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IN REPLY
REFER TO DLMSO

June 23, 2009

MEMORANDUM FOR SUPPLY PROCESS REVIEW COMMITTEE (PRC) MEMBERS
CONTRACT ADMINISTRATION PRC MEMBERS
FINANCE PRC MEMBERS

SUBJECT: Approved Defense Logistics Management System (DLMS) Change (ADC) 329, Use of Borrowed and Migration Codes in DLMS Supplements (Supply/Finance/Contract Admin) (Staffed as PDC 335)

The attached change to DOD 4000.25-M, Defense Logistics Management System (DLMS), is approved for implementation.

Addressees may direct questions to the DLMSO points of contact, Mr. Thomas Lyons, 703-767-1481; DSN 427-1481; or, e-mail: thomas.lyons@dla.mil. Others must contact their Component designated representative.

DONALD C. PIPP
Director
Defense Logistics Management
Standards Office

Attachment

cc:
DUSD(L&MR)SCI

ADC 329
Use of Borrowed and Migration Codes in DLMS Supplements

1. ORIGINATING SERVICE/AGENCY AND POC INFORMATION:

a. System POC: Department of Defense (DoD) Defense Automatic Addressing System Center (DAASC), 937-656-3783

b. Functional POC: Ms. Ellen Hilert, Chair, Supply Process Review Committee, 703-767-0676; DSN 427-0676; or, e-mail: ellen.hilert@dla.mil, Mr. Robert Hammond, Chair, Finance Process Review Committee, 703-767-2117, DSN 427-2117 or email: robert.hammond@dla.mil, Mr. Thomas Lyons, Chair, Contract Administration Process Review Committee, 703-767-1481; DSN 427-1481; or, E-Mail: thomas.lyons@dla.mil.

c. Technical POC: Defense Logistics Management Standards Office (DLMSO), Mr. Thomas Lyons, 703-767-1481; DSN 427-1481; or, E-Mail: thomas.lyons@dla.mil.

2. FUNCTIONAL AREA: General. All DLMSO managed Process Review Committees.

3. BACKGROUND:

There are 3 basic methods for code development and documentation which are practiced within the logistics domain. The methods include Borrowed Codes, Migration Codes, and Local Codes.

a. Borrowed Codes

(1) A Borrowed Code is when a code value is used in an existing code table, but its semantic meaning is altered (i.e., the code is only used for its syntax).

(2) The use of Borrowed Codes is less expensive during translation since the syntax validation does not need to be altered; Borrowed Codes are more expensive when transforming data since a data element is used for other than its intended use.

b. Migration Codes

(1) A Migration Code is when a code from a future (but existing) version is used in a lower version. Semantic meaning and syntax are consistent with the higher version. A Migration Code does not refer to a code which already exists in the current (lower) version.

(2) The use of Migration Codes is more expensive during translation since the syntax validation needs to be altered (or alternatively turned off); Migration Codes are less expensive when transforming data since a data element is used as it is intended.

c. Local Code

(1) A Local Code is a code value that is not in the current version. A Migration Code is a particular type of Local Code. Local Codes can also include codes that have not been added to future versions.

(2) The use of Local Codes is more expensive during translation since the syntax validation needs to be altered (or alternatively turned off); Local Codes are less expensive when transforming data since a data element is used as it is intended.

There is a trade off to using any of the alternative code documentation methods listed above. What is gained in semantic clarity is lost in syntactic validation. When doing an EDI-EDI translation, the Borrowed Code is preferred. When data transformation is required (e.g., EDI-ebXML or user defined file), there is a cost to using the Borrowed Code.

4. PROPOSED CHANGE: This change identifies revisions to DLMS Manual 4000.25-M Volume 1, Chapter 8 to include clarifications regarding the use of Borrowed, Local and Migration codes. See attached document for proposed changes to Volume 1, Chapter 8.

5. REASON FOR CHANGE:

a. To clarify DLMSO position on use of borrowed and migration codes as it applies to the logistics domain.

6. ADVANTAGES AND DISADVANTAGES:

There is a trade off to using any of the alternative code documentation methods (i.e., borrowed, migration, local).

a. Advantages: When doing an EDI-EDI translation, the Borrowed Code is preferred. When data transformation is not required (e.g., EDI-EDI), the cost to using the Borrowed Code is limited to internal Component mapping costs (i.e., no additional cost for X12 translation tables).

b. Disadvantages: What is gained in semantic clarity is lost in syntactic validation. When data transformation is required (e.g., EDI-ebXML or user defined file), there is a cost to using Borrowed Codes. Mapping costs (i.e., no additional cost for X12 translation tables) are incurred regardless of whether Borrowed, Local and Migration Codes are used.

7. ASSUMPTIONS USED OR WILL BE USED IN THE CHANGE OR NEW DEVELOPMENT: none

8. ADDITIONAL FUNCTIONAL REQUIREMENTS: none

9. IMPACT: All Service/Agency Interface Agreement parties will need to coordinate on testing impact of code changes.

10. FOR XML/842 DEVELOPMENT: Code tables are currently not represented in DLMS XML.

Enclosure 1, DLMS Manual update.

