CECW-EH/ CERD-C Engineer Regulation 1110-2-1403	Department of the Army U.S. Army Corps of Engineers Washington, DC 20314-1000	ER 1110-2-1403 1 January 1998
	Engineering and Design STUDIES BY COASTAL, HYDRAULIC, AND HYDROLOGIC FACILITIES AND OTHERS	
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CECW-EH
CERD-C

DEPARTMENT OF THE ARMY
U.S. Army Corps of Engineers
Washington, DC 20314-1000

ER 1110-2-1403

Regulation
No. 1110-2-1403

1 January 1998

Engineering and Design
STUDIES BY COASTAL, HYDRAULIC, AND HYDROLOGIC FACILITIES AND OTHERS

1. Purpose

This regulation prescribes policy and procedures for approval and technical supervision of coastal, hydraulic, and hydrologic studies related to planning, design, construction, and operation of U.S. Army Corps of Engineers (USACE) civil works projects.

2. Applicability

This regulation applies to all USACE Commands having civil works responsibilities.

3. References

a. ER 70-1-5, Corps of Engineers Research and Development Program.

b. ER 1140-1-211, Support for Others: Reimbursable Work.

4. Distribution Statement

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This regulation supersedes ER 1110-2-1403, dated 31 Jan 95, ER 1110-2-1461, dated 31 Oct 89, and ER 1110-2-8102, dated 27 Apr 65.

5. Scope

a. Coastal, hydraulic, and hydrologic facilities perform, assist in, or provide consulting services for specialized coastal, hydraulic and hydrologic investigations and design studies for which the facility has particular expertise. Such studies include, but are not limited to, hydraulic, hydrologic, hydrodynamic, pumping, thermal, chemical, ship or tow simulation, navigation, salinity, sedimentation, wave dynamics, coastal processes, and structural hydraulic conveyance or stability. Studies also include, but are not limited to, aspects of impoundments, ponding areas, groundwater, drainage basins, lakes, rivers, streams, estuaries, oceans, seas, and their environs.

b. These facilities maintain a staff of experts capable of accomplishing or assisting in developing and/or conducting technical investigations; physical hydraulic modeling; mathematical modeling for computer solutions; litigation support; technical review of coastal, hydraulic, and hydrologic engineering products; and obtaining and/or analyzing prototype data as required for these activities.

6. USACE Coastal, Hydraulic, and Hydrologic Facilities

a. Waterways Experiment Station Coastal and Hydraulics Laboratory (CEWES-CV). In general, CEWES-CV performs physical, analytical, numerical, ship and tow simulation, and field studies of coastal, hydraulic, and related phenomena concerning the

planning, design, construction, and operation and maintenance of single and multipurpose navigation, flood damage reduction, and environmental restoration projects in riverine, estuarine, and coastal settings.

b. Water Resources Support Center Hydrologic Engineering Center (CEWRC-HEC). CEWRC-HEC performs analytical hydrologic engineering procedures for planning, design, construction, and operation of water resources projects.

c. Cold Regions Research and Engineering Laboratory (CECRL). CECRL performs hydraulic studies associated with ice problems for navigation and flood damage reduction projects in cold regions. Some special hydrologic studies are also conducted for cold regions.

d. San Francisco Bay-Delta Model Hydraulic Model Laboratory (CESPN-PE-M). This laboratory performs physical hydraulic model studies of the San Francisco Bay-Delta and other studies that are specifically assigned by HQUSACE. The laboratory operates as part of the U.S. Army Engineer District, San Francisco (CESPN). For all physical and mathematical hydraulic model studies performed in conjunction with this facility, CEWES-CV will provide technical oversight.

7. Policy

a. Studies outside the manpower capabilities of district offices. When coastal-hydraulic-hydrologic studies are contracted to non-USACE facilities (entities) the technically capable engineering component within the district shall be responsible for the scope of work, technical evaluation of the proposal, and technical oversight of the study progress. Non-USACE facilities will not prepare or review scopes of work to be performed for the USACE by others than themselves. Nor will they review others' proposals for USACE work.

b. Studies outside the technical capabilities of district offices. Proposed coastal, hydraulic, and hydrologic studies outside the technical capability of district offices will be submitted to higher authority for approval. Such studies may be performed at any appropriate facility including USACE facilities listed in paragraph 6. Studies performed at non-USACE facilities require the technical oversight of an appropriate technically capable USACE facility.

c. Ship or tow simulation investigations. Hydraulic design studies associated with the planning, design, construction, operation, and maintenance of navigation channels will include a ship or tow simulation investigation unless omission of such an investigation is approved by HQUSACE. This policy does not pertain to the design of commercial small-craft harbor channels.

d. Inactive physical models at USACE facilities. All costs incurred in connection with the site preparation, construction, operation, and preservation of physical models during both active and inactive periods will be charged to the district or agency for which the model was constructed or is being held. Physical models will be dismantled unless retention for future studies is justified and acceptable arrangements are made for funding costs during inactive periods.

e. Contracting. Work contracted to non-Federal facilities or entities as part of a USACE facility coastal, hydraulic, or hydrologic investigation that is billed directly to the initiating district's study account will be credited to that district's non-Federal contracting account.

