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	Project Operations  PARTNERS AND SUPPORT (WORK MANAGEMENT POLICIES)	
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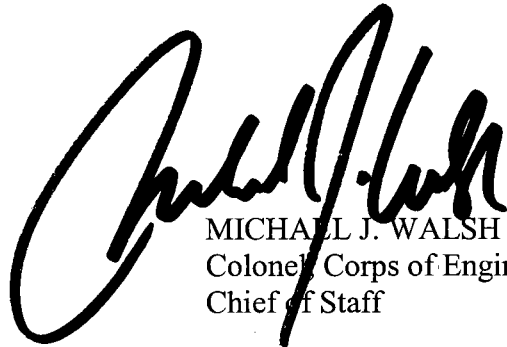
Project Operations  
PARTNERS AND SUPPORT  
(WORK MANAGEMENT POLICIES)

1. This change 2 to ER 1130-2-500, 27 Dec 96, adds Chapter 17 to current guidance. It provides the framework and policy for the Natural Resource Management Awards.
2. Substitute the attached pages as shown below:

Chapter	Remove page(s)	Insert page(s)
Table of Contents	iii	iii
17		17-1
Appendix A	A-1, A-2	A-1, A-2

3. File this change sheet in front of this publication for reference purposes.

FOR THE COMMANDER:



MICHAEL J. WALSH  
Colonel, Corps of Engineers  
Chief of Staff

CECW-0

Regulation  
No. 1130-2-500

17 October 1997

Project Operations  
PARTNERS AND SUPPORT  
(WORK MANAGEMENT POLICIES)

1. This Change 1 to ER 1130-2-500, 27 Dec 96:

a. Makes District Commanders responsible for the approval/execution of challenge cost-sharing agreements that involve water resources projects solely within their district.

b. Approval of agreements of \$200,000 (total cost) or less may be delegated to the District Chief of Operations.

c. Approval of agreements of \$25,000 (total cost) or less may be delegated to Operations Project Managers.

2. Substitute the attached pages as shown below:

Chapter	Remove page	Insert page
12	12-1 and 12-2	12-1 and 12-2

3. File this change sheet in front of the publication for reference purposes.

FOR THE COMMANDER:



OTIS WILLIAMS  
Colonel, Corps of Engineers  
Chief of Staff

CECW-O

Regulation  
No. 1130-2-500

27 December 1996

Project Operations  
PARTNERS AND SUPPORT  
(WORK MANAGEMENT POLICIES)

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This regulation supersedes Engineer Regulations (ER) 1125-2-300, dated 22 June 1971; 1125-2-301, dated 1 May 1989; 1125-2-303, dated 17 May 1971; 1125-2-304, dated 18 July 1969; 1125-2-305, dated 12 May 1967; 1125-2-306, dated 10 July 1992; 1125-2-309, dated 20 September 1966; 1125-2-310, dated 1 August 1963; 1130-2-303, dated 15 December 1967; 1130-2-304, dated 25 March 1966; 1130-2-412, dated 1 September 84; 1130-2-417, dated 30 November 1980; 1130-2-422, dated 1 April 1994; 1130-2-425, dated 30 September 1981; 1130-2-426, dated 1 February 1995; 1130-2-431, dated 28 February 1989; 1130-2-432, dated 1 February 1992; 1130-2-441, dated 1 March 1991; and Engineer Pamphlet (EP) 1130-2-436, dated 1 April 1994.

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## CHAPTER 1 - INTRODUCTION

1-1. Purpose. This regulation establishes the policy for the management of operation and maintenance activities of U.S. Army Corps of Engineers (USACE) personnel performing civil works functions related to flood control, navigation, dredging, hydroelectric power generation, environmental stewardship, and recreation services at water resource, waterway, and other USACE projects.

1-2. Applicability. This regulation applies to all USACE commands having responsibility for civil works functions.

1-3. References. See Appendix A.

1-4. Glossary.

a. Accepting Official. Under the Corps of Engineers Volunteer Program, the accepting official is the Corps staff member designated to accept the services of volunteers and responsible for the proper observance of regulations while services are performed.

b. Breakdown Maintenance. Breakdown maintenance is accomplished on occurrence of a breakdown or failure.

c. Cooperative Agreement. The agreement between a Cooperating Association and the U. S. Army Corps of Engineers defining the functions and responsibilities of each party to the agreement, wherein non-profit, tax-exempt corporations, enter into partnerships with the U.S. Army Corps of Engineers for their mutual benefit. Specific procedural guidance and required formats are presented in Chapter 9 of EP 1130-2-500.

d. Cooperating Association. A legal entity, organized under state law, which enjoys a non-profit and tax-exempt status under Internal Revenue Service codes and which operates under the terms of a Cooperative Agreement with the Corps of Engineers.

e. Design. All work necessary to prepare plans and specifications for acquisition. In general, the Design phase begins with the approval of the Design Memorandum and concludes with the issue of a solicitation. However, design effort is expended until completion of the project. The Design phase may be a major effort involving a Detailed Design, or the preparation of a simple performance specification with one or two sketches to depict a concept. The scope of the Design phase for Corps floating plant will be determined by the USACE Marine Design Center based upon the complexity of the project.

f. Design Effort. The summation of all design iterations required to establish a concept; determine feasibility; prepare Design Memoranda, preliminary cost estimates, and contract plans and specifications; and may include design during construction. This covers all work from the beginning of a project to the issue of a solicitation. However, design effort is expended until completion of the project. Submittal of the Design Memoranda (General and Feature) for approval may represent up to 35% of the Design Effort.

g. Feature Design Memorandum (FDM). This is primarily a technical document prepared for the major features and elements of a project. Each FDM is based on the approved



General Design Memorandum and should include sufficient design data to establish the interrelated engineering aspects of the particular feature or element and its connection with related features and elements of the project. The FDM is the basic document for the preparation of plans and specifications.

h. General Design Memorandum (GDM). This document updates the feasibility study information and data on formulation, evaluation, cost allocation, items of local cooperation, environmental matters, and public acceptability. It develops sufficient engineering and project design detail to reaffirm the authorized project plan and, as may be appropriate, develops information to justify any proposed revisions to that plan, and updates the estimate of costs. Analyses are based on current criteria. The essential objective is either to reaffirm the basic planning decisions made during the general investigations stage (feasibility study) or to reformulate the project to be responsive to changed conditions and/or needs since authorization. If the project is not complex, the GDM, with incorporation of detailed design data on project features as appropriate, may serve as the only preconstruction planning and engineering report required for project construction. If the project is not very unusual, large or complex, the GDM may be approved by the Division Engineer.

i. Hosted Worker. A hosted worker is an individual who performs services for the Corps of Engineers for no compensation, but is compensated in some way by another organization or agency. A hosted worker is considered a volunteer.

j. Incidental Expenses. Incidental expenses are those out-of-pocket expenses which a volunteer may incur in performing a service for the Corps. Incidental expenses are different from the expenses the Corps would accrue in providing materials or overhead associated with the service a volunteer performs.

k. Major Item. An item of plant or a system with an initial acquisition cost of \$700,000 or more.

l. Major Plant (Non-Group). Included in this category are the following typical types of plant: aircraft, structures with an estimated replacement cost of \$200,000 or more, major mobile land plant, dredges, derrick boats, tugboats, towboats, tenders, patrol boats, survey boats 40 feet or more in length, debris boats, crane barges, drill boats, jet probing barges, maneuver boats, mooring barges, concrete casting plant, mechanical bank graders, mattress sinking plant, quarter boats, and any other items of plant that have an estimated replacement cost of \$300,000 or more (Reference ER 37-2-10, Chapter 15, Appendix A). Plant of lesser size and cost than those specified may be included in a non-group category when more detailed data is desired for this type of plant; otherwise it is reported as a grouped item.

m. Master Plan. The document guiding the use and development of the natural and manmade resources of a given project or group of projects.

n. Minor Plant (Group). Included in this category are miscellaneous small items of floating and land plant which may be grouped into units of the same type and of approximately the same size or service capability, such as vehicles, small barges (barges smaller than 195 feet x 35 feet), or tractors. This grouping provides a broader base for the distribution of maintenance and repair costs. A group generally should consist of two or more similar items of plant, but may consist of a single item of plant if only one item of a class is utilized by the USACE element.

o. Operational Management Plan (OMP). A five-year management action document that describes in detail how resource objectives and concepts prescribed in the master plan shall be implemented and achieved. OMPs serve as the basis for project budgets.

p. Peer. An individual who has extensive experience in and/or knowledge of specific Operations, Construction, and Readiness (OCR) programs. This individual may be a manager or a technical specialist at any level of the Corps organization. Retired Corps professionals and representatives from other governmental agencies, colleges and universities, and professional organizations are also included.

q. Project. Water resource development lands and waters for which the Corps of Engineers has administrative responsibility.

r. Preventive Maintenance. Preventive maintenance is based on a well developed program of systematic inspection, lubrication, and repair of equipment and facilities which, when put into practice, shall ensure optimum utilization of equipment and facilities of the project. A timely preventive maintenance program reduces, and virtually eliminates breakdown of essential equipment and, if properly carried out, will substantially reduce major overhaul and repair of equipment essential to fulfilling the project functions.

s. Voluntary Service. Voluntary service is official Government business, having some value to the Corps, conducted by volunteers under the direction of a paid Corps staff member.

t. Volunteer. A volunteer is any person who performs work for the Corps of Engineers for which he or she receives no pay from the Corps. A volunteer is not an employee of the United States Government except for the purposes of Chapter 171 of Title 28 of the USC, relating to tort claims, and Chapter 81 of Title 5 of the USC, relating to compensation for work injuries.

## CHAPTER 2 - PROJECT MANUALS

2-1. Purpose. This chapter establishes the policy for operation and maintenance (O&M) manuals, excluding water control manuals, for completed civil works projects operated and maintained by the Corps of Engineers.

2-2. Policy. It is the policy of the Corps of Engineers that:

a. District commanders (includes operating major subordinate commanders) are responsible for developing, maintaining, and distributing an up-to-date operation and maintenance manual for each civil works project under his/her supervision.

b. An O&M manual will be initiated during preconstruction engineering and design of a project, and be developed during the construction and equipment installation phases at a project, if possible. A draft manual should be available during commissioning or start-up so corrections can easily be made. The final manual will be available within six (6) months.

c. Project O&M manuals will be updated systematically. Each district command is responsible for developing, implementing, and maintaining a plan to provide for updates to the O&M manual at each completed civil works project. Manuals will be updated at least every 10 years and after every major rehabilitation. The update will consist of, at a minimum, a formal review, with revisions if necessary.

d. The O&M manual will be written so as to focus on the needs of future project personnel who may not be familiar with the O&M history of the project. The following is a list of the primary material categories to be included in the O&M manual:

(1) A conceptual description of the use, operation, and interrelationship of the project facilities' various systems and subsystems.

(2) A description of the theory of the facility system and equipment, developed to the level one would expect a journeyman craftsperson to understand. This shall include operating limits and criteria of the major project equipment and facilities, as well as schematic, circuit, and piping diagrams and drawings. It is not necessary to describe the equipment and features in detail.

(3) A narrative including the operating instructions and explanation of the functioning of only the more critical and complicated project equipment and systems, i.e., those with which project personnel may not be generally familiar. Major automatic and remote control systems; protective relay schemes for the major power equipment and facilities; complicated or seldom used procedures and emergency actions and procedures related to major project equipment or facilities are some examples of items in this category. Reference should be made to information available in manufacturer's instructions and drawings, the project maintenance control system, project drawings, and project files when such information shall ensure a comprehensive understanding of the operation and maintenance of equipment and facilities.

(4) A description of the level of maintenance performed on each system and subsystem, including the benefits gained from tracking specific maintenance measurements.

(5) A cross-reference of facility system and subsystem O&M activities to any applicable safety or environmental issues.

e. The O&M manual will include coverage of all O&M subjects required by the Project Cooperation Agreement (PCA) or other agreements, if applicable, and existing laws and regulations, in detail sufficient to ensure proper O&M accomplishment. Appendix B discusses the sections of a suggested table of contents.

f. Distribution. At least one copy of the manual, or manuals, will be available at all times in the project office, or the headquarters of the activity to which it pertains, for the operations and maintenance personnel. One copy of each project's manual, or manuals, will be available in the office of the applicable MSC and District Commander. The manuals need not be submitted to the Commander, HQUSACE.

2-3. Approval. The original and any subsequent revisions to the O&M manual require approval of the MSC Commander. However, the MSC Commander is hereby authorized to delegate the approval authority to the District Commander.

## CHAPTER 3 - MAJOR REHABILITATION PROGRAM

3-1. Purpose. This chapter establishes the policy for major rehabilitation at completed Corps of Engineers projects and determinations of whether such rehabilitation should be accomplished under the Major Rehabilitation Program with Construction, General funds, or for applicable projects, with Construction funds under the Flood Control, Mississippi River and Tributaries appropriation title.

