

**FACILITIES AND EQUIPMENT MAINTENANCE (FEM) SYSTEM**

Facilities and Equipment Maintenance (FEM) is a Department of Defense migratory Computerized Maintenance Management System (CMMS). The Joint Logistics Systems Center (JLSC) developed the system to meet the needs of DOD maintenance organizations. This system was designated as a DoD migratory system in 1995. FEM is the Corps customization of MAXIMO Enterprise Base Systems (MRO Software, Inc.), which is a Commercial-Off-The-Shelf-System (COTS) package. The customization is provided to each service (Army, Navy, Air Force) to fulfill unique mission requirements. FEM integrates several plant maintenance functions into a cost-effective asset management program. It supports and consolidates functions, such as capital depreciation, equipment preventative and corrective maintenance, equipment installation, facility modification, and equipment calibration into a single management environment. The functionality also envisions an integrated application that optimizes asset use through management of corrective and preventive equipment maintenance, asset calibration, inventory and property, and maintenance budget. It provides capability to track life cycle costs of all assets, thus providing real-time accountability. In terms of expected performance outcome, deployment of FEM will standardize the maintenance business process Corps-wide. In addition, implementing FEM should reduce spare parts consumption, material purchases, maintenance labor, contract costs, calibration labor, and capital equipment acquisition. It will replace local-unique applications at several field activities, as well as automate facility and equipment maintenance management at an estimated 80% of Corps facilities, which had not developed any automation in support of their maintenance management program. FEM will also replace the corporate Vehicle Information Management (VIM) system.

FEM was designated the USACE corporate standard automated maintenance management system by the USACE Milestone Decision Authority on 10 December 1998. The Corps received Congressional support to implement in December 1999. In April 2000 the Corps entered into Memorandum of Agreement (MOA) with DoD Program Manager (Navy System Support Group) for the Facilities and Equipment Maintenance (FEM) System to implement the system. The DoD Program manager provides a Corps FEM project team to manage and coordinate the development, deployment, and sustainment of the corporate Corps FEM application. Corps Headquarters has established a Corps Project Manager to serve as the Service Point of Contact for the execution of this project. The Corps has also provided representatives from the Corps maintenance community to assist in the definition of the system functional requirements and to conduct final application acceptance testing. The DoD Program Manager utilizes appropriate GSA contract vehicles to enlist the services of experienced MAXIMO implementation contractor support for the most efficient development of the USACE FEM application. The Corps FEM application has customized screens and interfaces used to provide the solution to project/plant facility and capital equipment resource planning and maintenance management. The application is designed to support current and anticipated business requirements within Corps for the next four to five year period. The FEM obtained Lifecycle Management of Information Systems (LCMIS) Milestone III on 8 February 2002. We plan to begin USACE-wide deployment in FY 03 with and complete the implementation by FY 04.

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## LOGISTICS GUIDANCE

Revised Benefit Cost Analysis (BCA) completed on 21 Dec 01 by DOD FEM PM validated business value benefits with a Net Present Value of \$3.578M with annual cost avoidance of \$2.812M in FY 03 and \$4.149M in FY 04. Total estimated capitalized cost provided by DOD FEM PM: \$ 19,300,000. Through FY 01: \$6,776,000 for development. FY 02: \$1,030,000 to complete development. FY 03: \$7, 200,000 to begin implementation. FY 04: \$4,200,000 to complete implementation.

**This schema reflects the funding for development, implementation, and post deployment:**

|                    | FY 00 | FY 01 | FY 02 | FY 03 | FY 04 | FY 05-12 |
|--------------------|-------|-------|-------|-------|-------|----------|
|                    | (\$M) | (\$M) | (\$M) | (\$M) | (\$M) | (\$M)    |
| PRIP               | 4.489 | 2.287 | 1.030 | 7.200 | 4.200 |          |
| Project (Training) |       |       |       | 1.1   | 1.1   |          |
| Data Conversion    |       |       |       | .6    | .6    |          |
| PRIP Payback       |       |       |       |       |       | 2.5      |
| DoD Maintenance    |       |       |       |       |       | 1.2      |
| TOTALS             | 4.489 | 2.287 | 1.030 | 8.900 | 5.900 | 3.7      |

The breakout of capitalized costs vs. expensed costs is based on DoD/Army capitalization policy provided in Federal Accounting Standards Advisory Board (FASAB) Statement of Federal Financial Accounting Standards No. 10. This required all federal agencies to report internal use software in a specified and consistent manner. This policy specified tasks that must be capitalized vs. those that must be expensed. PRIP is used to cover the capitalized costs (payback over 8 years beginning in FY 05 from appropriate accounts).

