

This is essentially the mailing list for public involvement, and therefore its presence or absence may depend on agency-specific policies for public involvement on EAs. Whether or not this section is required, it provides a handy place to keep track of those agencies or others consulted during preparation of the EA. Make sure to list all those agencies with jurisdiction by law or expertise who were consulted; if the list is used only for this purpose, it should be relabeled accordingly.

Record the list of agencies, organizations, and persons to whom copies are sent.

V. Appendix

List any materials, reports, maps, tables, or other graphics that might be appropriate to include in an appendix. This is the place to put:

1. Lists of references cited. Note especially those documents that are being tiered to, or being incorporated by reference, and locations where the public can obtain or review them.
2. Maps clearly showing the project location, with respect to significant features of the environment and analyzed for the EA (keyed to discussions in Chapter 3).
3. Copies of reports prepared specifically for the EA, which substantiate any

fundamental analyses and which are analytic and relevant to the decision to be made (40 CFR 1502.18)

The FONSI

The Finding of No Significant Impact (FONSI) is the final NEPA product in an EA context. It is a legal "finding" that the proposed action (or selected alternative) will not have a significant impact.

Compile all the necessary information:

- Reference to agency-specific guidance
- Name or description of selected alternative
- Title and date of EA
- Names of related projects, if any
- List of environmental agreements, if any

Use a standard format similar to the example on the following page.

Finding of No Significant Impact

(Name of Project)
(Location of Project)
(Date)

In accordance with the National Environmental Policy Act and *(cite any agency-specific guidance here)*, implementing the regulations of the Council on Environmental Quality (40 CFR 1500-1508), I find that the project described in the attached Environmental Assessment *(insert here the title of the project EA, and its date)* is not a major Federal action significantly affecting the quality of the human environment. Therefore, no Environmental Impact Statement will be prepared.

[Use the following language only if needed]

This action is related to *(insert names of other projects)* described in the NEPA document entitled *(insert name of EA or EIS)*.

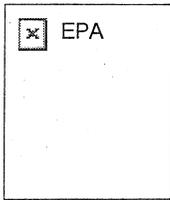
The following environmental agreements have been reached with agencies having jurisdiction by law or expertise on environmental issues:

(list any agreements reached during environmental analysis for this EA)

(Signature)

(Date)

Name of Responsible Official
Title



Office of Federal Activities

**POLLUTION PREVENTION/ENVIRONMENTAL IMPACT
REDUCTION CHECKLIST FOR OIL AND GAS PROJECTS**



How Can Oil and Gas Exploration and Production Affect the Environment?

Exploration, development, production, product treatment, and waste management activities associated with oil and gas production projects can have a variety of impacts on the environment. They include destruction or alteration of wildlife habitats, erosion, sedimentation, pollutant loading of groundwater and surface water from product and/or waste leaks and spills, groundwater contamination from communication between production or waste injection zones and underground sources of drinking water, release of hydrocarbons and hydrogen sulfide to the atmosphere, and decreased soil productivity from land spreading and/or releases of reserve/mud pit contents.

Also see checklists on Ecosystem Preservation and Protection, Building/Housing Construction, and Siting.

What Questions Should Be Asked To Ensure That These Effects Are Minimized or Eliminated?

Siting. Oil and gas exploration and production sites are situated by necessity near petroleum-bearing formations. Such formations may be located in nearly any climate and topographical setting and may be either remote from or near the population centers. The siting of roads, disposal units, personnel housing, laboratories, and ancillary facilities may provide opportunities to minimize impacts to surrounding areas, such as human populations, wetlands, and sensitive ecosystems.

Do siting considerations include the possible impacts of operations (such as platform construction, NPDES discharges, tankering, air emissions, and spills) on marine mammals, birds, fish, and benthic organisms?

Are site access roads, haul roads, product treatment facilities, and disposal facilities located to minimize the effects on sensitive ecosystems? Are existing roads adequate for site development?

Can directional drilling be employed to reduce impacts in sensitive areas? Directional drilling places the bottom of the well under an inaccessible surface

location (i.e., under a river, lake, city, or other occupied place), where vertical drilling is impractical or undesirable.

