

ANNEX F

ACQUISITION STRATEGY/PLAN (AP)

ACQUISITION STRATEGY/PLAN

for

**THE CORPS OF ENGINEERS ENTERPRISE MANAGEMENT
INFORMATION SYSTEM**

(CEEMIS)

Developed By:

U.S. Army Corps of Engineers

(CEFM-A)

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**ACQUISITION PLAN/STRATEGY
FOR
THE CORPS OF ENGINEERS ENTERPRISE MANAGEMENT
INFORMATION SYSTEM (CEEMIS)**

EXECUTIVE SUMMARY

This document addresses both the acquisition approach and contracting approach for the Corps of Engineers Enterprise Management Information System (CEEMIS). As mandated in AR 25-3, Army Life Cycle Management of Information Systems, the Acquisition Plan (AP) format must be used if the AP is combined with the acquisition strategy. This format adheres to the guidelines in Federal Acquisition Regulation (FAR), paragraph 7.105.

The major procurement requirement for CEEMIS is software development. There is an additional requirement for Life Cycle Management of Information Systems (LCMIS) documentation. All equipment necessary to operate CEEMIS will be provided by the Corps of Engineers.

CEEMIS is an in-house acquisition based in Memphis, Tennessee. Thomas L. Pond (CEFC-A) is the CEEMIS Program Manager (PM) and serves as the primary development contact. System development is accomplished through the use of contractors. Control Data Systems, Inc. is the prime contractor. Other developer contractors include AVANCO International of McLean, Virginia, and KELTEK Systems, Inc. of Huntsville, Alabama.. The contract with Control Data Systems, Inc. is an indefinite delivery type contract which was competitively awarded to provide the Corps of Engineers a vehicle to acquire hardware, communication and software support.

CEEMIS utilizes incremental and evolutionary development acquisition strategies. The incremental strategy includes the development and initial fielding of a core module (Phase 1). The evolutionary strategy includes additional user functional requirements that build on the core module which will be provided in Phase 2. The third phase will be reengineering of Phase 2.

The independent verification and validation requirements will be the responsibility of other government entities such as Director of Information Systems for Command, Control, Communication and Computers (DISC4), and an independent tester and evaluator.

1.0 ACQUISITION BACKGROUND AND OBJECTIVES

1.1 Statement of Need. CEEMIS is being developed as a corporate-level data base to provide a single CE-wide financial reporting system that consolidates, standardizes, simplifies, and improves automated financial reporting support for all CE FOA's, MSC's and the Operating Agency (OA) level. CEEMIS will supplant the many systems throughout CE that currently support this business function as well as upward reporting capabilities.

In order to realize cost savings and anticipated benefits more rapidly CEEMIS will be developed in three increments. Increment PHASE 1 (P1) is aimed at improving the timeliness and accuracy of detailed financial information that flow from the CE finance network to the CE accounting network. Increment PHASE 2 (P2) will provide a complete financial reporting capability. Phase 3 (Increment B-1) will provide a reengineered (P2) system using ORACLE's Designer 2000 case tool suite.

Control Data Systems, Inc. is the primary contractor supporting CEEMIS. AVANCO International, Inc. is the subcontractor that will develop the system and KELTEK Systems, Inc. is currently under subcontract to fulfill the life cycle management of information systems (LCMIS) requirement.

1.2 Applicable Conditions. Significant conditions affecting the acquisition/development of CEEMIS are:

- CEEMIS will be accomplished in compliance with DoD, DA, and CE standards, and oversight agencies.
- Interfaces will be developed as prioritized by criticality of data needed by/from CEEMIS and/or the interconnecting information system (IS).

1.2.1 Cost Constraints. CEEMIS must compete for scarce resources like all other Corps of Engineers initiatives. CEEMIS development, fielding/deployment and maintenance is therefore constrained by the availability of funds. A reduction in funds may result in a change in schedule or reduction in scope.

Reference Figure 1-1 for a ten-year life-cycle cost chart.

1.2.2 Schedule Constraints. The funds allocated for CEEMIS and the degree of success at each test site affects the schedule. The schedule must stay within the CEEMIS budget.