3-2. Policy. It is the policy of the Corps of Engineers that:

a. A Major Rehabilitation Program shall be implemented and maintained for construction of infrequent, costly structural rehabilitation or major replacement works that are intended to improve reliability or efficiency of a Corps project or a principal feature thereof. A conceptual approach to major rehabilitation analysis can be found in "Guidance for Major Rehabilitation Evaluation Reports." Specific criteria for inclusion of projects in the Major Rehabilitation Program and guidance for justification and programming of major rehabilitation projects is provided in Chapter 3 of EP 1130-2-500.

b. Major rehabilitation projects shall require budget justification and other supporting data similar to the budget information prepared for new start construction projects. Specific guidance on such data for each fiscal year will be provided in that year's Budget Guidance Engineer Circular.

c. In case of emergency rehabilitation, where delays would jeopardize the safety of the project, reprogramming of existing Operation and Maintenance, General funds shall be considered in consultation with HQUSACE.

d. The Major Rehabilitation Program is not applicable to local protection projects, dams, or other works turned over to local interests for operation, maintenance, and major replacement.

e. Plans and specifications shall be prepared, reviewed, approved and distributed in accordance with the requirements of ER 1110-2-1200.

3-3. Funding. The reporting officer may, upon receipt of approval of a Major Rehabilitation Evaluation Report, conduct design studies and prepare a design memorandum and plans and specifications using funds from the Operation and Maintenance, General appropriation, except that plans and specifications shall not be initiated in cases where the design memorandum requires approval of HQUSACE until such approval is received.

## CHAPTER 4 - PROGRAM EVALUATION THROUGH A PEER REVIEW PROCESS

Reserved

## CHAPTER 5 - PROJECT MAINTENANCE

5-1. Purpose. This chapter establishes the policy for facilities and equipment maintenance programs for Civil Works projects, which are operated and maintained by the Corps of Engineers..

5-2. Policy. It is the policy of the Corps of Engineers that:

a. Each Civil Works project shall have an individual project maintenance program. It will be based on the guidance in this chapter, appendixes C and D, Chapter 3 of EP 1130-2-550, and on the project operation and maintenance manual. The Operations Project Manager (OPM) is responsible for balancing the project maintenance resources across the functional areas (i.e., flood control, navigation, hydropower, recreation, etc.) and assuring that the appropriate level of maintenance is performed. The District Chief of Operations or Construction/Operations is the person responsible for the overall management of the District's Operation and Maintenance (O&M) Program, is responsible for the appropriate balancing of O&M resources among the District's projects. The MSC Operations or Construction/Operations element is responsible for the appropriate balancing of O&M resources among the districts.

b. All applicable occupational and public safety standards shall be followed in all project maintenance activities.

c. The following standards shall be used in establishing inspection and maintenance priorities for the various facilities and items of equipment at projects:

(1) Priority A: Those items of equipment or project facilities where a failure would be critical with respect to the functioning of the project to accomplish its assigned mission; would endanger the health and safety of the public or project employees; or would cause substantial losses.

(2) Priority B: Those items of equipment or project facilities where a failure may cause considerable inconvenience but would not affect functioning of the project in performing its assigned mission; would not seriously affect the health and safety of the public or project employees; or would not cause other than moderate or insignificant losses.

d. Maintenance of projects shall be based on a program of planned preventive maintenance.

e. Breakdown maintenance shall be minimized to the greatest extent possible.

f. A maintenance control system shall be instituted and maintained, wherein equipment inventories, inspection frequencies, and repair histories are kept current.

g. To plan for the use of interchangeable parts and equipment within and across projects but only as original equipment at new projects or as a normal part of equipment replacement schedules for existing projects. Operation and maintenance managers in MSCs should provide direction to implement this policy across the MSC projects.

5-3. Inspections. A maintenance program is based on inspections and their related degrees of servicing, adjustment, and repair. It is essential that completed projects be adequately maintained and effectively operated if they are to produce all of the potential benefits and return full value for the funds invested in their construction. Inspections are costly in labor and are, therefore, a factor in controlling the cost of the program. The fewer the inspections needed, the lower the cost. At the same time, the maintenance work must be carried out economically and to acceptable standards. The objective is to obtain a favorable balance between inspection costs and the cost of repairs and replacements that could be avoided by timely and thorough inspections.



## CHAPTER 6 - SIGN STANDARDS PROGRAM FOR CIVIL WORKS PROJECTS

6-1. Purpose. This chapter establishes the policy for the Corps Sign Standards Program.

6-2. Policy. It is the policy of the Corps of Engineers that:

a. Districts and MSCs shall appoint Sign Program Managers from the Natural Resources Management element who shall be responsible for ensuring that the Sign Standards Program is properly managed. In all cases, the district or MSC sign program manager shall be separate from the district or MSC graphics coordinator. As new district or MSC sign program managers are appointed, the National Sign Program Manager, HQUSACE, (CECW-ON), Washington, D.C. 20314-1000, shall be advised.

b. The Sign Standards Manual (EP 310-1-6a & 6b) shall be used in the planning, design, fabrication, and maintenance of all signs installed at Corps civil works projects. Deviations from the standards shown in the manual are not permitted.

(1) All caution, warning, and danger signs shall be used exactly as shown in the Sign Standards Manual, with no changes whatsoever in the wording.

(2) To ensure consistency, all orders for new signs for civil works projects shall be approved by the district Sign Program Manager.

(3) If the wording for a sign is not appropriate for the condition being signed, the requester shall contact the District or MSC Sign Program Manager for advice on the proper course of action to be taken.

c. Program implementation at the field level shall be in accordance with the guidance set forth in EP 310-1-6a & 6b and EP 1130-2-500.

d. Operations Project Managers shall manage the phase-in of all signs at flood control projects to ensure that it is completed by 1 January 1998. All safety critical waterways signs shall be in place at waterways projects by 1 January 2001 (site specific deferrals by 1 January 2003). All other waterways signs shall be in place by 1 January 2006.

## CHAPTER 7 - PLANT

7-1. Purpose. This chapter establishes the policy for all aspects of Civil Works plant. This introduction covers administration, supervision, ownership, use, rehabilitation, retention in service, and replacement of all types of plant, including aircraft, owned under the Revolving Fund or Project accounts.

7-2. Policy. It is the policy of the Corps of Engineers that:

a. Federal plant shall not be acquired or retained unless it is clearly evident that utilization of such equipment shall result in a more efficient and economical operation than the use of privately owned plant. Ownership of floating or land plant and aircraft shall be based on the need to satisfactorily perform an authorized mission that cannot be accomplished economically by other means, including the use of contract facilities.

b. Retention of Plant.

(1) Justification for the replacement, rehabilitation, or retention in service of Federal plant that is considered to be obsolete or which has reached the end of its estimated life shall be based on a complete economic analysis of all pertinent factors, including at least the following: workload, safety, operating efficiency, and maintenance requirements. Guidance on the analysis and justification of replacement, rehabilitation, or retention of plant can be obtained from CECW-O.

(2) Annual review of the usage data maintained on plant shall be conducted to determine whether the basis for retaining plant should be reanalyzed. When this review shows the annual usage for the prior year or the estimated usage for the next year to be less than 45 days, the plant shall be declared excess, or a report justifying its retention shall be made to HQUSACE. When it is conclusively demonstrated that a minimum of plant is being retained to satisfactorily perform an authorized mission, such plant may be retained. Plant retained for emergency service, such as fire fighting and first response for structural emergencies with an annual usage less than 45 days, shall be reported to MSCs. Retention of plant used for emergency service shall be approved by MSC Commanders on such frequency as they deem appropriate.

c. Use of Structures and Facilities.

(1) Repair shops, boatyards, drydocks, marine ways, depots, garages, storehouses, office buildings and grounds, and similar facilities acquired for general use on MSC or district river and harbor and flood control projects shall be designated under the Revolving Fund. Other Federal or privately owned facilities which can be adapted and used for essential purposes shall not be duplicated.

(2) Cost accounting procedures, including depreciation, dockage, and other charges for structures and facilities noted above, are covered in ER 37-2-10. The cost of depreciation, maintenance, and operation of buildings and grounds pertaining to MSC and district offices will be distributed in accordance with the provisions of ER 37-2-10.

d. MSC commanders are responsible for establishing an effective supervisory program for plant activities.

e. District commanders are responsible for the development and administration of an active program for plant activities, including acquisition, replacement, inspection, maintenance, repair and operation of plant required, and funding such activities to the fullest extent practicable (directly or indirectly) from authorized civil works projects. The basic objectives of the plant activities program shall include, but not be limited to, the following:

- (1) The establishment of minimum plant requirements based on authorized routine or emergency work.
- (2) The establishment of minimum requirements for shop, yard, and warehouse facilities to adequately repair plant and maintain locks, dams, and other structures.
- (3) The elimination of unnecessary plant procurement by redistribution of excesses within the district, or by transfer from other MSCs, districts, or Federal agencies.
- (4) Prompt disposal of surplus plant by circulation of excess plant listings, by transfer, or by sale.
- (5) The establishment of adequate controls over plant maintenance, operation, and repairs to ensure safe, economic, and efficient operation, that repair authorities are not exceeded, and only essential repairs are made.
- (6) Ensuring that group and non-group plant operation rates are adequate to provide for depreciation, cessation, small tools and operating costs, along with a factor for repairs and overhaul in advance of incurring such costs. Also, ensuring that all costs incurred are realistically distributed in the fiscal year for which they were incurred.

f. Except as provided for in Section 4 of this chapter, Federal equipment, facilities, property, or manpower shall be used only for the accomplishment of work at authorized civil works projects. Even the appearance of misuse of public property shall be avoided.

#### Section I. Design, Acquisition, and Construction

7-3. Purpose. This section establishes the policy for the design, acquisition, construction, and alteration of all civil works plant.

7-4. Policy. It is the policy of the Corps of Engineers that:

a. Design efforts for civil works plant and equipment shall be limited to the minimum necessary to define the mission and performance requirements, encourage competition, and acquire appropriate plant suitable for use in the intended service.

(1) Designs for the construction or alteration of all major items of floating plant which are not readily available on the commercial market, or for which manufacturers' standard designs are not suitable for use, shall be prepared by the USACE Marine Design Center (MDC).

(a) Criteria set forth in Chapter 7 of EP 1130-2-500 and Engineer Manual 385-1-1 shall be followed for design and construction of all civil works plant.

(b) Certificates of Inspection, Classifications, and Certifications of other regulatory

agencies required and acquired during construction of a vessel shall be maintained by the operating Field Operating Activity (FOA).

(2) To the maximum extent possible, floating plant shall be standardized within the Corps.

(a) Unique designs shall not be created for vessels which are currently either in the Corps' existing inventory or are common commercial vessels, unless dictated by mission requirements. General Design Memoranda must contain justification for unique designs. The review and approval of floating plant design is set forth by the USACE Marine Engineering Board.

(b) Barges shall be standardized throughout the Corps as established by the Marine Engineering Board.

(c) Fuel tanks on vessels shall not have a common boundary with the sideshell, unless a waiver is obtained from HQUSACE, CECW-OD.

b. The authority to initiate Design Effort to acquire floating plant or make capital improvements to existing vessels, shall be requested by the owning district as soon as the need is established. Specific guidance on the format of the request, the required documentation and justifications, and the delegations of authorities are provided in Chapter 7 of EP 1130-2-500.

c. A new Major Item New Start (MINS) request shall be submitted to HQUSACE when up to 35% of the Design Effort has been carried out. Completion of the Preliminary (Concept) Design and preparation of General Design and Feature Design Memoranda meets this requirement. Specific guidance on the format of the request and the required documentation and justification are provided in Chapter 7 of EP 1130-2-500. Document narrative requirements are discussed in Chapter 15 of this regulation.

d. Design Memoranda.

(1) A General Design Memorandum (GDM) shall be prepared and submitted for approval to HQUSACE for each item of plant to be acquired and for major alterations of existing plant. All GDMs for floating plant shall be prepared by the MDC, or by the district authorized to complete the Design Effort. Each design memorandum shall reflect the complexity of the plant involved. Chapter 7 of EP 1130-2-500 contains an outline for GDMs for Major Items of plant. Design of major floating plant by other than Marine Design Center shall be fully justified.

(2) A Feature Design Memorandum (FDM) shall be prepared and submitted for approval to HQUSACE for each item of plant to be acquired, and for major alterations of existing plant. All FDMs for floating plant shall be prepared by the MDC, or by the district authorized to complete the Design Effort. However, for less complex projects, the technical specifics of the FDM can be incorporated into the GDM. Chapter 7 of EP 1130-2-500 contains an outline for FDMs for major items of plant.

e. Plans and Specifications.

(1) The preparation and approval of plans and specifications for the construction and/or alteration of all floating plant shall be in accordance with the provisions provided in Chapter 7 of EP 1130-2-500. Plans and specifications shall be based on the provisions of the approved

General Design Memorandum. Approval of HQUSACE shall be obtained for any substantial departure from approved design memoranda found necessary or desirable during the preparation of plans and specifications.

(2) Plans and specification for Major Items of floating plant shall be prepared by the MDC and approved by the respective District Commander, the Marine Engineering Board, or HQUSACE, as appropriate. The District Commander shall furnish approval action to the MDC.

(3) Plans and specifications for floating plant for which execution has been granted to the owning district, shall be prepared by or under the supervision of the owning district and approved by the MSC. A Biddability and Constructability Review is the responsibility of the owning district. MDC shall be furnished copies of the contractual documents and modifications; the involvement of the MDC in the district's design process shall be determined by the Marine Engineering Board.

f. Inspection of Construction. A Quality Assurance Plan shall be prepared for the construction and/or alteration of floating plant under contract. The plan shall describe the contract management organization, the responsible staff, the skills and experience available, and the estimated Supervision and Inspection cost.

g. Standards for Floating Plant Construction.

