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UNIFIED FACILITIES GUIDE SPECIFICATIONS

References are in agreement with UMRL dated January 2018

SECTION 01 78 24.00 20

FACILITY ELECTRONIC OPERATION AND MAINTENANCE SUPPORT INFORMATION (eOMSI)
02/15

NOTE: This guide specification covers the requirements for **Electronic Operation and Maintenance Support Information (eOMSI)**. Use of this section is required by, but not limited to, project thresholds in ECB 2014-01, NAVFAC's Building Information Management and Modeling (BIM) Phased Implementation Plan, available for download at http://www.wbdg.org/ccb/browse_cat.php?c=268.

Consult the NAVFAC Public Works Facilities Management Division (FMD) on construction contracts under the stated threshold values to determine if this guide specification is required. Collaborate with the FMD to edit this section and to develop the preliminary eOMSI Facility Data Workbook to attach to this section for DBB or to develop for DB.

Always use and include Section **01 78 23**, OPERATION AND MAINTENANCE DATA, with this section.

Adhere to UFC 1-300-02 Unified Facilities Guide Specifications (UFGS) Format Standard when editing this guide specification or preparing new project specification sections. Edit this guide specification for project specific requirements by adding, deleting, or revising text. For bracketed items, choose applicable item(s) or insert appropriate information.

Remove information and requirements not required in respective project, whether or not brackets are present.

Comments, suggestions and recommended changes for this guide specification are welcome and should be submitted as a Criteria Change Request (CCR).

Brackets are used in the text to indicate designer choices or locations where text must be supplied by the designer.

This guide specification includes tailoring options for NAVFAC Design-Bid-Build (DBB), Design-Build (DB) Facility Data Workbook, and Commissioning Authority. Selection or de-selection of a tailoring option will include or exclude that option in the section, but editing the resulting section to fit the project is still required.

NOTE: eOMSI is divided into two major types of information:

a. The eOMSI Manual: Required for both Navy and Marine Corps projects, and organized around two traditional Operation and Maintenance Support Information (OMSI) Headings:

- (1) Product and Drawing Information
- (2) Facility Information

b. The eOMSI Facility Data Workbook: Required for Navy facilities only, which are operated and maintained under the MAXIMO system. Delete Workbook for Marine Corps, Army, and Air Force facilities. Tailor eOMSI Facility Data Workbook out of this section if it is not used.

NOTE: For Medical Facilities, thoroughly edit this section throughout, and coordinate with Defense Health Agency (DHA) for projects designed in accordance with UFC 4-510-01 DESIGN: MEDICAL MILITARY FACILITIES.

NOTE: The eOMSI Facility Data Workbook is available for download on the Whole Building Design Guide, under NAVFAC Specifications, and UFGS, NAVFAC Regional Specifications and PPV Graphics.

TO DOWNLOAD UFGS GRAPHICS:

1. Go To:
<http://www.wbdg.org/FFC/NAVGRAPH/graphtoc.pdf>
2. Locate 01 78 24.00 20 in the UFGS Number column.
3. Select the eOMSIFacilityDataWorkbook.zip link in the Graphic Hyperlink column.

4. Save the .ZIP file to your desktop or network share.

5. Extract the eOMSI Facility Data Workbook from the .ZIP file in Excel format to your project folder.

PART 1 GENERAL

1.1 REFERENCES

NOTE: This paragraph is used to list the publications cited in the text of the guide specification. The publications are referred to in the text by basic designation only and listed in this paragraph by organization, designation, date, and title.

Use the Reference Wizard's Check Reference feature when you add a Reference Identifier (RID) outside of the Section's Reference Article to automatically place the reference in the Reference Article. Also use the Reference Wizard's Check Reference feature to update the issue dates.

References not used in the text will automatically be deleted from this section of the project specification when you choose to reconcile references in the publish print process.

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

U.S. DEPARTMENT OF DEFENSE (DOD)

FC 1-300-09N (2014; with Change 2) Navy and Marine Corps Design Procedures

1.2 DEFINITIONS AND ABBREVIATIONS

1.2.1 eOMSI Manual

Manual (PDF file) provided by the Contractor that includes, but is not limited to, product information, a facility description with photos, and a list of primary facility systems.