Exploration. Oil and gas exploration includes all activities from geophysical exploration for petroleum deposits to wildcat well drilling and production well drilling and installation. Such activities involve site clearing and preparation, the installation of mud pits and reserve pits, construction of the drilling pad and ancillary facilities, and operation of the drilling rig.

Does the drill site preparation plan include the construction of diversion ditches and containment berms to reduce site run-on and prevent release of contaminated runoff?

Has the use of closed mud systems to reduce land disturbance and decrease the chances for mud releases been considered?

Will separation systems for filters and solids be employed to increase the lifetime of drilling muds, thereby reducing the total quantity of muds to be employed?

Can mud additives of known or suspected hazard be replaced with less toxic additives?

Are reserve and mud pits to be constructed to contain total expected mud column volumes plus rainfall, and will there be adequate freeboard to minimize chances of pit overtopping?

Are reserve and mud pits to be constructed with compacted clays or other liner materials to minimize the downward migration of fluid constituents?

Is surface casing to be installed to a depth below the deepest Underground Source of Drinking Water (USDW)?

Have cement job specifications been established to ensure the protection of ground water resources? The running of bond logs and/or temperature surveys may help in ensuring the quality of cement jobs.

Do drilling plans call for squeezing fresh water sands with cement while drilling to inhibit the migration of contaminants into the zone and inhibit groundwater draw down?

Can site preparation and drilling activities be timed to avoid disturbing plants and animals during crucial seasons in their life cycles, such as mating? (*)

Lease Development and Production. Oil and gas production typically begins with well completion (preparing the well to allow formation fluids to flow into the bore) and extends through primary production (produced fluids enter the well without the addition of mechanical energy), secondary production (some external "lift" is applied to force formation fluids into the bore and to the surface, such as water flooding), and tertiary production (thermal lift methods).

Production activities include all onsite treatment of produced fluids, including phase separations (solids removal, produced water separation, and gas phase and liquid phase separation), emulsion cracking, sweetening and dehydration, and compression, as well as equipment maintenance activities, such as workovers and completions, pipeline pigging, storage tank bottoms removal, pit skimming and closure, and the injection of produced fluids.

Does the operator's spill prevention and response plan include the installation of secondary containment for all above-ground storage tanks and vessels?

Do produced water pits/tanks include oil skimming capability to increase product recovery and reduce the toxicity of the produced water?

Do site dehydration and sweetening units systems include efficient filtration systems to reduce the degradation of these materials?

Does the site include installation of a Claus or other sulfur recovery system for recovery of sulfur removed from the production stream? Is a tail gas scrubber installed to further increase total sulfur recovery? Sulfur recovery at oil and gas projects now represents more than 50 percent of domestic elemental sulfur production.

Can formaldehyde-based sweetening solvents be replaced with less toxic alternatives?

Will the operator utilize the services of amine and/or glycol reclaimers to extend the useful life of these materials and reduce the quantity of used conditioning fluids to be disposed of?

Will production and injection wells be installed with casing-head gas recovery systems to reduce emissions of hydrocarbons? Will casing head gases and other gas wastes be flared at high temperatures to reduce emissions of products of incomplete combustion?

Will the operator perform periodic well casing integrity tests to reduce the potential for the migration of fluids between production and freshwater zones?

During secondary production, will operation plans include the monitoring of production water percentage to alert the operator of any injection water or formation water migration so that remedial measures can be rapidly taken?

Will injection well tracer surveys, in conjunction with injection or disposal wells, be conducted to reduce the potential for injected water/wastes going into thief zones? Temperature logs before and after injection may also be effective in determining whether unintended migration has occurred.

Will all workover and completion fluids be managed separately from produced fluids? (*)

Will monitoring systems be installed for underground pipelines to prevent

soil/groundwater contamination? Underground piping may also be made of corrosion resistant materials or be protected using cathodic protection or other devices.

Waste Management

Does the pit management system provide for the separation of wastes of known or suspected hazard from nonhazardous wastes to reduce the total quantity of materials requiring special handling?*

Will the operator utilize the services of a crude oil reclaimer for reduction of the quantity of tank bottoms and oily debris requiring disposal? Can tank bottoms be safely used for onsite road spreading? Do product storage tanks incorporate recirculation pumps to reduce the settling of heavy hydrocarbons on tank bottoms?*

Does the operator's waste minimization plan include the use of drip pans for all treatment vessels, valves, and product pipeline junctions to reduce uncontrolled environmental releases?

