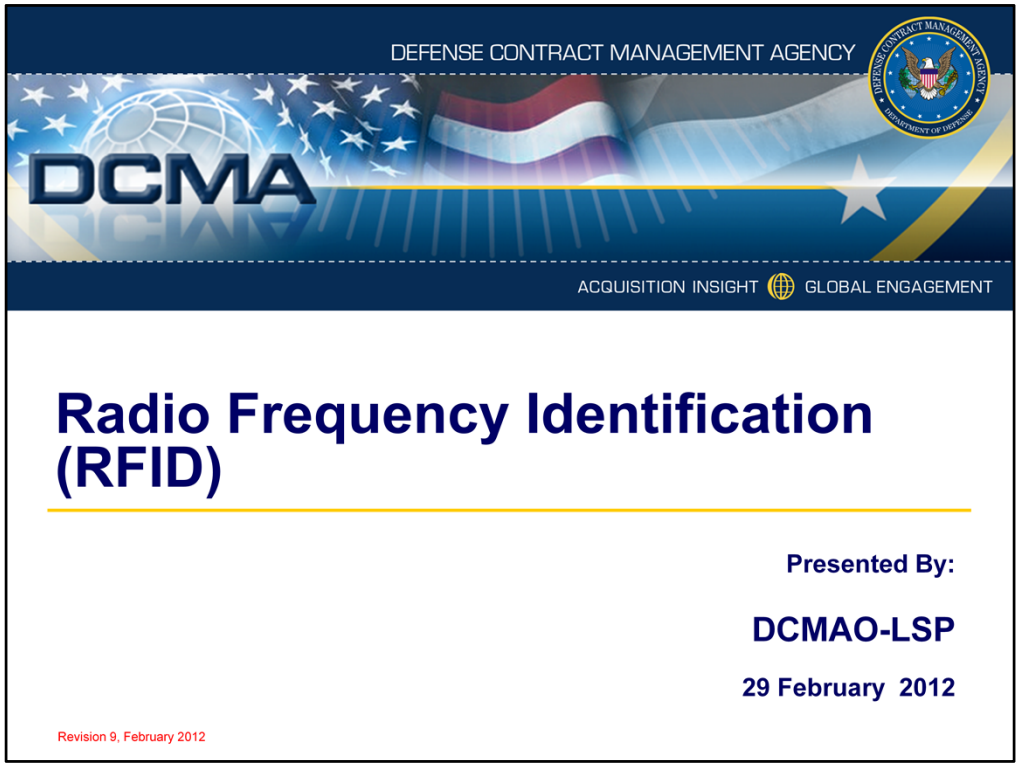
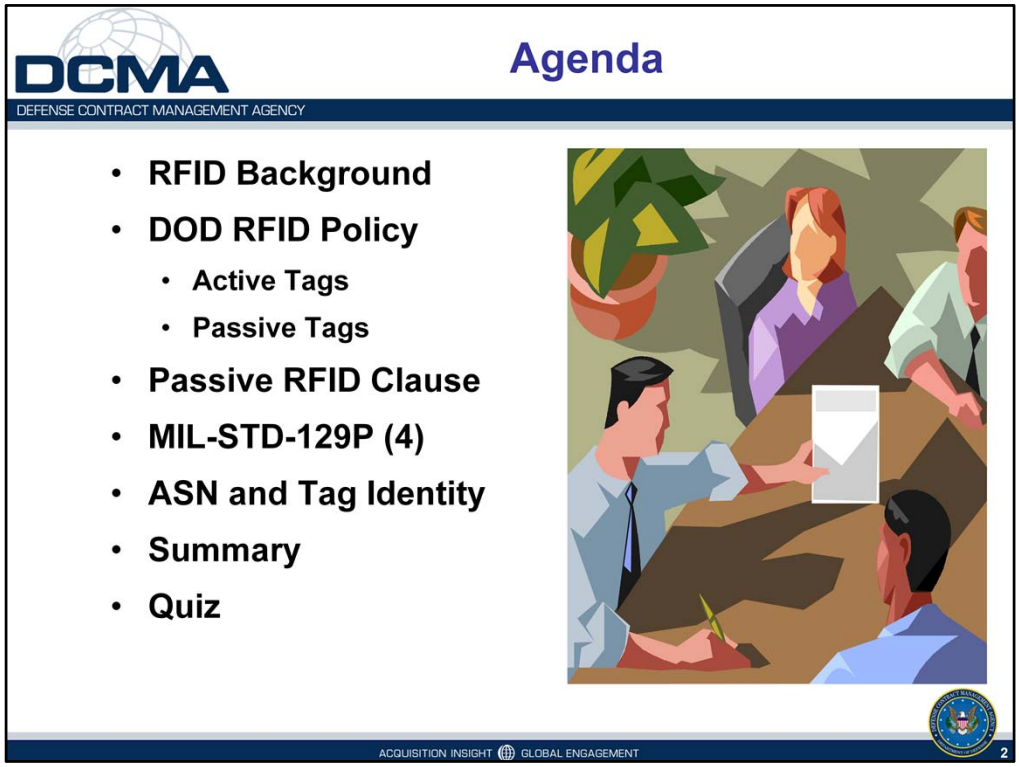


Scope: Radio Frequency Identification (RFID) includes technologies that use radio waves to identify items automatically. Using this technology, DoD will have full automated visibility of supplies. Items will be automatically entered into the inventory upon receipt, with no person needed to scan bar codes or to input data. An RFID capable supply chain is a critical element of the Defense Transportation System. It will optimize the supply chain and provide the asset visibility support needed by the warfighter.

Purpose: The purpose of this training is to provide an overview of the DoD Radio Frequency Identification (RFID) Program as delineated in the policy published on 30 July 2004. This presentation includes the latest information available as a result of the DFARS Clause 252.211-7006 published in September 2011. It will also include RFID contract requirements, RFID data submittal, and the RFID marking requirements as specified in MIL-STD-129P, Change Notice 4, titled, "Military Marking for Shipment and Storage."

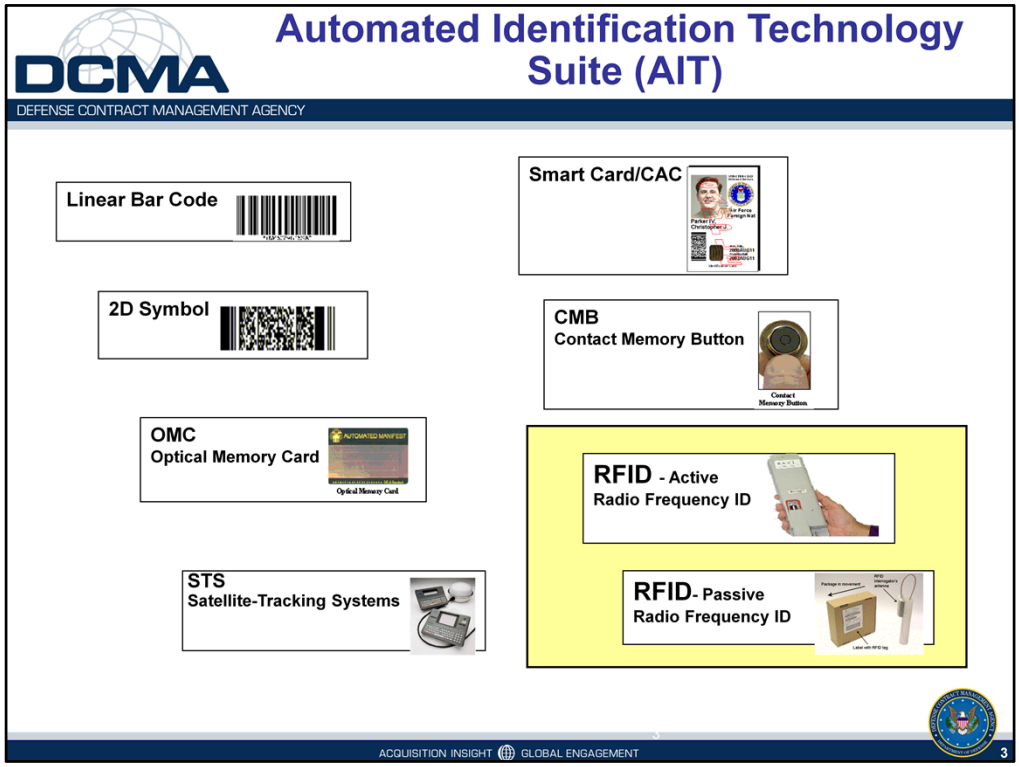
http://www.acq.osd.mil/dpap/dars/dfars/html/current/252211.htm#252.211-7006



The first thing we will cover is some background information on RFID – what it is, why the need, different types followed by the RFID policy as outlined in the Under Secretary of Defense (AT&L) memo dated Jul 30, 2004.

We will then review the requirements of the Passive RFID DFARS clause, when it applies, tag placement on cases and pallets per MIL-STD-129P.

Lastly we will briefly cover the link between RFID and the Advanced Shipment Notification as well as a few other RFID related topics.



RFID is a component of a larger Automatic Identification Technology suite.

