



DEFENSE LOGISTICS AGENCY  
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IN REPLY  
REFER TO

J627

MEMORANDUM FOR SUPPLY PROCESS REVIEW COMMITTEE (PRC) MEMBERS

SUBJECT: Approved Defense Logistics Management System (DLMS) Change (ADC) 476,  
New Unit of Measure (UoM) Conversion Codes for DLA Energy (Supply) (Staffed  
as PDC 502)

The attached change to DOD 4000.25-M, Defense Logistics Management System (DLMS) is approved for implementation. The DLMS UoM Conversion Guide will be updated for the approved UoM values on January 23, 2012.

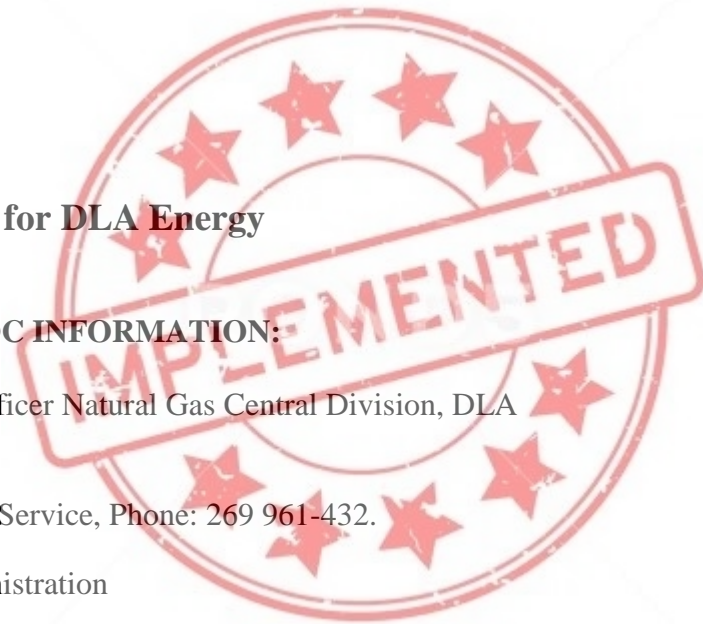
Addressees may direct questions to Ms. Ellen Hilert, DOD MILSTRIP Administrator, 703-767-0676; DSN 427-0676; or, e-mail: ellen.hilert@dla.mil. Others may direct questions to their Service or Agency designated Supply PRC representative.

DONALD C. PIPP  
Director  
DLA Logistics Management Standards

Attachment  
As stated

cc:  
ODASD(SCI)  
ODASD DPAP (PDI)

**ADC 476**  
**New UoM Conversion Codes for DLA Energy**



**1. ORIGINATING SERVICE/AGENCY AND POC INFORMATION:**

**a. Technical POC:** DLA Energy, Contracting Officer Natural Gas Central Division, DLA Energy Phone: 703-767-1153

**b. Functional POC:** DLA Logistics Information Service, Phone: 269 961-432.

**2. FUNCTIONAL AREA:** Supply/Contract Administration

**3. REFERENCES:**

**a.** Unit of Measure (Unit of Issue/Purchase Unit) Conversion Guide available on the DLMS Web at URL:

[www.dla.mil/j-6/dlms/eApplications/LogDataAdmin/dlmsansiconverguides.asp](http://www.dla.mil/j-6/dlms/eApplications/LogDataAdmin/dlmsansiconverguides.asp).

**b.** Proposed DLMS Change (PDC) 502, New Unit of Measure Conversion Codes for DLA Energy, dated January 18, 2012.

**4. BACKGROUND:** Significant revisions subsequent to staffing of PDC 502 are highlighted.

**a. Intent of the change:** In order for DLMS transactions to comply with Electronic Data Exchange (EDI) American National Standards Institute (ANSI) American Standards Committee (ASC) X12 syntax, the unit of measure passed in the DLMS/Wide Area Workflow (WAWF) transactions must use the code value assigned by ASC X12. The optimum situation occurs where the DOD unit of measure and commercial standard carry the same code values for a specific unit of measure. However, this is not always the case, and so a conversion guide is required to align the DOD and X12 codes. Four new DOD unit of measure codes (as shown below) have been identified for use in electricity and natural gas contracts issued by DLA Energy. In order for X12 invoice and receiving report transactions to process successfully within Wide Area Workflow (WAWF) these values must be included in the Unit of Material Measure (Unit of Issue/Purchase Unit) Conversion Guide. Use of the conversion guide is necessary so that all automated systems can understand and process EDI transactions containing the assigned X12 code value that equates to the DOD code value. UoM values that are identical within X12 and DOD are included in the conversion table to support standardized processing.