The following activities have been scheduled:

- Milestone Decision Review (MDR) 0 TBD
- MDR I/II TBD
- Independent Operational Test (IOT) TBD
- MDR III TBD

CEEMIS LIFE CYCLE COSTS
FY 1998 – 2008 (10 YEARS)
(Cost includes development years from 1992)

DEVELOPMENT	
- COEMIS F&A	420,000
- OTHER	1,843,000
FIELDING/DEPLOYMENT	100,000
<hr/>	
TOTAL PROGRAM COSTS	2,363,000
MAINTENANCE	2,000,000
<hr/>	
TOTAL LIFE CYCLE COSTS	4,363,000

Figure 1-1: CEEMIS LIFE CYCLE COSTS

1.3.3 Should-Cost Analysis. CEEMIS is being developed using an indefinite delivery order contract which was awarded through competitive procurement procedure. A Should-Cost Analysis was not required.

1.4 Performance Requirements. The services acquired for CEEMIS include software development and software maintenance via contractor support. These services must provide the capabilities to develop a system which performs the following:

- a. Establish the baseline on which project and related financial management will be performed.
- b. Generate standard reports, local as well as upward.
- c. Require minimum training of functional users and technical support personnel.

1.4.1 Accuracy and Validity. The accuracy and validity of data are critical to the effectiveness of the CEEMIS effort. Accuracy and validity requirements describe the degree of correctness and exactness of data processed by the system. Correctness depends on the ability of the system to edit input data. Exactness depends on the ability of the system to calculate and maintain data to a specified level of precision. Because CEEMIS imparts data that has already been validated in other systems, these factors are not a grave concern in the design of the system.

CEEMIS will operate in the existing Corps of Engineers Automation Plan (CEAP-IA). This network will link two regional processing centers and create a data communications network to be used for all Corps digital communication traffic. This network will consist of a backbone segment, which acts as a highway connecting the major nodes on the network to the three processing centers, and "tail circuits". The tail circuits will connect the remote Corps locations to the backbone segment and provide them with processing capability. The following hardware is necessary to support CEEMIS:

- SUN 2000 at CPC23
- IBM Pentiums
- CE Local Area Network (LAN) running Novell Netware
- Laser printers
- High-Speed line printers.

The following software and communications are necessary to support CEEMIS.

- ORACLE 7.3 Relational Database Management System (RDBMS)
- TCP/IP Protocol
- Graphical User Interface (GUI)
- Powerbuilder 5.03
- PFC
- PL/SQL, Cognos Impromptu, Powerplay

1.5 Delivery or Performance-Period Requirements. An expedited CEEMIS development/deployment schedule is based on the Corps' need to replace upward reporting capabilities previously provided by the Corps of Engineers Management Information System – Finance and Accounting (COEMIS-F&A) and other systems. To accommodate this need, CEEMIS development and testing has and will be conducted using an incremental approach. The CEEMIS will be developed in three phases:

- Phase 1 (P1): will be developed to provide an initial upward reporting financial information capability with the goal of improving the quality of upward reported financial information data and reducing cycle time, paper flow, and handling costs.
- Phase 2 (P2): will provide a complete financial reporting capability that will develop and implement a complete system that handles all CE-level financial reporting core functions.
- Phase 3 (Increment B-1): will provide a reengineered (P2) system using Oracle's Designer 2000 CASE tool suite.

P1 will be initially developed, tested and fielded/deployed.

1.6 Trade-Offs. The expedited development/deployment schedule is predicated on available funds and success at each test site. A disruption of funds and/or severe problems at a test site may result in a schedule change. To avoid a significant impact on the schedule; intermediate milestones (e.g., deployment to a group of districts) will be re-evaluated to determine the feasibility of altering milestones in such a way to preclude a change in the date of the last deployment site. Likewise, the Corps will continue to evaluate its deployment strategy to determine the feasibility of further expediting the deployment of CEEMIS.

1.7 Risks. The CEEMIS development/deployment schedule is ambitious and is predicated on the availability of funds and success at each test site.

1.8 Acquisition Streamlining. CEEMIS has not been designated by the Corps of Engineers as a program subject to acquisition streamlining.