AIT is a family of technologies that improves the accuracy, efficiency, and timeliness of material identification and data collection. AIT media and devices include, but are not limited to, linear and two-dimensional bar code symbols and their readers, magnetic stripe cards, integrated cards (e.g., smart cards), Optical Memory Cards (OMC), active and passive Radio Frequency Identification (RFID), contact memory (button memory) devices, and magnetic storage media. (DoD 4140.1-R)

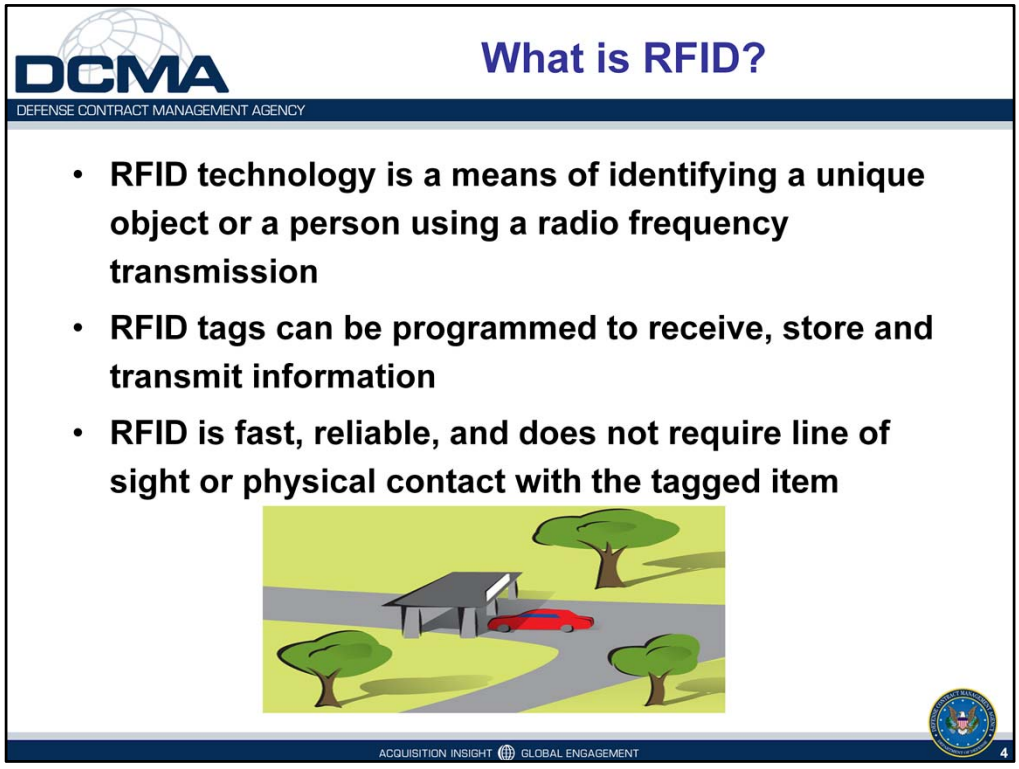
For the foreseeable future, the DOD will maintain a “hybrid” world of available AIT technologies.

RFID is just one of a suite of AIT technologies that DoD will use within the supply chain**. RFID will not be replacing any of these technologies – it will serve as a complementary technology**.

Additional Information:

A **contact memory** device looks like a small button-style camera battery, but it's really a stainless steel container with a memory chip sealed inside. The top of the button is bonded to one point in the memory circuit; the bottom and sides of the package provide a signal ground. Data is written to and from the button using a probe-like device that is touched to the two electrical points on the unit, thereby establishing a communication path. A button can act as a "license plate" identifier or as a portable database in which data can be read and modified.

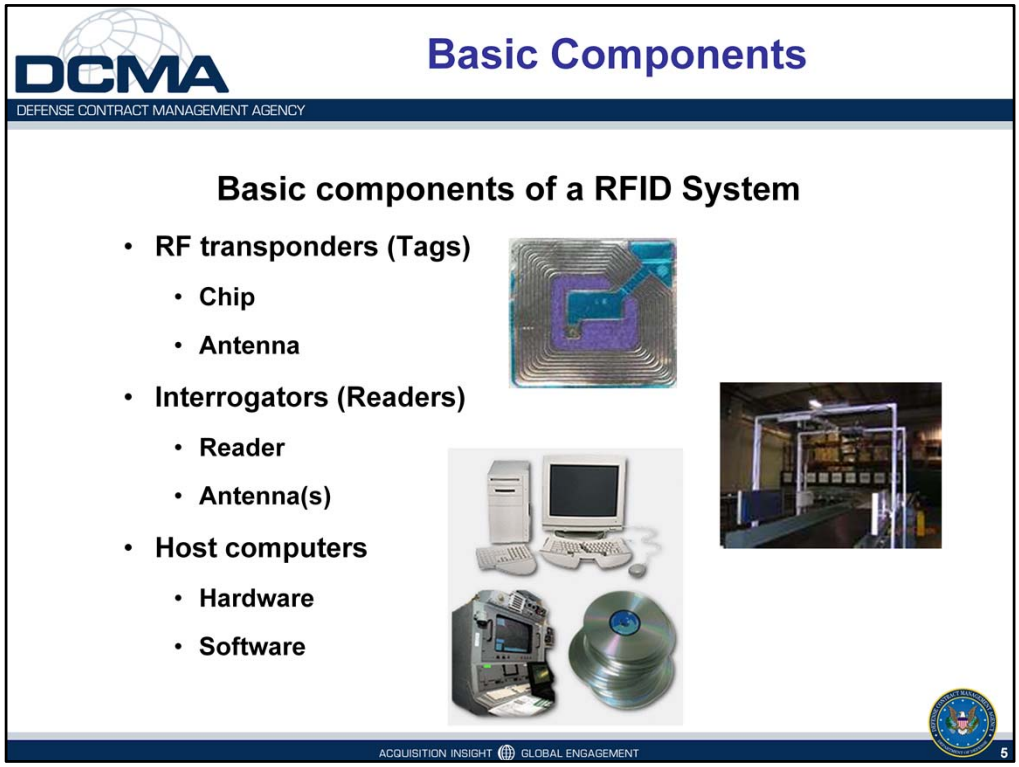
Optical memory cards use a technology similar to the one used for music CDs or CD ROMs. A panel of the "gold colored" laser sensitive material is laminated in the card and is used to store the information. These data intensive cards are currently being used to store prenatal-care records, medical images and personal medical records; for high-security drivers' licenses and access/entry cards, auto repair/warranty records, secure bank debit cards, immigrant ID cards, and **automated cargo manifests for Department of Defense logistics**.



RFID technology is a means of identifying a unique object or a person using a radio frequency transmission.

RFID tags can be programmed to receive, store and transmit information such as serial numbers.

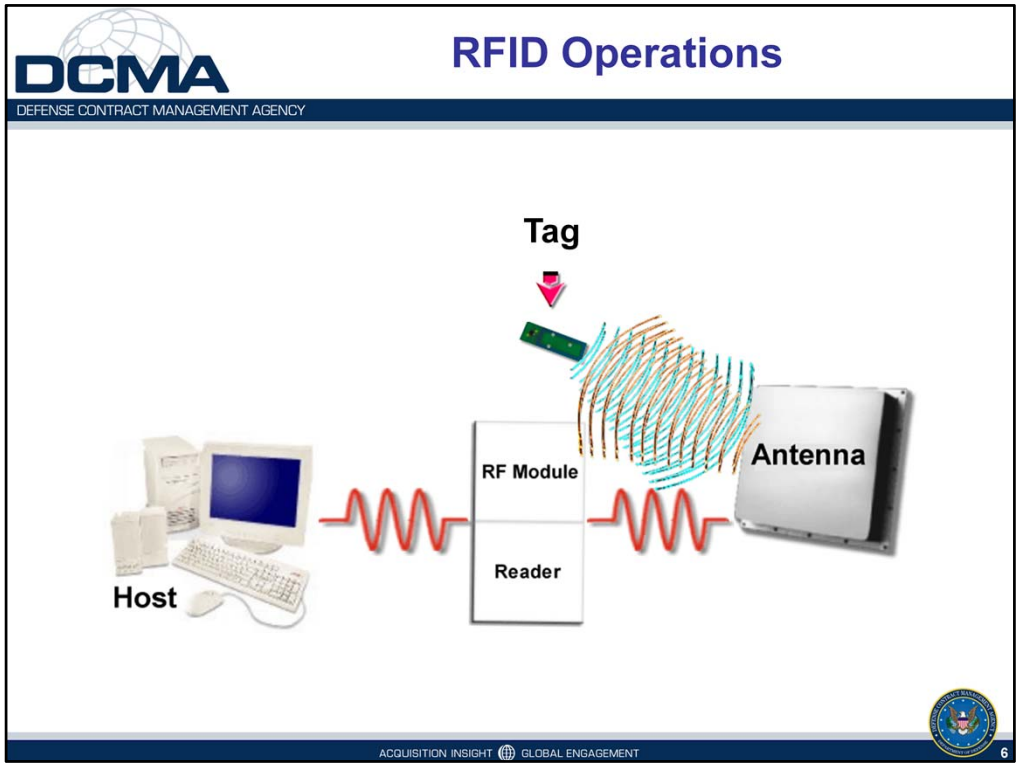
RFID does not require line of sight or physical contact with the item to receive data.



There are many variations and possibilities for an RFID system but they all boil down to these essential components.