Do pit closure plans call for the dewatering of mud and reserve pit contents before burial to reduce the chance of the downward transport of contaminants to shallow aquifers. The grading of soils covering pits may reduce the chances of infiltration of rain water, which may migrate to groundwater.*

Other References

American Petroleum Institute. January 1989. "API Environmental Guidance Document Onshore Solid Waste Management in Exploration and Production Operations." API, Washington, DC.

American Petroleum Institute. November 1991. "Waste Minimization in the Petroleum Industry: A Compendium of Practices." API, Washington, DC.

Society of Petroleum Engineers. March 1993. Proceedings of Society of Petroleum Engineers/EPA Exploration and Production Environmental Conference, San Antonio, TX.

Spell, R., C. Hall, D. Pontiff, et al. September 1990. "Evaluation of the Use of a Pit Management System." In: *Proceedings of the First International Symposium on Oil and Gas Exploration and Production Waste Management Practices*, Sponsored by U.S. Environmental Protection Agency. September 10-13, 1990, New Orleans, LA, pp. 491-501.

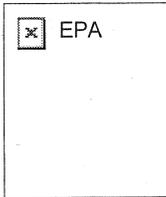
Thurber, N. September 1990. "Waste Minimization in E&P Operations." In: *Proceedings of the First International Symposium on Oil and Gas Exploration and Production Waste Management Practices*, Sponsored by U.S. Environmental Protection Agency. September 10-13, 1990, New Orleans, LA,

pp. 491-501.

U.S. Environmental Protection Agency, Office of Water. September 1992.
"Storm Water Management For Industrial Activities: Developing Pollution
Prevention Plans and Best Management Practices."

* Indicates an environmental impact reduction opportunity.





Office of Federal Activities

**POLLUTION PREVENTION/ENVIRONMENTAL IMPACT
REDUCTION CHECKLIST FOR MINING PROJECTS**



How Can Mining Affect the Environment?

Exploration, development, extraction, beneficiation, processing, and waste management activities associated with mining projects can have a variety of impacts on the environment. The potential effects include destruction or alteration of wildlife habitats, erosion, sedimentation, generation of windblown particulates, pollutant loading to groundwater and surface water from acid mine/rock drainage, and/or process solution leaks, spills, and surface subsidence.

Also see checklists on Ecosystem Preservation and Protection, Building/Housing Construction, Water Conservation, Highways and Bridges, and Water Use.

What Questions Should Be Asked To Ensure That These Effects Are Minimized or Eliminated?

Siting. By their nature, mines must be located where the mineral deposits are located, with cost considerations generally favoring the co-location of mines and beneficiation mills because of the quantity of materials to be transported from mine to mill. Additionally, methods of extraction (e.g., open pit, underground, in-situ) and beneficiation (e.g., heap/dump leach, vat leach, froth flotation) depend on many factors, such as mineralization and depth to the ore body. However, the siting of roads, disposal units, personnel housing, laboratories, and ancillary facilities may provide opportunities to minimize the impacts on surrounding areas, such as human populations, wetlands, sensitive ecosystems, and pristine areas.

Are waste rock, spent ore, tailings piles, smelter slag, and other waste management units located near the head of drainage basins to minimize run-on and the need for construction of run-on diversions? (*)

Are mine access roads, haul roads, mill facilities, and disposal facilities located so as to minimize impacts on sensitive ecosystems, such as endangered species habitats, fish spawning grounds, and wildlife migration routes?*

Will mine subsidence (in cases of underground or solution mining) potentially affect local waterbodies or constructed structures, such as dams, bridges, and dwellings?

Mine Development/Extraction. Extraction operations typically involve the removal of overburden, blasting, hauling, and gross sizing of ores. These activities can result in the generation of dust and vehicle exhausts, noise, mine water, and mine ventilation exhausts.

Will the facility collect/utilize mine degasification exhaust in advance of or during mining (surface or underground coal)? Methane from coal seams can sometimes be repressurized for sale to natural gas pipelines or collected for use in onsite heating or power generation equipment. Alternatively, vented air can be used as an input to power generation facilities. *

Can in-situ recovery methods, such as in-situ leaching, be performed in lieu of extraction followed by surface beneficiation (e.g., vat leach, dump leach, froth flotation) to reduce negative environmental impacts?