(1) All floating plant shall be constructed, equipped and manned to meet the same requirements as imposed on private industry owners and operators of similar marine equipment by the laws of the United States and of the State(s) where constructed or employed. Vessels shall be certified and classed for their intended use and purpose. District commanders shall maintain these certificates and classifications for the life of the vessel. Procedures for arranging certifications and classifications from the U.S. Coast Guard and the American Bureau of Shipping are provided in Chapter 7 of EP 1130-2-500. A waiver for classing and certifying vessels can be obtained from HQUSACE, such as GSA schedule vessels.

(2) New floating plant and, where practical, alterations to existing plant shall be designed and constructed in accordance with the applicable current rules and regulations of the organizations, agencies, and offices listed in Chapter 7 of EP 1130-2-500.

## Section II. Floating Plant Identification and Record Information

7-5. Purpose. This section establishes the policy for naming, marking, and recording items of Corps of Engineers floating plant.

7-6. Policy. It is the policy of the Corps of Engineers that:

a. HQUSACE approval shall be obtained for the naming, and other proposed designations of all floating plant. No item of floating plant shall be named in honor of a living person.

(1) Preference shall be given to names of deceased officers and employees of the Corps of Engineers, or to names of waterways or other geographical features of regions in which the items of floating plant are to operate, or historical names directly connected therewith. When the name of a deceased person is to be assigned, the surname only shall be used rather than including

the title, first name and initials for the vessel designation.

(2) District commanders are authorized to assign numbers or combinations of numbers and letters consistent with a uniform numbering procedure, for minor items of plant. Only numerical designations shall be assigned to barges, scows, flats and minor item of plant such as small boats, skiffs, etc. One copy of the approving or assigning document, or the notification of assignment of each vessel designation shall be furnished to the Commander, HQUSACE, Attention: CECW-OD.

b. Standards for Marking Floating Plant.

(1) Names and/or other designations of floating plant shall be placed on vessels in accordance with Chapter 7 of EP 1130-2- 500. The words "CORPS OF ENGINEERS" and "U.S. ARMY" shall appear on or near the stern of all vessels. Vessel designations shall be displayed on both sides of the bow and on the stern of the hull proper and, where appropriate, on name boards located above the weather deck.

(2) Names and/or other designations shall be placed on the exterior of launches and similar type craft in the following locations: name boards, both port and starboard bows, and across the stern. Lettering style and wording shall be in accordance with Chapter 7 of EP 1130-2-500.

c. Descriptive Data.

(1) Whenever items of floating plant, both Revolving Fund and Project-owned, of the types indicated in Chapter 7 of EP 1130-2-500 are constructed or otherwise acquired, data thereon shall be compiled on the applicable ENG Form 33A through E, "Description of Plant" (available from the USACE Publications Depot), and a copy of the form shall be transmitted to HQUSACE, Attention: CECW-OD within 30 days after delivery and the plant is placed in service. In the event alterations made to plant require correction of data previously submitted, copies of revised forms shall be transmitted within 30 days after completion of the alterations.

(2) Whenever items of floating plant, Revolving Fund and Project owned, of the types listed in Chapter 7 of EP 1130-2-500 are constructed or otherwise acquired, record photographs shall be made and submitted to HQUSACE, Attention: CECW-OD.

d. Vessel Registration. When a vessel is purchased or otherwise acquired, the District Commander shall determine the requirements for registering the vessel with the United States Coast Guard (USCG), the American Bureau of Shipping (ABS), and the United States Public Health Service (USPHS).

Section III. Plant Inspection, Maintenance, Operation and Repair

7-7. Purpose. This section establishes the policy for the inspection, maintenance, operation, and repair of all civil works Revolving Fund and Project-owned floating plant.

7-8. Policy. It is the policy of the Corps of Engineers that:

a. Inspection.

(1) District commanders shall arrange for inspection and certification by the U. S. Coast Guard Officer in Charge of Marine Inspection (OCMI) of all self-propelled vessels in accordance with applicable provisions of 46 CFR and the provisions of the Inspection Agreement found in Chapter 7 of EP 1130-2-500, unless a waiver is obtained from CECW-OD. Any deficiencies reported by Coast Guard inspectors shall be corrected without delay so that required documents may be obtained. When plant is not in use, inspection and certification is at the option of the District Commander.

(2) All floating plant not covered in paragraph 7-8a(1)above, and those for which a waiver has been obtained, shall be maintained and operated in accordance with the regulations of the United States Coast Guard. This requirement does not contemplate registry of such craft with the USCG, ABS, and USPHS, nor inspection by the Coast Guard. In lieu of such registry or inspection, each vessel in this category shall be initially inspected by a representative of the District Commander to develop the equipment required for safe operation and the permissible number of persons that may be carried on board.

(3) Floating plant steam boilers and unfired pressure tanks shall be inspected in accordance with USCG regulations and ASME code. A record of such inspections shall be posted, under glass, in the engine room.

(4) When a major conversion or rehabilitation is accomplished which involves the safety of the vessel, the District Commander shall determine whether an inspection by the Coast Guard, ABS, and USPHS is warranted.

b. Maintenance and Repairs.

(1) All floating plant shall be maintained and repaired to meet the requirements imposed by HQUSACE, applicable provisions of 46 CFR, the laws of the United States, and any state in which it is operated.

(2) Additions, betterments, and repairs shall be performed in accordance with applicable rules or regulations of HQUSACE, American Bureau of Shipping, U.S. Coast Guard, the U.S. Public Health Service, and the American Boat and Yacht Council (ABYC).

(3) District Commanders shall annually evaluate the general condition of all their floating plant to determine which units shall require repairs or replacements and/or additions and betterments during the next repair period.

c. Operations.

(1) All floating plant shall be operated to meet the requirements imposed by HQUSACE, and the laws of the United States and any state in which it is operated. Hopper dredges shall not be operated in excess of the draft limitations established by CECW-OD, unless a waiver is obtained from CECW-OD.

(2) Officers and crew of self-propelled floating plant inspected and certificated by the U. S. Coast Guard or, not covered under paragraph 7-8c(3)below, shall be licensed and/or documented by the U. S. Coast Guard.

(3) Operators of USCG uninspected self-propelled floating plant, up to and including vessels 65 feet in length shall be qualified and licensed by the U. S. Coast Guard or as required by ER 385-1-91. The operation of all floating plant shall be in accordance with the requirements of EM 385-1-1. Chapter 4 of ER 1130-2-500 describes the limitation of floating plant to official business.

(4) District commanders shall report to HQUSACE, Attention: CECW-OD the annual schedule and each significant change in location of the Corps Minimum Fleet dredges.

(5) Manning and Licensing. As a minimum hopper dredges of the Corps of Engineers shall be staffed with qualified personnel with U.S. Coast Guard license requirements in accordance with the USCG Certificate of Inspection.

d. All Plant.

(1) Authority for Acquisition. Acquisition of all revolving fund and project-owned aircraft, dredges, and all other floating plant shall be in accordance with the provisions of Chapter 7 of this regulation.

(2) Authority for Repairs - Revolving Fund. Authority shall be obtained from MSC commanders or HQUSACE, as appropriate, for annual repairs to revolving fund-owned floating plant.

(a) Non-Group Plant. Full authority is delegated to MSC commanders for repairs to non-group plant; however, whenever the total estimated cost of repairs, replacements and small tools during any fiscal year is over 25 percent of the estimated replacement cost of the plant as corrected by ER 37-2-10, a letter of justification for repair in lieu of replacement or rehabilitation shall be submitted to HQUSACE, CECW-O. Authority of district commanders is as delegated by MSC commanders.

(b) Group Plant. Full authority is delegated to MSC commanders for repairs to group plant. District commanders are authorized to accomplish repairs, as required, provided the total cost does not exceed the currently approved total annual group-repair cost.

(c) Emergency. Full authority is delegated to MSC commanders; however, if total estimated cost of repairs and replacements of any item of non-group plant for any one emergency is greater than 30 percent of the total cost of the plant or \$25,000, whichever is the larger amount, a letter of justification for repair in lieu of replacement or rehabilitation shall be submitted to HQUSACE, CECW-O. All or partial authority may be redelegated to district commanders by MSC commanders. (The term "emergency" applies to work required due to accident or breakdown of machinery while plant is in actual commission.)

(3) Authority for Repairs - Project-owned.

(a) Floating Plant - Full authority is delegated to MSC commanders for repairs to floating plant except when the total estimated cost of repairs and replacements during any fiscal year is over 25 percent of the estimated replacement cost of the plant. In this case, a letter of justification for repair in lieu of replacement or rehabilitation shall be submitted to HQUSACE, CECW-O, for approval.



(b) Other Plant - Full authority is delegated to MSC commanders for repairs to all other plant. Authority of district commanders shall be as delegated by MSC Commanders.

(4) Authority for Additions and Betterments. Additions and betterments for all revolving fund-owned and project-owned plant shall be in accordance with Chapter 15 of this regulation.

#### Section IV. Use, Loan, Lease, and Hire of Plant

7-9. Purpose. This section establishes the policy for the use, loan, lease, and hire of floating plant, land plant, and other civil works construction equipment and facilities.

7-10. Policy. It is the policy of the Corps of Engineers that:

a. Use of Vessels and Other Conveyances.

(1) In accordance with the Act of July 31, 1947, 61 Stat. 688, 33 USC 575, which provides that, "Hereafter no appropriation under the Corps of Engineers shall be available for any expenses incident to operating any power driven boat or vessel on other than government business, and that government business shall be construed to include transportation, lodging, and subsistence on inspection trips of Federal and state officials, having a public interest in authorized or proposed improvements for river and harbor and flood control, and any expenses incurred therefore shall be chargeable to river and harbor and flood control appropriations heretofore or hereafter made under rules and regulations to be prescribed by the Chief of Engineers: Provided, That such expenditures shall be certified by the Division Commander as necessary and proper expenditures:"

(2) Commanders who authorize a trip by a Corps of Engineers vessel with guests, other than district employees on official business or for Federal or state officials, shall prepare and file a detailed statement outlining the purpose and scope of the trip.

b. Use of Corps of Engineers Plant in an Emergency to Save Life or Property.

(1) Commanders of separate activities are granted the authority to use or loan government vessels and other equipment when life is endangered by a sudden emergency. Reimbursement is not required when Corps of Engineers plant is used to save life. Use of Corps plant is also permitted to save private property, provided suitable privately-owned vessels or equipment are not available and the plant can be spared without significant detriment to Corps of Engineers work. When Corps of Engineers plant or equipment is used to save private property, the owner shall be billed for only "out of pocket" expense incurred by the United States.

(2) Masters and others in charge of operating Corps of Engineers floating plant are authorized to aid nearby vessels in distress and attempt to save the lives of those endangered; provided that the safety of their plant and crew are not unduly jeopardized. Masters and others in charge of Corps of Engineers floating plant may issue sufficient fuel or supplies to private boat owners to enable them to reach port safely.

(3) A report, including sufficient details to describe the necessity for use, shall be promptly made to the MSC each time Corps of Engineers equipment is used or issued to save life or private property.

c. Loan of Plant between Districts or Projects.

(1) District commanders are delegated the authority to approve loan of plant to another district or between the owning district's projects.

(2) During the loan period, the borrowing district shall:

- bear all operating expenses for labor and supplies;
- have responsibility for operation of the plant while on loan, except that the owning district may have a representative visit the plant to evaluate the operating efficiency, condition of maintenance, personnel morale, and the necessity for future repairs;
- conform to the plant operation procedures of the owning district.

(3) Except as outlined below, all replacement and major repair (including general overhaul) costs to revolving fund-owned plant shall be charged to the appropriate plant rental account or plant operating account. Costs for replacement and repairs, including towing and similar expenses caused by accidents or damages ordinarily covered by insurance in commercial practice, shall be charged to the owning district's insurance account. This account shall also be charged with costs of damage to private property caused by revolving fund operations, including reimbursement to employees for loss of personal property. When project plant is involved, the above costs shall be charged directly to the project account.

d. Loan of Plant and Other Property to Corps of Engineers Military Activities and Other Federal Agencies. District commanders are delegated authority for the loan of floating plant to Corps of Engineers military activities or other federal agencies, except where the loan term exceeds three (3) years; for loan of land plant equipment and other property; and the loan of shop and yard equipment on a fully operated basis. Leases and licenses of real property shall be accomplished in accordance with ER 405-1-12. Loan of civil works-owned plant or property to military activities shall not be approved when contrary to military regulations, or where restrictions on the use of military funds preclude reimbursement to civil accounts for its use.

e. Corps of Engineers Policy on Lease of Plant and Other Equipment to State, Political Subdivisions, and Private Parties.

(1) Corps of Engineers plant and other equipment shall not be leased to states, their political subdivisions, or to private parties, except where an urgent and essential need exists and all efforts to obtain such plant and other equipment from private sources have failed, or the district commander determines it to be in the best interest of interagency cooperation and contribute to long term benefit to the public. District commanders are delegated the authority to lease plant, equipment, and other property to states, their political subdivisions, and to private parties, except as provided above, if the term of the lease is for three (3) years or less and in accordance with ER 405-1-12. This policy does not apply when the plant and other equipment is required for emergency use to save life or property.