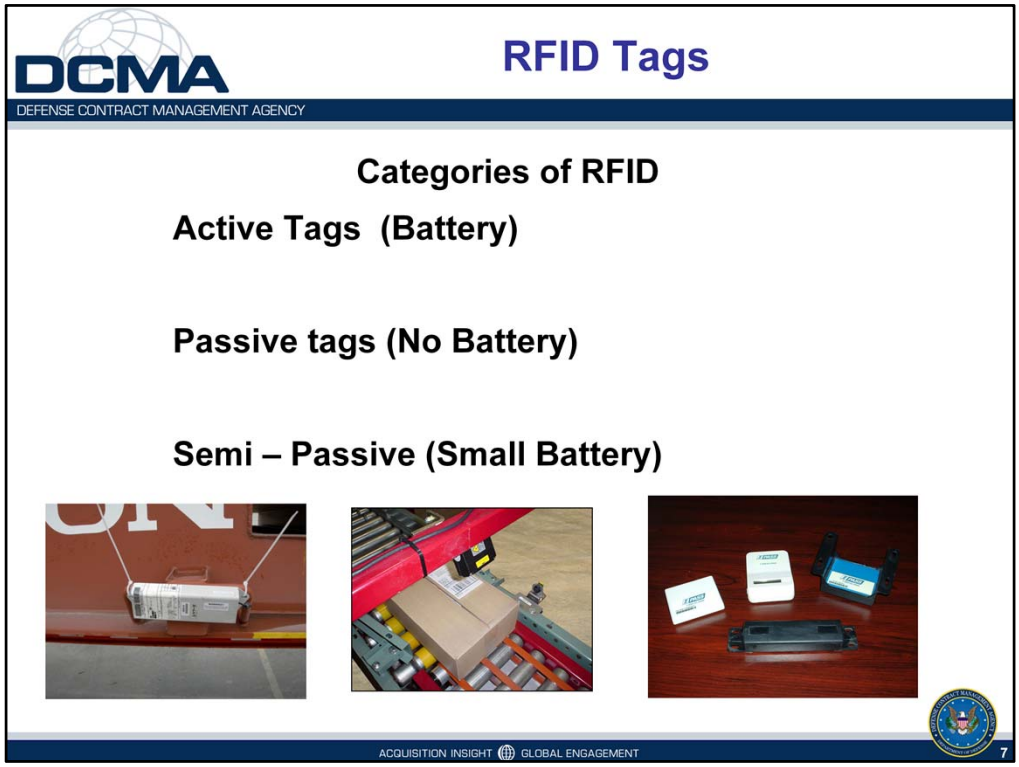
Interrogator is the more technically correct name for an RFID “reader” or “scanner” since the device sends out interrogating radio waves. When an RFID tag comes within range of the interrogator, the transponder (tag) will send an answering signal back to it.

RFID middleware, simply put, is a software layer residing between the RFID hardware and the existing back-end system or application software. It extracts data from the RFID interrogators (readers), filters it, aggregates it and routes it to enterprise applications.



The antenna emits electromagnetic waves that form a magnetic field. The passive RFID tag draws power from the magnetic field which is used to power the microchip in the tag. The chip then sends electromagnetic waves back to the reader and the reader converts the new waves into data that a computer can use.

Passive tags get all their power from the signal sent by the interrogator. As well as using this radio wave to carry the data, the tag is able to convert it into power. This means that the tag is only powered when it is in the beam of the interrogator. The tag then uses a technique called backscatter to reply to the interrogator. This does not involve a transmitter on the tag, but is a means of "reflecting" the carrier wave and putting a signal into that reflection.



There are 3 basic categories of RFID tags in use today.

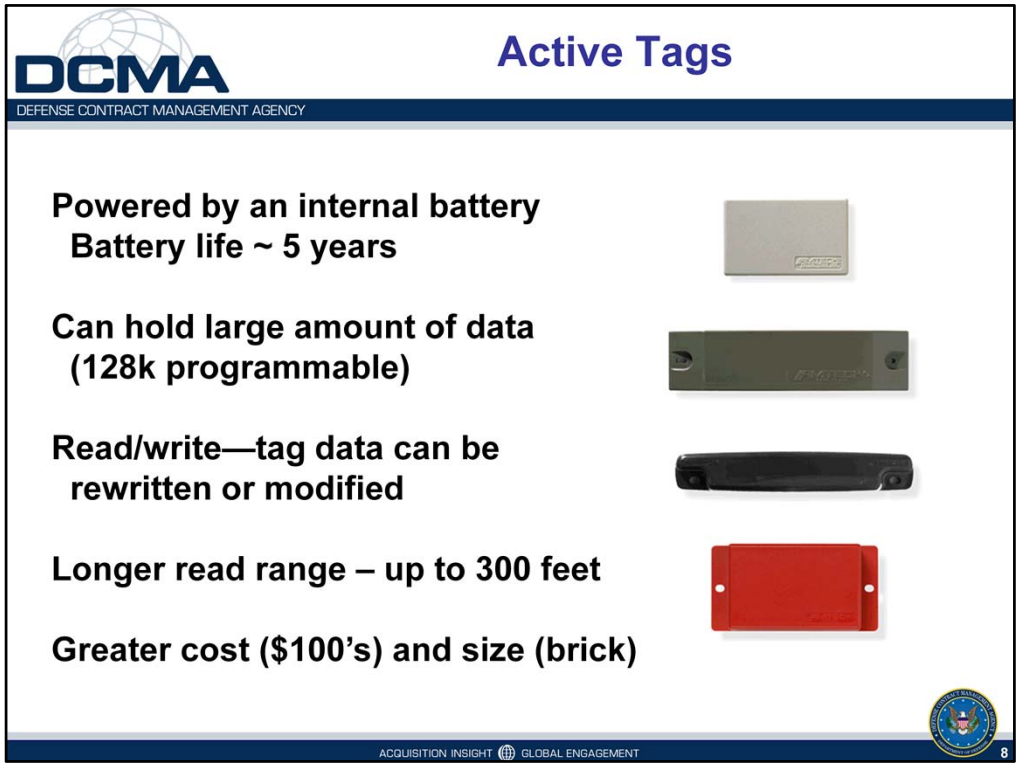
Active RFID tags have their own internal power source, which is used to power the integrated circuits and to broadcast the response signal to the reader.

Passive RFID tags have no internal power supply.

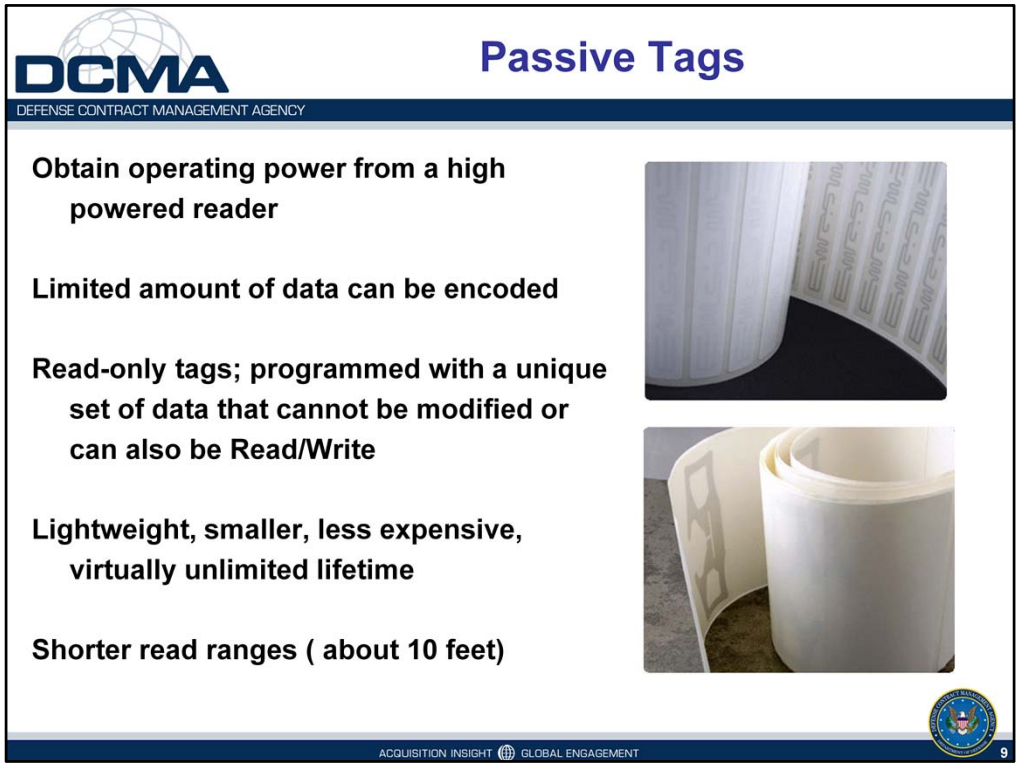
Semi-passive RFID tags use a process to generate a tag response similar to that of passive tags. Semi-passive tags differ from passive in that semi passive tags possess an internal power source (battery) for the tag's circuitry which allows the tag to complete other functions such as monitoring of environmental conditions (temperature, shock) and which may extend the tag signal range.

Semi-passive tags, also called semi-active tags, are similar to active tags in that they have their own power source, but the battery only powers the microchip and does not power the broadcasting of a signal, usually a small battery.

Only the first two categories will be discussed, they are the ones primarily used by DoD.



Active RFID tags take on a variety of forms depending upon the application. They may be enclosed within a rugged case to protect the components from the elements including extended outdoor exposure. They may also include provisions for attachment to the item they are intended to identify.



