

CECW-CP

Circular  
No. 1105-2-409

31 May 2005

EXPIRES 30 SEPTEMBER 2007

Planning

PLANNING IN A COLLABORATIVE ENVIRONMENT

1. Purpose. The purpose of this Circular is to provide revised procedures for the conduct of Corps water resources planning and the preparation of feasibility level (decision) reports that require authorization by the United States Congress and those that are approved under delegated authority.

2. Applicability. This Circular applies to all HQUSACE elements, laboratories, major subordinate commands and district commands having Civil Works responsibilities. It is applicable to all Corps of Engineers Civil Works decision documents. Further information incorporating these concepts into the Continuing Authorities Program (CAP) will be in the CAP guidance.

3. References. See Appendix A.

4. Background and Policy.

a. The Corps traditional approach to water resources planning was designed to facilitate problem solving and decision making for specific sites and projects. Concerns about this approach have included: over-reliance on national economic development (NED) as the primary selection criterion, (2) constraining Corps work to a narrow sub-set of "Federal interest" purposes defined as Corps priority budget outputs (primarily flood damage reduction, commercial navigation and ecosystem restoration), and (3) the amount of time it takes to complete Corps planning. In addition, the existing Corps planning guidance in ER 1105-2-100 provides little help in cases which the public looks to the Corps to use problem-solving planning capabilities beyond traditional project-level implementation planning.

b. Today, the Corps is being asked to use its planning capability to facilitate, convene, and advise, and to work collaboratively with other Federal and State programs in developing solutions that integrate programs, policies, and projects across public agencies. The public also expects continued progress in implementing the Corps Environmental Operating Principles, particularly with regard to requirements for mitigation, monitoring and adaptive management. Finally, recent criticisms regarding

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Corps technical analyses demand improvements in the quality control of the science and engineering that are the foundation for decision-making.

c. As a result, the Corps has developed guidance that reemphasizes current guidance or provides improvements to the Corps planning in a collaborative environment. Five of these provisions are established in this Circular and four others are the subjects of separate Circulars. All these provisions will be incorporated into ER 1105-2-100.

(1) Timeframe for Planning – Planning studies will be completed in three years. Collaborative, watershed studies may be granted an exception to this requirement.

(2) Federal Interest – Collaborative planning activities that embrace the full range of the Federal interest (more than Corps authority) will be given highest priority in assembling the Corps Civil Works budget request.

(3) Plan Selection – Any alternative plan may be selected and recommended for implementation if it has, on balance, net beneficial effects after considering all plan effects, beneficial and adverse, in the four Principles and Guidelines evaluation accounts: National Economic Development, Environmental Quality, Regional Economic Development, and Other Social Effects. Current policies on cost sharing will apply.

(4) Natural Resources Mitigation – Mitigation planning is an integral part of the overall planning process. Implementation of any justified measures will be accomplished at the same time as the project.

(5) Monitoring and Adaptive Management – Adaptive management takes into account the uncertainties that exist regarding decisions made to undertake water resources projects and allows decision making and implementation to proceed with the understanding that project performance will be assessed and evaluated, thereby acknowledging that some structural or operational changes to the project may be necessary to achieve the desired results.

(6) Peer Review – The purpose of peer review is to ensure the quality and credibility of the Corps scientific information. The guidance closely follows the Final Information Quality Bulletin for Peer Review by the Office of Management and Budget (2005). Guidance on peer review is being issued in EC 1105-2- 408.

(7) District Engineer Presentations - A Civil Works Review Board (CWRB) was established to hear Major Subordinate Commands (MSC) and District Commanders present the results of the studies and their recommendations contained in decision documents for projects that require authorization by the United States Congress. Guidance on this subject is in EC 1105-2- 406.

(8) Summary Report - A Division Engineer's Transmittal Letter that endorses and transmits the final feasibility report packages for Washington level review will include a

Report Summary following a standard format that is intended to provide a concise and comprehensive summary of the feasibility study and its recommendations. Guidance on this subject is in EC 1105-2- 405.