8. Approval Procedure

a. Scope of work. The initiating district will prepare a scope of work that contains statements of purpose, necessity, description of study, and drawings as required. Joint development of the scope of work with CEWES-CV is required in the case of ship or tow simulation investigations. Joint development of the scope of work with facilities listed in paragraph 6 may be desirable for other investigations as well. Participants will consider the many aspects of the proposed investigation, including the scope, hydrodynamic/ hydrologic complexity, cost and schedule constraints, and options for contracting with a non-USACE facility. The scope of work is then submitted to an

appropriate facility, which is requested to provide a study proposal to the initiating district.

b. Proposal. The technically capable facility will prepare a detailed proposal including costs and a detailed time schedule. The proposal will be submitted to the initiating district.

c. Approval request. Both the scope of work and the proposal will be forwarded through channels for approval. Study approval limits are authorized as follows: District Commanders up through $50,000 (except physical hydraulic model studies up through $100,000); Major Subordinate Commanders up through $250,000 (except physical hydraulic model studies up through $500,000); HQUSACE the remainder. MSC's will forward request for approval or copies of approved request as indicated to HQUSACE, ATTN: CECW-EH.

d. Administration. To ensure compliance with the appropriate procedures as set forth herein, CEWES-CV, CECRL, and CEWRC-HEC are not to proceed with coastal-hydraulic-hydrologic studies without approval notification from HQUSACE or the concerned MSC or district (within their approval authority). Notification will consist of an information copy of the approval letter or endorsement.

9. General

a. Scheduling. District and Major Subordinate Commanders will furnish annually, upon request of the Director, CEWES-CV, CECRL, or CEWRC-HEC, anticipated coastal-hydraulic-hydrologic study requirements.

b. Studies at non-USACE facilities. When all or part of a study will be performed by other than a USACE coastal-hydraulic-hydrologic facility, the Director, CEWES-CV, CECRL, or CEWRC-HEC, when requested by the district or MSC, will provide a technical advisor to assist in preparing the scope of work, selecting a contractor, negotiating the technical provisions of the contract, and conducting a technical review of the results. For ship or tow simulation investigations, CEWES-CV is required to provide the technical advisor. In this case, the district has the option of letting and administering the contract (see task flow chart, Figure A-1) or having CEWES-CV let and administer the contract (see task flow chart, Figure A-2). For those portions of coastal-hydraulic-hydrologic studies performed by others for which the district does not have adequate in-house technical advisor capability, technical oversight is to be obtained from an appropriate USACE facility. Districts/MSC's will provide funds to the facility(s) to cover the cost of these activities.

c. Review of investigation. If the investigation is performed by a non-USACE facility, the technical advisor will maintain continuous progress review and advise the Contracting Officer of problems as they occur. The district will arrange a checkpoint meeting at the conclusion of model validation testing and prior to any production runs to ensure that the validation tests are acceptable and to confirm the testing program. When results suggest that the proposed investigation will not satisfy design objectives, or when the performing facility has completed all scheduled tests and interpreted the results to the satisfaction of the initiating element, a design review should be arranged by the district. Participants will consider interpretation of test results, project design recommendations, and the need for further testing.

d. Work for others. Procedures for performing coastal-hydraulic-hydrologic studies for other Federal agencies, state and local governments, and private firms are prescribed in ER 70-1-5 for research and development laboratories and in ER 1140-1-211 for districts and MSC's.

e. Quality Assurance/Quality Control (QA/QC). Much of the USACE coastal-hydraulic-hydrologic engineering expertise is located at USACE laboratory facilities. Districts and MSC's in their efforts to ensure quality as an integral part of their water resource projects are encouraged to utilize this technical capability in developing and conducting the technical review portion of their QA/QC programs.

10. Reports

a. General. Reports on coastal-hydraulic-hydrologic studies will present study results and, when

appropriate, explanations of study procedures used and interpretations of study results. Reports will identify and assess any safety or health hazards associated with the materials or methods covered in the reports.

b. Progress reports. A monthly progress report for each coastal-hydraulic-hydrologic study will be furnished to the proponent District Commander with an e-mail copy to the appropriate Major Subordinate Commander and HQUSACE, ATTN: CECW-EH. Reports will be prepared as of the last day of the month. The report format is shown in Appendix B (Reports Control Symbol DAEN-CWH-2).

c. Preliminary findings report. The preliminary findings report will be a letter report, prepared by the facility that conducted the investigation, that includes, but is not limited to, interpretations, recommendations, and conclusions. The report will be delivered not more than 8 weeks after conclusion of the design review meeting. If the investigation is conducted in steps or phases, a preliminary findings report will be prepared for each step or phase.

d. Final report. A final technical report will be prepared for each coastal-hydraulic-hydrologic study by the facility that conducted the study. A draft of the report, accompanied by a suggested distribution, will be submitted by the facility to the District Commander for approval to publish. Submittal of the draft is to be accomplished within one year of study completion. The District Commander will return the draft report and suggest distribution with concurrence or modification.

