

APPENDIX C  
FORMAT AND CONTENT OF EVALUATION REPORT

Each report will include the requirements contained in the following paragraphs. The report format should also follow the order as presented below.

C-1. Project Authorization. Provide pertinent information on the project authorization, including any modifications, and quote verbatim the requirements of local cooperation.

C-2. Project Description. Briefly describe the project, including type of dam or major structure and seismic zone and enclose a map to indicate its location.

C-3. Current Condition. Describe the current condition of the project features. Give the reason(s) which justify the need for modification for dam safety purposes, reference paragraph 5a of this regulation, and describe the scope of the problem in quantifiable terms.

C-4. History of Maintenance and Rehabilitation or Modification. Provide a chronology of the expenditures for maintenance on the project since its completion, and a brief description of all previous major rehabilitations or dam safety modifications and their associated costs.

C-5. Project Use. Provide a narrative description of the use currently being made of the project and the use projected during an appropriate period in the future (e.g., life without and, new life with, recommended modifications for dam safety). Indicate whether the project currently satisfies the authorized project purposes and what impact the proposed modifications for dam safety will have on the project's capability to do so. Provide supporting data, as available from Corps or non-Corps sources.

C-6. Consequences of No Dam Safety Modifications. Explain what may occur if the problem described in paragraph C-3 is not corrected. Describe the degree of hazard, the mode and magnitude of expected failure, to include the resultant damage to the dam and related structures, and the downstream impact. Under the description of the downstream impact include the potential for loss of life among the threatened population; the extent and types of economic losses; the area inundated and noninundated areas which would be isolated due to loss of highways, bridges or services; and the impact, if any, on other retention structures. Describe the effectiveness of

existing flood warning system and evacuation plans in reducing the potential for loss of life.

C-7. Evaluation Process. The evaluation process will result in the development and presentation of economic data so that economic considerations may be understood in a context with other important considerations, and have appropriate influence in determining justification for project modifications required to correct problems related to dam safety. Include an economic analysis if the estimated cost of the recommended work is greater than \$10 million, or is greater than 25% of the replacement cost of the total project. The economic analysis is to be conducted on a sunk cost basis, i.e., all annual costs associated with the modification would be compared with the total project annual benefits. The results of this analysis will provide some perspective on the economics of providing the proposed work; however, where there is a significant question of safety, a benefit-to-cost ratio will not be calculated. Dam Safety Assurance Program Evaluation Reports should contain information on the following:

a. Nature of the dam safety problem.

(1) Hydraulic or Hydrologic Deficiency - Inability to safely pass the probable maximum flood.

(2) Seismic Deficiency - Inability to safely withstand current earthquake design criteria.

(3) Other unsafe conditions not meeting current design or construction criteria or seriously affecting project performance.

b. Extent of deviation from current design and construction criteria.

c. Nature of potential damages and potential for loss of life associated with dam failure. Damages in excess of that expected from the most extreme event, which the project could survive, are pertinent. Also include damages that would be expected if the proposed design criteria are not to current standards and are exceeded after project improvement.

d. Current average annual benefits being provided by the project.

e. Alternatives to be considered and presented:

(1) Do nothing. Indicate potential future costs to Federal Government in the event of failure (claims and construction costs).

(2) Partial correction. Indicate average annual cost of improvement, remaining deficiencies and potential damages, continuing potential for loss of life, and potential future costs to the Federal Government. Present benefits achieved.

(3) Complete correction. Provide an appropriate discussion of feasible alternatives for the dam safety modification. Indicate what impact these alternatives would have on the project's capability to satisfy authorized project purposes. Show the estimated cost of modification for each item or group of items. Indicate average annual cost of improvement and all benefits achieved.