The cost for training and data conversion will be billed to the divisions, centers, and field operating activities on the year of scheduled implementation. It will be the responsibility of these elements to collect funds from subordinate activities.

The PRIP payback schedule will begin in FY 05 after the system is deployed and end in eight years. Again the division, centers, and field operating activities will be billed. This same procedure will be used to collect for funds post deployment maintenance support.

FEM System cost is distributed to all divisions, centers, and field operating activities based on size – one size does not fit all. There are 6 categories of size: large, medium (2 categories), small (2 categories), and micro. Basic cost allocation guidance by size is shown in table at end of this section.

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FEM implementation schedule and estimated training and data conversion cost distribution by division, centers, and field operating activity is shown in the table below.

### USACE FEM, 2 Year Implementation Order with Dates

| Est Training and Data Conversion Costs | District     | Name  | Size  | Start           | Comp            | Processing Center |
|--|--------------|---|-------|-----------------|-----------------|-------------------|
| \$257,450                              | <b>CENWD</b> | <b>Northwestern Division<br/>CENWD</b>                          |       | <b>10/15/02</b> | <b>01/30/03</b> | <b>WPC</b>        |
|  | CENWS        | Seattle District CENWS  | L     | 10/15/02        | 01/15/03        | WPC               |
|  | CENWK        | Kansas City District CENWK                                      | S     | 10/30/02        | 01/30/03        | WPC               |
| \$283,034                              | <b>CESWD</b> | <b>Southwestern Division<br/>CESWD</b>                          |       | <b>11/01/02</b> | <b>02/28/03</b> | <b>CPC</b>        |
|  | CESWL        | Little Rock District CESWL                                      | M     | 11/01/02        | 02/01/03        | CPC               |
|  | CESWG        | Galveston District CESWG  | S     | 11/05/02        | 02/05/03        | CPC               |
|  | CESWF        | Fort Worth District CESWF                                       | M     | 11/15/02        | 02/15/03        | CPC               |
|  | CESWT        | Tulsa District CESWT  | M+    | 11/30/02        | 02/28/03        | CPC               |
| \$651,636                              | <b>CELRD</b> | <b>Great Lakes and Ohio River<br/>Division CELRD</b>            |       | <b>12/1/02</b>  | <b>04/30/03</b> | <b>WPC</b>        |
|  | CELRE        | Detroit District CELRE  | S     | 12/1/02         | 03/1/03         | WPC               |
|  | CELRH        | Huntington District CELRH                                       | L     | 12/5/02         | 03/5/03         | WPC               |
|  | CELRP        | Pittsburgh District CELRP                                       | M     | 12/15/02        | 03/15/03        | WPC               |
|  | CELRL        | Louisville District CELRL                                       | L     | 1/5/03          | 04/5/03         | WPC               |
|  | CELRN        | Nashville District CELRN  | S     | 1/10/03         | 04/10/03        | WPC               |
|  | CELRB        | Buffalo District CELRB  | S     | 1/15/03         | 04/15/03        | WPC               |
|  | CELRD        | Chicago District CELRD  | S-    | 1/30/03         | 04/30/03        | WPC               |
| \$687,945                              | <b>CEMVD</b> | <b>Mississippi Valley Division<br/>CEMVD</b>                    |       | <b>2/1/03</b>   | <b>05/28/03</b> | <b>CPC</b>        |
|  | CEMVN        | New Orleans District CEMVN                                      | M     | 2/1/03          | 05/1/03         | CPC               |
|  | CEMVR        | Rock Island District CEMVR                                      | M     | 2/5/03          | 05/5/03         | CPC               |
|  | CEMVS        | St. Louis District CEMVS  | M     | 2/15/03         | 05/15/03        | CPC               |
|  | CEMVK        | Vicksburg District CEMVK  | L     | 2/18/03         | 05/18/03        | CPC               |
|  | CEMVM        | Memphis District CEMVM  | L     | 2/20/03         | 05/20/03        | CPC               |
|  | CEMVP        | St. Paul District CEMVP   | S     | 2/28/03         | 05/28/03        | CPC               |
| \$476,897                              | <b>CESAD</b> | <b>South Atlantic Division<br/>CESAD</b>                        |       | <b>4/1/03</b>   | <b>08/30/03</b> | <b>CPC</b>        |
|  | CESAM        | Mobile District CESAM   | L     | 4/1/03          | 07/1/03         | CPC               |
|  | CESAS        | Savannah District CESAS   | M     | 5/1/03          | 08/1/03         | CPC               |
|  | CESAW        | Wilmington District CESAW                                       | M     | 5/5/03          | 08/5/03         | CPC               |
|  | CESAC        | Charleston District CESAC                                       | S     | 5/15/03         | 08/15/03        | CPC               |
|  | CESAJ        | Jacksonville District CESAJ                                     | M     | 5/30/03         | 08/30/03        | CPC               |
| \$8,593                                | <b>CEFC</b>  | <b>U.S. Army Corps of<br/>Engineers Finance Center<br/>CEFC</b> | Micro | <b>3/1/03</b>   | <b>06/1/03</b>  | <b>CPC</b>        |