2.0 PLAN OF ACTION

2.1 Sources. CEEMIS will conform to all standard Army supply support procedures. No deviations are anticipated. Each site will have responsibility for its own supplies.

Since CEEMIS is a non-tactical system, no wartime support supplies are required. Currently, there are no extraordinary equipment requirements; the need for standard Army issue equipment such as computer paper and magnetic tape will exist.

2.2 Competition. CEEMIS is being developed in-house using an indefinite delivery contract which was awarded through competitive procurement procedures. The prime contractor, Control Data Systems, Inc., uses two subcontractors; KELTEK Systems, Inc. of Huntsville, Alabama and AVANCO International of McLean, Virginia.

2.3 Source-Selection Procedures. The CEAP hardware communication and software support contract was awarded as a competitive procurement action using a source-selection evaluation board. Contractor proposals were evaluated against specifications provided in the solicitation.

2.4 Contracting Considerations. The CEAP contract used to acquire contractor support for developing CEEMIS is an indefinite delivery order type contract. Task orders are placed for analysis, programming, testing and documentation support.

2.5 Budgeting and Funding. The annual budget for CEEMIS is derived by estimating the number of government and contractor hours required to accomplish projected tasks. These hours are converted to dollars through the use of Corps and contract labor rates. Labor costs are supplemental by estimates for travel, equipment, supplies, etc.

2.6 Product Description. For each delivery order under the CEAP contract, the contractor is provided a scope of work which contains a list of tasks, deliverables, and schedules.

2.7 Priorities, Allocations, and Allotments. The tasks required under each delivery order are prioritized and scheduled in such a way to accommodate the overall development schedule.

2.8 Contractor Versus Government Performance. The CEEMIS development effort uses a blend of Government and contractor effort. The Government basically develops requirements and performs validity testing while the contractor personnel perform the more technical aspects of the effort (e.g., programming, analysis, documentation, etc.)

2.9 Management Information Requirements. Figure 2-1 depicts current CEEMIS program responsibilities, authorities and reporting channels.

Thomas L. Brockman is the designated Program Manager (PM) and is responsible for overall project development. The Director of USACE Finance Center (UFC) is the Functional