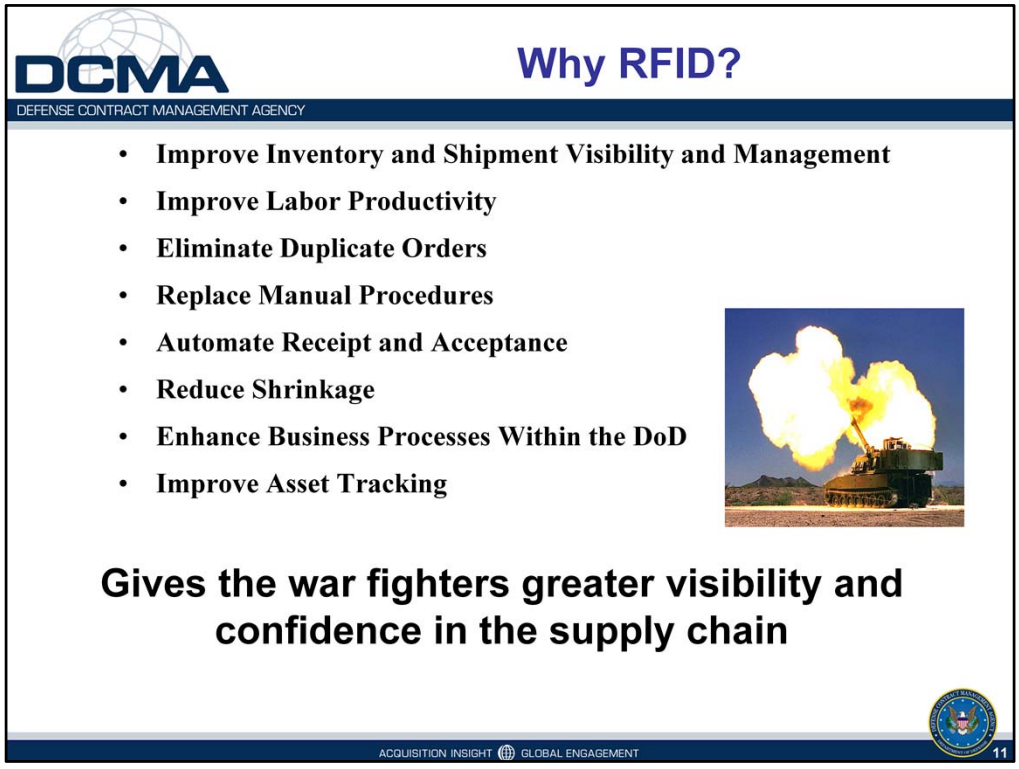
The second category of RFID tags are the passive tags. They are generally small enough to be laminated into a label. The costs of the tags varies depending upon the type and quantity.

Generally speaking, a 96-bit EPC inlay (chip and antenna mounted on a substrate) costs from 7 to 15 U.S. cents. If the tag is embedded in a thermal transfer label on which companies can print a bar code, the price rises to 15 cents and up.

This is a picture of the Theatre Distribution Center in Kuwait during the early days of Operation Iraqi Freedom.

As this pictures highlights, the early lessons of OIF made it clear that DoD needed visibility not only at the consolidated level, but also down to the individual case/box.

RFID delivers near-real-time status and improves inventory control, particularly in deployed or combat environments. It can make “track and trace” a reality around the world, across system and organizational stovepipes. No longer will DOD be limited to capturing information on at-rest and in-transit materiel at fixed locations. As RFID tagging becomes more and more ubiquitous (presence everywhere) and RFID technology becomes more portable, real-time information can be captured wherever needed to support the requirements of the combatant commander.



RFID will allow for fully automated visibility of supplies with no need for human intervention. Items can be automatically entered into inventory upon receipt—with no person needed to scan bar codes or to input data.

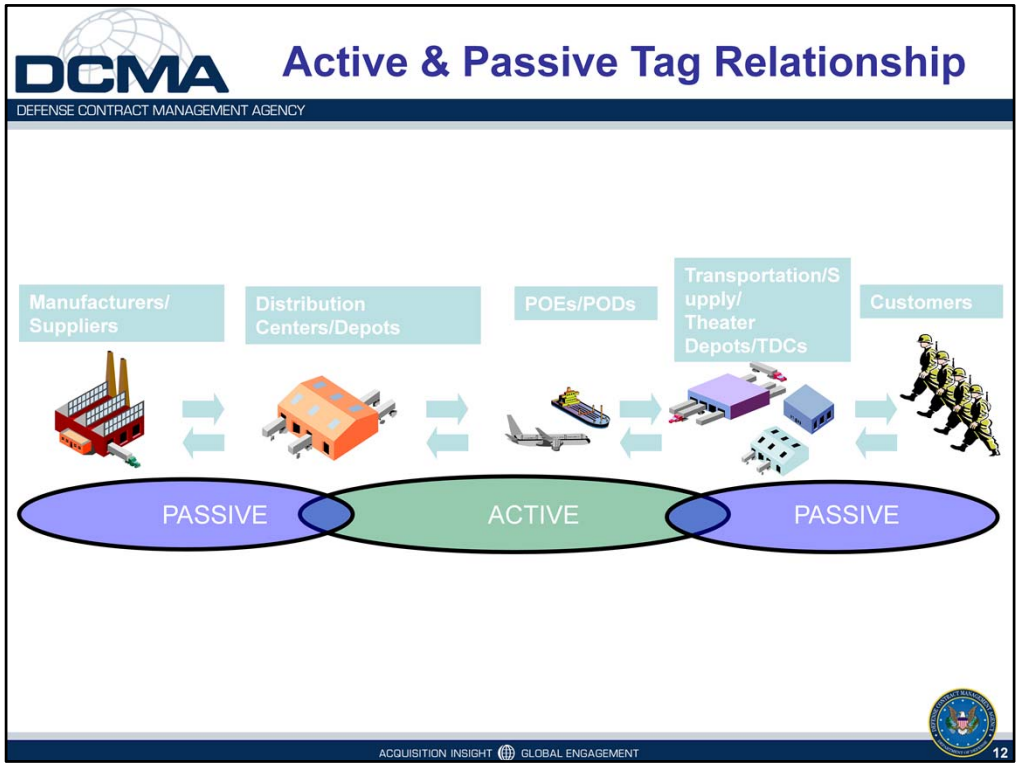
The initial focus on the RFID program is on the shipping/receiving functions with the distribution center. DoD will utilize RFID within other processes like inventory management in the future.

The increase in speed and accuracy of data will ultimately reduce cycle time on order management.

DOD envisions using RFID as an integral part of a comprehensive suite of automatic identification technologies (AITs) to facilitate accurate, hands-free data capture in support of business processes in an integrated DOD supply chain enterprise. DOD will apply all of the AITs where appropriate in the supply chain to improve support to the warfighter.

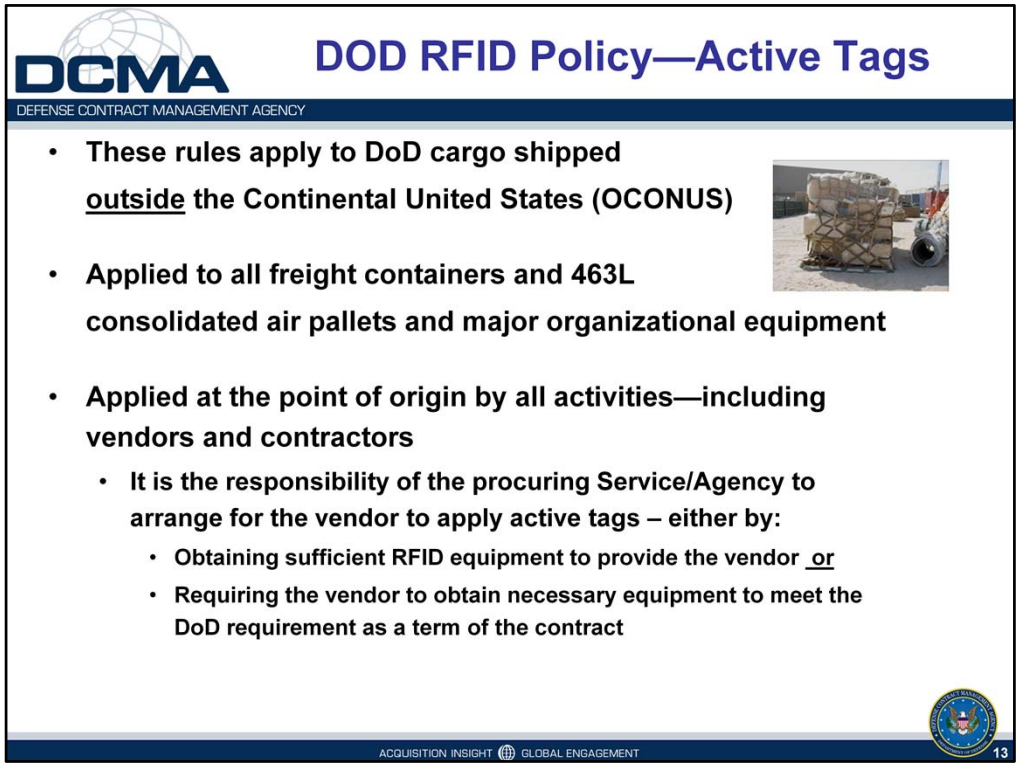
DoD's goals for RFID focus on the Warfighter.

Reduce Shrinkage – losing product/items between manufacture and use i.e. theft, poor inventory management



This slide show the overlapping relationship envisioned for the active – passive RFID tags for OCONUS shipments.

At the manufacturer/supplier location and the depots, the item can be tracked to the shipping container level and pallet level using passive RFID. Active RFID is applied on large shipping containers to track the consolidated shipments during overseas transit. Passive RFID at the delivery point/customer location tracks the item back to the individual container level.