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|           |              |   |       |                 |                 |            |
|-----------|--------------|---|-------|-----------------|-----------------|------------|
| \$8,593   | <b>CEHNC</b> | <b>Engineering and Support Center, Huntsville CEHNC</b>         | Micro | <b>6/1/03</b>   | <b>09/1/03</b>  | <b>CPC</b> |
| \$212,353 | <b>CESPD</b> | <b>South Pacific Division CESPD</b>                             |       | <b>6/5/03</b>   | <b>01/15/04</b> | <b>WPC</b> |
|           | CESPA        | Albuquerque District CESPA                                      | S     | 6/5/03          | 09/5/03         | WPC        |
|           | CESPK        | Sacramento District CESPK                                       | M     | 10/01/03        | 01/01/04        | WPC        |
|           | CESPL        | Los Angeles District CESPL                                      | S     | 10/5/03         | 01/05/04        | WPC        |
|           | CESPN        | San Francisco District CESPN                                    | S     | 10/15/03        | 01/15/04        | WPC        |
| \$211,049 | <b>CEERD</b> | <b>U.S. Army Engineer Research and Development Center CEERD</b> | L     | <b>11/01/03</b> | <b>02/30/04</b> | <b>CPC</b> |
|           | CEERD        | Vicksburg   |       | 11/01/03        | 02/01/04        | CPC        |
|           | CEERD        | Champaign   |       | 11/05/03        | 02/05/04        | CPC        |
|           | CEERD        | Ft Belvior  |       | 11/15/03        | 02/15/04        | CPC        |
|           | CEERD        | Hanover   |       | 11/30/03        | 02/30/04        | CPC        |
| \$523,298 | <b>CENAD</b> | <b>North Atlantic Division CENAD</b>                            |       | <b>12/1/03</b>  | <b>04/28/04</b> | <b>WPC</b> |
|           | CENAD        | Baltimore District CENAB  | L     | 12/1/03         | 03/1/04         | WPC        |
|           | CENAP        | Philadelphia District CENAP                                     | S     | 2/1/04          | 04/1/04         | WPC        |
|           | CENAE        | New England District CENAE                                      | M     | 2/5/04          | 04/5/04         | WPC        |
|           | CENAN        | New York District CENAN   | M     | 2/15/04         | 04/15/04        | WPC        |
|           | CENAO        | Norfolk District CENAO  | M     | 2/18/04         | 04/18/04        | WPC        |
|           | CENAU        | Europe District CENAU   | S     | 2/28/04         | 04/28/04        | WPC        |
| \$73,149  | <b>CEHEC</b> | <b>Humphreys Engineer Center Support Activity CEHEC</b>         | M     | <b>3/1/04</b>   | <b>06/1/04</b>  | <b>CPC</b> |
| \$46,401  | <b>CEPPB</b> | <b>Prime Power School</b>                                       | S     | <b>3/5/04</b>   | <b>06/5/04</b>  | <b>CPC</b> |
| \$127,174 | <b>CEPOD</b> | <b>Pacific Ocean Division CEPOD</b>                             |       | <b>3/10/04</b>  | <b>06/30/04</b> | <b>WPC</b> |
|           | CEPOA        | Alaska District CEPOA   | M     | 3/10/04         | 06/10/04        | WPC        |
|           | CEPOH        | Honolulu District CEPOH   | S-    | 3/15/04         | 06/15/04        | WPC        |
|           | CEPOJ        | Japan District CEPOJ  | S-    | 3/20/04         | 06/20/04        | WPC        |
|           | CEPOF        | Far East District CEPOF   | S     | 3/30/04         | 06/30/04        | WPC        |
| \$8,593   | <b>CETAC</b> | <b>Transatlantic Programs Center CETAC</b>                      | Micro | <b>4/04/04</b>  | <b>07/04/04</b> | <b>CPC</b> |