(2) Use of Shop and Yard Facilities. District commanders may permit the use of Corps of Engineers shop and yard facilities by States, their political subdivisions, or private parties, subject to the following conditions:

(a) The facilities remain under the complete and continuous control of the District Commander.

(b) Adequate evidence has been presented that similar privately owned facilities are not available.

(c) No detriment to Corps of Engineers work shall result from the use of the facilities.

(d) That urgent and essential need exists for use of the facilities, e.g., threatened disruption of an essential service.

(e) The use period shall not extend beyond 30 calendar days, nor shall the aggregate charges exceed \$100,000.

(f) Charges shall include adequate provision for personnel, rental, materials, supplies, and all other services provided, plus overhead at the district hired-labor rate. This total shall then be increased by a 25 percent surcharge to provide more complete protection of the public interests.

f. Hire of Floating Plant. The Act of May 28, 1906, 34 Stat. 204, 46 USC. 292, provides in part that, "a foreign-built dredge shall not, under penalty of forfeiture, engage in dredging in the United States unless documented as a vessel of the United States." District commanders are delegated authority for hire of floating plant provided that the rental period does not exceed one year; the total rental cost shall not exceed \$2,000,000, or the total of the approved current work allowance, whichever is the lesser amount; and that the lessor releases the government and its officers and agents from all responsibility for damages, such as are ordinarily covered by insurance.

g. Authority for Hire of Land Plant and Other Construction Equipment. District commanders are delegated authority for hire of land plant and other construction equipment.

#### Section V. Plant Ownership, Operating Cost, Utilization, and Rate Computations

7-11. Purpose. This section establishes the policy for the supervision, management, utilization, recording, and calculation of costs of all plant owned by, or on loan from, the revolving fund.

7-12. Policy. It is the policy of the Corps of Engineers that:

a. All charges for the use of revolving fund plant and facilities shall be determined and reviewed quarterly to ensure that these charges are fair, reasonable, and realistic, and that account balances are reasonable and within allowable tolerances, in accordance Chapter 7 of EP 1130-2-500.

(1) When circumstances prohibit rate adjustment to nominal levels within 180 days, a justification report and account balance shall be submitted to CECW-OM.

(2) Excess debit or credit balance that would materially distort the current operating rate if recovered in one year shall be recovered in not more than three years.

b. Plant ownership and operating data for each item of plant owned by the revolving fund shall be determined and reported in accordance with Chapter 7 of EP 1130-2-500.

c. Utilization and costs of plant shall be recorded and reported in accordance with the format and frequencies provided in Chapter 7 of EP 1130-2-500.

d. Utilization, costs, and rates for plant shall be determined in accordance with the guidance on cost components and the formulas provided in Chapter 7 of EP 1130-2-500.

#### Section VI. Floating Plant Accidents and Damage

7-13. Purpose. This section establishes the policy on the investigation of damage by or to floating plant owned and operated by the Corps of Engineers.

7-14. Policy. It is the policy of the Corps of Engineers that:

a. Damage by Government-owned Vessels. The settlement of claim for damage by government-owned vessels shall be conducted in accordance with the provisions of the Act of 3 July 1943 (31 USC 223b), as amended by the Act of 28 June 1946 (PL 466, 79th Congress).

b. Damage to Government-owned Vessels. Pecuniary penalties and, in addition, liability for the amount of damages shall be sought as appropriate for violators of Section 14 of the River and Harbor Act, approved 3 March 1899, which makes it unlawful for any person or persons to damage, or in any manner impair the usefulness of any piece of plant, floating, or otherwise, used in the construction of the preservation and improvement of any of its navigable waters or to prevent floods.

c. Investigations. The possibility of negligence on the part of operating or supervisory personnel shall be considered in the investigation of all marine accidents to civil works floating plant. Investigations and reports of surveys should be completely unbiased in the disclosure of contributory causes. Where damage exceeds \$50,000, the accident shall be investigated in accordance with EM 385-1-1, "Safety and Health Requirements Manual." Other necessary investigations shall be conducted in accordance with AR 735-5. For investigations of property damage in excess of \$50,000 or fatalities, as a minimum, the Marine Design Center shall be furnished copies of investigations or participate in the investigation as appropriate.

#### Section VII. Corps of Engineers Marine Engineering Board

7-15. Purpose. This section establishes the USACE Marine Engineering Board, its composition, and objectives.

7-16. Policy. It is the policy of the Corps of Engineers that:

a. A Marine Engineering Board shall be established by the Director of Civil Works and administered by the Operations, Construction, and Readiness Division, HQUSACE. The objectives of the board shall be to:

(1) Continually evaluate design, construction, maintenance, and operations techniques of marine plant.

(2) Provide acquisition, managerial, and technical recommendations concerning marine plant.

(3) Provide information which will improve the operational efficiency of existing plant to HQUSACE.

(4) Prioritize procurements and advocate and promulgate standardization.

b. The Marine Engineering Board will be comprised of representatives of the Corps of Engineers. The representatives shall be senior civilian engineers of the Corps of Engineers who possess program and managerial experience, and expert knowledge and technical background in the design, construction, operation, and repair of marine plant. Members of the board and alternate representatives shall be nominated by their respective MSC offices, and appointed by the Director of Civil Works. The chairperson of the board may form committees or working groups as necessary to address specific operational, maintenance, repair, or administrative practices. Members of the committees or working groups will be determined by the board.

c. The following individuals shall be designated as the membership the Marine Engineering Board:

(1) The chairperson shall be the Chief of the Dredging and Navigation Branch, Operations, Construction, and Readiness Division, HQUSACE.

(2) The individuals who shall be designated as Members of the Marine Engineering Board are presented in Chapter 8 of EP 1130-2-520.

(3) The following representatives, or designated alternate, shall serve as permanent, non-voting advisors to the board:

(a) HQUSACE, Plant Replacement Improvement Program (PRIP) Manager shall serve as Program Advisor.

(b) HQUSACE, Chief, Programs Division, Civil Works Directorate, shall serve as Financial Advisor.

(c) Director, USACE Marine Design Center shall serve as Technical Advisor.

(4) Should conditions warrant, the chairperson of the board may request a representative of the cognizant MSC and/or district commander to serve as an advisor on the board to assist in resolving a unique or unusual dredge or marine plant related matter.

d. The board shall be responsible for the functions which are applicable to all Corps of Engineers marine plant outlined in Chapter 7 of EP 1130-2-500. Specific guidance on the responsibilities and administration of the Marine Engineering Board is provided in Chapter 8 of EP 1130-2-520.

## CHAPTER 8 - CORPS OF ENGINEERS ENERGY PROGRAM (CEEP)

8-1. Purpose. This chapter establishes the energy management policy for U.S. Army Corps of Engineers activities.

8-2. Policy. It is the policy of the Corps of Engineers that:

a. All Corps activities shall comply with Department of the Army energy policies and directives, including AR 11-27.

b. Reports to Department of Army (DA), Department of Defense (DOD), and Department of Energy (DOE) shall be the responsibility of the U.S. Army Center for Public Works (CAW) utilizing input from applicable reporting elements, reviewed by CEMP-E, CECW-O, and CERD-A.

c. Corps elements shall establish policies and practices, consistent with the DA policies and directives, designed to meet Corps energy conservation goals. The following goals apply to owned and leased facilities (processes and buildings) and vehicles used by Corps elements. (NOTE: Leased buildings or facilities are those non-federally owned buildings or facilities which the Corps uses and pays for utilities, directly or by reimbursement. Leased vehicles include those obtained from GSA as well as commercial leases.) Presidential EO 12902, "Energy Efficiency and Water Conservation at Federal Facilities," defines the energy goals to be from Fiscal Year (FY) 1985 to FY 05.

## CHAPTER 9 - COOPERATING ASSOCIATIONS PROGRAM

9-1. Purpose. This chapter establishes the policy for the USACE Cooperating Associations Program.

9-2. Policy. It is the policy of the Corps of Engineers that:

a. Cooperating associations to accomplish such broad goals as natural resource management, interpretation, and visitor service activities shall be encouraged at civil works water resource projects, fee-owned lands, and other areas for which the Corps has administrative and management responsibilities. Cooperative Agreements shall be entered into as determined appropriate by the District Commander.

(1) Principal and alternate points of contact for the Corps and the association at each location shall be established, identified, and maintained. The principal point(s) of contact for the Corps should be the individual(s) most directly related with coordinating the association's activities. For example, at a field project, the operations project manager, park manager or park ranger who coordinates with the association could be the principal point of contact.

(2) Corps personnel may not serve in a voting capacity on the governing board, or as treasurer for the association. Corps personnel may serve in an advisory capacity on the association's governing board or committees. Corps personnel may not act as the official representative of the association in any matter relating to the Corps, or the terms of this agreement. However, if the association has a membership program, Corps personnel may join and participate in membership activities.

(3) Creative identification of other activities, which are a benefit to the Corps of Engineers, is encouraged and can be approved by the District Commander. Associations aid the Corps through a variety of activities which may include the following.

(a) Supporting special events, interpretive, educational or scientific activities, exhibits, and programs, including presentations and demonstrations which further public understanding and appreciation of the mission of the Corps, and/or a particular water resources development project.

(b) Supporting natural resource management and/or public programs at or near Corps projects through conservation and educational activities and special events; and also by providing scientific, logistical, maintenance and other support.

(c) Acquiring display materials, historical objects, equipment, supplies, materials, goods, or other items, or services appropriate for management, operation, interpretive, educational and visitor service functions.

(d) Providing services to visitors through the sale, production, publication, and/or distribution of appropriate interpretive and educational items, such as publications, maps, visual aids, audio tapes, pamphlets, handicrafts, and other objects directly related to the recreation, scientific, interpretive, and educational goals and mission of a project, a group of projects, and/or the Corps as a whole.

(e) Acting as a principal distribution medium for those educational and scientific publications of the government and trade which relate to the Corps and/or project mission, mandate, or management efforts and provide the public with inexpensive and technically accurate materials.

b. The association shall not be charged for use of areas, facilities, utilities, janitorial services, routine or general maintenance when such use is incidental to the usual operation of the project, or area, or facility by the government. If the association's use of the Corps facility is over and above normal Corps operation costs for the facility, the Corps shall be reimbursed at an agreed upon, but nominal, cost in recognition of the services that the association is contributing to the public. Any necessary real estate instruments shall be a separate document from the cooperative agreement.

c. Corps personnel, during the course of their normal work, may assist associations by performing nominal duties, including sales (if applicable). Activities which may be performed or assistance to be provided (see above) by Corps personnel shall be described in writing and submitted to the District Commander for approval upon implementation of the agreement.

d. Cooperative agreements shall include descriptions of insurance, usage of facilities and equipment, services provided, staffing (i.e., Corps and non-Corps personnel), management responsibilities, non-profit status, prohibitions on selling artifacts, etc. shall be developed in accordance with Chapter 9 of EP 1130-2-500.



## CHAPTER 10 - THE CORPS OF ENGINEERS VOLUNTEER PROGRAM

10-1. Purpose. This chapter establishes the policy on accepting the services of volunteers.

10-2. Policy. It is the policy of the Corps of Engineers that:

a. The Commander, HQUSACE may accept the services of volunteers and provide for their incidental expenses to carry out any activity of the U.S. Army Corps of Engineers except policy making or law/regulatory enforcement as authorized under PL 98-63. A volunteer is not an employee of the Corps of Engineers except for the purposes of Chapter 171 of Title 28 of the USC, relating to tort claims, and Chapter 81 of Title 5 of the USC, relating to compensation for work injuries. Voluntary service is official government business, having some value to the Corps, conducted by volunteers under the direction of a paid Corps staff member.

b. Volunteers will not be used to displace any personnel of the Corps of Engineers. They may, however, perform duties which once were, or are presently, performed by Corps personnel or contractors.

c. USACE elements shall utilize volunteers wherever it is feasible, cost-effective, mutually-beneficial, and safe, and shall employ the procedures for the use of volunteers and all necessary forms as contained in the Volunteer Coordinator's Handbook, EP 1130-2-429.

(1) MSC offices shall be responsible for the coordination of volunteer programs within their MSC. The MSC coordinators shall monitor and evaluate volunteer programs within their districts, provide assistance to district counterparts, and act as a liaison between the districts and HQUSACE.

(2) District offices shall be responsible for administering the volunteer program and assigning a district volunteer coordinator. The coordinator shall be responsible for managing the district program according to policy to ensure that it meets the needs of the Corps and the volunteers. The district coordinator shall assist in assessing needs and identifying work that can be done by volunteers, advise volunteer supervisors in the proper use of volunteers, assist in recruiting efforts, develop and submit reports to MSC offices, handle inquiries regarding the program, and keep the district and project staff current on ideas and procedures for utilizing volunteers.

(3) Operations Project Managers are responsible for administering the Volunteer Program at the project level and for designating ad.