**b. Scenario for which the transaction is used:** This requirement is primarily associated with the WAWF transactions (potentially applicable, the 856 Receiving Report, 861 Acceptance Report, and 810 Invoice). Once authorized, conversion codes will become available for use in all DLMS transactions, as needed.

**c. Procedures, transactions, data elements, processing details in use today:** The requirement to use DLMS/WAWF transactions for DLA Energy contracts is new under DLA's

Energy Convergence (EC) program. EC will automate work processes using COTS technology for all Energy-related business areas. It will integrate fuels commodity management with the DLA Business Enterprise Architecture. Within DLA's Enterprise Resource Planning (ERP) system, commercially recognized UoM three-position codes/acronyms are displayed to the user. In association with the identified requirement for DLA Energy, the Federal Logistics Information System (FLIS) was updated for the national stock number (NSN) and DOD UoM codes identified in the original PDC 502.

## **5. APPROVED CHANGE(S):**

**a.** The following DOD units of measure must be available in the DLMS Unit of Issue and Purchase Unit Conversion Guide (Unit or Basis For Measurement):

- (1) Kilowatt. A unit of electrical power equal to 1,000 watts. (Applicable to electricity.)
- (2) Kilowatt-Hour. A measure of electrical energy equivalent to a power consumption of one thousand watts over 1 hour. (Applicable to electricity.)
- (3) Megawatt-Hour. A measure of electrical energy equivalent to a power consumption of one million watts over 1 hour. (Applicable to electricity.)
- (4) Dekatherm. A measure of thermal heating value equivalent to one million British thermal units (BTU) or ten therms. (Applicable to natural gas.)

**b. Approved procedures:** Revise the DLMS Conversion Guide to include the authorized X12 UoM codes for the above UoM, identifying/establishing the DOD equivalent codes for conversion processing at ANSI ASC X12 EDI version 4010 or higher. The conversion process is used to equate DOD codes for unit of issue or purchase unit to a corresponding value in the ASC X12 code list for unit of measure. When a new unit of measure is needed within DOD, a corresponding code from the commercial standard is selected for use in the conversion guide. When the required new unit of measure is not available in the commercial standard, the DLA Logistics Management Standards may propose a data maintenance action to ASC X12 to have a code added or modified. However, ASC X12 codes are not downwardly compatible, and when a new code or modified definition is approved, it is not applied retroactively to an earlier version/release of the standard.

(1) The UoM "Kilowatt" is valid in the commercial standard and the X12 code is unused within the DOD code set. Therefore, the DOD code currently assigned in FLIS will be replaced with the X12 UoM and the conversion guide will be updated to reflect this. This will eliminate all conflicts and ensure common understanding of the code value.

(2) The UoM "Kilowatt Hour" is valid in the commercial standard, but the X12 code is already used within the DOD code set. The DOD code currently assigned in FLIS will be replaced with a previously unused code to prevent duplication with WAWF. The conversion guide will be updated to reflect replacement DOD UoM and the corresponding X12 code.

(3) The UoM “Megawatt Hour” is not valid in the commercial standard; however, the equivalent “Thousand Kilowatt Hours” is available. Because these two units of measure have the same meaning, an X12 data maintenance request will be submitted to incorporate the terminology for both megawatt hour and thousand kilowatt hours in the text name for the commercial standard so that the two terms will be aligned. The text name shown in both FLIS and the conversion guide will incorporate both terms. DLA Energy will make a corresponding request for update of the UoM text names within to the Procurement Data Standard. The UoM code for Thousand Kilowatt Hours already exists within both the DOD code set and the conversion guide using the same value. Therefore, this code will be adopted and the previously assigned FLIS value will be replaced.

