Procedures for Environmental Analysis

Purpose of environmental analysis is to accurately assess environmental risks and to build environmental concerns into decision-making processes on a long-term basis

- NEPA and CEQ mandate that environmental concerns be accounted for from beginning to end of projects
- Inclusion of potential environmental impacts early in the process avoids hasty decisions based only on traditional engineering and economic cost-benefit analyses
- Ideally EA's will produce a database to make predictions for future projects more accurate, easier and less costly
    - Due to project specific conditions, this is rarely the case

Definitions

- EIA = Environmental Impact Assessment (also EA) = initial step of an environmental analysis that identifies, interprets and predicts impacts and suggests potential mitigations and alternatives
- EIS = Environmental Impact Statement = detailed documentation required to fully assess project impacts where an EIA has determined that the project is likely to have significant or highly controversial environmental impacts

An EIA is designed to provide an overall review of likely project impacts and to provide the basis for determining if an EIS is required

- An EIA must be prepared as soon as a project is conceived/proposed and before implementing any go-ahead decisions
- EIA proceeds like EIS, but does not require the same rigor/detail or extensive examination of alternatives needed if proposed project has significant impacts
- EIA's must identify all direct or long-term impacts anticipated
    - Don't avoid EIS preparation by understating possible impacts
    - Leads to delays, court action, loss of agency credibility
        - E.g., TVA, Tellico Dam, snail darter
- A proper EIA should enable decisionmakers to conclude whether or not impacts will be significant or controversial
    - Each agency is responsible for specific guidelines and procedures for its environmental analysis process
- EIA is adequate to meet NEPA requirements for many minor actions
    - Result in this case is a "Negative Declaration" = no significant impact anticipated = FONSI
- What if a "Positive Declaration" results from an EIA
    - A Draft EIS must be prepared and circulated among all stakeholders
    - Before implementing any final decisions about siting, methods, etc.

Content of an EIS (and EIA in less detail) based on CEQ 8 points

1. Project Description: should describe the proposed action in sufficient detail to give an unfamiliar reviewer an overview of the situation
    - Purpose of Action

What will be accomplished
Goals, objectives, benefits
Why?

Description of Action
Indicate magnitude of the project: area, equipment, labor, materials
Summarize activities ensuing from the action

Environmental Setting
Describe the biophysical/socioeconomic environment before action
Location, history, climate/weather, topography, demographics, communities, unusual/important elements (wetlands, archaeological)
Use existing data sources as much as possible plus site visits, observations, research

Provide summaries of key information as maps, diagrams and tables
Footnote, appendix or reference (as appropriate) highly technical data
Don't clutter the report and confuse/frustrate the reader

2. Land-Use Relationships: describe how the land is being used before the project and how the project might change those uses

Does the proposed action conflict with existing land-use policies, plans, controls at the federal, state or local level?
EIS must discuss conflicts and compatibility
E.g., federal Clean Air and Clean Water Acts give EPA authority to require states to approve, in advance, any siting of polluting facilities that may violate these laws

If conflicts with existing land-use policies exist, an EIS should:
1) Explain how has the project proponent modified plans to reconcile land- use conflicts?, and
2) Regardless of the extent of reconciliation, the proponent must explain why a decision has been made to continue developing the project

Relevant NYS land-use laws include: Wetlands Act, Local Waterfront Revitalization Plans, Coastal Zone Management Act, Coastal Erosion and Hazard Areas; Remedial Action Plans

3. Probable Environmental Impacts of the Proposed Action: summarize and describe the possible beneficial and adverse consequences of the proposed action and how avoidable adverse impacts will be mitigated

Consider impacts on:
Human health, welfare, surroundings, socioeconomics
Natural environments (air, water, noise, ecology)
National and international environments

Give major attention to the components of the environment most likely to be seriously, adversely affected
Primary Effects: direct impacts on humans or other life forms and related ecosystems
E.g., noise, pollution, construction, highways, etc.
Secondary Effects: indirect impacts on the environment
E.g., population growth/community development/ utility demands
Changed economic base, ecosystem simplification/destabilization

State how avoidable adverse impacts will be mitigated
E.g., erosion BMP's during construction
Type of dredge used (open vs. closed system re: sediment toxics)

4. Alternatives to the Proposed Action: must consider the pro's and con's of all reasonable alternatives early in the process to avoid foreclosing opportunities for environmental protection/enhancement