(4) An accepting official, who is the Corps staff member, shall be responsible for accepting the services of volunteers and for the proper observance of regulations while services are performed. The accepting official may also serve as the project volunteer coordinator, responsible for the local administration of the volunteer program. The coordinator ensures that volunteer service agreements and, if applicable, parental consent forms are completed, and that each volunteer or group of volunteers are assigned to Corps personnel who are responsible for the work performed. The volunteer coordinator, either directly or through a volunteer supervisor, shall ensure that the volunteer is properly oriented and trained and that his/her qualifications are adequate for the work to be accomplished.

d. Volunteers must be qualified to perform the work assigned. Additionally, they must be physically able to do the work. The accepting official may request the volunteer to complete a Standard Form 256, Self-identification of Handicap, or obtain a medical examination if there is a question regarding the volunteer's ability to perform assigned work. In special circumstances, the cost of medical examinations may be considered incidental expenses of the volunteer. These circumstances should reflect the need for medical examination and the value of the voluntary services that the Corps would receive.

e. Individuals from the private sector or other agencies, whose employers are donating their services to the Corps while still keeping them on their payroll (hosted workers) can be volunteers. Hosted workers perform voluntary services for the Corps, while being compensated in some way by another organization or agency. Off-duty Corps personnel and their families can be volunteers; however, personnel shall not be accepted as volunteers at any Corps installation for duties which are a continuation or extension of their official duties. Legal aliens may be volunteers. Children under the age of eighteen years may be volunteers provided they have the written consent of their parent or guardian. All child labor restrictions must be observed. Where appropriate, a volunteer may supervise other volunteers if the volunteer's supervisor is directly responsible to a paid staff member.

f. Volunteers are authorized to sell permits and collect fees from the public at campgrounds, day-use facilities, visitor centers, administration offices and other locations where fee collection is normally performed as a government function. The accepting official shall ensure that volunteers sign a statement (on the volunteer agreement or other document) that accepts the risk and liability of handing government funds. The accepting official shall also ensure that volunteers are properly trained in accordance with EP 1130-2-429.

(1) Volunteers are agents of the Army and are protected under 31 USC 3527(a). This statute states, in part, that "the Comptroller General may relieve an accountable official or agent of the agency responsible for the non-negligence loss or deficiency of public money, when the head of the agency decides that the official or agent was carrying out official duties when the loss or deficiency occurred, and the loss or deficiency was not the result of fault or negligence by the official or agent." Volunteers are strictly liable for all funds received and may be required to prove non-negligence for any loss in order to gain relief under the above statute.

(2) Volunteers must also obtain a surety bond from a federally-approved bonding institution for losses outside the purview of the above statute. Government funds may be used to cover the cost of surety bonds for volunteers. A surety bond is not a grant of relief for the volunteer nor does the Corps relinquish its rights against the bond or volunteer in a non-negligent loss case.

g. Commanders may enter into agreements with Federal Bureau of Prisons and State Correctional Systems concerning the use of civilian prison labor of Corps-managed water resource development projects. Individuals convicted of Federal and state crimes and participating in court-approved probation, work release, or alternate sentencing programs may serve as volunteers at the discretion of the accepting official; however, no person referred from a court-approved program, who has been convicted of any violent crime, crime against person, or crime involving the use of a weapon shall be utilized in the Corps of Engineers volunteer program in any manner.

h. Volunteers may be authorized to operate government-owned or leased vehicles,

vessels, or other equipment by the accepting official if deemed appropriate and beneficial. Government licensing policies apply to volunteers.

i. Volunteers may produce products for the Corps at off-site locations.

j. Personal safety equipment shall be provided by the government, if necessary, or purchased by the volunteer and considered incidental expenses of the volunteer. Injuries to volunteers shall be reported in the same manner as those involving Corps personnel. Volunteers shall not be used in work assignments in which Corps personnel would receive hazardous duty pay.

k. Volunteers receive the same benefits and protection as Federal employees under the Federal Employees Compensation Act (5 USC, Chapter 81) and the Tort Claims Act (28 USC, 2671-2680) and are considered to be Federal employees for only those purposes. Volunteers are offered this protection for personal liability as long as the volunteer is within the scope of his/her responsibilities. Volunteers are entitled to first aid and medical treatment for on-the-job injuries, as well as hospital care when necessary. When travel for receiving medical care is necessary, transportation may be furnished or travel expenses reimbursed.

l. Volunteers may be reimbursed for actual out-of-pocket expenses they incur in performing voluntary service when approved in advance and identified on the individual's Volunteer Agreement form. Such expenses might include, but are not limited to, local transportation costs, meals during duties hours, and personal safety equipment. Reimbursement for transportation expenses to and from the volunteers place of residence should be considered reasonable if, as a minimum, they are within the normal commuting distance from the work site.

(1) Meals and/or refreshments may be provided to large groups of short-term volunteers participating in special events if the cost per volunteer is reasonable in light of the service performed.

(2) Long distance travel expenses may be reimbursed in cases where it can be shown that the services of the volunteer will be of exceptional value to the Corps, and then only with the approval of the Commander. Such long distance travel must be accomplished under the authorities of Invitational Travel Orders and may be approved at the district level. The rate that volunteers may be reimbursed for long distance travel will not exceed the amount identified under the Joint Travel Regulation for Government employees under similar circumstances.

(3) Volunteers may also be provided campsites at civil works projects where their voluntary service occurs and not be required to pay a user fee. Corps policy on the use of government housing is provided in Chapter 13 of this regulation. If volunteers are housed in government provided quarters, they shall not normally be charged for such occupancy.

(4) Reimbursement of incidental expenses is not to be understood as salary, but as a compensation to offset the volunteer's personal cost of volunteering

m. Volunteers who come in contact with the public must be recognized as Corps volunteers as detailed in EP 1130-2-429. Volunteers are not authorized to wear the Corps Natural Resources Management (NRM) uniform patch or any other item of the official NRM Class A-B-C Park Manager/Ranger uniform.

n. Volunteers may be issued a certificate of appreciation, plaque or some other acknowledgment of voluntary service. Awards for volunteers cannot be considered incidental expenses. Special Act Awards or other cash awards are not authorized for volunteers. Special awards of appreciation may be awarded by a source outside the Corps. MSC offices are encouraged to develop award programs which recognize varying levels of volunteer service. Individuals or groups who perform exceptional voluntary service to the Corps of Engineers may be recommended to HQUSACE (CECW-ON) for possible special recognition.

o. Accurate records regarding the number of volunteers utilized, the number of volunteer hours donated, the value of those hours to the government, and the cost to the government of this volunteer service shall be maintained by project and reported annually as required by ER 1130-2-550, Chapter 12, "Natural Resource Management System." Letter reports may be required more frequently by district or MSC offices.

p. An Honorary Junior Ranger Program may be implemented, at Corps projects to foster proper stewardship of public lands and to reward children for commendable services on Corps projects. Specific implementation instructions shall be formulated by the District Commander with MSC concurrence, in accordance with the guidelines found in Chapter 10 of EP 1130-2-500.

## CHAPTER 11 - CONTRIBUTIONS PROGRAM

11-1. Purpose. This chapter establishes the policy on accepting contributions.

11-2. Policy. It is the policy of the Corps of Engineers that:

a. Contributions to provide for operation and management of recreation facilities and protection and restoration of natural resources at civil works water resource projects shall be accepted and used, as provided by PL 102-580, Water Resources Development Act, 1992 (106 Stat. 4838, 33 United States Code (USC) 2328, Section 203).

b. Contributions which are within current authorities, consistent with the Corps mission, and are for work items contained in an approved annual or five-year Operational Management Plan may be accepted in accordance with Chapter 3 of EP 1130-2-550. Only contributions which result in the sharing of operation and management costs and/or in the development of facilities which will not result in a significant net increase in O&M costs shall be considered for approval. Examples of acceptable contributions include:

(1) Projects for the protection, improvement, restoration, rehabilitation, or interpretation of natural resources, environmental features, recreation areas and facilities, or cultural resources. All facilities and work accomplished become the property of the Corps.

(2) Cash, funds, materials, and services. Specific guidance on accounting and reporting procedures are provided in ER 37-2-10, "Accounting and Reporting."

(3) Projects such as improving accessibility for disabled persons, providing water safety handouts, rehabilitating existing facilities, improving wildlife habitat, producing interpretive brochures and videos, planting native plants and trees, supporting endangered species recovery plans, and maintaining trails.

(4) Brochures or other publications. Any periodicals or pamphlets intended primarily for distribution outside the Corps must be approved by the HQUSACE Publications Advisory Committee before printing or reprinting.

(5) Contributed personal property, which shall be recorded, accounted for, and managed in the same way as other Corps property.

c. Real estate cannot be accepted under this program.

d. Individuals and groups, including governmental entities but excluding the project sponsor (i.e., the party with whom the water resource project has been jointly created), may make contributions.

e. Contributions received will be available for projects in addition to the allocated O&M budget and will not result in a reduction of allocated funds.

f. MSCs shall be responsible for the coordination of the contributions program within their command. District commanders shall be responsible for administering the contributions program within their district. They may delegate management of the program to operations

project managers. Commanders may accept or decline contributions in accordance with Chapter 11 of EP 1130-2-500 and paragraph g below.

g. Contributions may be declined at the discretion of the commander or operations project manager when they believe, because of the nature of the contribution, its use, conditions imposed, profit motive or the character or notoriety of the contributor, it may appear contrary to, compromising or inconsistent with the laws, regulations, purposes, principles, integrity, standing, or reputation of the Corps of Engineers, the United States Army or the government. Commanders/Operations Project Managers must decline any contribution that would create or give the appearance of a conflict of interest or have conditions inconsistent with the Corps mission.

h. Each location that collects contributions shall have a contributions plan that describes the work that will be accomplished with any potential contributions. The plan shall be reviewed and updated as necessary as work items are completed and new ones are added.

i. The Corps shall encourage participation in the contributions program by informing potential contributors in a diplomatic manner of the opportunities that are available.

j. Recognition shall be encouraged as a way to express appreciation to contributors and acknowledge the public support that has been received. Procedures for appropriate types of recognition and a sample Certificate of Appreciation are provided in Chapter 11 of EP 1130-2-500.

## CHAPTER 12 - CHALLENGE COST-SHARING PROGRAM

12-1. Purpose. This chapter establishes the policy for challenge cost-sharing agreements.

12-2. Policy. It is the policy of the Corps of Engineers that:

a. The challenge cost-sharing program, as authorized by Section 225 of the Water Resources Development Act of 1992, shall be used to provide opportunities for non-Federal public and private groups and individuals to contribute to and participate in the operation and/or management of recreation facilities and natural resources at Corps water resource development projects. Partnering with others provides a way to stretch the Corps of Engineers budget by sharing the cost of operating and/or managing recreation facilities and natural resources.

b. Challenge cost-sharing agreements at water resource development projects may be used to provide for the operation and/or management and development of recreation facilities and natural resources where such facilities and resources are being maintained at complete Federal expense.

c. Challenge cost-sharing agreements for recreation facilities may be entered into when they supplement Corps programs without increasing future Corps Operation and Maintenance (O&M) costs or result in reduced future Corps O&M costs, or, if future Corps O&M costs will be increased, when it is a sound business decision (e.g., any increase in O&M costs will be offset by future revenue increases).

d. Challenge cost-sharing agreements may be used for the identification, protection, improvement, rehabilitation, preservation, management, or interpretation of natural resources, environmental features, recreation areas and facilities, or cultural resources.

e. The challenge cost-sharing partner may contribute funds, including cash, materials, personal property, equipment, or services as their portion of the challenge cost-sharing agreement. In addition, the Corps may contribute to work accomplished by the partner. These contributed resources will be combined with regular project resources as a supplement to accomplish the work designated in the agreement.

f. Real estate cannot be accepted as a partner's share of a challenge cost-sharing agreement.

g. Work selected for challenge cost-sharing agreements shall be within current authorities and contained in the annual or five-year plan in the approved Operational Management Plan (OMP). Work will generally be accomplished during one fiscal year. Proposed work not in an approved OMP must be approved by the next higher management level.

h. Personal property that is contributed and accepted will be recorded, accounted for, and managed in the same way as other Corps property.

i. All facilities and work accomplished become the property of the government. The Challenge Cost-Share partner may not assume any ownership rights in the facilities constructed or in Federal lands involved in the cooperative effort.

j. Challenge cost-sharing agreements must be negotiated and executed with non-Federal

\* public and private entities before those entities may participate in challenge cost-sharing. The contribution by the Corps and the Challenge Cost-Share partner(s) is to be determined by negotiation on a case-by-case basis. Each agreement must address the mutual benefits of the work, what each party will provide, and administration of the agreement. A sample agreement format may be found in Chapter 12 of EP 1130-2-500. \*

\* k. MSC commanders are responsible for the administration of the challenge cost-sharing program within their MSC and for the approval/execution of challenge cost-sharing agreements that involve water resources projects from two or more of their subordinate districts. The MSC commander may assign these duties to a coordinator within the civil works operations element. The coordinator will monitor and evaluate the district-administered challenge cost-sharing program, provide assistance to district counterparts, and act as a liaison between the districts and HQUSACE. District Commanders are responsible for the approval/execution of challenge cost-sharing agreements that involve water resources projects solely within their district. Approval of agreements of \$200,000 (total cost) or less may be delegated to the Chief of Operations. Approval of agreements of \$25,000 (total cost) or less may be delegated to Operations Project Managers. \*

l. Funds and materials for a given year must be available before the work begins. Partners shall not be given special privileges for participation in the challenge cost-sharing program. Negotiators will not agree to any provision that limits the Corps ability to negotiate, accept, and execute challenge cost-sharing agreements or contributions from other qualified entities. Challenge cost-sharing with multiple partners on the same work project, other work projects, and/or in other physical locations may be accepted notwithstanding other agreements being negotiated, accepted, or executed.

m. The Operations Project Manager may decline any challenge cost-sharing proposal that the Operations Project Manager determines could adversely affect the operation and beneficial use of the project, or would violate existing laws or regulations, or would reflect unfavorably on the integrity of the Corps of Engineers and the United States Army.

n. Services that the partner performs as a part of the challenge cost-sharing program shall be carried out in conformance with Federal, state and local laws and standards. For the purpose of determining the value of the partner's services, the actual cost, including labor, shall be used. Specific guidance on: cost calculations; accounting and reporting requirements; permissible partner access to Federal equipment, materials, supplies, vehicles, and facilities; and other information of an operational nature is found in Chapter 12 of EP 1130-2-500.

o. For each location at which challenge cost-sharing agreements are in place or are likely, the Operations Project Manager shall have a plan that describes the work that will be accomplished through any current or potential agreements that are signed. The plan shall be reviewed and updated as necessary as work items are completed and new ones are added.

p. The Corps shall encourage participation in the challenge cost-sharing program by informing prospective partners in a diplomatic manner of the opportunities that are available.

q. Recognition shall be encouraged as a way to express appreciation to partners and publicly acknowledge support that has been received. Partners should be advised to keep the Corps apprised of any publicity that they initiate. All publicity will be a joint effort by the partner and the Corps, to include review and change authority. Procedures for appropriate types of recognition and publicity are provided in Chapter 12 of EP 1130-2-500.