(4) The UoM “Dekatherm” is not valid in the commercial standard; however, the equivalent “Million BTU’s” (for British Thermal Units) is available. Because these two units of measure have the same meaning, an X12 data maintenance request will be submitted to incorporate the terminology for both dekatherm and million BTUs in the text name for the commercial standard so the two terms will be better aligned. The text name shown in both FLIS and the conversion guide will incorporate both terms. DLA Energy will make a corresponding request for update of the UoM text names within the Procurement Data Standard. The DOD code currently assigned in FLIS will be replaced with a previously unused code to prevent duplication with WAWF. The conversion guide will be updated to reflect replacement DOD UoM and the corresponding X12 code.

c. The following table provides the relationship between DOD and X12 code values as approved under the DLMS Change. Refer to Enclosure 1 for comments/concurrence subsequent to PDC staffing. Refer to Enclosure 2 for the proposed mediation table including discussion of logic used for revised code assignment.

**Unit or Basis for Measurement Code (Unit of Issue/Purchase Unit)  
Approved Code Assignments**

UoM Text Name*	EBS	X12 4010	FLIS	
			PDC	ADC
Kilowatt	KW	K7	<del>KW</del>	K7
Kilowatt-Hour	KWH	KH	<del>KP</del>	KZ
Thousand Kilowatt Hours/Megawatt-Hour**	MWH	T9	<del>MW</del>	T9
Million BTUs/Dekatherm**	DTH	BZ	<del>DH</del>	ZF

\* The exact text name used in FLIS is limited to a maximum length of 20 characters and will be abbreviated to accommodate this restriction.

\*\* Proposed for X12 Version 6050 (approximate).

d. **Alternatives:** None identified.

**6. REASON FOR CHANGE:** UoM codes are needed in support of electricity and natural gas contracts issued by DLA Energy. The codes used in FLIS cannot duplicate existing codes identified for DOD use in the conversion guide and they must be implementable within WAWF without duplicating previously used code values.

**7. ADVANTAGES AND DISADVANTAGES:**

**a. Advantages:** The availability of ANSI X12 code equivalents allows DLA to implement WAWF for DLA Energy and meet X12 syntax requirements.

**b. Disadvantages:** None identified.

**8. NOTE ANY REGULATIONS OR GUIDANCE:** DLA Logistics Information Services shall update DOD 4100.39-M, FLIS, Volume 10, Table 53, Unit of Issue Codes with new DOD code designations and terms (text names) as shown above. Further research is required to determine applicability to Table 81, Unit of Measurement Designations.

**9. ADDITIONAL FUNCTIONAL REQUIREMENTS:**

**a.** Upon approval, the new codes will be published on the DLMS Web at URL [www.dla.mil/j-6/dlms/eApplications/LogDataAdmin/dlmsansiconverguides.asp](http://www.dla.mil/j-6/dlms/eApplications/LogDataAdmin/dlmsansiconverguides.asp). To view, select the Unit of Issue and Purchase Unit Conversion Guide (Unit or Basis for Measurement) in the desired sequence: DOD code sequence, ANSI ASC X12 code sequence, or alphabetic sequence by text name.

**b.** DLA Logistics Management Standards will submit a data maintenance request to ANSI ASC X12 for modification of the descriptor (text names) for UoM Codes T9 and BZ. The descriptions shown in the table above will be proposed, but are subject to approval by the X12 Committee.

**c.** DLA Logistics Information Services shall update the FLIS application to reflect the new DOD codes and composite descriptors per table above. This will require prior coordination with the Federal Cataloging Committee (FCC).

**d.** DLA Energy will coordinate with Defense Procurement and Acquisition Policy (DPAP) for revision to merge the text names for Thousand Kilowatt Hours/Megawatt-Hour and Million BTUs/Dekatherm in the Procurement Data Standard (PDS).

**10. ESTIMATED TIME LINE/IMPLEMENTATION TARGET:** The conversion guide updates will become effective for use immediately upon publication of an approved DLMS Change (January 23, 2012). Dates for implementation of the approved changes within FLIS, WAWF, PDS, or X12 are not known at this time.