Will mine water be collected for use in beneficiation operations? (*)

Will the facility perform dust suppression activities to minimize the generation of windblown particulates?

Will mine wastes be backfilled into pits or underground mine workings to avoid the development of spent ore and/or waste rock disposal areas at the surface? *

Will mine water contain metals, sulfates, or other contaminants? Does the mineralogy of the deposit present the potential for acid mine drainage? If so, will the facility minimize mine water discharges and/or treat acidic mine water prior to discharge? Is the exposure of pyritic materials minimized or avoided in mine development? *

Does the facility's storm-water management plan include provisions to contain runoff and divert run-on away from pits, mine openings, and other areas where overland flow may contact contaminants?

Will the facility segregate overburden/top soil for use in reclamation activities? *

Will mined land reclamation be conducted concurrently with mine development? *

Beneficiation/Processing. Beneficiation/processing may include mechanical, gravitational, magnetic, chemical, electrochemical, and/or thermal methods of separating target minerals from wastes and concentrating values prior to sale.

Does the process solution cycle incorporate the recirculation of wastewaters to the mill circuit to minimize discharges?

Do all leach pad and mill areas include run-on diversion ditches to minimize the contamination of overland flow?

Do all process ponds, pads, and piping structures containing process solutions incorporate drainage ditches and containment ponds/surge ponds to prevent releases of process solutions?

Do sizing, grinding, and crushing machinery include dust collection/suppression equipment to reduce airborne contaminants?

Do leach and/or dump heap designs provide suitable stability to prevent local/general slope failure?

Do all pregnant and barren process solution ponds include liners and/or leak detection/collection systems?

Does the facility's solution management plan call for maintenance of sufficient freeboard in all process ponds to prevent overtopping in storm events and/or snow melt events?

Does the facility incorporate the use of netting, fencing, and/or other strategies to minimize the exposure of local/migratory wildlife species to solution ponds?
(*)

Will excavation pits intercept aquifers or affect local waterbodies or seeps?

Do reagent storage areas include secondary containment to prevent spills? *

Is there a recycling program for used piping (generated in large quantities at mines with extensive slurry/water transport systems)? sup>*

Waste Management

Will the facility use mine development rock/other wastes in the construction of roads, etc., to minimize the use of virgin materials? This should, however, be avoided where the potential of acid generation is high.*

Will tailings impoundments incorporate liners to prevent the migration of waste constituents to groundwater? Will the facility recycle tailings water to the maximum extent practical?

Will waste rock, tailings piles/ponds, and/or leach units include seepage collection and return systems down gradient of embankments?

Other environmental impact reduction opportunities:

Does the facility waste management plan include encapsulation of acid generating wastes in materials with high neutralization potential? Have acid generation prediction tests revealed the potential for acid generation in waste piles? Does the waste management plan include any passive or active acid neutralization strategy (e.g., constructed wetland treatment, seepage pump collection and treatment)?

Does the facility's waste management plan include an approach for cyanide detoxification in leach piles and ponds? Are cyanide-bearing tailings to be detoxified prior to disposal?

Are tailings impoundments or waste rock piles to be located in areas of seismic activity? If so, do waste unit designs account for the potential loss of stability/liquefaction under seismic loading events?*

Does the facility's waste management plan call for dust suppression activities on tailings and waste rock disposal areas?

Is mine backfilling a disposal alternative to constructing waste rock piles? *

Can coal ash or other alkaline materials be backfilled into mine workings to minimize acidic drainage?

Will heap leach piles be rinsed to avoid subsequent pollution?

Other References

Proceedings of the International Conference on Pollution Prevention in Mining and Mineral Processing, Snowmass Village, CO, August 24-27, 1993. Colorado School of Mining, Golden, Colorado.

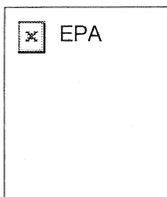
U.S. Environmental Protection Agency, Office of Water. September 1992. "Storm Water Management For Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices."

Note that mining operations present a wide range of pollution prevention opportunities relating to used lubricants, used vehicle fluids, greases, painting wastes, solvents and process solutions, and other "traditional" industrial materials. For more information see:

Pollution Prevention and Waste Minimization Opportunities for the Mining Industry. October 1993. Front Range Community College, Westminster, Colorado. Prepared for U.S. EPA, Region VIII.