## CHAPTER 13 - CIVIL WORKS HOUSING

13-1. Purpose. This chapter establishes the policy for the retention, use, and disposition of Government-owned civil works houses used for quarters.

13-2. Policy. It is the policy of the Corps of Engineers that:

- a. The inventory of government houses shall be eventually eliminated. Existing housing shall not be converted to another type of dwelling, such as guest quarters.
- b. There shall not be any requirement in job descriptions to occupy government housing.
- c. New housing shall not be constructed or acquired for civil works projects.
- d. Housing facilities for contractor employees engaged on a project shall not be provided.
- e. Existing housing with civilian tenants shall be managed and phased out in accordance with approved Housing Management Plans. Such housing should have been phased out by 30 September 96, unless an exception was approved in writing by CECW-O, or in accordance with paragraph 13-3, below.
- f. Occupied houses with civilian tenants must have written leases including the rental rates. The rental rates must be set in accordance with the Office of Management and Budget Circular A-45.
- g. Civil works housing with military tenants shall be managed in accordance with paragraph 13-4 of this chapter.

13-3. Housing Management Plans. Each district and operating MSC having civil works housing with civilian tenants shall have a Housing Management Plan, approved by the MSC Commander. Each plan shall be reviewed for accuracy and necessary updating at least every five years until all housing has been removed or converted to other project purposes. Although, all civil works housing with civilian tenants are subject to scheduled phaseout, the MSC Commander may allow employees who have been in continuous occupancy of the same house since 30 September 1981, to continue to reside in their present quarters indefinitely, until it has been determined through the Housing Management Plan that occupancy is no longer feasible, or until the employee leaves.

a. Government-owned houses that have been outgranted to local governmental agencies for long-term use shall be exempted for disposal until such time as the house is returned to the Corps of Engineers. The Commander of each district shall encourage local governments to allow occupancy of these houses only by employees who are project-related.

b. For structures that exceed 50 years in age, Housing Management Plans shall include consideration of eligibility for listing in the National Register of Historic Places (NRHP), in accordance with Section 110 of the National Historic Preservation Act of 1966 (the Act), as amended. Prior to removal or conversion of a structure eligible for listing in the NRHP, commanders shall comply with Section 106 of the Act and consultation procedures established in 36 CFR Part 800, Advisory Council on Historic Preservation, "Protection of Historic Properties."

13-4. Civil Works Housing Management Policy for Military Tenants

a. The following houses, under the accountability of Civil Works, are currently occupied or available for occupancy by uniformed (military) personnel. The house at the Hiram M. Chittendan Locks is owned by the Lake Washington Ship Canal Project and the other houses are owned by the Corps revolving fund.

(1) One - Seattle, WA; Hiram M. Chittendan Locks Cavanaugh House (the District Commander's residence)

(2) One - Vicksburg, MS; House for the CELMV Commander

(3) Twelve - Vicksburg, MS; Waterways Experimentation Station (WES)

b. Civil works houses are not part of the military family housing program.

c. As long as there is an approved written determination on file by the activity responsible for the houses, stating that the residences are needed for either present or future civil works purposes, the appropriations which fund the purpose served by the residence are available to fund the operation, maintenance and repair of the residential housing as a "necessary expense" of those appropriations.

d. The "determination of need" will be a stand-alone document. Note that present or future civil works needs may be used to justify the housing. However, if the houses are being justified on future needs, there must be a signed certification stating that only those future needs that can realistically be achieved during the specified time period are included in the justification. The document will include, but is not limited to the following: current or future need of the houses for civil works purposes; a description of the house; ownership; authority; last five years annual income (if applicable) and expenditures for operation, maintenance, and repairs (per house); last five-year histories of occupancies, including vacant time (Note in the occupancy history if the occupant was a U. S. Army Engineer Officer); practicable alternatives to civil works provision of housing which were considered; economic factors considered and if the least cost alternative for the civil works program is not recommended, there will need to be a justification.

e. The "determination of need" for the house at the Hiram M. Chittendan Locks will be subject to the approval of the CENPD Commander. The "determination of need" for the houses at CEWES and the CELMV Commander's house will be subject to the approval of the HQUSACE Director of Civil Works. A "determination of need" for the houses will be updated biennially and submitted for approval by 1 October of the year in which it is due. Houses without an approved "determination of need" will not be reoccupied.

f. Subject to an approved "determination of need" that the residences are needed for either present or future purposes:

(1) The Seattle District Commander will be assigned to the house at the Hiram M. Chittendan Locks. The officer will not be eligible for Basic Allowance for Quarters (BAQ) while assigned to the house. The Seattle District Human Resources office will be responsible for assuring that the officer's BAQ is suspended. The officer is responsible for providing evidence that the BAQ allowance is not being received to the District Human Resources Office, if

requested. The operation, maintenance, and repair for the house will be funded by the Lake Washington Ship Canal Project.

(2) The CELMV Commander will be assigned to the house authorized for him/her. The officer is not entitled to receive BAQ while assigned to the quarters. The Lower Mississippi Valley Division Human Resources Office will be responsible for assuring that the officer's BAQ is suspended. The officer is responsible for providing evidence that the BAQ allowance is not being received to the Division Human Resources Office, if requested. The general expense appropriation for CELMV will continue to be used to reimburse the revolving fund for the operation, maintenance and repair for the house. Any existing or future special legal requirements for general officer housing will be followed. AR 210-13, will be used as the management doctrine and policy, where applicable. House Report 104-137 dated 13 June 1995, will also be used as management doctrine and policy. It states:

#### GENERAL AND FLAG OFFICER QUARTERS

“The existing reporting requirements for general and flag officer quarters continue in full force and effect, in order to control expenditures for high cost quarters. The purpose of these requirements is to ensure that the total amount of all obligations for maintenance and repair (excluding operations) on each general or flag officer quarters is limited to \$25,000 per year, unless specifically included in the annual budget justification material. This continues the policy initiated in 1984 and developed and elaborated over several years, to ensure that separate controls are established for orderly planning and programming to accomplish this work.

Recognizing the uncertainties involved accurately forecasting "change in occupancy" work, the Committee continues the following previously established notification requirement. The Committee must be notified when maintenance and repair costs for a unit will exceed the amount submitted in the budget justification by 25% or \$5,000, whichever is less. The Committee must also be notified when maintenance and repair costs will exceed \$25,000 for a unit not requested in the budget justification.”

Notifications of each proposed expenditure must be submitted over the signature of the Service Secretary for case-by-case review and approval. Each Service is directed to continue to limit out-of-cycle submissions to one per year, except for situations which are justified as emergencies or safety-related.

(3) CECW-O will be notified prior to any obligations for maintenance and repair which will exceed \$25,000 in a fiscal year. Any actions that need to be taken involving obligations greater than \$25,000 in a fiscal year or Congressional notification triggered by using House Report 104-137 language will be approved by HQUSACE.

(4) For the houses at WES:

(a) Quarters No. 1 will continue to be assigned to the WES Commander and control of all the other quarters will continue with the WES Commander.

(b) The following houses at WES will be assigned as follows by the WES Commander:

Quarters No. 2 and Quarters No. 4 to the CELMV Deputy Commander and the Vicksburg District Commander, respectively.

(c) The other houses will be managed as follows: Assignments of Quarters 3 and 5 through 12 may be made by the WES Commander to U. S. Army officers. Priority will be given to Army personnel, of the three Vicksburg, MS Engineer Commands, assigned to Civil Works. If an assignment to the quarters to U. S. Army Officers cannot be made, rental of the quarters is permitted subject to any applicable conditions in WES Station Regulation SR 210-1-2, Regulations Governing Occupancy of Family Quarters and the Self-Help Program and in paragraphs 13-4f(4)(e) and (g) of this policy document.

(d) The Commander of WES will be responsible for the written policy regarding the assignment of military personnel to the WES quarters. This policy should be incorporated into the WES Station Regulation SR 210-1-2, Regulations Governing Occupancy of Family Quarters and the Self-Help Program.

(e) U. S. Army Engineer Officers "assigned" to quarters are not entitled to BAQ. The Station Human Resources Office will be responsible for assuring that the officers' BAQ benefit is suspended. Officers are responsible for providing evidence that the BAQ allowance is not being received to WES, if requested. Non-U.S. Army Engineer officers will not be "assigned" to the quarters, but will be allowed to lease them. They are entitled to BAQ, however, they will be required to sign a lease and pay the appropriate rent.

(f) The operation, maintenance, and repair for these houses will be funded from revolving fund. The revolving fund will be reimbursed for the expenses of the houses. The general rule is that when the houses are occupied by U. S. Army Engineer officers, then the revolving fund reimbursement will be from appropriate available funds from the appropriations which fund WES, CELMV, and CELMK. Each house will be "accounted for" separately within the "Housing Area Account" in the WES revolving fund.

(g) If assignment of U.S. Army Engineers officers is not practicable and the houses are occupied on a rental basis, 5 U.S.C. § 5911 (c) provides that the rental rate must be based on the reasonable value of the quarters and facilities provided. Office of Management and Budget Circular A-45 implements § 5911 (c) and provides that reasonable value to the occupant is determined by the "rule of equivalence," which directs agencies to consider the prevailing rental rates for comparable private housing in the vicinity. Rents from revolving fund owned houses may be retained in the WES Housing Area Account and used to reimburse housing expenses of the revolving fund. Any rents collected that will not be used to pay for housing expenses, must be credited to the general fund of the Treasury as receipts. By the start of FY 97, for any of the quarters being rented, the rents must be determined in accordance with OMB Circular A-45. Rental rates for non-U.S. military will be in accordance with OMB Circular A-45. There will be a written lease for each "rented" house.

g. If the residences are not required for either present or future civil works purposes, there is no authority to expend appropriated funds to operate, maintain, and repair the houses. The responsible organization will take appropriate actions to dispose of or convert any residences not needed for present or future purposes .

## CHAPTER 14 - AQUATIC PLANT CONTROL PROGRAM

14-1. Purpose. This chapter establishes the policy for research, planning and operations for the USACE Aquatic Plant Control Program.

14-2. Policy. It is the policy of the Corps of Engineers that:

a. An Aquatic Plant Control (APC) Program shall be maintained to control specific types of aquatic plant infestations of major economic significance, or weed infestations that have potential for reaching such economic significance, in navigable waters, tributaries, streams, connecting channels and all allied waters. The APC Program is authorized under Section 104 of the Rivers and Harbors Act of 1958 (PL 85-500), as amended, and Sections 103, 105, and 712 of the Water Resources Development Act of 1986 (PL 99-662). Specific guidance on the development of cost-sharing agreements, planning studies, and funding requests can be found in Chapter 14 of EP 1130-2-500.

b. The APC Program, cost-shared with a non-Federal local sponsor (Sponsor), shall be undertaken with close coordination of local interests and states so as not to overlap or conflict with other Federal agencies, including the Tennessee Valley Authority, Bureau of Reclamation, United States Fish and Wildlife Service, Department of the Interior, the Department of Commerce, the Department of Agriculture and the Environmental Protection Agency, in accordance with EO 12372, Intergovernmental Review of Federal Programs.

c. Weed control or operation and maintenance of reservoirs, channels, harbors, or other water areas of authorized projects under jurisdiction of the Corps of Engineers or other Federal agencies shall not be undertaken as a part of the APC Program, except as such areas may be used for experimental purposes. Guidance for routine herbicide use as a part of an on-going project operations and maintenance (O&M) pest control program is located in Chapter 3 of ER 1130-2-540. Subordinate commands shall fund aquatic plant control work required for O&M of Corps operating projects through the normal O&M budget process.

d. A Corps-wide Aquatic Plant Control Operations Support Center (APCOSC) shall be maintained within the Operations Division of Jacksonville District. Project support and/or assistance shall be obtained through direct contact with the APCOSC, the Waterways Experiment Station (WES), or through HQUSACE (CECW-ON). If on-site assistance is required, a formal letter shall be submitted. All APCOSC services requiring the commitment of significant manpower and/or travel shall be cost-reimbursable, with all costs, including travel allocations, supplied by the user district. Priorities shall be established by the Jacksonville District according to time of request and critical need.