All consolidated sustainment or retrograde shipments freight containers (20/40 foot sea vans, large engine containers and 463L pallets) of DoD cargo being shipped OCONUS must have active RFID tags written at the point of origin for all activities stuffing containers or building air pallets.

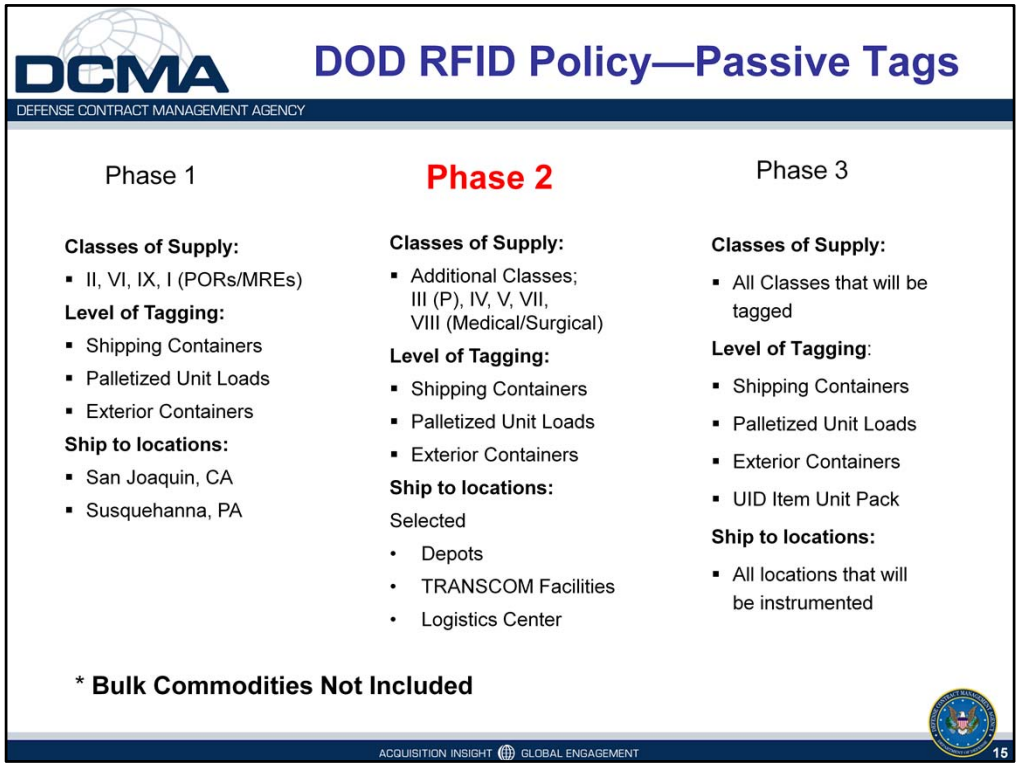
The tags will be attached at the point of shipment origin for all activities (including vendors/contractors) that stuff containers or build pallets (e.g., 20 or 40 foot SEAVANs, 463L pallets, and other large reusable containers [e.g., containers used to convey large items such as engines or transmissions]), or activities that ship unit move or prepositioned major organizational equipment.

If the originating activity is a vendor/contractor location, it is the responsibility of the procuring Service/Agency to arrange for the vendor to attach active tags, either by providing sufficient RFID equipment for the vendor/contractor to meet the requirement, or requiring the vendor/contractor as a term of the contract to obtain necessary equipment to meet the DOD requirement. (DTR part II-208-3 para F)

Active RFID tag attached to a 463L pallet. Shipment information on the pallet load is transferred at the receiving operation.

DOD has been using active RFID tags to track shipments since 1994. The DOD's In-Transit Visibility (ITV) RFID Network is the world's largest active RFID cargo tracking system, with participation at over 1500 installations—airports, seaports, consolidation ports, and railheads. Active RFID tags on conveyances provide real-time visibility in over 50 countries and tracking more than a quarter million shipments per week.

The DoD policy for active RFID tags also includes any contractor shipments directly to overseas destinations, but it is currently the responsibility of the procuring activity to arrange for the vendor to apply the active tags.



RFID will be a mandatory DoD requirements on solicitations issued on or after October 1, 2004 for delivery of material on or after January 1, 2005, IAW the supplier implementation plan at attachment 3. (Ref USD AT&L Memo Subj: RFID Policy Dtd Jul 30, 2004)

DOD business rules call for the application of passive RFID tags at the case pallet and unit pack (for UID shipments) on all shipments to and within DOD.

DOD is implementing Passive RFID requirements in three phases. We are currently in Phase 2.

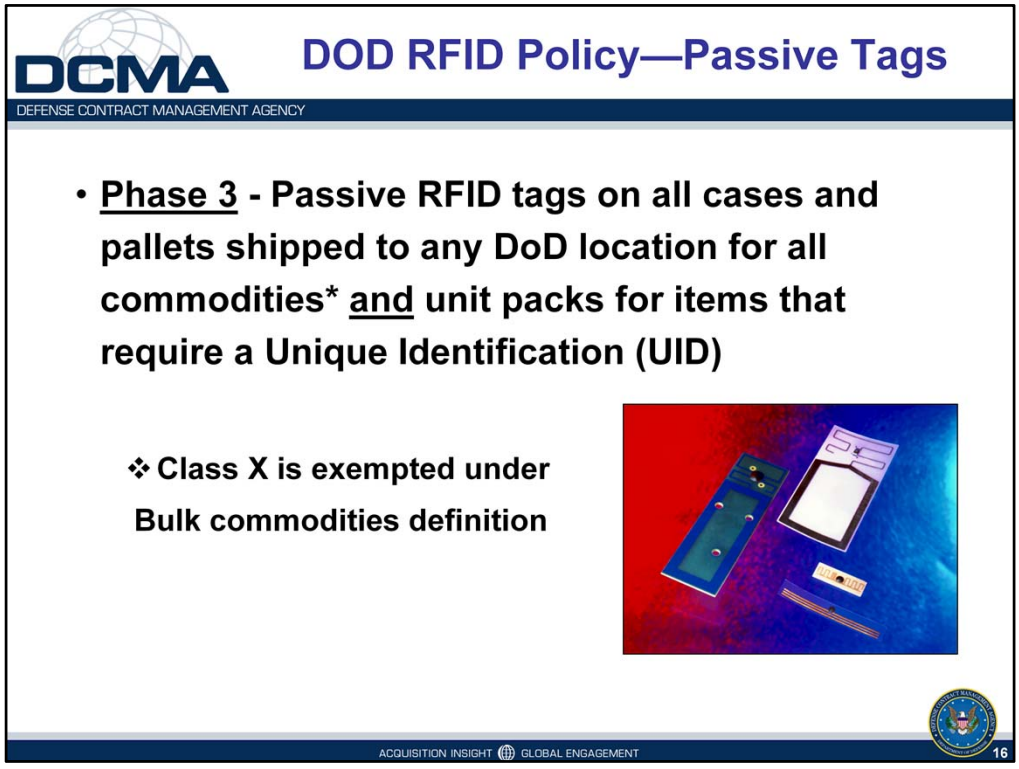
Bulk commodities not included
Defined as those that are shipped in rail tank cars, tanker trucks, trailers, other bulk wheeled conveyances or pipelines.
- Sand
- Gravel
- Bulk Liquids (water, chemicals, or petroleum products)
- Ready-mix concrete or similar construction materials
- Coal or combustibles such as firewood
- Agricultural products – seeds, grains, animal feeds, and the like

Notes:

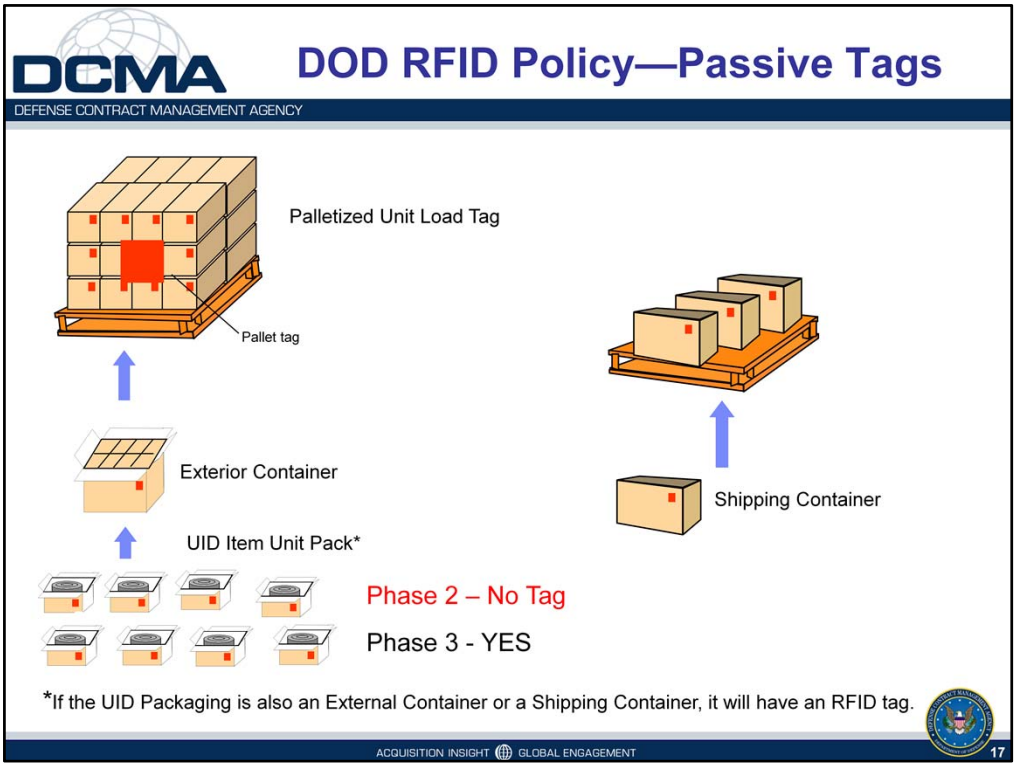
Pharmaceuticals, biologicals and reagents will not require RFID tags at this time. DOD will follow the FDA RFID rules for these materials when they are finalized.