U.S. EPA, Office of Water. January 1993. *Guidance Specifying Management Measures for Sources of Non-point Pollution in Coastal Waters.* 840-B-002.

* Indicates an environmental impact reduction opportunity.



Office of Federal Activities

**POLLUTION PREVENTION - ENVIRONMENTAL IMPACT
REDUCTION CHECKLISTS FOR NEPA/309 REVIEWERS
JANUARY 1995**



**Prepared by
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EPA CONTRACT NO. 68-W2-0026
EPA WORK ASSIGNMENT NO. 33-II
SAIC PROJECT NO. 01-1030-07-1605-000**

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1.0 INTRODUCTION

The environmental review process under the National Environmental Policy Act (NEPA) provides a valuable opportunity for Federal agency NEPA/309 reviewers to incorporate pollution prevention and environmental impact reduction into actions (or projects). This guidance was prepared to assist NEPA/309 reviewers in incorporating pollution prevention into each step of the environmental review process, including scoping, mitigation, monitoring, and enforcement.

1.1 What Is Pollution Prevention?

Pollution prevention refers to the use of materials, processes, and practices that reduce or eliminate the creation of pollutants at the source of generation through increased efficiency in the use of raw materials, energy, water, or other resources or through the protection of natural resources by conservation. Pollution prevention is a multimedia approach that reduces waste generation and the emission of pollutants released to land, air, and water without transferring pollutants from one medium to another. Pollution prevention techniques include:

- Modifying equipment or technology
- Modifying processes or procedures
- Reformulating or redesigning products
- Substituting raw materials
- Improving housekeeping, maintenance, training, or inventory control
- Incorporating demand-side management when designing or renewing projects
- Incorporating integrated resource planning into project planning.

The definition of pollution prevention provided by the U.S. Environmental Protection Agency (EPA) encompasses source reduction, increased efficiency, and conservation activities that lead to the reduction in the amount of any hazardous substance, pollutant, or contaminant entering any waste stream prior to recycling, treatment, or disposal. This definition does not include such activities as recycling (except in-process recycling), procurement of recycled content products, and energy recovery. While EPA recognizes that these practices are important components of an environmental management program and can help reduce waste, they should not be the ultimate goal of pollution prevention activities. While the checklists in Chapter 3.0 focus on pollution prevention, they also address other environmental impact reduction techniques, such as recycling. This is because the goal of NEPA is to identify any

techniques (pollution prevention, recycling, or control) that will ultimately minimize environmental impacts.

1.2 Why Practice Pollution Prevention?

A number of recent Federal statutes and Executive Orders mandate the incorporation of pollution prevention concepts and techniques into the operations and activities of the Federal Government. A few of these concepts and techniques are discussed below.

The Pollution Prevention Act (PPA), signed by President George Bush on November 5, 1990, established a national policy, known as the *waste management hierarchy*, that stated:

- Pollution should be prevented or reduced at the source
- Pollution that cannot be prevented should be recycled in an environmentally safe manner
- Pollution that cannot be prevented or recycled should be treated in an environmentally safe manner
- Disposal or other releases into the environment should be used "only as a last resort" and should be conducted in an environmentally safe manner.

Executive Order 12844, Federal Use of Alternatively Fueled Vehicles, directs the Federal Government to take a leading role in the purchase and use of alternatively fueled vehicles. This Executive Order asks each Federal agency to adopt plans to exceed the purchasing requirements for alternatively fueled vehicles established in the Energy Policy Act of 1992.

Executive Order 12845, Requiring Agencies to Purchase Energy Efficient Computer Equipment, directs the Federal Government to participate in the Energy Star Computer program. This program encourages the purchasing of energy-efficient computers, monitors, and printers to the maximum extent possible.

Executive Order 12856, Federal Compliance with Right-To-Know Laws and Pollution Prevention Requirements, commits Federal agencies to pollution prevention through source reduction and requires all Federal facilities to comply with the PPA and the Emergency Planning and Community Right-To-Know Act (EPCRA), including Toxic Release Inventory (TRI) reporting. The Executive Order also requires all Federal agencies to develop plans and set voluntary goals to reduce (1) total releases and offsite transfers of TRI toxic chemicals or toxic pollutants by 50 percent by 1999 and (2) the manufacturing, processing, or use of extremely hazardous substances and toxic chemicals by Federal facilities.