14-3. Responsibilities.

a. HQUSACE (CECW-ON). HQUSACE (CECW-ON) shall be responsible for the overall administration of the Aquatic Plant Control Program. The Program Manager shall direct overall planning, establish program policy, authorize studies, grant work allowances and allocate funds for planning studies, research and management operations. The Program Manager shall provide direction and guidance to the Aquatic Plant Control Operations Support Center and serve as Technical Monitor of the Aquatic Plant Control Research Program. The Program Manager shall also:

(1) Compile, prepare, and defend the APC Program budget requests to the Office of Management and Budget (OMB) and Congress.

(2) Coordinate APC Program legislative actions.

(3) Coordinate with other Federal agencies on APC Program matters not handled at subordinate commands.

(4) Coordinate and facilitate the training of field operations personnel.

(5) Rule on controversial matters that cannot be resolved at subordinate commands.

b. Aquatic Plant Control Operations Support Center (APCOSC). The APCOSC, situated within the Construction-Operations Division of the Jacksonville District, shall provide Corps-wide planning and operational advice, assistance, and support to operating elements without the in-house capability or experience to initiate and/or conduct an APC program. Funding for base support for the APCOSC shall be by line item in the Jacksonville District annual APC Program budget request. The Chief of the APCOSC, in order to perform the mission assigned by HQUSACE (CECW-ON) shall:

(1) Serve as the Corps center of expertise on APC Program operational matters.

(2) Provide operational guidance to Corps districts in the planning phases of APC programs (i.e., during the development of the Reconnaissance Report, Detailed Study Report (DSR), Environmental Assessment (EA), and/or Environmental Impact Statement (EIS), and consultation required by Section 7 of the Endangered Species Act).

(3) Provide technical guidance to Corps districts in the operational phases of APC programs (i.e., during development of the technical portions of Local Cooperation Agreements (LCA) with sponsors, when preparing contracts with private contractors, or when developing hired labor guidance).

(4) Provide operational expertise, personnel, and equipment, as necessary, to quickly respond to localized, short-term critical situations created by excessive growths of aquatic plants. Situations are considered to be critical if severe navigational blockages are occurring, the potential for interference with flood control or water supply capability is evident, or when public health is threatened. This type of support will be undertaken only when the district in-house response capability is inadequate and when it is not possible to obtain contractual APC Program services.

(5) Provide assistance to HQUSACE (CECW-ON) in the administration of the Corps-wide APC Program and in the training and certification of Corps pesticide (herbicide) application personnel.

(6) Assist the Waterways Experiment Station, as requested, in the field application and evaluation of newly developed control techniques or procedures.

c. Research and Development. USACE APC Program research activities shall be managed by HQUSACE (CERD-C) with emphasis on identification and development of innovative and environmentally-compatible technologies for aquatic plant management.

Research shall be accomplished by Corps research personnel or through contracts or cooperative agreements with Federal, state and private research institutions. Research of regional or national significance shall be at 100 percent Federal cost. Research conducted to provide local or site-specific information or data shall be cost-shared 50/50 with the local sponsor, and shall be coordinated through the Research Program Manager, WES, to ensure no duplication of efforts. The APC Program, Research Program Manager at WES shall:

(1) Serve as the Corps center of technical expertise on aquatic plant control research matters. Provides assistance to HQUSACE (CECW-ON) concerning the planning and development of the APC Program - research program.

(2) Conduct and coordinate a nationwide research and development program responsive to aquatic plant control operational needs.

(3) Provide technical assistance and information in the use of experimental aquatic plant management technologies. Experimental technologies are those not yet proven on an operational scale, as well as those that have not yet been authorized or approved for use where regulatory approval is required.

(4) Plan and conduct large-scale field tests to evaluate aquatic plant control technology developed through the research program, requesting assistance from the districts and the APCOSC as needed. Coordinate with the APCOSC to ensure inclusion of operational expertise.

(5) Develop, through consultation with other researchers, MSC and district representatives, the APCOSC, and the Program Monitor, proposals for research of national or regional significance. Conduct research and development (R&D) in response to operational needs as identified during the Civil Works R&D Program Review for the APC Program or by letter to the district R&D Coordinator, the Program Monitor, a Field Review Group member, the Research Program Manager, or the Civil Works Research and Development Committee.

(6) Upon request, provide assistance in the use of current methodologies for the identification and assessment of aquatic plant problems and in the development of long-range aquatic plant control management plans.

(7) Upon request, provide base data and information pertinent to the development of Reconnaissance Reports, DSRs, EAs and EISs.

(8) Review and evaluate all proposals for cost-shared research to provide site-specific information. Submit all research proposals, along with estimated costs and an explanation of expected benefits of the proposed research, to HQUSACE (CECW-ON) for approval and funding.

14-5. Funding. The APC Program is a continuing activity funded under Construction, General, and subject to an annual expenditure ceiling of \$12,000,000. Recommendations and supporting data will be submitted in accordance with ER 11-2-240 (RCS DAEN-CWB-13). The amounts requested should be the minimum necessary to meet essential program needs. Funds should be within the district's capability to utilize within the budget year, taking into account the foreseeable availability of local cost-sharing funds for planning purposes or management operations. Specific guidance on funding requests for APC program activities is contained in Chapter 14 of EP 1130-2-500.

## CHAPTER 15 - ACQUISITION OF PLANT, OWNERSHIP, AND FINANCIAL MANAGEMENT

15-1. Purpose. This chapter establishes the policy for the supervision and administration of the acquisition, operation, utilization, recording and calculation of costs, and the maintenance and disposal of plant within the revolving fund of the Corps of Engineers.

15-2. Policy. It is the policy of the Corps of Engineers that:

a. A revolving fund shall be established and maintained to be available without fiscal year limitations, but within the delegated authority for the following primary purposes:

(1) To acquire, operate, maintain, and repair civil works lands, structures, and other plant which are expected or required to serve more than one civil works project and/or multiple civil works appropriations that meets current capitalization criteria. Specific guidance on the acquisition, use, and disposition of revolving fund-owned equipment is provided in Chapter 7 of EP 1130-2-500.

(2) To purchase, operate, and maintain not more than four aircraft.

(3) To temporarily finance services finally chargeable to appropriations for civil works functions.

(4) To furnish facilities and services for military functions of the Department of the Army, and other government agencies and private persons as authorized by law.

b. In order to maintain solvency, the revolving fund shall be promptly reimbursed for the cost of equipment, facilities, and service furnished for the above purposes. Reimbursement shall be in accordance with the guidance provided in ER 37-2-10.

c. A Plant Replacement and Improvement Program (PRIP) shall be established within the revolving fund to provide for the management of revolving fund owned property. Specific guidance for the administration and programming of this program is provided in the current budget guidance and annual operations and maintenance (O&M) Budget Guidance. The general principles governing the PRIP shall include but not be limited to the following:

(1) The PRIP shall be used to acquire plant and equipment requiring capitalization that supports more than one civil works project and/or appropriation. Such plant shall not be acquired through the use of overhead accounts, project funds, or a combination of other funding mechanisms to avoid the PRIP process.

(2) The revolving fund shall be reimbursed for equipment acquired through the PRIP. The reimbursement, in the form of user charges, shall include depreciation, plant increment, insurance, and operating costs.

(3) The primary use of all plant acquired through the PRIP shall be for the support of the civil works mission. Incidental use of these items of plant to support the military program, other governmental agencies, states, municipalities, individuals, or corporations outside the Federal Government when not otherwise in use provided that proper usage charges are paid by the



activity being supported.

d. The Commander, HQUSACE has delegated the authority for control of the Plant Replacement and Improvement Program (PRIP) to the Director of Civil Works.

(1) The Director of Civil Works has assigned the management of the PRIP to the Chief, Operations, Construction, and Readiness Division (CECW-O).

(2) Program requests from district commanders shall be reviewed and recommended by MSC commanders to ensure that annual requests for the current year and the program for future fiscal years are realistic and compatible with the mission of the Corps, construction schedules, and workloads. MSC commanders; Director, Research and Development; and Director, Marine Design Center, shall be responsible for the compilation of consolidated prioritized lists, estimates, and reports from district commanders, and for submittals to CECW-O for appropriate action.

(a) MSC commanders and the Director, Research and Development, shall be delegated the authority to approve the acquisition (ACQ), additions and betterments (A&B), and the repair of revolving fund-owned plant items. In addition, the district commanders are delegated the authority to hire plant for use in lieu of revolving fund-owned plant. Limits of the Delegations of Authorities are summarized in current budget guidance.

(b) MSC commanders and the Director, Research and Development, shall be delegated the authority to adjust approved prioritized lists and approved PRIP by delegation, addition, or exchange of items within the same district or laboratory, but shall not exceed the total amount approved for that district or laboratory without the prior approval of CECW-O. MSC commanders; the Director, Research and Development; and the Director, Marine Design Center shall be provided the transfer authority indicated in current budget guidance. Adjusted and approved PRIP with identification of all changes within the Commander's/Director's authority, shall be forwarded to CECW-O on the 15th day following the end of the quarter.

(c) MSC program and funding submittal dates and CECW-O response dates are provided in current budget guidance.

(d) MSC commanders may delegate the following authorities to district commanders:

Up to 50 percent of the authority	Acquisition of new revolving funds plant and for additions and betterments.
Up to 100 percent of the authority	Repair of Plant. Hire of Plant.

(3) District commanders, including directors of research facilities and the directors of separate FOAs, shall appoint a PRIP manager/coordinator, who shall ensure that a comprehensive plant program is developed that supports the overall civil works requirements of the district, laboratory, or separate FOA. In addition, a PRIP review committee shall be established for review and prioritization of all requested plant items prior to submission by the

District Commander to the MSC Commander.

(4) Directorate of Research and Development. The program requests for all subordinate research and development elements shall be submitted to and reviewed by the Director of Research and Development (CERD).

e. All charges for the use of revolving fund-owned plant and facilities shall be determined and reviewed quarterly to ensure that these charges are fair, reasonable and realistic. In addition, all account balances shall be reviewed to ensure that they are reasonable and within allowable tolerances, in accordance with ER 37-2-10. Allowable tolerances include planned reserves for periodic overhauls. When circumstances prohibit rate adjustment to nominal levels within 180 days, the appropriate plant record card will be so noted.

f. Plant ownership and operating data for each item of plant owned by the revolving fund shall be determined and reported in accordance with current budget guidance.

g. Utilization and costs of plant shall be recorded and reported in accordance with the format and frequencies provided in current budget guidance.

h. Utilization, costs, and rates for plant shall be determined in accordance with the cost components and the procedures reflected in current budget guidance.

i. Disposal of Revolving Fund-Owned Plant. Disposal of real property will be in accordance with ER 405-1-12.

(1) Before preparation of a retirement work order (ENG Form 3013, Work Order/Completion Report) or other appropriate actions are taken as required by ER 37-2-10, Chapter 15, and ER 700-1-1, all districts and MSCs with intentions of deleting any items of revolving fund-owned plant from their inventory that is serviceable or usable without major repair shall submit a report on the items to CECW-O for approval. This report shall be submitted for all items of floating plant, mobile and fixed land plant, and tools and office equipment within an initial acquisitions cost greater than \$200,000. Vehicles, information management equipment, and office furniture shall be excluded.

(2) The revenues received from the sales of surplus revolving fund-owned items shall be retained in the Revolving Fund.

(3) No surplus revolving fund-owned plant shall be turned over to a Defense Disposal and Reutilization Agency without prior written approval from CECW-O.

CHAPTER 16-ACCESSIBILITY

Reserved.

FOR THE COMMANDER:

4 APPENDIXES  
See Table of Contents

A handwritten signature in black ink, appearing to read "Otis Williams". The signature is fluid and cursive, with a large initial "O" and a long, sweeping underline.

OTIS WILLIAMS  
Colonel, Corps of Engineers  
Chief of Staff

## CHAPTER 17 – CHIEF OF ENGINEERS ANNUAL NATURAL RESOURCE MANAGEMENT AWARDS

17-1. Purpose. This chapter establishes the policy for annual recognition through issuance of the Chief of Engineers annual Natural Resources Management Awards.

17-2. Policy. It is the policy of the Corps of Engineers that:

a. An awards program shall be implemented at the CECW-ON headquarters level for annual recognition of those who have demonstrated exceptional achievements within the previous year.

b. Nominations for awards will be made according to the criteria and submittal instructions found in an annual memorandum signed by the Chief of Operations announcing the award.

c. The annual Chief of Engineers Natural Resources Management Awards include:

(1) The Natural Resources Management “Project of the Year” award provides recognition of exceptional project management with emphasis on the natural resources, recreation, and environmental compliance management programs.

(2) The Natural Resources Management “Recreation Employee of the Year” acknowledges an individual who has done exceptional work in the field of recreation management.

(3) The Natural Resources Management “Stewardship Employee of the Year” acknowledges an individual who has done exceptional work in the field of natural resources stewardship.