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FEM estimated PRIP payback and post deployment maintenance support cost:

### PRIP PAYBACK AND POST DEPLOYMENT SUPPORT COSTS

| Est PRIP Payback per FY | Est Post Deployment per FY | District     | Name  | Size  | Start    | Comp    |
|-------------------------|----------------------------|--------------|---|-------|----------|---------|
| \$388,864               | \$186,345                  | <b>CENWD</b> | <b>Northwestern Division CENWD</b>                      |       | 10/01/05 | 9/30/12 |
|                         |                            | CENWP        | Portland District CENWP                                 | L     | 10/01/05 | 9/30/12 |
|                         |                            | CENWW        | Walla Walla District CENWW                              | M     | 10/01/05 | 9/30/12 |
|                         |                            | CENWO        | Omaha District CENWO                                    | M     | 10/01/05 | 9/30/12 |
|                         |                            | CENWS        | Seattle District CENWS                                  | L     | 10/01/05 | 9/30/12 |
|                         |                            | CENWK        | Kansas City District CENWK                              | S     | 10/01/05 | 9/30/12 |
| \$184,370               | \$88,351                   | <b>CESWD</b> | <b>Southwestern Division CESWD</b>                      |       | 10/01/05 | 9/30/12 |
|                         |                            | CESWL        | Little Rock District CESWL                              | M     | 10/01/05 | 9/30/12 |
|                         |                            | CESWG        | Galveston District CESWG                                | S     | 10/01/05 | 9/30/12 |
|                         |                            | CESWF        | Fort Worth District CESWF                               | M     | 10/01/05 | 9/30/12 |
|                         |                            | CESWT        | Tulsa District CESWT                                    | M+    | 10/01/05 | 9/30/12 |
| \$410,991               | \$196,948                  | <b>CELRD</b> | <b>Great Lakes and Ohio River Division CELRD</b>        |       | 10/01/05 | 9/30/12 |
|                         |                            | CELRE        | Detroit District CELRE                                  | S     | 10/01/05 | 9/30/12 |
|                         |                            | CELRH        | Huntington District CELRH                               | L     | 10/01/05 | 9/30/12 |
|                         |                            | CELRP        | Pittsburgh District CELRP                               | M     | 10/01/05 | 9/30/12 |
|                         |                            | CELRL        | Louisville District CELRL                               | L     | 10/01/05 | 9/30/12 |
|                         |                            | CELRN        | Nashville District CELRN                                | S     | 10/01/05 | 9/30/12 |
|                         |                            | CELRB        | Buffalo District CELRB                                  | S     | 10/01/05 | 9/30/12 |
|                         |                            | CELRC        | Chicago District CELRC                                  | S-    | 10/01/05 | 9/30/12 |
| \$436,815               | \$209,324                  | <b>CEMVD</b> | <b>Mississippi Valley Division CEMVD</b>                |       | 10/01/05 | 9/30/12 |
|                         |                            | CEMVN        | New Orleans District CEMVN                              | M     | 10/01/05 | 9/30/12 |
|                         |                            | CEMVR        | Rock Island District CEMVR                              | M     | 10/01/05 | 9/30/12 |
|                         |                            | CEMVS        | St. Louis District CEMVS                                | M     | 10/01/05 | 9/30/12 |
|                         |                            | CEMVK        | Vicksburg District CEMVK                                | L     | 10/01/05 | 9/30/12 |
|                         |                            | CEMVM        | Memphis District CEMVM                                  | L     | 10/01/05 | 9/30/12 |
|                         |                            | CEMVP        | St. Paul District CEMVP                                 | S     | 10/01/05 | 9/30/12 |
| \$5,475                 | \$2,624                    | <b>CEFC</b>  | <b>U.S. Army Corps of Engineers Finance Center CEFC</b> | Micro | 10/01/05 | 9/30/12 |
| \$305,118               | \$146,214                  | <b>CESAD</b> | <b>South Atlantic Division CESAD</b>                    |       | 10/01/05 | 9/30/12 |
|                         |                            | CESAM        | Mobile District CESAM                                   | L     | 10/01/05 | 9/30/12 |
|                         |                            | CESAS        | Savannah District CESAS                                 | M     | 10/01/05 | 9/30/12 |
|                         |                            | CESAW        | Wilmington District CESAW                               | M     | 10/01/05 | 9/30/12 |
|                         |                            | CESAC        | Charleston District CESAC                               | S     | 10/01/05 | 9/30/12 |
|                         |                            | CESAJ        | Jacksonville District CESAJ                             | M     | 10/01/05 | 9/30/12 |