1.2.2 eOMSI Facility Data Workbook (FDW)

A Microsoft Excel file containing required facility information populated by the Contractor.

1.2.3 Systems

The words "system", "systems", and "equipment", when used in this document refer to as-built systems and equipment.

1.2.4 Computer Assisted Design and Drafting (CADD)

Electronic Computer Assisted Design and Drafting graphic software program that is used to create facility design contract documents and Record Drawings.

1.2.5 KTR

An abbreviation for "Contractor."

1.3 EOMSI MEETINGS

1.3.1 [Pre-Construction Meeting] [Post-Award Kickoff Meeting]

NOTE: For Design-Bid-Build, choose the Pre-Construction Meeting bracketed option. For Design-Build, choose the Post-Award Kickoff Meeting bracketed option.

NOTE: Items in paragraph below contain tailoring tags for FACILITY DATA WORKBOOK and DBB.

Use the last item below in brackets for DBB only and as applicable.

Be prepared to discuss the following during this meeting:

- a. eOMSI Manual and eOMSI Facility Data Workbook Development Meetings
- b. Processes and methods of gathering eOMSI Manual and eOMSI Facility Data Workbook information during construction.
- c. The eOMSI Submittals schedule. Include the eOMSI submittal schedule on the Baseline Construction Schedule in accordance with Section 01 32 17.00 20 COST-LOADED NETWORK ANALYSIS SCHEDULE (NAS).
- [d. Electronic eOMSI Facility Data Workbook file for Contractor's use and completion.

]1.3.2 eOMSI Manual and Facility Data Workbook Coordination Meeting

NOTE: For DBB Projects, choose Pre-Construction Meeting. For DB projects, choose Post-Award Kickoff meeting.

Choose the Commissioning Authority bracketed option below if required by the project.

Choose Designer of Record (DOR) for DB projects only.

NOTE: The paragraph below contains tailoring tags for DB, DBB, COMMISSIONING AUTHORITY, and FACILITY DATA WORKBOOK.

Facilitate a meeting after the [Pre-Construction Meeting] [Post-Award Kickoff Meeting] prior to the submission of the eOMSI Progress Submittal. Meeting attendance must include the Contractor's eOMSI Manual and Facility Data Workbook Preparer, [Designer of Record (DOR),]and Quality Control Manager, [the Commissioning Authority (CxA),]and the Government's Design Manager (DM), Contracting Officer's Representative, and NAVFAC Public Works (PW) Facilities Management Division (FMD). Include any Mechanical, Electrical, and Fire Protection Sub-Contractors.

The purpose of this meeting is to reach a mutual understanding of the scope of work concerning the contract requirements for eOMSI and coordinate the efforts necessary by both the Government and Contractor to ensure an accurate collection, preparation and timely Government review of eOMSI.

1.3.3 Facility Turnover Meeting

NOTE: For DBB projects, choose Section 01 30 00 ADMINISTRATIVE REQUIREMENTS. For DB projects, choose Section 01 31 19.05 20 POST AWARD MEETINGS.

Include eOMSI in NAVFAC Red Zone (NRZ) facility turnover meetings as specified in [Section 01 30 00, ADMINISTRATIVE REQUIREMENTS.][Section 01 31 19.05 20, POST AWARD MEETINGS.]

1.4 SUBMITTAL SCHEDULING

1.4.1 eOMSI, Progress Submittal

NOTE: Paragraph contains tailoring for Facility Data Workbook.

Submit the Progress submittal when construction is approximately 50 percent complete, to the Contracting Officer for approval. Provide eOMSI Manual Files (Bookmarked PDF) and eOMSI Facility Data Workbook (Excel). Include the elements and portions of system construction completed up to this point.

The purpose of this submittal is to verify progress is in accordance with contract requirements as discussed during the eOMSI Coordination Meeting. Field verify a portion of the eOMSI information in accordance with paragraph FIELD VERIFICATION.