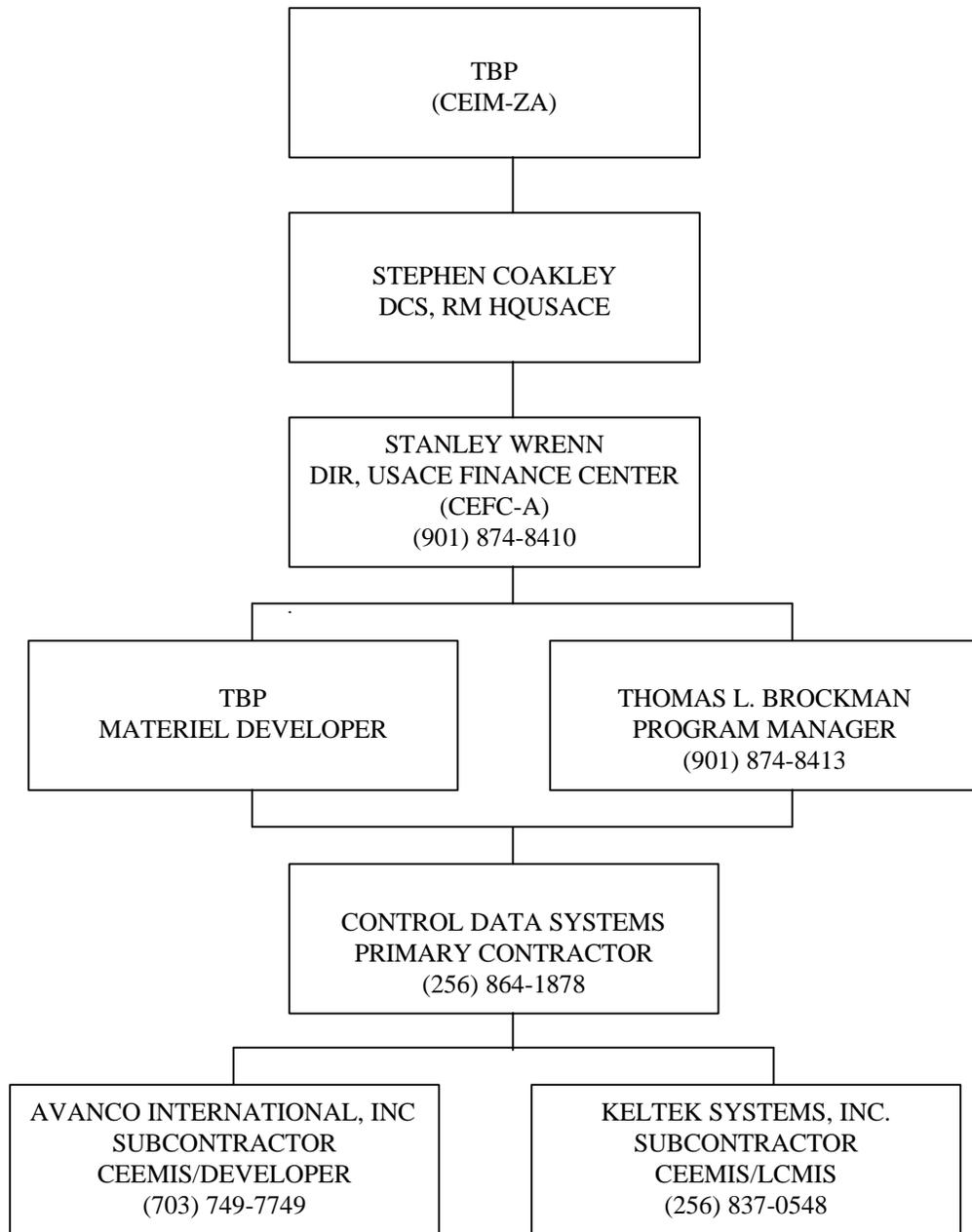


Figure 2-1. CEEMIS PROGRAM MANAGEMENT

Proponent (FP) and the Proponent Agency (PA). The FP/PA is responsible for requirements definition and formal CEEMIS validation throughout all phases of the project life cycle in accordance with the guidelines established by AR 25-3, ER 25-1-2, and related configuration management directives. The CEEMIS FP/PA, as chairman for all CEEMIS Software Acceptance Tests (SAT) and Configuration Control Board (CCB) functions, will validate the functional and technical adequacy of CEEMIS in regard to satisfying mission needs and will document deficiencies.

2.10 Make or Buy. According to the Federal Acquisition Regulation (FAR), "Buy item" means an item or work effort to be produced or performed by a subcontractor. CEEMIS is a buy item work effort in that the Corps is buying technical support to generate software (i.e., software programs) perform analysis, conduct testing and produce documentation. All products provided by the contractor become Government property.

2.11 Test and Evaluation. The CEEMIS testing programs are discussed in detail in the Test and Evaluation Master Plan (TEMP). An excerpt of these components are addressed in paragraphs that follow.

2.11.1 Technical Test and Evaluation (TT&E) Overview. The purpose of TT&E is to determine whether or not the system is being developed in accordance with the technical requirements. The TT&E addresses the system's technical characteristics (hardware, software and communications) and contributes to the acquisition and fielding of an effective and supportable system.

The goal of testing is to confirm that the system functions in accordance with the functional and technical requirements and can be effectively executed and managed in the designated environment. Key factors in achieving this goal are the introduction of comprehensive test plans, test data files, test conditions, user participation and test analysis reports to ensure the quality and completeness of system testing and evaluation. Objectives achieved as a result of computer system testing and evaluation serve to:

- Identify errors which cause the system to produce unspecified results
- Confirm that the system performs in accordance with the specifications
- Confirm that the computer software operates on the designated equipment
- Confirm that the system functions in the assigned environment
- Ensure that the system complies with the regulatory requirements and provisions.