Class V (munitions/explosives) are also not required to have passive RFID at this time, until compatibility tests have been conducted.

POR – Packaged Operational Rations (Remainder of class I added in phase 2)
IIIP – Packaged Petroleum, Lubricants, Oils, Preservatives, Chemicals, Additives



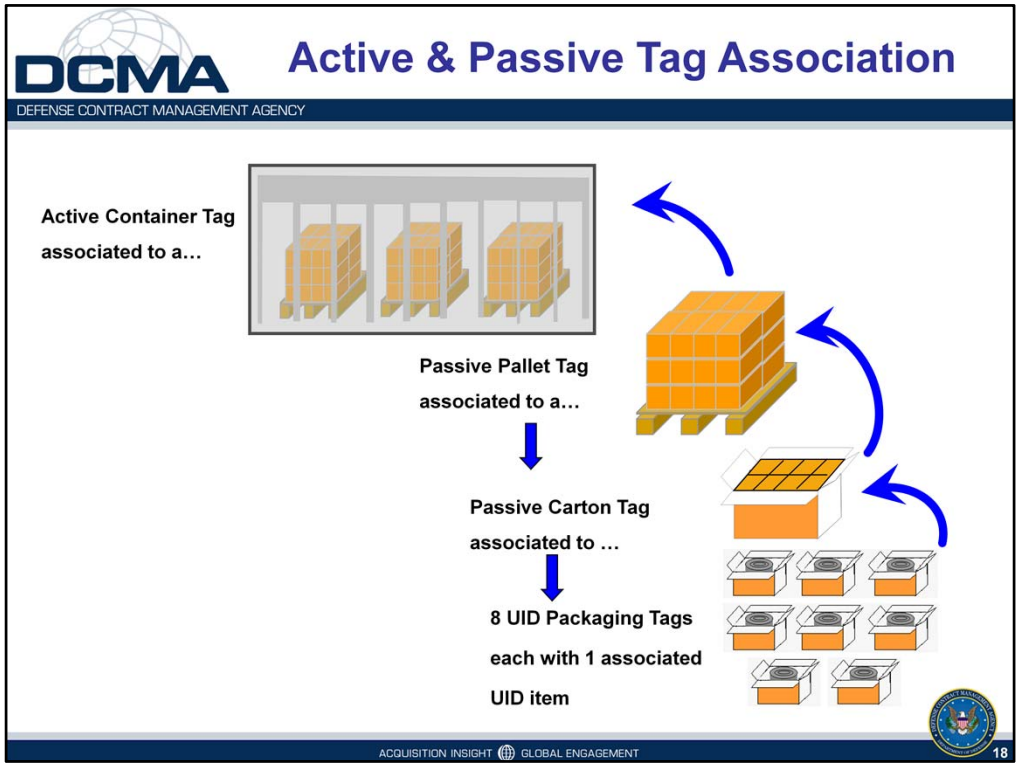
The third phase of the RFID implementation plan is to include tags on the unit packs of items that fall under the Unique Identification (UID) requirements. The RFID requirements will then apply to all commodities shipped to all locations except for Bulk commodities and Class X. (REF - Implementation plan for passive RFID)



A visual representation of the envisioned tagging of the unit pack (phase 3), the cases within a palletized unit load and the palletized unit load.

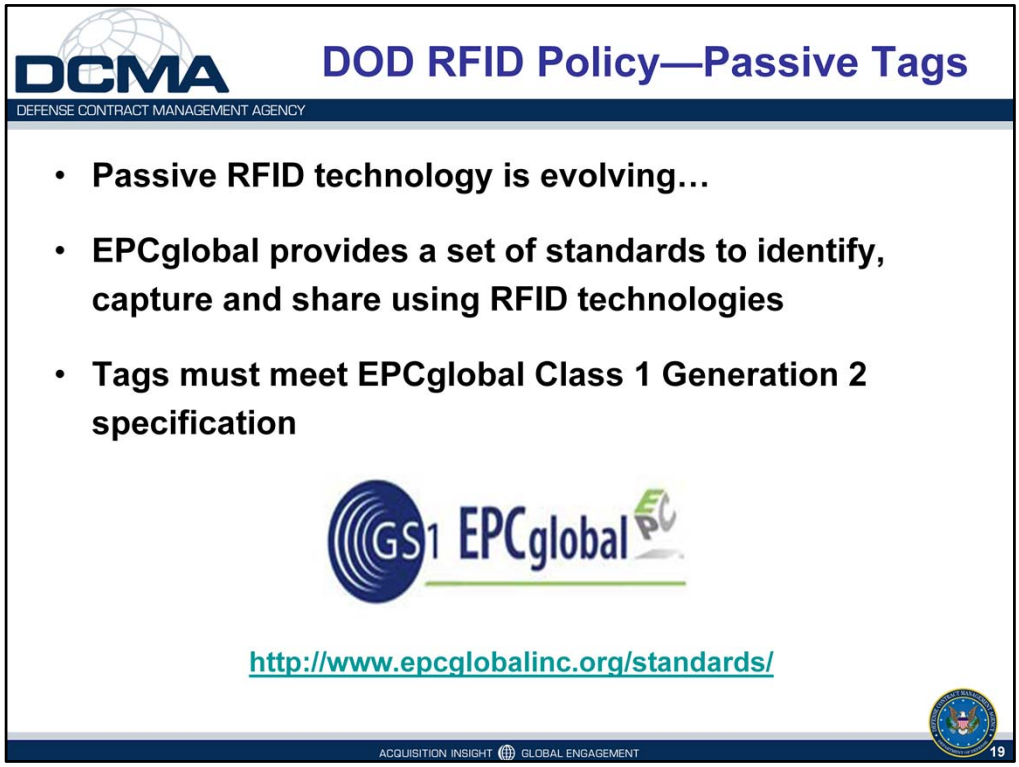
Also shown is the tagging of an individual case or shipping container.

Case - either an exterior container within a palletized unit load or an individual shipping container.



The grey rectangular box depicts a “freight container” that will be identified with an active RFID tag. The freight container could be a sea van or other enclosed intermodal container or a 463L pallet. The pallet loads that are consolidated into the freight container will have passive RFID tags that will link to content information for the containers that make up the pallet load.

The association of a passive tag to an active tag will reduce container stuffing and unstuffing time and provide more accurate “inside the box” visibility. This passive and active association is created by building a “nested” structure of passive tags (UID item packaging and case and pallet tags) that are subordinate to the active tags (SEAVAN container and 463L pallet tags). Historically, active RFID has been excellent at providing nodal visibility. The use of passive tags will provide efficient and accurate item and content visibility. The marriage of active and passive RFID will result in more accurate and timely automatic capture and reporting of data within the multiple layers of information required in DOD’s dynamic environment.



GS1 EPCglobal is an industry organization responsible for setting standards for RFID use.

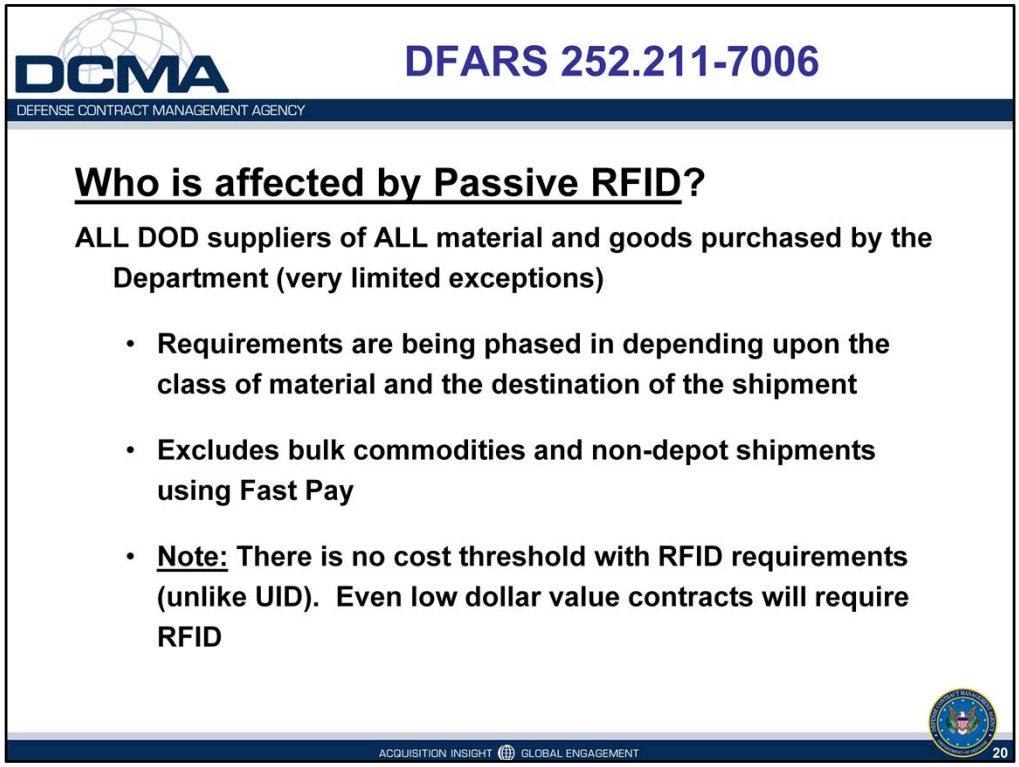
EPCglobal is a joint venture between GS 1(formerly European Article Numbering International , EAN) and GS 1 US (formerly the Uniform Code Council Inc, UCC). The previous efforts of the Uniform Code Council are now a visible part of our everyday life – the UPC bar code.

http://www.gs1.org/epcglobal/standards

UPC=Universal Product Code
EPC=Electronic Product Code is a unique identification code that can be associated with specific product information, such as date of manufacture, origin and destination of shipment.