1.4.2 eOMSI, Prefinal Submittal

NOTE: Choose the bracketed option of submission of the Prefinal submittal 90 calendar days prior to BOD for MILCON and Special Projects. Choose 60 calendar days prior to BOD for renovations or repairs, or provide a timeframe practical to the project duration for smaller projects.

Submit the 100 percent submittal of the eOMSI Prefinal Submittal to the Contracting Officer for approval within [90][60][_____] calendar days of the Beneficial Occupancy Date (BOD). This submittal must provide a complete, working document that can be used to operate and maintain the facility. Any portion of the submittal that is incomplete or inaccurate requires the entire submittal to be returned for correction. Any discrepancies discovered during the Government's review of eOMSI Progress submittal must be corrected prior to the Prefinal submission.

The eOMSI Prefinal Submittal must include eOMSI Manual Files (Bookmarked PDF) and eOMSI Facility Data Workbook (Excel).

1.4.3 eOMSI, Final Submittal

Submit completed eOMSI Manual Files (Bookmarked PDF) and eOMSI Facility Data Workbook (Excel). The Final submittal is due at BOD. Any discrepancies discovered during the Government's review of the Prefinal eOMSI submittal, including the Field Verification, must be corrected prior to the Final eOMSI submission.

[1.4.4 Final eOMSI Submittal Translation

NOTE: For OCONUS locations, choose the appropriate foreign language that will be used based on the location of the project. If a foreign translation is not required, delete this bracketed paragraph.

Provide a translation in [Italian][Spanish][Portuguese][Greek][Japanese][_____] of the Facility Information Manual in electronic format. Provide drawings, charts and tables in both English and the foreign language. If required by Contracting Officer, provide a split format showing the foreign language on the left and English translation on the right.

]1.5 UNITS OF MEASURE

NOTE: For DBB, choose the first bracketed option. For DB, choose the second bracketed option for Section 01 33 10.05 20 DESIGN SUBMITTAL PROCEDURES.

Provide eOMSI utilizing the units of measure [used in the Government generated contract documents.][required by the RFP for the facility. Refer to Section 01 33 10.05 20 DESIGN SUBMITTAL PROCEDURES.][Metric eOMSI must be in SI (System International) metric units exclusively.]

1.6 SUBMITTALS

NOTE: Review Submittal Description (SD) definitions in Section 01 33 00 SUBMITTAL PROCEDURES and edit the following list to reflect only the submittals required for the project.

The Guide Specification technical editors have designated those items that require Government approval, due to their complexity or criticality, with a "G." Generally, other submittal items can be reviewed by the Contractor's Quality Control System. Only add a "G" to an item, if the submittal is sufficiently important or complex in context of the project.

For submittals requiring Government approval on Army projects, a code of up to three characters within the submittal tags may be used following the "G" designation to indicate the approving authority. Codes for Army projects using the Resident Management System (RMS) are: "AE" for Architect-Engineer; "DO" for District Office (Engineering Division or other organization in the District Office); "AO" for Area Office; "RO" for Resident Office; and "PO" for Project Office. Codes following the "G" typically are not used for Navy, Air Force, and NASA projects.

Use the "S" classification only in SD-11 Closeout Submittals. The "S" following a submittal item indicates that the submittal is required for the Sustainability eNotebook to fulfill federally mandated sustainable requirements in accordance with Section 01 33 29 SUSTAINABILITY REPORTING.

Choose the first bracketed item for Navy, Air Force and NASA projects, or choose the second bracketed item for Army projects.

NOTE: For DB, delete 01 33 00, SUBMITTAL PROCEDURES, and replace with 01 33 00.05 20, CONSTRUCTION SUBMITTAL PROCEDURES and 01 33 10.05 20, DESIGN SUBMITTAL PROCEDURES.

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are [for Contractor Quality Control approval.][for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government.] Submittals with an "S" are for inclusion in the Sustainability eNotebook, in conformance with Section 01 33 29 SUSTAINABILITY REPORTING. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-11 Closeout Submittals

eOMSI, Progress Submittal; G[, [____]]

eOMSI, Prefinal Submittal; G[, [____]]

eOMSI, Final Submittal; G[, [____]]

PART 2 PRODUCTS

2.1 EOMSI FILES FORMAT

NOTE: This paragraph contains tailoring for Facility Data Workbook.