Executive Order 12873, Federal Acquisition, Recycling, and Waste

Prevention, directs Federal agencies to review and revise specifications, product descriptions, and standards to increase procurement by the Federal Government of recycled or environmentally preferable (EP) products. The Executive Order also sets agency goals for waste reduction and procurement of EP/recycled products, establishes minimum content standards for printing and writing paper, and promotes the purchasing of re-refined oil and retread tires.

Executive Order 12902, Energy Efficiency and Water Conservation, directs Federal agencies and facilities to increase efforts to conserve energy and water by improving efficiency. Under this Executive Order, each agency will conduct a survey of all its facilities and develop a 10-year plan to conduct comprehensive energy and water audits. Every Federal facility is required to contribute toward agency-wide conservation and reduction goals.

Each of these requirements emphasizes the importance of pollution prevention in environmental protection. Pollution prevention considerations must be incorporated into all environmental protection tools, including NEPA review.

The remaining two chapters in this document provide the following:

- **Chapter 2.0** - A brief overview of how NEPA relates to pollution prevention.
- **Chapter 3.0** - Checklists for 30 types of project activities that specify questions NEPA/309 reviewers should ask to incorporate pollution prevention into designing alternatives and avoiding and mitigating environmental effects. References are included for each checklist. The checklists are the heart of this reference.

2.0 INCORPORATING POLLUTION PREVENTION INTO NEPA

NEPA provides significant opportunities for pollution prevention in project siting, design, construction, and operation. Indeed, NEPA's very purpose is "to promote efforts which will prevent or eliminate damage to the environment..." (42 U.S.C 4321). Section 101 of NEPA stipulates that the Federal Government "use all practical means and measures ... to create and maintain conditions under which man and nature can exist in productive harmony..." (42 U.S.C 4331(a)). To carry out this environmental policy, Congress required all Federal agencies to act to preserve, protect, and enhance the environment (42 U.S.C. 4331(b)). Also, Section 102 of NEPA requires Federal agencies to document the consideration of environmental consequences of their decision making in environmental impact statements (EISs) or environmental assessments (EAs). Additionally, NEPA's implementing regulations are designed with the goal of preventing or minimizing environmental degradation.

Exhibit 2-1 highlights opportunities to incorporate pollution prevention into the NEPA environmental review process. There are wide ranging opportunities in

project scoping and mitigation. Further, NEPA provides opportunities to implement pollution prevention through "action-forcing" procedures, such as records of decision, that set forth monitoring and enforcement programs. Records of decision also can be a means to inform the public of the extent to which pollution prevention measures are included in the decision and how they will be implemented.

When providing comments during any stage of a review conducted under NEPA, it is important to tailor the remarks to the level of review contained in the review process. For example, if a review document focuses on the environmental impacts of a proposed dam, comments concerning the use of fluorescent lighting (as opposed to less energy-efficient incandescent lights) in buildings should be directed at the entire project, rather than at individual structures or sections of structures. However, it is appropriate to provide the lead agency with copies of the checklists given in Chapter 3.0 and to ask agency personnel to consider the pollution prevention/environmental impact reduction techniques identified in these checklists when undertaking specific mitigation strategies based on the more general comments provided during the NEPA review process.

Exhibit 2-1. Opportunities to Incorporate Pollution Prevention into the NEPA Environmental Review Process

NEPA Process Step

How To Incorporate Pollution Prevention

Pre-Scoping:

Prior to initiating formal scoping by issuing a notice of intent to prepare an EIS*, the Federal agency can conduct pre-scoping activities to identify significant issues.

NEPA/309 reviewers can use their authority to promote pollution prevention during informal discussions with the lead agency prior to scoping.

Scoping:

The Federal agency proposing the action is required to issue a notice of intent to prepare an EIS* and conduct a scoping process to discuss the issues to be addressed in the EIS (40 CFR 1501.7).

NEPA/309 reviewers can identify pollution prevention as an issue and encourage lead agencies to consider pollution prevention in selecting and designing alternatives (e.g., project siting, design, construction, and operation).