**11. ESTIMATED SAVINGS/COST AVOIDANCE ASSOCIATED WITH IMPLEMENTATION OF THIS CHANGE:** Not available.



## 12. IMPACT:

a. **New DLMS Data Elements:** None

b. **Changes to DLMS Data Elements:** Code list/conversion guide updates are described above.

c. **Automated Information Systems:** DLA Transaction Services, DLA Enterprise Business System, WAWF must be updated to reflect new code conversion requirements for UoM codes associated with Thousand Kilowatt Hours/Megawatt-Hour and Million BTUs/Dekatherm. The DOD/X12 common values for UoM codes associated with Kilowatt and Kilowatt-Hour must be recognized.

d. **DLA Logistics Information Services:** Coordination with the FCC and FLIS update required.

e. **Business Enterprise Common Core Metadata (BECCM) Community of Interest (COI).** The difficulty in establishing UoM values for DLA Energy highlights the need for a better business process. The issue was presented to the BECCOM COI for discussion. The BECCM COI provides governance for the DOD's end-to-end business process enterprise standards. In the event consensus on enterprise standards cannot be reached at the COI level, the BECCM process is to be used to adjudicate across functional areas. Briefing slides for the March 14, 2012 BECCOM presentation on UoM with recommendations and pending actions are shown at Enclosure 3.

## Enclosure 1, Proposed Change Concurrence and Comment Resolution

	Originator	Response/Comment	Disposition
1.	DLMS Office	Mediation is required to obtain an implementable solution due to conflicting code assignments reported by WAWF.	Mediation Table shown at Enclosure 2.
2.	DLA	Concur with proposed mediation.	Noted.
3.	DLA Energy	Concur with proposed mediation	Noted.
4.	WAWF	<p>The proposed DOD codes already exist in WAWF:</p> <p>KW = Kilograms per Millimeter            KP = Kilometers Per Hour            MW = Metric Ton Kilograms            DH = Miles</p> <p>In all four cases, the X12 matches the DOD value.</p>	Noted. New codes will be required to prevent duplication. Where feasible the X12 code will be adopted for DOD use.
5.	DPAP	<p>The terms DLA is required to use in contracts are the ones in the PDS, which match the terms in X12. See also <a href="http://www.acq.osd.mil/dpap/policy/policyvault/USA001601-11-DPAP.pdf">http://www.acq.osd.mil/dpap/policy/policyvault/USA001601-11-DPAP.pdf</a>.</p>	Noted. The functional experts from DLA Energy have indicated that two of the text names used within X12 are not representative of the text names used by industry for gas and electricity. DLA will contact DPAP to request revision to the text names in PDS to match those being proposed as data maintenance to X12.
6.	Navy	Concur with PDC 502.	Noted
7.	USTC	Concur with PDC 502.	Noted
8.	Army	Concur with PDC 502.	Noted
9.	Air Force	Concur with PDC 502.	Noted

## Enclosure 2, Proposed Mediation Table

	Table 1 – Comment Resolution for ADC Finalization		FLIS				DLMS
	Comment Recommendation	X12 4010	PDC	ADC	WAWF	PDS	UoM Table
Kilowatt	DOD Code Not Currently Assigned in DLMS Conversion Table <b>Recommendation:</b> Revise FLIS code to be consistent with available X12 value so no conversion will be required	K7	<del>KW</del>	K7	Already uses K7 - no change required	Y	Add K7 – no conversion required
Kilowatt-Hour (KWH)	DOD Code Not Currently Assigned in DLMS Conversion Table – Cannot use proposed value because KP already used in WAWF (for Kilometers Per Hour) – Cannot use X12 value (KH) because KH is already used in DOD code set (for Hundred Kilograms) <b>Recommendation:</b> Revise FLIS code to use a previously unused value in WAWF (ANSI) or DOD code set.	KH	<del>KP</del>	KZ	Adopt DOD/ conversion code KZ	Y	Align DOD KZ with X12 KH
Thousand Kilowatt Hours	T9 Already available in DOD code set <b>Recommendation:</b> 1. Revise FLIS code to be consistent with available X12 value so no conversion will be required 2. DLA Energy should use the code and definition as already adopted under the DPAP Procurement Data Standard (since transition to PDS is required for DLA) (vice identified preference for MWH)	T9	<del>MW</del>	T9	Already uses T9 - no change required	Y	No change required
Million BTU's	DOD Code Not Currently Assigned in DLMS Conversion Table – Cannot use proposed value because DH already used in WAWF (for Miles) – Cannot use X12 value BZ because already used in DOD code set (for Block) <b>Recommendation:</b> 1. Revise FLIS code to use a previously unused value in WAWF (ANSI) or DOD code set. 2. DLA Energy should use the code and definition as already adopted under the DPAP Procurement Data Standard (since transition to PDS is required for DLA) (vice identified preference for DTH)	BZ	<del>DH</del>	ZF	Adopt DOD/ conversion code ZF	Y	Align DOD ZF with X12 BZ