Format eOMSI manuals and files in accordance with Section 01 78 23 OPERATION AND MAINTENANCE DATA. Include a complete electronically linked operation and maintenance directory. Provide [four] [____] electronic copies of the eOMSI Manuals to the Contracting Officer for approval.

Provide eOMSI Facility Data Workbook on compact disks (CD) or data digital versatile disk (DVD) disks in (EXCEL) format. Scan eOMSI Manual Files and eOMSI Facility Data Workbook for viruses, malware, and spyware using a commercially available scanning program that is routinely updated to identify and remove current virus threats.

2.1.1 eOMSI Manual Organization

Organize the eOMSI Manuals into two parts: 1) Product and Drawing Information, and 2) Facility Information. Bookmark the PDF files for easy access to the information.

- a. Bookmark Product and Drawing Information documents in accordance with Section 01 78 23 OPERATION AND MAINTENANCE DATA.
- b. Bookmark Facility Information to at least one level lower than the major system.

2.1.2 eOMSI Manual CD or DVD Disk Label and Disk Holder or Case

Provide disks in accordance with Section 01 78 23 OPERATION AND MAINTENANCE DATA.

2.2 EOMSI MANUAL

2.2.1 Product and Drawing Information

Provide an organized record of the facility products, materials, equipment, and minimum information necessary to operate the facility. Provide Product and Drawing Information for the systems in the final constructed facility.

2.2.1.1 O&M Data

As a minimum, provide the approved O&M Data, submitted in the technical specification sections, in accordance with paragraph TYPES OF INFORMATION

REQUIRED IN O&M DATA PACKAGES in Section 01 78 23 OPERATION AND MAINTENANCE DATA.

2.2.1.2 Record Drawings

NOTE:

For DB projects, always use this paragraph.

For DBB projects, use this paragraph if Contractor is providing the Record Drawings as specified in Section 01 78 00 CLOSEOUT SUBMITTALS.

Delete this paragraph for DBB projects if the Designer is providing the Record Drawings.

Provide an electronic, PDF copy of the Record Drawings, prepared in accordance with FC 1-300-09N and 01 78 00 CLOSEOUT SUBMITTALS. Bookmark drawings using the sheet title and sheet number.

Include Record Drawings as part of the Red-Zone specified in Section 01 30 00 ADMINISTRATIVE REQUIREMENTS.

2.2.1.3 Utility Record Drawings

NOTE: Delete this paragraph if project does not include Utility work.

Using Record Source Drawings, show and document details of the actual installation of the utility systems; annotate and highlight the eOMSI information. Provide Utility Record Drawings in PDF format. Provide the following drawings at a large enough scale to differentiate designated isolation units from surrounding valves and switches.

- a. Utility Schematic Diagrams - Provide a one line schematic diagram for each utility system such as power, water, wastewater, and gas/fuel. Schematic diagram must show from the point where the utility line is connected to the mainline up to the 1.5-meter (five-foot) connection point to the facility. Indicate location or area designation for route of transmission or distribution lines; locations of duct banks, manholes/ handholes or poles; isolation units such as valves and switches; and utility facilities such as pump stations, lift stations, and substations.
- b. Enlarged Connection and Cutoff Plans - Provide enlarged floor plans that provide information between the 1.5 meter (five foot) utility connection point and where utilities connect to facility distribution. Enlarge floor plans/ elevations of the rooms where the utility enters the building and indicate on these plans locations of the main interior and exterior connection and cutoff points for the utilities. Also enlarge floor plans / elevations of the rooms where equipment is located. Include enough information to enable someone unfamiliar with the facility to locate the connection and cutoff points. Indicate

designations such as room number, panel number, circuit breaker, or valve number, of each utility and equipment connection and cutoff point, and what that connection and cutoff point controls.

2.2.2 Facility Information

NOTE: Edit Facility Information paragraphs based on complexity, size and scope of the project.