(4) The Natural Resources Management “Environmental Compliance Employee of the Year” acknowledges an individual who has done exceptional work in the field of environmental compliance management.

(5) The Natural Resource Management “Hiram M. Chittenden Award for Interpretive Excellence” acknowledges an individual who has done exceptional work in the interpretive services profession.

APPENDIX A  
REFERENCES

- a. 5 USC, Chapter 81, Federal Employees Compensation Act.
- b. 28 USC, 2671-2680, Tort Claims Act.
- c. 31 USC 223b, Act of 3 July 1943 as amended by the Act of 28 June 1946 (PL 466, 79th Congress).
- d. 33 USC 569c, PL 98-63, Supplemental Appropriations Act, 1983, (97 Stat. 312).
- e. 33 USC 575, 61 Stat. 688, Act of July 31, 1947.
- f. 42 USC 4321, PL 91-190, National Environmental Policy Act (NEPA) of 1969.
- g. 46 USC 292, 34 Stat. 204, Act of May 28, 1906.
- h. 49 Stat. 1571, Section 3 of the Flood Control Act of 22 June 1936
- i. PL 153, 67 Stat. 199, 83rd Congress, approved 27 July 1953.
- j. PL 91-611, 84 Stat. 1818, Section 221 of the Flood Control Act of 1970.
- k. 29 CFR 1910.1200, Hazard Communication.
- l. 33 CFR, Chapter II, Section 208-10
- m. 46 CFR, Shipping.
- n. DOD Directive 5500.11.
- o. DOD 5126.46M-2, Defense Utility Energy Reporting System (DUERS).
- p. AR 11-27, Army Energy Program.
- q. AR 210-50, Housing Management.
- r. AR 335-15, Management Information Control System (USACE Suppl 1).
- s. AR 672-20, Incentive Awards.
- t. AR 735-5, Property Accountability Policies and Procedures for Property Accountability.
- u. ER 5-1-11, US Army Corps of Engineers Business Process.
- v. ER 11-2-240, Civil Works Activities - Construction & Design.
- w. ER 37-2-10, Accounting and Reporting-Civil Works Activities.

ER 1130-2-500  
Change 2  
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- x. ER 385-1-31, The Controls of Hazardous Energy (Safe Clearance).
- y. ER 385-1-91, Training, Testing, and Licensing Boat Operators.
- z. ER 405-1-12, Real Estate Handbook.
- aa. ER 500-1-1, Natural Disaster Procedures.
- ab. ER 672-1-18, Decorations, Awards, And Honors, Incentive Awards.
- ac. ER 700-1-1, USACE Supply Policies and Procedures.
- ad. ER 750-1-1, Materiel Maintenance Policies.
- ae. ER 1110-2-1200, Plans and specifications for Civil Works Projects.
- af. ER 1130-2-530, Flood Control Operations and Maintenance Policies.
- ag. ER 1130-2-550, Recreation Operation and Maintenance Policies.
- ah. EP 310-1-6A, Corps of Engineers Sign Standards Manual, Vol 1.
- ai. EP 310-1-6B, Corps of Engineers Sign Standards Manual, Vol 2.
- aj. EP 1130-2-429, Volunteer Coordinator's Handbook.
- ak. EP 1130-2-434 (FS), Hiram M. Chittenden Award Fact Sheet
- al. EP 1130-2-500, Work Management Procedures.
- am. EP 1130-2-550, Recreation Operation and Maintenance Procedures.
- an. EM 385-1-1, Safety and Health Requirements Manual.
- ao. EM 1110-2-1911, Construction Control for Earth & Rock-Fill Dams.
- ap. EM 1110-2-2000, Standard Practice for Concrete for Civil Works Structures.
- aq. Energy Resources Management Plan, F85-F72000 (ERMP).
- ar. U.S. Coast Guard Marine Safety Manual, Volume II.

## APPENDIX B

### SUGGESTED TABLE OF CONTENTS

The following paragraphs discuss the sections of a suggested table of contents. Modifications shall be made as necessary to accommodate requirements of differing projects.

- (1) Section 1, General. Provide a general description of the project and include its specifically authorized purpose, features, and functions.
- (2) Section 2, Authorization. Cite the authorizing legislation and provide a summary.
- (3) Section 3, Location. Describe the physical setting for the project. Give the relationship to political boundaries such as state, county, city, and town.
- (4) Section 4, Pertinent Information. Give the history of the area relative to the project purposes and summary information that would be pertinent to the O&M of the project that was developed during planning and design studies.
- (5) Section 5, Construction History. Furnish a historical summary of the project construction to include contracts (start and completion dates and costs) and names of contractors, contracting officers, and resident engineers. Reference a complete set of as-built plans, specifications, and drawings and include these as Appendix A to the manual.
- (6) Section 6, Project Performance. Describe the protection provided by the various reaches of a flood control or shore protection project; discuss the consequences of flow or other conditions exceeding the project design; or describe the authorized navigation project design fleet and benefits thereto as the case may be. Discuss the mitigation and/or benefits of all other project functions such as cultural resources, environment, recreation, water supply, and hydropower. Indicate that protection of project benefits is a prime objective of O&M.
- (7) Section 7, Project Cooperation Agreement and/or other agreements. State: The (*signatory*) and (*signatory*) (provide official nomenclature) have entered into a Project Cooperation Agreement (PCA) or other agreement for this project on (*date*) as required by PL 99-662 or other applicable law and/or regulation. A copy of the duly executed PCA and/or any other agreement will be included as Appendix B of the manual.
- (8) Section 8, Operation. Cover in detail the operations of the project that are necessary for the safe and efficient functioning of the project to produce the benefits set forth in the project authorization. The operational requirements for non-reservoir projects are to be presented as operation plans covering essentially the who, what, where, when, and how of the various project operations. An outline of operation records to be maintained and available for inspection is to be provided. The operation of reservoirs, covered in water control manuals, in accordance with ER 1110-2-240, shall be separate from this operation and maintenance manual.
- (9) Section 9, Emergency Operations. Present the emergency operation plans that cover preparations for and responses to project emergency conditions. An outline of emergency operation records to be maintained and available for inspection is to be provided. Plans should cover, but not be limited to, such items as:

- (a) Chain of responsibility.
- (b) Emergency communications network including redundancies (internal and external).
- (c) Local emergency response assistance such as fire, police, medical, and Red Cross.
- (d) State and Federal emergency response agencies.
- (e) Flood fight or other plans that may have been part of design documentation.

(10) Section 10, Maintenance and Inspection. Cover the maintenance and inspection details required for the proper care and efficient operation of the various project elements. These plans may be combined or separate as best suits the particular project. The guidance for the proper formulation and the contents of this section are contained in ER 1130-2-500, Chapter 5. Outlines of the maintenance and inspection records to be maintained are to be provided. Indicate that the District Commander may update the manual for changed conditions or if warranted to correct conditions discovered during inspections.

(11) Section 11, Surveillance. Set forth a surveillance program covering appropriate measurements, observations, and other activities to be performed that will ensure project benefits are being obtained. An outline of surveillance records to be maintained and available for inspection is to be provided. This program should cover, but is not limited to, such activities as:

- (a) Routine stage and discharge records to show continued satisfactory performance or provide timely notice that attention is required.
- (b) Hydrographic and land surveys as required to indicate when periodic dredging, correction of bank erosion, correction of levee settlement, etc., are to be performed.
- (c) Special surveillance as may be covered in the project design documents.

(12) Section 12, Notification of Distress. Cover the requirements of ER 1110-2-101 so that the District Commander may see that appropriate actions are taken.



## APPENDIX C

### PROJECT MAINTENANCE HYDROPOWER

C-1. General. Equipment maintenance is divided into two or three categories: routine operational checks, inspections and periodic maintenance. Each project shall develop a written maintenance plan for each piece of equipment. The plan should outline both the routine checks and periodic maintenance. The frequency of these checks and maintenance activities should be determined by the criticality of the equipment, the past experience with this and similar equipment and scheduling options available to that particular project. A periodic review of these plans should evaluate the effectiveness of the maintenance both from a cost and reliability standpoint. The following establishes some minimum requirements related to the types of maintenance tests and the frequency of these activities.

a. Hydropower Unit Maintenance. Each project must have a maintenance plan that includes regularly scheduled maintenance outages and optional inspection outages.

(1) Maintenance (Overhaul) Outages. These outages should be scheduled with sufficient frequency and duration as to guarantee the continued satisfactory operation of the equipment. Depending on the power and water regimes, it may be necessary to schedule more frequent short outages versus less frequent longer more extensive overhauls.

(2) Inspection Outages. When necessary short inspection outages may be required in order to monitor turbine cavitation or other continuing problems.

b. Hydropower Controls, Instrumentation and Protective Relaying.

(1) Protective Relaying. All protective devices shall be tested on a periodic basis. Bench testing (calibration) shall be performed at least every 2 years. Generator, main station service, main transformers and switchyard protective relay schemes shall be functional tested at least every four years.

(2) Controls and Instrumentation. All unit controls shall be functional tested as part of the unit maintenance outages.

(3) Circuit Breakers. In addition to the insulation test requirement found elsewhere in this EP, all molded case and other types of low and medium voltage circuit breakers shall be tested every 4 -6 years. These tests shall include high current test sets and any other appropriate tests for the particular breaker type.

c. Hydropower Electrical Testing.

(1) Insulation Testing -All electrical equipment shall be included in an insulation testing program. This includes tests at the time of installation of new equipment and periodic maintenance tests.

(a) Low and Medium Voltage Equipment -At a minimum, resistance tests commonly referred to as "meager" testing.

(b) High Voltage -All main unit, station service and switchyard equipment rated at a nominal voltage of 13.8 kV or more shall be in an insulation testing program. This includes tests at the time of installation of new equipment and periodic maintenance tests. Power factor testing (Doble) tests procedures shall be utilized.

- Insulating Oil Testing
  - Field Screening
  - Gas Chromatography
  - Dissolved Gas Analysis
- Gas Insulated Equipment (SF)

(2) Timing Tests. All breakers must be tested to insure proper operation. In addition to the above insulation tests, tests for proper timing is necessary. Test equipment such as the "Cincinnati" timer are used on most all medium and high voltage switchgear.

d. Hydropower Mechanical Equipment.

(1) Governor Tests. In addition to the regular maintenance checks that are incorporated into a unit maintenance or inspection outage, the performance of the governor must be periodically monitored. The manufacturers instructions should list test options.

(2) Other Mechanical Features. While there a many standard tests of electrical equipment in a modern hydropower plant, there are few for mechanical equipment. However, each piece of equipment must have a maintenance plan that includes the required operational checks, inspections and maintenance schedules.

e. Project Lubrication.

(1) Engine Lubricants. See ER 750-1-1 and the Army Oil Testing Program.

(2) Hydro Power Plant Lubricants.

f. Large Transformers. The primary maintenance items for a large transformer is the insulating fluid and the high voltage bushings (discussed elsewhere). Heat exchanges, fans, gaskets and other auxiliary equipment need to be included in the maintenance plan. Many of these items are cover in the routine operational checks and inspections.

g. Hydro Power Plant Cranes and Hoist. The Safety Manual, ER 385-1-1 covers most of the current inspection and licensing requirements for all types of cranes. For the large powerhouse bridge cranes, load testing should be scheduled on a ten-year cycle. Load testing shall be preformed after any major maintenance, repair or replacement. Load testing and an intense inspection should be scheduled prior to any planned unit disassembly (rewind, etc.) Full load testing is not required prior to emergency work.

h. Penstocks, Gates and Other Water Control Features. All water conduits, gates and bulkheads are to be regularly inspected and maintained. Each of these features must have written maintenance plans.

i. Predictive Maintenance. Major hydropower equipment such as turbines, generators and transformers must have maintenance scheduled around seasonal water and power demand

schedules. Traditional practice has been to schedule periodic maintenance around the aforementioned needs. To the greatest extent practical this is to be avoided and a predictive maintenance approach should be used. The full and complete installation of expensive equipment and systems to adopt this approach should be evaluated against the benefits accrued for their installation.

## APPENDIX D

### PROJECT MAINTENANCE ENVIRONMENTAL COMPLIANCE

D-1. General. Changes in national environmental quality standards impact maintenance practices at all Corps projects. The Corps is committed to meeting legally applicable and appropriate Federal, state and local environmental laws and regulations. Environmental compliance is an integral part of all project maintenance. New and revised environmental requirements will continue to influence choices of material, operational processes and maintenance activities. Many maintenance activities provide opportunities for cost-effective pollution prevention (eliminating pollution at it's source) rather than the traditional "end of pipe cleanup" approach.

D-2. Disposal of Environmentally Sensitive Wastes. Sources of information include, but are not limited to ER 200-2-3, Environmental Compliance Policies and EP 200-2-3, Environmental Compliance Guidance and Procedures; the Environmental Review Guide for Operations (ERGO), The Environmental Assessment and Management (TEAM) Guide, and state manuals where available, as sources of regulatory information; the Environmental Compliance Coordinator (ECC) network, which is increasingly extending to projects, as a source of information and assistance; The Defense Environmental Information Exchange (DENIX), a DOD environmental bulletin board; and positive working relationships with state regulators. Place special emphasis on analyzing products and process used to develop ways to reduce the production of environmentally sensitive wastes.