FOR THE COMMANDER:

OTIS WILLIAMS
Colonel, Corps of Engineers
Chief of Staff

2 Appendices
APP A - Contracted Ship-Simulation Investigation Activity Flow Charts
APP B - Coastal, Hydraulic, and Hydrologic Studies, Monthly Progress Report

APPENDIX A
CONTRACTED SHIP-SIMULATION INVESTIGATION ACTIVITY FLOW CHARTS

1. Introduction

This appendix presents flow charts showing how a district can let and administer the contract (Figure A-1) or have CEWES-CV let and administer the contract (Figure A-2).

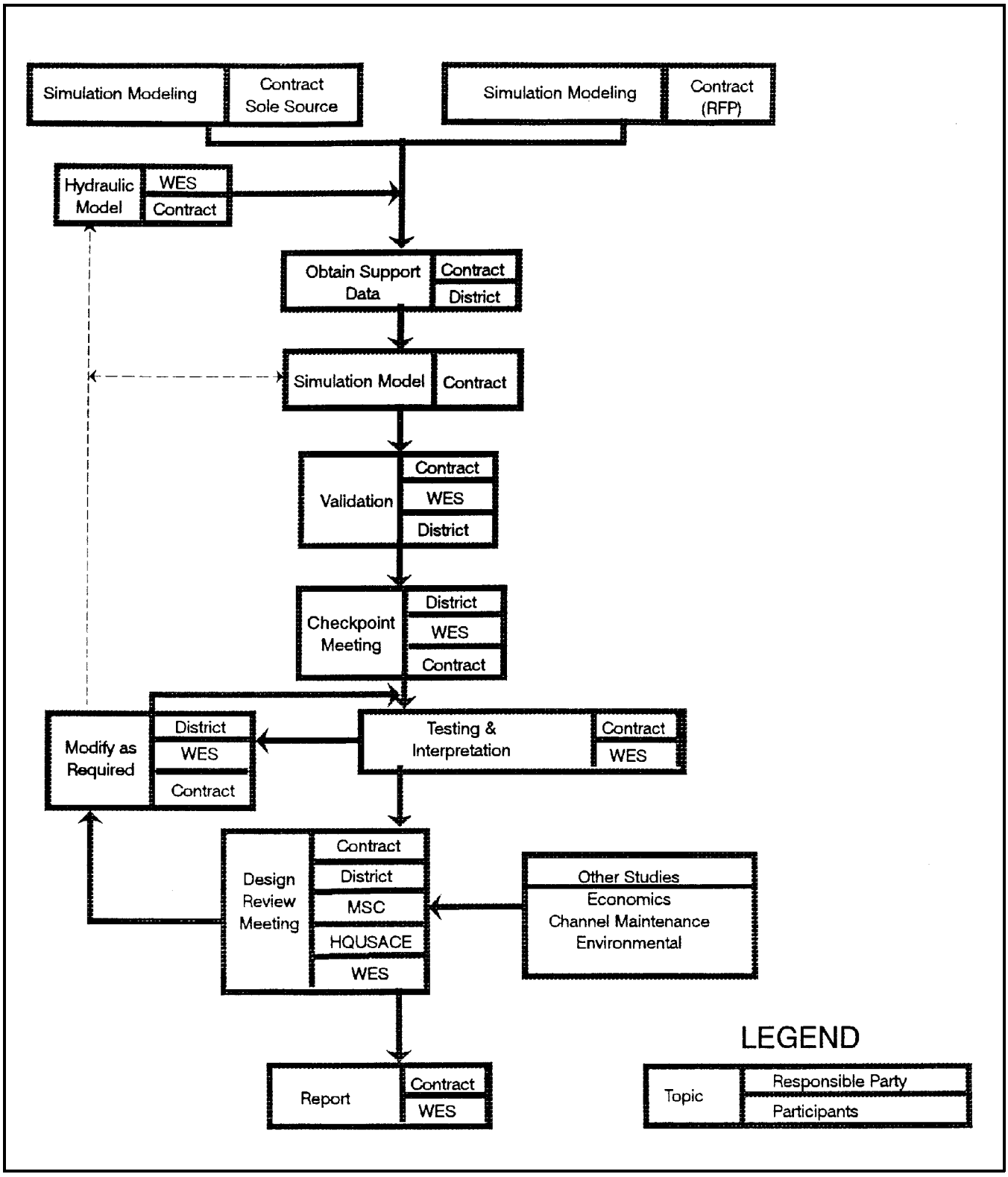