Types of alternatives include:
No Action = Null Alternative
Rescheduling (seasonal effects on aquatic communities vs. dredging)
Modifications in Design/Procedure
Different Design/Site (Rhodes Point restaurant/marina/condo)
Compensations (artifical wetlands, land purchase/set aside)
Different Lead Agency (USACOE, USBR re: dams)

Alternatives must be discussed fully even if not in the scope of lead agency

Analysis of Alternatives
List benefits/costs of each alternative so trade-offs between project benefits/environmental costs are explicit for readers (mini-EIA for each)
Provide rigorous explanation and objective evaluation of all reasonable alternatives, particularly those that enhance environmental quality or avoid adverse impacts
Be specific about the risks associated with each alternative

If several alternatives are acceptable, use one with least environmental impact
When the initially proposed course of action has no significant impact, there is no need to assess alternatives

5. Probable Adverse Environmental Impacts that can not be Avoided: summarize briefly the effects discussed in 3 above that are adverse and unavoidable, then describe in detail how these effects will be mitigated

Summarize the damage expected to the natural environment, human health, safety, aesthetics, culture, etc.
E.g., air/water pollution, loss of wildlife habitat, undesirable land-use patterns, loss of historic sites, etc.

How will the unavoidable adverse impacts be mitigated?
Mitigations must be an integral part of projects
E.g., vehicle traffic limits in natural areas, sodding and reforestation, advance notice and compensations to utility, school, hospital, etc. service districts

6. Relationship between Local, Short-term Uses of the Environment and Long-term Maintenance and Enhancement

Discuss short-term vs. long-term gains and losses for the environment as a result of project implementation
Carefully consider cumulative effects here
E.g., one vs. 40 marina developments in wetland/tributary mouths on the south shore of Lake Ontario

Consider trade-offs between short-term gains vs. long-term losses and long-term gains vs. short-term losses
E.g., pesticides, rainforest destruction, fossil fuel vs. global warming

E.g., sewage plant construction, scrubbers

Consider the extent to which the proposed action forecloses future options for using the project's environment

Each generation is trustee to preserve environment for future generations

7. Irreversible or Irretrievable Commitments of Resources: review 5 and 6 above and specifically identify unavoidable impacts that irreversibly curtail the availability of environmental resources for the future

Questions:

Are non-renewable resources or materials in short supply being consumed (e.g., fresh water, oil)?

Are natural resources being used that will disturb ecosystem balance, destroy habitat or change natural land-use patterns (e.g., paving)?

Are important cultural sites being altered or destroyed (e.g., Celilo Falls, Columbia R.)?

Do the labor and resource requirements for this project reduce the potential for other worthwhile projects? (e.g., era of budget limits)

This category is important for big projects mostly

8. Other Interests/Considerations that Off-set Impacts of the Proposed Action

Call attention to the positive aspects of the project that off-set the negative impacts described in 3,5,6,7 above

Discuss the benefits of each alternative described in 4 above

The negatives for alternatives were outlined in 4 above

Attach cost/benefit analyses if available

Watch out for reliability

Environmental analysis is a stepped process

Proposed action ----> EIA ----> Negative Declaration (end) or Draft EIS

DEIS review by agencies/public/groups----> Revised DEIS or Final EIS (end)

After an environmental analysis document is prepared, how it is processed depends on what it is

EIA: if no impact is anticipated, the EIA usually can serve as the Final EIS

A Negative Declaration or FONSI is a publicly available record of decision based on an EIA where the agency believes an EIS is not required, but where the law requires a public statement of impact

Draft EIS: the lead organization (private developer; regulatory agency) gathers project and environmental data, consults with experts in all relevant areas, obtains specific statutory reviews, and writes the DEIS

DEIS must be reviewed by the public and all agencies and stakeholders (local governments, environmental activist groups, industries, etc.) that will be involved in or affected by the process (permits, finanacial, etc.)

Final EIS: after a comment period (usually 60 d) and public hearing, the lead agency must address each comment received and revise/rewrite the EIS

Letters from reviewers and agency comments usually appended to FEIS

Must be at least 30 d between publication of FEIS and project action

Court action is still possible after the FEIS is filed

Plaintiffs must be able to prove a flaw in the process, not dispute a decision reached after all environmental impacts properly considered