DOD 4000.25-M, Defense Logistics Management System (DLMS) Volume 1 Chapter 8
STANDARDS AND CONVENTIONS

C8. CHAPTER 8

STANDARDS AND CONVENTIONS

C8.1. GENERAL INFORMATION

C8.1.1. Use of ANSI ASC X12. The DLMS uses the ANSI ASC X12 standards for EDI to exchange DoD Logistics data. The ANSI ASC X12 standards are formally established, maintained, and published under ANSI ASC X12 to provide a common basis for communicating shared business information.

C8.1.2. ANSI ASC X12 Syntax Rules. The ANSI ASC X12 standards define the specific rules of syntax for using EDI constructs and define the universe of components that can be used. However, because the ANSI ASC X12 standards are intentionally designed to be very flexible to meet the needs of a wide variety of users, additional documentation is necessary to define how to use the standards within a specific user community. This documentation is called an IC.

C8.1.2.1 Non-Compliant Syntactic Validation of ASC X12 Supersets. ASC X12 refers to the use of codes from a higher version as a Superset, which is considered non-compliant. The ASC X12 standard currently does not allow for use of codes from an higher version, nor does it allow substantially changing the meaning of the underlying code hence creating confusion and non-compliance with respect to semantic equivalence.

C8.1.2.2 DLMS use of ASC X12 Supersets. Although regarded as syntactically non-compliant by ASC X12, the DLMS authorizes limited use of Supersets where higher version codes (also known as migration codes) are necessary to support Component data requirements. Where approved for use under the DLMS, DOD Components and VANS shall ensure commercial software products are configured to supports Supersets as documented in the DLMS Supplement.

C8.1.3. Implementation Conventions. The ICs further define applicable ANSI ASC X12 TSs used in the DLMS. Within DLMS, DSs to Federal ICs identify and define the segments, data elements, and codes that are used in each IC. Most importantly, the ICs specify rules and formats for the contents of data within the data elements.

C8.1.4. DLMS Supplements to Federal Implementation Conventions. The DSs to Federal ICs are organized by functional area: supply, transportation, finance, acquisition, and maintenance. A list of the supplements is contained in DLMS appendix 6 and can be accessed via hyperlink to the DLMSO home page: ***http://www.dla.mil/J-6/dlmso/elibrary/TransFormats/140_997.asp***.

C8.1.5. Code Sources

C8.1.5.1. Deriving Code Values. Code values associated with data elements may be derived from several locations. Many of the applicable code values for DLMS data elements are listed in the DLMS supplements. Three data elements, transportation mode/method code (transportation method/type code), unit of issue (unit or basis for measurement code), and type pack code (packaging code), use conversion guides to convert the DLSS legacy code structure to the ANSI ASC X12 code structure. The DLMS will continue to support other legacy code structures used in the DLSS. Special processing at the point of input provides conversion from DoD code value to ANSI ASC X12 code value for transmission of the TS. Both the sender and the receiver employ the conversion guide so that the user sees only the familiar DoD code values. The DLMS Cross Reference/Conversion Guides are available electronically at the DLMSO WWW page at: ***http://www.dla.mil/j-6/dlmso/eApplications/LogDataAdmin/dlssdlmscrossreftable.asp***.

C8.1.5.2. References to Code Source. For data elements that reference a significant number of code values and all that are applicable to a DLMS application, specific codes may not be listed in the DLMS supplement. In those cases, reference to a code source is provided.

C8.1.6. DLMS Qualifiers.

C8.1.6.1 DLMS qualifiers are codes used in the ASC X12 -based DLMS Supplement to identify a specific data element. The qualifier value is selected from codes approved for use by ASC X12 in the version release applicable to the DLMS Supplement. At times there is no suitable qualifier available within the ASC X12 dictionary and an alternative code must be used to identify and pass the data associated with the business process. There are three methods used to accomplish this:

C8.1.6.1.1 Borrowed Code. Use of a "borrowed code" refers to establishing an agreement with all trading partners to use a valid X12 code at the correct version by altering the code's semantic meaning (i.e., the code is used because it conforms to syntax rules, even though it's intended meaning is different from its use in the identified context). The borrowed value must be a value that is otherwise un-used by the trading partners allowing its definition to be mutually changed. When a borrowed code is identified for DLMS use, DLMSO shall submit an ASC X12 data maintenance (DM) action to establish for a new qualifier to be approved for use in a higher ASC X12. The borrowed code may be used indefinitely until DoD migrates to a higher version of ASC X12, but, more likely, will be permanent since migration to higher versions is very rare. In the case of data element 1270, existing codes are associated with a specific industry code list which must be over-ridden by the DLMS use.