(4) Remove structure

(5) Replace structure

#### C-8. Recommended Plan.

a. Provide rationale for the alternative recommended, to include noneconomic considerations such as potential loss of life, public confidence and other nontangible aspects. When available information is insufficient to justify the need for modification, recommendations will be made on special engineering investigation(s) which would support a decision. In this case, the most probable plan will be presented, pending the

outcome of the proposed investigations.

b. Provide a schedule of funding requirements by fiscal year to accomplish recommended modifications to the project. Indicate which requirements are recommended for funding under Construction, General, and which are recommended for funding under Operation and Maintenance, General. If both authorized and unauthorized work are recommended and the work can stand on its own from an engineering and economic standpoint, a two-stage design and construction procedure may be required. The first stage would consist of work which is authorized. The second stage could involve those items of work which require additional authorization.

c. Provide an assessment/description (for each alternative evaluated) of the impacts on the existing environment. Highlight any significant resources that are likely to be affected as well as any that are covered by a specific law (e.g., endangered species, clean air, clean water, cultural and historical, etc.). Consider potential hazardous, toxic waste and radioactive concerns and conduct appropriate surveys. Identify the location of impacts and explain their significance, the likelihood of being able to mitigate such impacts, and associated cost. Indicate the concurrence or non-concurrence

given by resource agencies that mitigation is possible and appropriate. Identify any environmental constraints that would render an alternative infeasible. For the recommended alternative, provide the pertinent correspondence, a summarization of the studies conducted to evaluate the environmental effects of the plan, and the necessary NEPA documentation required in ER 200-2-2 (e.g., EA, FONSI, EIS, or Supplement) and/or Section 404(1)(b) evaluation.

d. Include a general explanation of the cost sharing requirements of WRDA 86 followed by a discussion of the circumstances of the particular project. Show the amount to be cost shared. Explain the determination of cost allocation and cost sharing for the specific project. This will require documentation of pertinent agreements or contracts. The discussion should include a tabulation of the costs to be paid by the Federal Government and the sponsor(s). Identify the sponsor(s) for the project and their contributions to initial project development, and sponsor(s) subsequently added to the project. Include the sponsor(s) views concerning cost sharing. Include copies of the existing contracts or agreements.

e. When the project includes requirements of local cooperation, indicate the

views or concurrence of local interests in the general plan of the proposed work, state whether these views were obtained by conference or public meeting, and provide a letter from local interests which set forth their views. Give the best available estimate of required local cooperation cost, a statement of the prospects for fulfillment of the required conditions, and the names, titles, and addresses of the principal officers and representatives responsible for fulfillment. Identify any differences in local cooperation requirements under existing agreements that should be changed and the basis therefore. Also indicate what will be done to obtain the desirable local cooperation.

C-9. Appendices. The report should contain appendices which contain the following documents.

a. Applicable legislation for the initial construction and subsequent addition of project purposes. Specifically include documentation on cost sharing of added authorized purposes.

b. Copies of existing contracts, agreements or letters of intent from project sponsor(s), cost sharing partners, and users.

c. Special investigations, i.e., seismic,

hydrologic/hydraulic, structural, etc. completed in support of the recommended plan.

d. Project Management Plan. Include a schedule of any additional engineering investigations needed in the design phase and all design memoranda that will be prepared.

e. Cost Estimate. A Micro Computer Aided Cost Engineering System (MCACES) cost estimate (baseline feasibility estimate) in the Civil Works/HTRW Work Breakdown Structure will be prepared for the recommended plan. The level of the cost detail will vary with the design information available to support the project scope, but should be at least to the subfeature level of detail. However, a higher level of detail approaching that of a feasibility report should be the goal in order to more accurately identify the

baseline cost estimate. Although this baseline estimate is not subject to reauthorization if the Section 902 limit (WRDA 86) is exceeded, the goal is to make every effort to adhere to the criteria of the 20% growth limitation.

f. Real Estate. A Real Estate Plan shall be prepared at a level of detail commensurate with the scope of the project and the real estate requirements, if any, included in the evaluation report. If no land acquisition or relocation requirements are identified, the appendix should so state.

g. Hazardous, Toxic, and Radioactive Waste (HTRW). Unless the project will result in additional real estate acquisitions, HTRW should not be a consideration. However, if HTRW is encountered, follow the guidance of ER 1165-2-132.