(9) Planning Models Improvement Program - The PMIP is a process to review, improve, and validate analytical tools and models for Corps Civil Works business programs. Guidance on this subject is in EC 1105-2- 407.

5. Timeframe for conduct of reconnaissance and feasibility studies.

a. The reconnaissance and feasibility studies will be completed within 3 years. The time period will start with the first obligation of study (GI) funds and will end on the date of the signing of the Chief of Engineers Report, assuming necessary funds are made available.

b. Feasibility phase. The feasibility study will be conducted in accord with the guidance in this Circular, ER 1105-2-100, and related guidance. The level of analysis will be sufficient to provide a reasonable number of alternatives for decision-making.

c. The requirement to complete studies in three years applies only to project-scale planning for implementation studies and does not apply to watershed studies or other more comprehensive planning activities. In cases where more than three years are necessary, the vertical team will review the PMP to determine if an exception is appropriate. The Planning Community of Practice Leader will approve any exceptions.

6. Federal Interest.

a. Collaborative planning with other Federal agencies and Tribes requires the Corps to move beyond the Corps interest and embrace solutions that reflect the full range of the national Federal interest (the collection of all responsibilities assigned to Federal agencies). Collaborative planning involves not only a traditional non-Federal cost sharing sponsor in partnership with the Corps, but also representatives from other Federal, State and local agencies as members of the study team and bringing their expertise, programs and projects together with the Corps. Collaborative planning is encouraged for traditional project scale planning and is essential to the success of watershed scale planning. In addition, such collaboration can improve the regulatory climate by addressing all the regulatory issues together and reaching agreements for siting various activities in advance.

b. In Corps studies collaborative planning may result in a plan with components to be implemented by the Corps, other Federal, State, and local agencies as well as a streamlined regulatory process. When there are Corps components, the selection of those components should be based on the selection approach described in paragraph 7, below. Collaborative planning also includes Corps participation as a team member in other Federal, State, or local agencies planning activities where there may be no expectation of

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construction or other work by the Corps as a result. Participation in other public planning will take advantage of the Corps special expertise in water resources. By bringing together the expertise and programs of all the appropriate Federal agencies, collaborative planning will solve problems at the proper scale, integrate solutions across purposes and business programs, and leverage Federal and others funds.

c. Collaboration is the keystone of the Corps watershed approach. Beginning with the Corps FY 2007 budget guidance, collaborative watershed planning activities (which involve, in addition to a traditional non-Federal cost sharing sponsor, participation and funding by other Federal agencies) will be given the highest priority in assembling the Civil Works budget request.

## 7. Plan Selection.

a. Section 1 of the 1936 Flood Control Act states, in part: "It is the sense of Congress... that the Federal Government should improve or participate in the improvement of navigable waters or their tributaries including watersheds thereof, for flood-control purposes if the benefits to whomsoever they may accrue are in excess of the estimated costs, and if the lives and social security of people are otherwise adversely affected." Corps policy has extended this fundamental principle to navigation, ecosystem restoration, and other water resource effects that have historically defined the Corps interest.

b. In continuing to implement the policy of the 1936 Act, all Corps planning studies will evaluate, display and compare the full range of alternative plans' effects across all four Principles and Guidelines' accounts (National Economic Development (NED), Environmental Quality (EQ), Regional Economic Development (RED) and Other Social Effects (OSE)). Planning reports will include a full discussion and display of the beneficial and adverse effects of each plan, and a comparison of costs and effects among plans as well as cumulative effects. The discussion and display will address each of the four accounts and will not be limited to any one account. For example, evaluation of inland navigation improvements should not only address effects on transportation savings but also security, safety and environmental advantages or disadvantages with respect to other modes of transport.