The EPC is stored on a Radio Frequency Identification (RFID) tag, which transmits data when prompted by a signal emitted by a special reader. EPC and RFID are not interchangeable. The EPC is a supply chain application that maximizes RFID technology to provide a level of visibility never before possible. There are numerous RFID applications that have nothing to do with the EPC, such as E-Z Pass use at tollbooths.

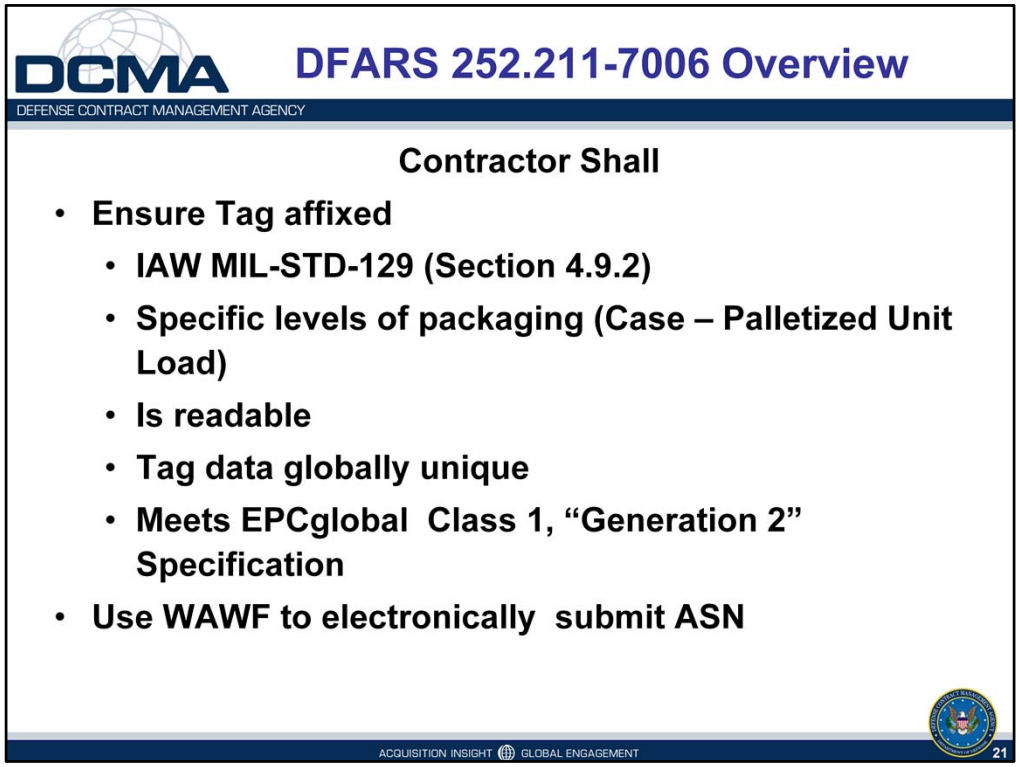
Commonly known as the "Gen 2" standard, this standard defines the physical and logical requirements for a passive-backscatter, Interrogator-talks-first (ITF), radio-frequency identification (RFID) system operating in the 860 MHz - 960 MHz frequency range. The system comprises Interrogators (also known as Readers), and Tags (also known as Labels).



We are currently in phase 2 of a three phase implementation process which started in 2004.

RFID will be a mandatory DoD requirements on solicitations issued on or after October 1, 2004 for delivery of material on or after January 1, 2005, IAW the supplier implementation plan at attachment 3. (Ref USD AT&L Memo Subj: RFID Policy Dtd Jul 30, 2004)

DFARS Clause 252.211-7006 Passive Radio Frequency Identification.



To meet the RFID requirement, contractors have two distinct actions:

1. Place an RFID tag on the package with a unique serial number.
2. Transmit the serial number data that matches up to the shipment – provide information about the RFID tag with an Advance Shipment Notification (ASN) via Wide Area Work Flow (WAWF).

Q: The Passive RFID Suppliers' Guide states tags must be "readable at the time of shipment" (v. 11.0, Section 3.1). What exactly does this mean? If pre-printed tags are purchased and stored over a length of time, do they have to be re-verified when they are used?

A: The supplier is required to ensure that the tag he/she affixes to a package is readable. This can be accomplished in a variety of ways. Tags that were verified as readable at the time of purchase may be used at a later date for shipments. Similarly, passive RFID tag printers establish readability during the printing process (unreadable tags are rejected). Therefore, passive tags created using an RFID printer do not require verification. Quality Assurance Representative (QAR) personnel are not required to review and certify each passive RFID tag.

Both the actual Clause and listing of locations may be found at the following website. (Prior version of DFARS Clause Feb 2007 listed the locations within the clause itself, the most recent version Sep 2011, has added locations and you must refer to this website for a complete listing).

Http://www.acq.osd.mil/log/rfid/index.htm

This site also provides additional information and links concerning RFID.

DCMA
DEFENSE CONTRACT MANAGEMENT AGENCY

DFARS 252.211-7006 (Definitions)

- **Bulk Commodities: means the following commodities, when shipped in rail tank cars, tanker trucks, trailers, other bulk wheeled conveyances, or pipelines:**
  - **(1) Sand**
  - **(2) Gravel**
  - **(3) Bulk liquids (water, chemicals, or petroleum products)**
  - **(4) Ready-mix concrete or similar construction materials**
  - **(5) Coal or combustibles such as firewood**
  - **(6) Agricultural products such as seeds, grains, or animal feed**

These items shall **NOT** be tagged in accordance with passive RFID tagging requirements.

ACQUISITION INSIGHT GLOBAL ENGAGEMENT 23

There are several key definitions that the RFID Clause specifically mentions and play a key role in determining if and at what level an item needs a RFID tag.

It is important to understand the different definitions for case, shipping container, exterior container and palletized unit load contained in the DFARS Clause and MIL-STD-129 as they play a key role in determining the number of RFID tags that need to be applied.

DFARS 252.211-7006 (Definitions)

DEFENSE CONTRACT MANAGEMENT AGENCY

- **Shipping Container:** A MIL-STD-129 defined exterior container which meets carrier regulations and is of sufficient strength, by reason of material, design, and construction, to be shipped safely without further packing (e.g. wooden boxes or crates, fiber and metal drums, and corrugated and solid fiberboard boxes).

- **Exterior Container**: A MIL-STD-129 defined container, bundle, or assembly that is sufficient by reason of material, design, and construction to protect unit packs and intermediate containers and their contents during shipment and storage. It can be a unit pack or a container with a combination of unit packs or intermediate containers. **An exterior container may or may not be used as a shipping container.**

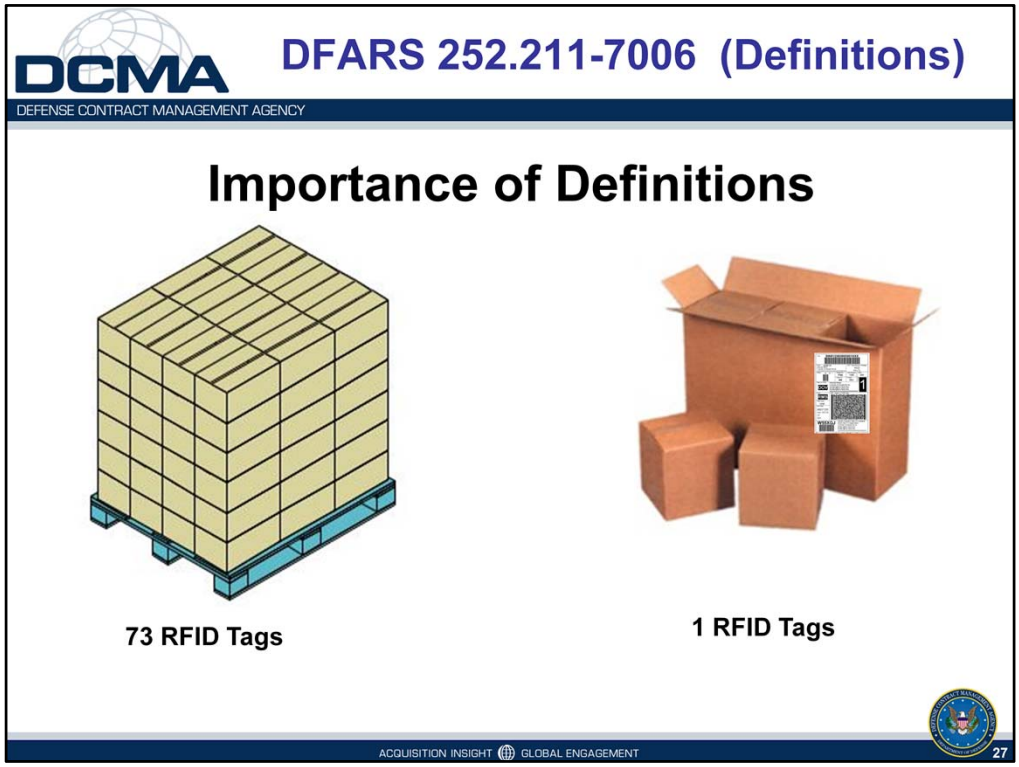
DCMA
DEFENSE CONTRACT MANAGEMENT AGENCY

DFARS 252.211-7006 (Definitions)