Figure A-1. District lets and administers contract

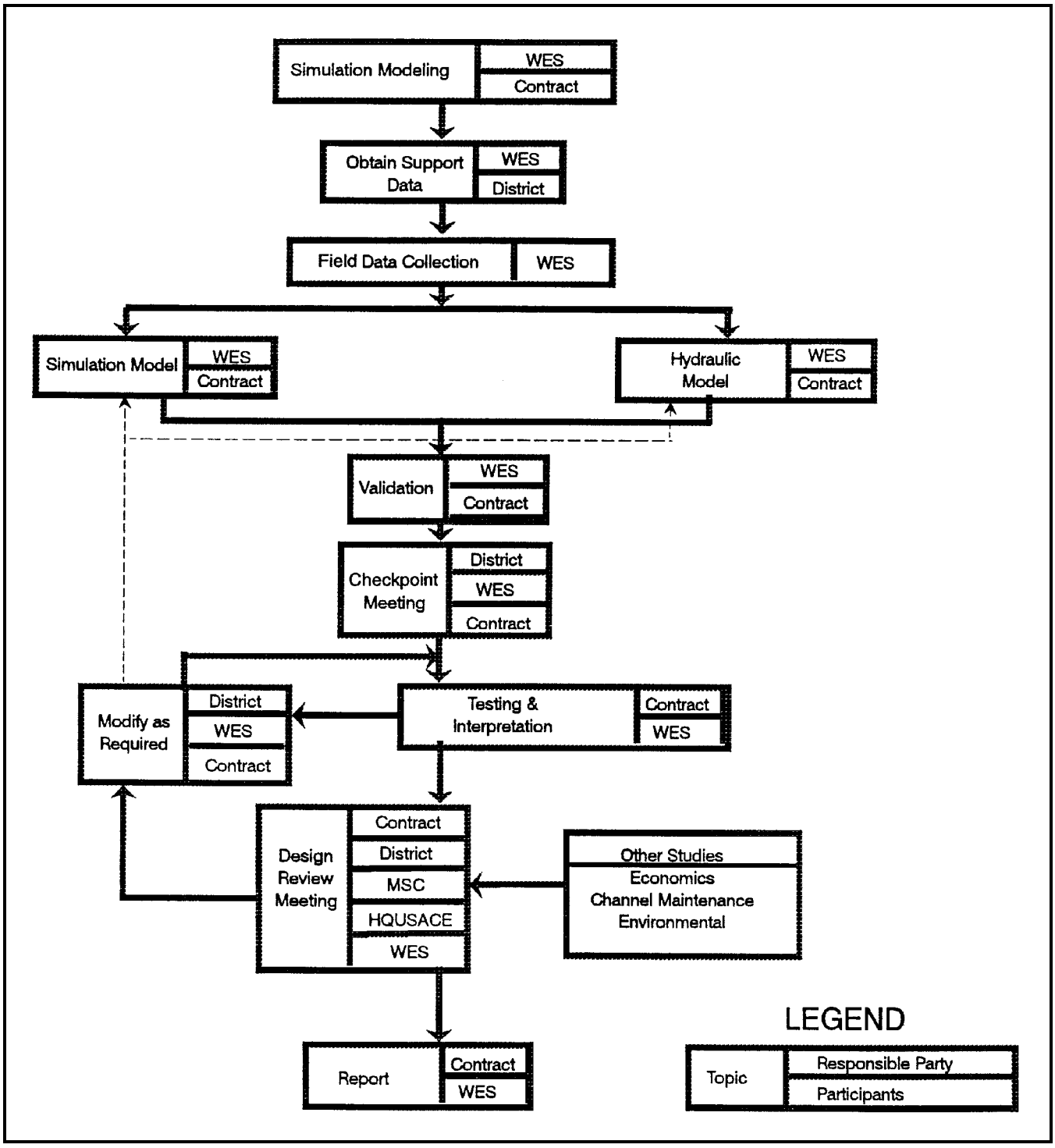

Figure A-2. CEWES-CV lets and administers contract

APPENDIX B
COASTAL, HYDRAULIC, AND HYDROLOGIC STUDIES
MONTHLY PROGRESS REPORT

(RCS: DAEN-CWH-2)

1. Subject

2. Activities Summary

a. Report Month

b. Next Month

3. Estimated Completion Date

4. Preliminary Study Results

a. Charts, Graphs, Data

b. Photographs

c. Technical Write-ups

d. Mathematical Models

e. Miscellaneous Information for Records

5. Remarks