c. The set of alternative plans judged to have net beneficial effects will be candidates for selection. The project delivery team in collaboration with the study partners and stakeholders will use the available data, analyses, input from peer review, and professional judgment to designate these candidate plans. After considering a plan's beneficial and adverse effects across all four accounts, the plan may be a candidate for selection if it has, on balance, (based on analyses and collaborative judgment) net beneficial effects. Conversely, after considering a plan's beneficial and adverse effects across all four accounts, the plan will be dropped from further consideration if it does not, on balance, have net beneficial effects. Plans may be judged, on balance, to have net beneficial effects when, given the full range of effects in all four accounts, no other

alternative plan or scale has a higher excess of beneficial effects over total adverse effects. A plan's individual project purposes or other categories of effects need not be individually justified. However, a purpose's separable costs must be individually justified. The key to making a judgment is in identifying and fully describing the best reasonable mix of beneficial effects at a reasonable cost.

d. In addition to the alternative of taking no action (that is, the "future without condition"), each planning report will identify, at a minimum, the following plans from among the set of alternatives judged to have net beneficial effects:

(1) Locally preferred plan(s) if requested by a non-Federal cost-sharing sponsor.

(2) National interest plan(s) address one or more products or services that reflect the full range of the Federal interest as defined in the study authorities and public laws, executive orders, and other statements of the Administration and the Congress. National interest plans may include traditional Corps plans (the NED plan, the NER plan, or the combined NED/NER plan), plans reflecting other Federal agency authorities/ interests/ contributions (Endangered Species plan, Total Maximum Daily Limit (TMDL) plan, urban renewal plan, and others) or any combination of such plans.

(3) Nonstructural Plan(s) include only modifications in public policy, management practice, regulatory policy, and pricing policy. Nonstructural plans are not limited to flood damage reduction alone but shall be applied to other purposes as well.

e. The reporting offices shall select any one of the candidate plans. The planning report will explain the rationale and basis for selection considering the beneficial and adverse effects in all four accounts. If an NED plan is not recommended, the report will explain the overriding reasons for selecting another plan based on Federal, State, local and international concerns and the preparing office will request a waiver from the ASA (CW) at the Alternatives Formulation Briefing (AFB), or shortly thereafter, but before the draft report is released.

f. The report will clearly present the responsibilities of the various parties and the funding they will contribute. Appropriate agreements must also be proposed to assure that the necessary investments and actions to achieve the expected benefits are agreed upon. Current authorities and policies including cost sharing requirements will govern Corps participation.

## 8. Natural Resources Mitigation.

a. Current planning guidance (ER 1105-2-100) presents mitigation planning as an integral part of the overall planning process and is restated here for completeness and includes:

(1) Avoiding the impact altogether by not taking a certain action or part of an action;

(2) Minimizing impacts by limiting the degree or magnitude of the action and its implementation;

(3) Rectifying the impact by repairing, rehabilitating or restoring the affected environment;

(4) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and

(5) Compensating for the impact by replacing or providing substitute resources or environments. "Replacing," means the replacement of fish and wildlife resources in-kind. "Substitute" means the replacement of fish and wildlife resources out-of-kind. Substitute resources, on balance, shall be at least equal in value and significance as the resources lost.

b. The mitigation actions identified in (1) through (5) above are an integral part of the plan formulation process and may not be readily apparent as a separate element in a report. However, once the mitigation efforts that are part of plan formulation are complete and there are still significant effects to the environment that require mitigation, then appropriate compensatory mitigation will be developed in accordance with ER 1105-2-100, Appendix C. The feasibility report will include a mitigation plan whenever compensatory mitigation is identified as part of the recommended plan.

c. A mitigation plan shall include:

(1) A description of the physical action to be undertaken to achieve the mitigation objectives within the watershed in which such losses occur and, in any case in which mitigation must take place outside the watershed, a justification detailing the rationale for undertaking the mitigation outside of the watershed;

(2) A description of the lands or interests in lands to be acquired for mitigation and the basis for a determination that such lands are available for acquisition;

(3) The type, amount, and characteristics of the habitat being restored;

(4) Success criteria for mitigation based on replacement of lost functions and values of the habitat, including hydrologic and vegetative characteristics; and

(5) A plan for any necessary monitoring to determine the success of the mitigation, including the cost and duration of any monitoring, and to the extent practicable, the entities responsible for any monitoring.