The TT&E is a comprehensive and continuous evaluation (CE) process conducted to ensure that the following capabilities and requirements of the system are exercised and analyzed:

- Tester personnel are able to manage the system to include interactive terminal interface, cycle/system setup and input/output control.
- Interfaces are functioning properly with respect to ease of data handling through cycle processing, inter-system data transfer, transmission of data over communication links and time sharing links.

- Control statements adequately reflect the required functional order of cycle and system processing.
- System products have been produced correctly and handling instructions for these are clear and adequate.
- Performance results are evaluated and analyzed in accordance with the technical parameters documented in Appendix E.
- Recover/restart procedures are evaluated to ensure that testers can overcome potential processing malfunctions.
- Documentation is evaluated to ensure comprehension.
- Training and manuals are evaluated to ensure the user can operate and maintain the system.
- Test results are fully evaluated to ensure that all stated test objectives have been met.

The Technical Independent Evaluator (TIE) will determine if the system was developed in accordance with the technical requirements. This is accomplished by reviewing the requirements documentation, developing technical issues and criteria, ensuring that necessary tests will be performed to fully address and evaluate the criteria and assessing the capabilities of the system in fulfilling technical requirements (based on the test results). The CEEMIS TIE will determine the extent to which the entire system performs to the specifications of these technical requirements for each test phase.

2.11.1.1 Software Development Test (SDT) Objectives. The SDT objectives were to determine that the product fulfilled the functional and performance requirements and that the system was ready for the Software Qualification Test (SQT). Developmental testing was conducted at the development site in Huntsville, Alabama.

2.11.1.2 Software Qualification Test (SQT) Objectives. The SQT objectives are to perform technical testing to ensure that system capabilities and the functional and technical requirements of the system are exercised, verified and validated.

2.11.2 Operational Test and Evaluation Overview. The CEEMIS system architecture is part of the Corps of Engineers Automation Plan (CEAP-IA) network which links together the two Corps-owned Processing Centers (PCs); Central (Vicksburg, MS) and Western (Portland, OR). Since CEAP-IA provides computing and communication infrastructure throughout the Corps, several automated information systems (AISs) will be resident which will precipitate several architecture changes and upgrades. Any changes to the hardware supporting CEEMIS will impact the system architecture. CEEMIS will not perform formal configuration management on the system architecture. Changes to systems software will be documented, but will not be formally tracked. The hardware supporting CEEMIS is part of the CEAP-IA platform. Since CEAP-IA supports several COE systems, it is not necessary to track upgrades and/or other changes for CEEMIS.

2.11.2.1 Operational Test and Evaluation (OT&E) Objectives. The objective of the OT&E is to evaluate the operational effectiveness and operational suitability of the CEEMIS when employed in an operational environment to ensure that hardware, software, and data communications meet the mission needs. All critical operational issues will be addressed during

IOTE. Additionally, the six domains of MANPRINT will be evaluated during IOTE.

2.12 Logistics Considerations. Logistic support is defined as the selective application of scientific and engineering efforts undertaken during the acquisition process to assist in complying with supportability and other ILS objectives. The following paragraphs that follow provide an explanation of the various logistics components.

2.12.1 Logistic Support Tasks. The logistic support strategy to be used in the CEEMIS acquisition effort includes considerations for the following areas:

- Evaluation of modules accomplished via use of comparison tests with the existing system
- Analysis of procurement requirements
- Continual evaluation of ongoing acquisition risks.

Explanations of each area are provided in the corresponding paragraphs that follow.

2.12.1.1 Evaluation. After initial fielding of CEEMIS, the system will be tested in a live, operational environment. This test will be referred to as the Beta test which translates to a System Acceptance Test (SAT).

2.12.1.2 Procurement Requirements. The major procurement requirement for CEEMIS is application software development. This requirement is being fulfilled via a contract with Control Data Systems, Inc.

2.12.1.3 Acquisition Risk. Because of the long lead times involved in the development and deployment of CEEMIS, the following risk reductions have been imposed:

- a. CEEMIS will employ an incremental and evolutionary development and implementation strategy to combat some of the acquisition risk and ensure that any required changes to the initial plan can be implemented as necessary.
- b. Competition for ancillary resources will be encouraged and established at a level commensurate with the acquisition requirements of CEEMIS.
- c. CEEMIS will solicit contractor support and advice from potential vendors, as appropriate, to ensure participation of all interested parties.
- d. CEEMIS will employ existing multi-year delivery order type contracts, competitive procurements and other general purpose vehicles to provide a flexible method of acquiring or supplementing necessary resources.