## Enclosure 3 BECCM COI Briefing

Refer to the DLMS Web for Points of Contact identified to the BECCM for UoM action items at: [http://www2.dla.mil/j-6/dlms/Archives/BECCM/BECCM\\_03\\_14\\_2012v11.pptx](http://www2.dla.mil/j-6/dlms/Archives/BECCM/BECCM_03_14_2012v11.pptx) (slide 34).

### Problem:

- **DOD Business Mission Area (BMA) needs to establish one Authoritative Master Reference Data repository for both Functional(s) and Systems Integrators**
  - Currently, translation tables and data is maintained by various Functional communities (Logistics, Procurement, Finance, Real Property, WSLM, HRM)
  - Current BEA Reference Data:  
[http://ruby.nit.disa.mil/bmr/UoMHtml4/P2P\\_html.html](http://ruby.nit.disa.mil/bmr/UoMHtml4/P2P_html.html)
- **Nearly all ERP programs building interface to WAWF and DFAS Entitlement systems have expressed invoice challenges at Entitlement for UoM**
  - Approximately 31% of suspended invoices from WAWF to IAPS are due to a Unit of Issue problem
- **Lack of Enterprise-wide mediation strategy or roadmap to reduce mapping to Legacy DOD data codes**
  - There are currently 55 unit of issue codes that have a conflict between the DOD code and the X12 code

### Solution:

- **Establish BEA web site as DOD Reference Master Data**
  - Document requirement in BEA Content Refinement (CR)
  - Establish Publish/Subscribe at DLA Master Data Capability (system to system), or FLIS Portfolio Data Warehouse (FPDW)
  - DCMO and DLA to take Technical Lead to ensure implementation is planned and programmed
- **Work with ERPs, WAWF, and Entitlement systems to ensure system changes are in place to be compliant to BEA and DLMS**
  - DCMO and DLA to take Technical Lead to ensure implementation is planned and programmed
  - Recommend migrating X12-based mediation to latest version of UoM code set to eliminate "borrowed" codes currently used to support prior versions of the standard
  - Requires X12 trading partners to use migration codes as designated in the Enterprise Mediation Table

- **Establish Enterprise Mediation at GEX, in the interim environment until all systems can migrate to the PDS or 2AN ASC X12 code**
  - Similar challenge for systems to migrate to ISO 3166 Country Code 2AN

**Action Items:**

**NLT 28 March 2012:**

- **Ensure all DOD Components have reviewed the BEA Unit of Measure Values as published in BEA 9.0 (Enterprise Standards view)**
  - [http://ruby.nit.disa.mil/bmr/UoMHtml4/P2P\\_html.html](http://ruby.nit.disa.mil/bmr/UoMHtml4/P2P_html.html)
  - Incorporate any final comments and publish in BEA for Compliance - Document requirement in BEA Content Refinement (CR)

**March – June 2012:**

- **Establish Publish/Subscribe at DLA Master Data Capability (system to system)**
  - MDC/FPDW already publishes Authoritative Data for Item, Vendor, Customer using web-services, web application, and business intelligence reporting
- **Coordinate with ERPs, WAWF, and Entitlement systems to ensure system changes are in place to be compliant to BEA UoM Domain Values**
- **Coordinate with DLA J6, GEX PMO to establish Enterprise Mediation, in the interim environment until all systems can migrate to the 2AN ASC X12 code**
  - Similar challenge for systems to migrate to ISO 3166 Country Code 2AN