(6) In any case in which it is not practicable to identify in a mitigation plan for a water resources project, the entity responsible for monitoring at the time of a final report of the Chief of Engineers or other final decision document for the project, such entity

shall be identified in the project cooperation agreement entered into with the non-Federal interest prior to initiation of construction.

d. District commanders shall ensure that project-caused adverse impacts to ecological resources have been avoided or minimized to the extent practicable, and that remaining, unavoidable impacts have been compensated to the extent justified and have no more than negligible adverse impacts on the ecological resources. In addition, in those instances in which it is not technically practicable to complete mitigation concurrent with the last day of project construction because of the nature of the mitigation to be undertaken, the Secretary shall complete the required mitigation as expeditiously as practicable. The decision document will fully describe the mitigation planning accomplished as well as how the mitigation will be implemented.

e. Status Report: Each District Commander shall report annually on the status of mitigation for all projects that are under construction, all projects for which the President requests funding for the next fiscal year, and all projects that have completed construction, but have not completed the mitigation required under section 906 of the Water Resources Development Act of 1986. Submission requirements will be established by separate guidance.

#### 9. Monitoring and Adaptive Management.

a. Current monitoring and adaptive management policy is presented in planning guidance (ER 1105-2-100). Adaptive management addresses the uncertainties about a water resource project's actual performance that exist when implementation decisions are made to undertake water resources projects. This technique allows decision making and implementation to proceed with the understanding that outputs will be assessed and evaluated and that some structural or operational changes to the project may be necessary to achieve the desired results. However, it is not a substitute for good planning or a vehicle for research.

b. At the heart of adaptive management is a carefully designed monitoring program that may begin during construction and continue for a specified time after construction. The purpose of any type of monitoring is to determine if the outputs/results are satisfactory, and to determine if any adjustments to the project elements/measures should be made. These project adjustments constitute the adaptive management plan.

(1) Monitoring. Most projects will only require periodic inspection, as part of normal operations and maintenance (O&M) to monitor whether or not it is functioning satisfactorily. When a specific monitoring requirement is included as part of the sponsor's project O&M responsibility, it will be accomplished at 100 percent non-Federal cost. All monitoring requirements should be specified in the O&M manual along with other operations, maintenance, repair, rehabilitation, and replacement (OMRR&R) requirements provided to the sponsor upon project completion.

(2) For some projects, more extensive cost-shared, post-construction monitoring may be warranted, especially when the risk and uncertainty of achieving the projected outputs/results are high because new, unproven techniques are being applied or it is a significantly complex project. In these cases, cost-shared monitoring programs must be justified and guided by questions related to the uncertainty and significance of achieving anticipated project results/outputs. Proposals for cost shared monitoring plans must describe the rationale for monitoring, including key project specific parameters to be followed and how the parameters relate to achieving the desired outcomes or making a decision about the next phase of a project, the intended use(s) of the information obtained; and the nature of the monitoring including duration and/or periodicity; and, disposition of the information and analysis. The use of monitoring funds for basic research is inappropriate.

(3) Proposals for cost-shared monitoring or other post-construction assessments are to be developed in coordination with the sponsor and/or ultimate project operator and included in the appropriate decision document (e.g., feasibility report, general reevaluation report, etc.) submitted for authorization or approval by higher authority. The estimated cost of the proposed monitoring program will be included in the project cost estimate and cost shared accordingly. The Corps share of any cost-shared monitoring will be funded under Construction, General. Cost-shared monitoring should normally not exceed 1 percent of the total first cost of the element(s) of the project to be monitored. The period of cost-shared monitoring should not exceed 5 years following completion of construction; after 5 years, all monitoring will be the responsibility of the non-Federal sponsor. Exceptions to these limits will be considered on a case-by-case basis with supporting rationale as discussed in the preceding paragraph. Funding and implementation responsibilities must be identified in the decision document and specified in the Project Cooperation Agreement (PCA).