2.12.2 Maintenance Plan. CEEMIS software will be centrally maintained at a location that has access to or is in close proximity to the UFC. Any problems with system operation will be forwarded to the central operations maintenance office.

Hardware maintenance is provided through commercial contracts for the CEAP-IA platform. Additionally, the individual Corps of Engineers district offices will have responsibility for the maintenance of personal computer systems via respective commercial contracts.

2.12.3 Reliability. Data is pre-validated which provides for adequate retrievals.

2.12.3.1 Maintainability. CEEMIS must provide for technical, functional and cosmetic enhancements without major interruptions to the production system. These requirements (Reliability, Availability and Maintainability (RAM)) allow qualified users access to the system with the assurance of data accuracy and validity. The system must also have provisions for continuity of operations which are formally addressed in the Continuity of Operation Plan (COOP) for Corps of Engineers Automation Plan (CEAP-IA). The CEAP COOP is provided as Annex O to the System Decision Plan (SDP).

Maintenance of the CEEMIS hardware will be the responsibility of the individual Corps activities (e.g., FOA, Lab) where CEEMIS is operational. The CEAP-IA platform and local hardware support multiple applications including CEEMIS. In this regard, CEEMIS is hardware independent.

2.12.3.2 Quality Assurance. The Quality Assurance requirements imposed on CEEMIS will be prescribed by the policies and procedures mandated in the Army Finance and Accounting Quality Assurance (QA) Program, AR 11-37. The QA Program is designed to improve Army financial operations and to detect, deter and prevent fraud and waste.

All levels (Headquarters, District and Division) of the Army Corps of Engineers will participate in the QA of CEEMIS. It is recommended that CEEMIS have a full checklist review of each fiscal year.

2.12.3.3 Warranties. All types of hardware repair will be conducted by the target hardware vendor. Hardware warranty will be IAW the Army Corps of Engineers Maintenance concept based on the respective procurement.

2.12.3.4 Standardization. CEEMIS hardware requirements will be primarily satisfied through existing equipment that comprises the Corps of Engineers Automation Plan (CEAP-IA). The hardware equipment is a non-development item.

2.13 Government-Furnished Property. The Corps of Engineers will provide the necessary equipment to develop and maintain CEEMIS. The necessary equipment is described in the paragraphs that follow.

2.13.1 Hardware. CEEMIS required hardware includes the following:

- SUN 2000 at CPC23
- IBM Pentiums
- CE Local Area Network (LAN) running Novell Netware

- Laser printers
- High-Speed line printers.

2.13.2 Software and Communications. Required software and communications capabilities include:

- ORACLE 7.3 Relational Database Management System (RDBMS)
- TCP/IP Protocol
- Graphical User Interface (GUI)
- Powerbuilder 5.03
- PFC
- PL/SQL, Cognos Impromptu, Powerplay

2.14 Government-Furnished Information. CEEMIS has some unique requirements involving the numerous system interfaces. Data required for testing interfaces must be coordinated with the respective interface systems.

2.15 Environmental Considerations. There are no environmental issues associated with the CEEMIS acquisition.

2.16 Security Considerations. Because CEEMIS is an unclassified sensitive system (US2), a security clearance is not required to access the system. However, ORACLE and UNIX IDs must be obtained from the system administrator before a user can access CEEMIS. Additionally, a password must be granted to "log in" the system.

2.17 Other Considerations. All applicable procurement considerations have been covered above.

2.18 Milestones for the Acquisition Cycle. CEEMIS uses an indefinite delivery order type contract which was in place before the development effort began. This contract, managed by the Corps CEAP Program Manager, is used by multiple Automated Information Systems (AIS) to acquire software development support. The CEEMIS development/deployment schedule is shown in the System Decision Paper (SDP).

2.19 Participants. The following resource and contact persons are participants in or provide support to the life cycle management of CEEMIS.

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