Provide the following in Facility Information:

2.2.2.1 General Facility and System Description

Describe the function of the facility. Detail the overall dimensions of the facility, number of floors, foundation type, expected number of occupants, and facility Category Code. List and generally describe all the facility systems and any special building features (for example, HVAC Controls, Sprinkler Systems, Cranes, Elevators, and Generators). Include photographs marked up and labeled to show key operating components and the overall facility appearance.

[2.2.2.2 Basis of Design

NOTE: Use Basis of Design for DB only. This paragraph is tailored for DB use.

Include the Basis of Design that shows the basic design scope of work, assumptions and the original intentions of the Designer of Record (DOR). Identify the site utility design goals, objectives, design load limits, assumptions, and system features that are critical to the operation and maintenance of the systems.

]2.2.2.3 Floor Plans

Provide uncluttered, legible 29.9 by 43.2 cm (11 by 17 inches) floor plans. Include room numbers, type or function of spaces, and overall facility dimensions on the floor plans. Do not include items such as construction instructions, references, or frame numbers.

2.2.2.4 Floor Coverings, Wall Surfaces, and Ceiling Surfaces

Provide a table that lists by room number (including hallways and common spaces), the type, and area of finish, manufacturer's product name, identifying number, and color. Include a facility summary of the total area for each type of space and floor, wall, or ceiling finish in the table.

2.2.2.5 Windows

Provide a table that lists by room number (including hallways and common spaces), the type of window, window size, number of each size and type, special features, manufacturer's product name, identifying number, and color. The table must include a facility summary of the total number for each type and size of window.

2.2.2.6 Roofing

Provide the total area of each type of roof surface and system. Provide the name of the roofing product and system; manufacturer's, supplier's, and installer's names, addresses, and phone numbers; manufacturer's product name, identifying number, and color. For each type of roof, provide a recommended inspection, maintenance and repair schedule that details checkpoints, frequencies, and prohibited practices. List roof structural load limits.

2.2.2.7 HVAC Filters

Provide a table that lists the quantity, type, size, and location of each HVAC filter, manufacturer's product name, and identifying number.

2.2.2.8 Plumbing Fixtures

Provide a table that lists by room number, the number and type of plumbing and bathroom plumbing fixtures (for example, sinks, water closets, urinals, showers and drinking fountains).

2.2.2.9 Lighting Fixtures

Provide a table that lists by room number (including hallways and common spaces), the type of lighting fixture, ballast, number of lighting fixtures, type of lamps and number of lamps, and the manufacturer's product name and the identifying number. The table must include a facility summary of the total number of fixtures of each type and number of lamps of each type.

2.2.2.10 Equipment Listing

Provide a table that lists the major equipment shown on the design equipment schedules. Show the item descriptions, locations, model numbers; and the names, addresses, and telephone numbers of the manufacturers, suppliers, contractors, and subcontractors.

2.2.2.11 System Flow Diagrams

Provide a flow diagram indicating system liquid, air or gas flow during normal operations. Integrate the system components into the diagram. A compilation of non-integrated, flow diagrams for the individual system components are not acceptable.

2.2.2.12 Valve List

Provide a list of all valves associated with the system. Show valve type, identification number, function, location and normal operating position.

2.2.2.13 Riser Diagrams

Provide riser diagrams and settings of equipment.

2.3 EOMSI FACILITY DATA WORKBOOK

NOTE: Coordinate with NAVFAC FEC's PW FMD lead to help identify the Mastersystems, Systems, and Subsystems based on project scope.

NOTE: The eOMSI Facility Data Workbook.xlsx is located inside the zip file at the following location:

<http://www.wbdg.org/FFC/NAVGRAPH/graphtoc.pdf>

NOTE: For DBB, attach PDF of edited, Model & Facility Data Matrix tab, from the eOMSI Facility Data Workbook, to this section. Edit Model & Facility Data Matrix tab by selecting MASTERSYSTEMS, SYSTEMS, and SUBSYSTEMS within the project scope.

For DB, the Contractor provides the Facility Data Workbook, complete.

NOTE: Choose the first bracketed item below for DBB projects, or choose the second bracketed item for DB projects.