DEIS/FEIS Review:

NEPA/309 reviewers focus on the significance of environmental effects in the DEIS/FEIS and the adequacy of the documents. Reviewers are responsible for identifying environmental effects that should or must be avoided to protect the environment and the sufficiency of the effects analysis and alternatives.

In comments to the lead agency concerning the DEIS and FEIS, NEPA/309 reviewers can promote the inclusion of pollution prevention practices into the development of alternatives.

Mitigation of Adverse Impacts:

As part of DEIS/FEIS review, identifying mitigation is an important activity (40 CFR 1502.14(f), 1502.16(h), 1508.20).

NEPA/309 reviewers can identify mitigation measures that incorporate pollution prevention to avoid or reduce adverse impacts (e.g., avoid using pesticides to prevent non-point source water pollution).

Record of Decision:

When an agency reaches a decision on an action for which an EIS was completed, a record of decision must be prepared that provides information on the alternatives considered and the factors weighed in the decision-making process.

Records of decision should state whether all practical means to avoid or minimize environmental impacts were adopted and if not, why they were not. Records of decision present an opportunity to document the incorporation of pollution prevention techniques into the EIS and a means to ensure that pollution prevention is considered.

Monitoring and Enforcement Program:

A monitoring and enforcement program must be adopted if appropriate for mitigation (40 CFR 1505.2(c)).

Integrating pollution prevention techniques into a monitoring and enforcement program is an effective way to ensure they are implemented.

* There are also opportunities to incorporate pollution prevention into environmental assessments (EAs).

Source: Council on Environmental Quality, Memorandum to Heads of Federal Departments and Agencies regarding Pollution Prevention and the National Environmental Policy Act, Federal Register, Vol. 58, No. 18, January 29, 1993.

3.0 POLLUTION PREVENTION/ENVIRONMENTAL IMPACT REDUCTION CHECKLISTS FOR NEPA REVIEWERS

The purpose of the checklists given in this chapter is to assist NEPA/309 reviewers in incorporating pollution prevention into the environmental review process. Each checklist is a compilation of available pollution prevention opportunities that could be incorporated into project plans. In addition to traditional pollution prevention techniques, the checklists provide environmental impact reduction opportunities (e.g., reuse, recycling) that are consistent with the goal to minimize environmental impacts. These opportunities are identified with an asterisk (*) to differentiate them from opportunities that fall within the definition of pollution prevention. Two categories of checklists were developed: (1) general topic checklists that discuss opportunities that may be common to a number of industry sectors/activities (e.g., energy management) and (2) specific topic checklists that address pollution prevention and environmental impact reduction opportunities that are unique to a specific sector or activity.

The general topic area checklists presented in this chapter address:

- Energy Management Siting

- Habitat Preservation and Protection Vehicle Maintenance
- Landscaping Water Use.
- Pest Management

The specific topic area checklists cover:

- Agricultural Irrigation
- Airports
- Building/Housing Construction
- Chemical Demilitarization
- Coal-fired Power Plants
- Dams, Hydropower, and Water Supply Reservoirs
- Defense Testing and Related Activities
- Dredging
- Flood Control Projects
- Forestry Activities
- Grazing
- Hazardous Waste Incinerators
- Hazardous Waste Storage and Treatment Facilities
- Highways and Bridges
- Military Base Closure and Reutilization
- Mining Projects
- Natural Gas Pipelines
- Nuclear Decommissioning
- Oil and Gas Projects
- Recreation and Tourism

- Rocketry/Missile Projects
- Solid Waste Landfills
- Waste Site Cleanup Activities.

Each checklist begins with a brief discussion of the types of effects that the specified industry sector or activity can have on the environment. Possible pollution prevention and environmental impact reduction opportunities to avoid/mitigate these effects are then discussed. Opportunities to include pollution prevention and environmental impact reduction in the review process are presented in questions that can be asked by reviewers during NEPA and Section 309 review processes. For example, a question in one checklist asks, "Are there opportunities to reduce the amount of hazardous and toxic materials used as part of the project?" Where necessary for clarity, a brief rationale is also provided of why it is important to use the recommended pollution prevention/environmental impact reduction technique and how it can help minimize an operation's impact on the environment. The checklists also include references for reviewers to obtain additional information about pollution prevention and environmental impact reduction techniques for a given topic area or sector.