(4) Creativity in the development of monitoring arrangements and assessing project performance is encouraged. Collaborative monitoring efforts and information sharing with the sponsor and among resource agencies, academic institutions, the research community and nonprofit organizations will improve the efficiency and effectiveness of data collection and project performance evaluation. It may also be possible to coordinate evaluation and assessment needs with the programs of various Federal, State and local resource agencies, or to develop a cooperative monitoring program involving multiple stakeholders. Coordinate proposed monitoring for similar projects within a river basin or watershed to prevent unnecessary redundancy in data collection, and to assure the usefulness of the cumulative information.

(5) As part of an adaptive management approach, interim results should be monitored, in some cases, to determine if the next phase of a project should be constructed as defined in the decision document, constructed with modifications or not at all. The project specific parameters to be monitored and the quantified targets or decision criteria for each parameter based on desired outcomes should be identified in the decision document. On a large complex project there may be some features or elements that will



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need confirmation of their impact and justification prior to their construction and the confirmation will best be acquired through the monitoring and analysis of the impacts of other elements of the project. The decision document must clearly present the need for phased implementation along with a relatively detailed explanation of the monitoring plan and decision processes for each phase and/or element.

c. Adaptive Management. If the need for a specified adjustment is anticipated due to high uncertainty in achieving the desired outputs/results, the nature and cost of such actions should be explicitly described in the specifically authorized project's decision document. The adaptive management plan may be shown as a contingency item. If the results of the monitoring program support the need for adaptive management, the costs for any specified adjustment should not exceed 3 percent of the total project cost excluding the monitoring costs. Any expenditure made under the adaptive management plan will be cost shared with the non-Federal sponsor.

10. Implementation. This guidance is effective immediately and shall be applied to all studies for which a Feasibility Cost Sharing Agreement has not yet been signed. All studies should embrace the principles and intent of this guidance to the fullest degree possible.

FOR THE COMMANDER:

Appendix  
Appendix A – References



TIMOTHY L. WHITE  
Colonel, Corps of Engineers  
Executive Director of Civil Works

APPENDIX A  
REFERENCES

- a. Section 515 of the Treasury and General Government Appropriations Act of 2001 (Public Law 106-554; commonly called The Data Quality Act).
- b. 40 CFR 1500-1508. Council on Environmental Quality. Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act. (November 29, 1978).
- c. Executive Order 13352, Facilitation of Cooperative Conservation (August 26, 2004).
- d. Office of Management and Budget. Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by Federal Agencies. (February 22, 2002, 67 FR 8452-8460).
- e. Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies (Principles and Guidelines), Water Resources Council, 10 March 1983
- f. ER 1105-2-100, Planning Guidance
- g. EC 11-2-187, Program Development Guidance, Fiscal Year 2006
- h. EC 1110-2-105 Engineering and Design - Independent Technical Review
- i. U.S. Army Corps of Engineers Environmental Operating Principles - 26 March 2002.
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- k. New Directions in Water Resources Planning for the U.S. Army Corps of Engineers, National Research Council, 1999
- l. Review Procedures for Water Resources Project Planning, National Research Council, 2002
- m. Analytical Methods and Approaches for Water Resources Project Planning, National Research Council 2004
- n. Adaptive Management for Water Resources Project Planning, National Research Council, 2004
- o. River Basins and Coastal Systems Planning within the U.S. Army Corps of Engineers, National Research Council, 2004
- p. U.S. Army Corps of Engineers Water Resources Project Planning - A New Opportunity for Service, National Research Council, 2004