[An initial, pre-edited draft of the Model & Facility Data Matrix tab within the eOMSI Facility Data Workbook is attached to this section. The Government will provide this eOMSI Facility Data Workbook electronically to the Contractor upon award. Add, delete, and update Mastersystems, Systems, and Subsystems that may have changed during construction, or any items that may have been omitted or missed during design, at no additional cost to the Government. Complete the KTR Facility Data File tab based on the selection of Mastersystems, Systems, and Subsystems installed.] [Download the eOMSI Facility Data Workbook at the following location:

<http://www.wbdg.org/FFC/NAVGRAPH/graphtoc.pdf>. Complete the KTR Facility Data File tab based on the selection of Mastersystems, Systems, and Subsystems installed.] The following tabs are included in the eOMSI Facility Data File Workbook and serve the purpose stated:

- a. Instructions Tab: Instructions for completing Model & Facility Data Matrix Tab and KTR Facility Data File Tab. If a discrepancy exists between what is required in this section and the Workbook, the instructions within the workbook take precedence.
- b. Model & Facility Data Matrix Tab: - The Matrix lists Required Facility Asset Fields for each SYSTEM and SUBSYSTEM. The Designer of Record selects SYSTEMS and SUBSYSTEMS that are within the project scope, which the Contractor needs to include and populate in KTR Facility Data File tab. The "Required Facility Asset Field Position Numbers," one through seventeen, are pre-populated, and are not editable.

- c. Required Facility Asset Fields Tab: Defines the 17 Required Facility Asset Field Position Numbers used in Model and Facility Data Matrix and KTR Facility Data File tabs.
- d. KTR Sample Facility Data File Tab: Sample KTR eOMS I facility data file. This tab provides an example of the mandatory fields of equipment installed by the Contractor, and populated in the KTR eOMS I Facility Data File Tab, along with their descriptions.
- e. KTR Facility Data File Tab: Required eOMS I facility data file deliverable provided to the Government. Provide a separate and unique new row for each facility component or piece of equipment installed.

PART 3 EXECUTION

3.1 FIELD VERIFICATION

NOTE: For DB projects, choose bracketed option for Design Quality Control Manager; otherwise, delete.

Choose Commissioning Authority if required by the project.

NOTE: This paragraph contains tailoring for DB, FACILITY DATA WORKBOOK, and COMMISSIONING AUTHORITY. Only use this paragraph if project requires Facility Data Workbook.

Field verify eOMS I Facility Data Workbook information with Contractor and Government personnel. Include the following personnel in this meeting: Contractor's eOMS I Manual and Facility Data Workbook Preparer and Quality Control Manager, [Commissioning Authority,]and the Government's Contracting Officer's Representative and NAVFAC PW FMD. Request, and provide, an eOMS I Field Verification Meeting no sooner than 14 calendar days after submission of the Progress eOMS I submittal, and another, no sooner than 14 calendar days after submission of the Prefinal eOMS I submittal. During this meeting, the Government and Contractor will verify that the eOMS I Facility Data Workbook is complete and accurate.

Field verify that at least 5 Subsystems under each of the Mastersystems are accurate, for a total of 25 Subsystems. For each of these items, verify that the required facility asset field, as defined in the "Model & Facility Data Matrix" tab, contains the specified data and it is accurate (i.e. item description, manufacturer, model no., serial no.). 100 percent accuracy of eOMS I information is required for successful field verification. If data discrepancies are discovered amongst the 25 Subsystems verified, resubmit an updated eOMS I FDW, and request a make-up field verification meeting. At the make-up field verification meeting 25 new Subsystems and their associated required facility asset fields will be field verified; the 25 new Subsystems must be 100% accurate. Any discrepancies discovered must be corrected prior to next eOMS I Facility Data Workbook Submittal.

NOTE: Edit and modify the following Master Systems,
to specify a total of 5 that correspond with the
project scope.

- (1) D10 - CONVEYING
- (2) D20 - PLUMBING
- (3) D30 - HVAC
- (4) D40 - FIRE PROTECTION
- (5) D50 - ELECTRICAL

3.2 EOMSI TRAINING

Provide training on eOMSI Manuals and Facility Data Workbook in accordance with Section 01 78 23 OPERATION AND MAINTENANCE DATA.

-- End of Section --