C8.1.6.1.2 Migration Code. A migration code is when a code from a higher (but existing) ASC X12 version is used in a lower version. The semantic meaning and syntax are consistent with the higher version. Use of a "migration code" refers to establishing an agreement with all trading partners to use a valid X12 code from a higher version, with its approved X12 definition, at a lower version of X12. ASC X12 refers to the use of a migration code within

implementation guidance as a superset. Manual intervention may be needed for some commercial applications to accept the higher version code.

C8.1.6.1.3 Local Code. A local code is a code value that is not in the current version, and has not been established at a higher ASC X12 version. A DM action may be in process to establish the code in a higher version. Once approved by ASC X12, the local code becomes a 'migration code.' Manual intervention may be needed for some commercial applications to accept the local code.

C8.1.6.2. DLMS Preference for Borrowed Codes over Migration or Local Codes. To maintain consistency between the logistics and transportation domains, the DLMS will use codes from the current version of ASC X12 whenever feasible. The preference for documentation of new codes when they are not available in the current version is to use Borrowed Codes. When the list of Borrowed Codes for a data element has been exhausted or a suitable code cannot be found, Migration Codes are an acceptable alternative and will be approved by the PRC Chair/Administrator on a case-by-case basis. When codes are borrowed in the logistics domain, DLMSO shall continue to submit code changes to ASC X12 to add the code to a future version. Local codes shall only be used where a DM action has been submitted, but the associated DLMS Supplement must be updated prior to ASC X12 approval for the requested value.

C8.1.6.3 The DSs frequently employ a specific combination of segments and data elements to convey encoded information. The DLMS Qualifiers and Cross Reference/Conversion Guides list approximately 200 DoD standard data elements such as supply condition code, air commodity and special handling code, and management code. The DSs specify which code lists are appropriate. DLMS Qualifiers are available DLMSO WWW page at: ***http://www.dla.mil/j-6/dlmso/eApplications/LOG.NET/UIL/Log_Qualifiers/LQHome.aspx***.

C8.2. DLMS SUPPLEMENTS TO FEDERAL IMPLEMENTATION CONVENTIONS. The DLMS supplements are presently located on the DLMSO WWW site at ***http://www.dla.mil/j-6/dlmso/elibrary/TransFormats/140_997.asp*** and are referenced in distinct volumes which correspond to the functional areas of supply, transportation, acquisition, maintenance, and finance. The DSs address how the standards are implemented. One TS may be used in several different functional areas or repeatedly within the same functional area. Each separate interpretation of the standards according to a specific usage is called an application.

C8.2.1. General

C8.2.1.1. Purpose. Each DS represents a combination of ANSI ASC X12 standards and implementation guidance specific to the DLMS. The manner in which this information is presented is consistent from one application to the next. The format used is derived from the ANSI ASC X12 guidelines for implementing EDI with slight alteration, where necessary, to accommodate the amount of information included.

C8.2.1.2. Structure. Each DS begins with a hierarchy table showing the entire TS. This is followed by a segment hierarchy for each of the segments used by the application.

C8.2.1.3. Segment Hierarchy. The segment hierarchy includes a data element summary with information pertaining to each data element in the segment. In general, information printed in normal typeface is extracted from the ANSI ASC X12 standards and information printed in italics relates to the DLMS implementation of the standards.

C8.2.2. Implementation Notes

C8.2.2.1. Instructions on Use of ANSI ASC X12 Standard. In many instances, exact equivalents are not available to accommodate the mapping of DoD information requirements to the standard. Specific instructions on how a particular portion of the standard is used under DSs are provided in the form of implementation notes. These notes explain what data may be carried where. They are printed in italics. Notes may be applicable to a transaction set, a segment, a data element, or a specific code value depending upon their placement.

C8.2.2.2. Importance of Notes. The information provided in implementation notes is crucial to understanding the convention. At times, the ANSI ASC X12 data element or code value name has little similarity to the commonly used name for a piece of information. Additionally, an ANSI ASC X12 data element or code value may be used as a ~~***surrogate***~~ ***borrowed or migration code*** to carry DLMS-required data not otherwise provided for by the standard. It is the implementation notes which explain these circumstances

C8.3. DLMS DICTIONARY/DIRECTORY. ANSI ASC X12 develops uniform standards for electronic interchange of business transactions. The main objective of ANSI ASC X12 is to provide standards to facilitate electronic interchange of general business transactions. The standards are intended to provide a broad range of ICs by trading partners. By agreement between trading partners, ICs are developed to satisfy a specific business interchange. These ICs do not incorporate the full range of allowable business information in a TS but tailor the configuration of the TSs to identify selected data segments and data elements essential to the business interchange. The DoD logistics community has exercised similar judgment in developing and defining DSs. The DLMS Dictionary/Directory is an extract of the ANSI ASC X12 Dictionary/Directory and reflects only those DSs, data segments, and data elements authorized for use in the DLMS data interchange processes. The DLMS Dictionary/Directory is available on the DLMSO WWW page at: ***https://www.dla.mil/j-6/dlmso/eApplications/LOG.NET/UIL/Default.ASPx***.