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|           |           |              |   |       |          |         |
|-----------|-----------|--------------|---|-------|----------|---------|
| \$5,475   | \$2,624   | <b>CEHNC</b> | <b>Engineering and Support Center, Huntsville CEHNC</b>         | Micro | 10/01/05 | 9/30/12 |
| \$136,646 | \$65,481  | <b>CESPD</b> | <b>South Pacific Division CESPD</b>                             |       | 10/01/05 | 9/30/12 |
|           |           | CESPA        | Albuquerque District CESPA                                      | S     | 10/01/05 | 9/30/12 |
|           |           | CESPK        | Sacramento District CESPK                                       | M     | 10/01/05 | 9/30/12 |
|           |           | CESPL        | Los Angeles District CESPL                                      | S     | 10/01/05 | 9/30/12 |
|           |           | CESPN        | San Francisco District CESPN                                    | S     | 10/01/05 | 9/30/12 |
| \$131,698 | \$63,110  | <b>CEERD</b> | <b>U.S. Army Engineer Research and Development Center CEERD</b> | L     | 10/01/05 | 9/30/12 |
|           |           | CEERD        | Vicksburg   |       | 10/01/05 | 9/30/12 |
|           |           | CEERD        | Champaign   |       | 10/01/05 | 9/30/12 |
|           |           | CEERD        | Ft Belvior  |       | 10/01/05 | 9/30/12 |
|           |           | CEERD        | Hanover   |       | 10/01/05 | 9/30/12 |
| \$334,683 | \$160,381 | <b>CENAD</b> | <b>North Atlantic Division CENAD</b>                            |       | 10/01/05 | 9/30/12 |
|           |           | CENAD        | Baltimore District CENAB  | L     | 10/01/05 | 9/30/12 |
|           |           | CENAP        | Philadelphia District CENAP                                     | S     | 10/01/05 | 9/30/12 |
|           |           | CENAE        | New England District CENAE                                      | M     | 10/01/05 | 9/30/12 |
|           |           | CENAN        | New York District CENAN   | M     | 10/01/05 | 9/30/12 |
|           |           | CENAO        | Norfolk District CENAO  | M     | 10/01/05 | 9/30/12 |
|           |           | CENAU        | Europe District CENAU   | S     | 10/01/05 | 9/30/12 |
| \$47,952  | \$22,979  | <b>CEHEC</b> | <b>Humphreys Engineer Center Support Activity CEHEC</b>         | M     | 10/01/05 | 9/30/12 |
| \$29,565  | \$14,167  | <b>CEPPB</b> | <b>Prime Power School</b>                                       | S     | 10/01/05 | 9/30/12 |
| \$81,029  | \$38,829  | <b>CEPOD</b> | <b>Pacific Ocean Division CEPOD</b>                             |       | 10/01/05 | 9/30/12 |
|           |           | CEPOA        | Alaska District CEPOA   | S     | 10/01/05 | 9/30/12 |
|           |           | CEPOH        | Honolulu District CEPOH   | S-    | 10/01/05 | 9/30/12 |
|           |           | CEPOJ        | Japan District CEPOJ  | S-    | 10/01/05 | 9/30/12 |
|           |           | CEPOF        | Far East District CEPOF   | S     | 10/01/05 | 9/30/12 |
| \$5,475   | \$2,624   | <b>CETAC</b> | <b>Transatlantic Programs Center CETAC</b>                      | Micro | 10/01/05 | 9/30/12 |

### COST ALLOCATION GUIDANCE BY CATEGORY

| Size Category |       | Training/Data Conversion | PRIP Payback/FY FY 05-12 | Post Deployment/FY FY 05-12 |
|---------------|-------|--------------------------|--------------------------|-----------------------------|
| Large         | L     | \$211,049                | \$131,698                | \$63,110                    |
| Medium (plus) | M+    | \$90,335                 | \$58,902                 | \$28,226                    |
| Medium        | M     | \$73,149                 | \$47,952                 | \$22,979                    |
| Small         | S     | \$46,401                 | \$29,565                 | \$14,167                    |
| Small (minus) | S-    | \$17,186                 | \$10,950                 | \$5,247                     |
| Micro         | Micro | \$8,593                  | \$5,475                  | \$2,624                     |