- **Palletized Unit Load:** A MIL-STD-129 defined quantity of items, packed or unpacked, arranged on a pallet in a specified manner and secured, strapped, or fastened on the pallet so that the whole palletized load is handled as a single unit. **A palletized or skidded load is not considered to be a shipping container.**

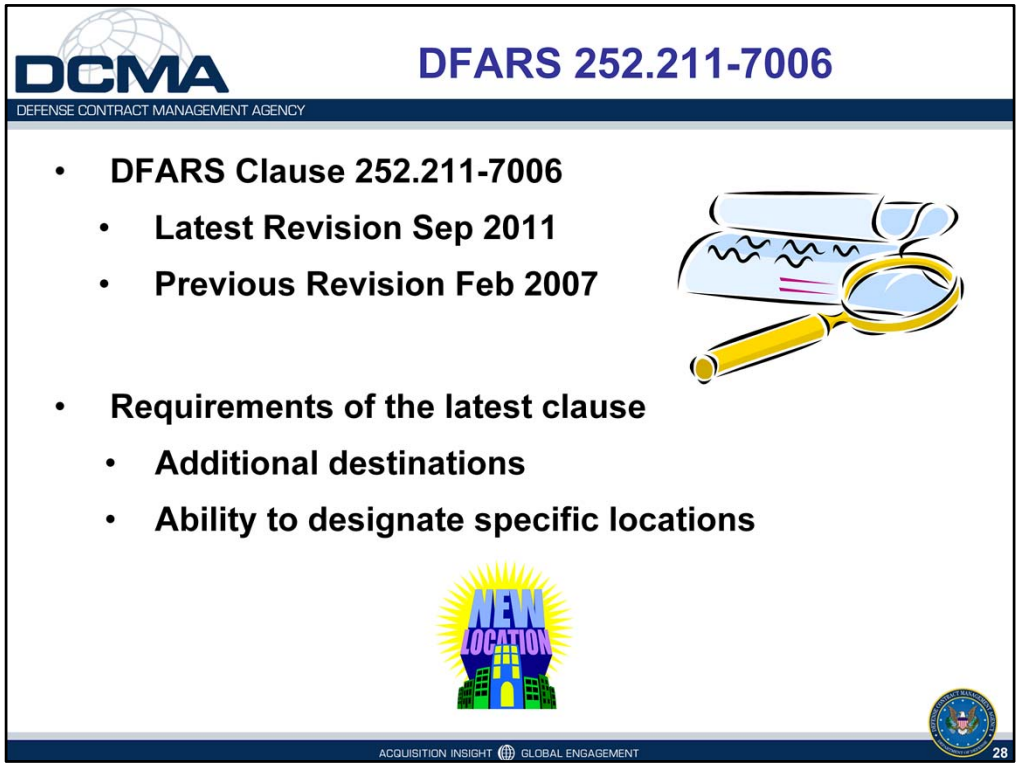
ACQUISITION INSIGHT GLOBAL ENGAGEMENT 26

RFID tags are require all exterior containers (cases) with the load as well as the palletized unit load.

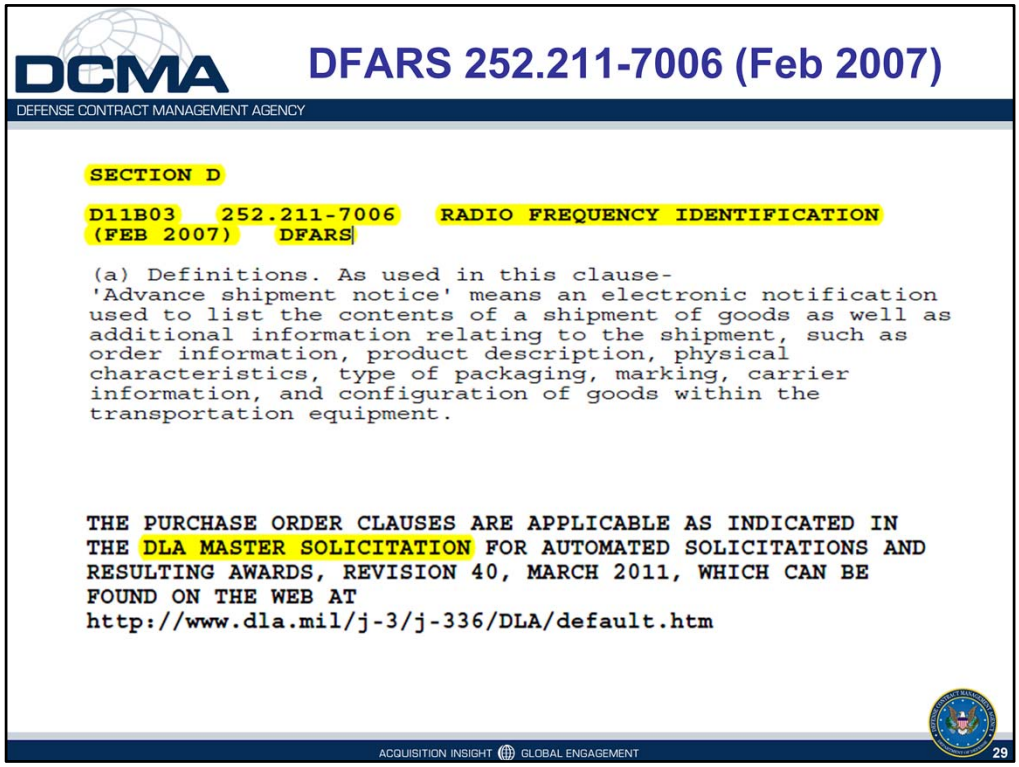


There are 72 individual cases on pallets. Each case would require a RFID tag plus one for the palletized unit load.

An example of intermediate or unit packs placed in an exterior container.

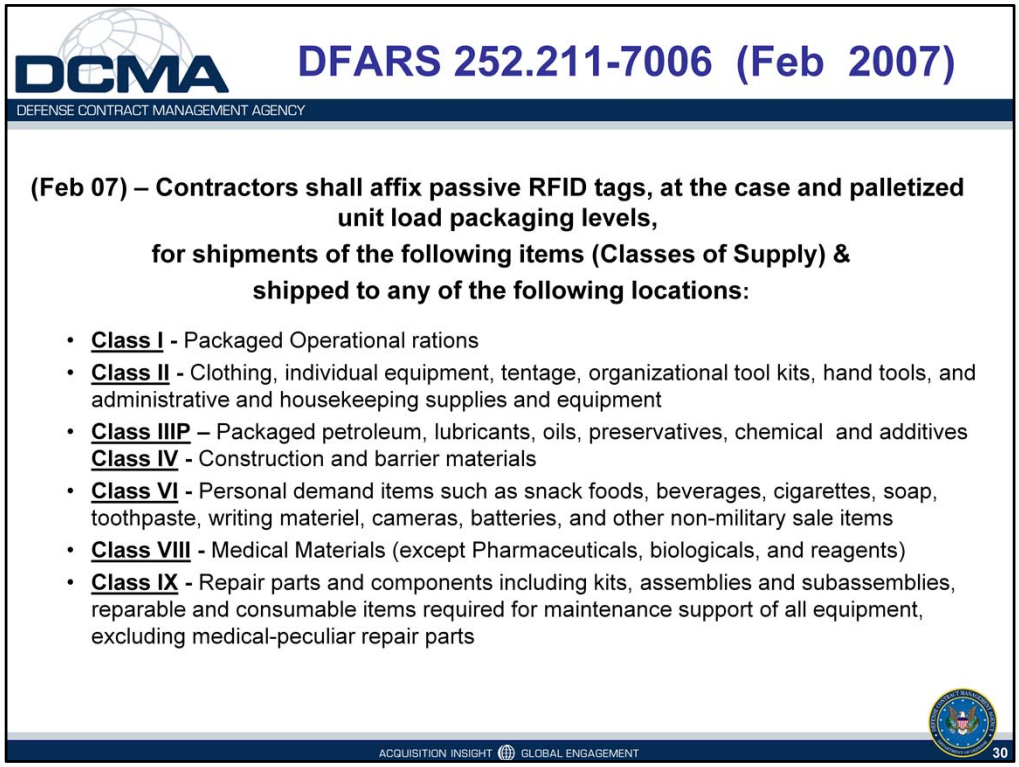


Contractors should look carefully at their solicitations and contracts to see which version of the RFID clause has been called out.



Some procuring activities are only adding the RFID clause when it will apply to the item and the destination. Others are adding the RFID clause to everything and the contractor must determine whether it is applicable.

In many DLA contracts, DLA procuring activities do not specifically call out the RFID clause; however, they do specify the DLA Master Solicitation. The Master Solicitation, which can be obtained at http://www.dla.mil/Acquisition/Pages/Automaster.aspx , specifies that the RFID DFARS Clause is mandatory for all DLA contracts.

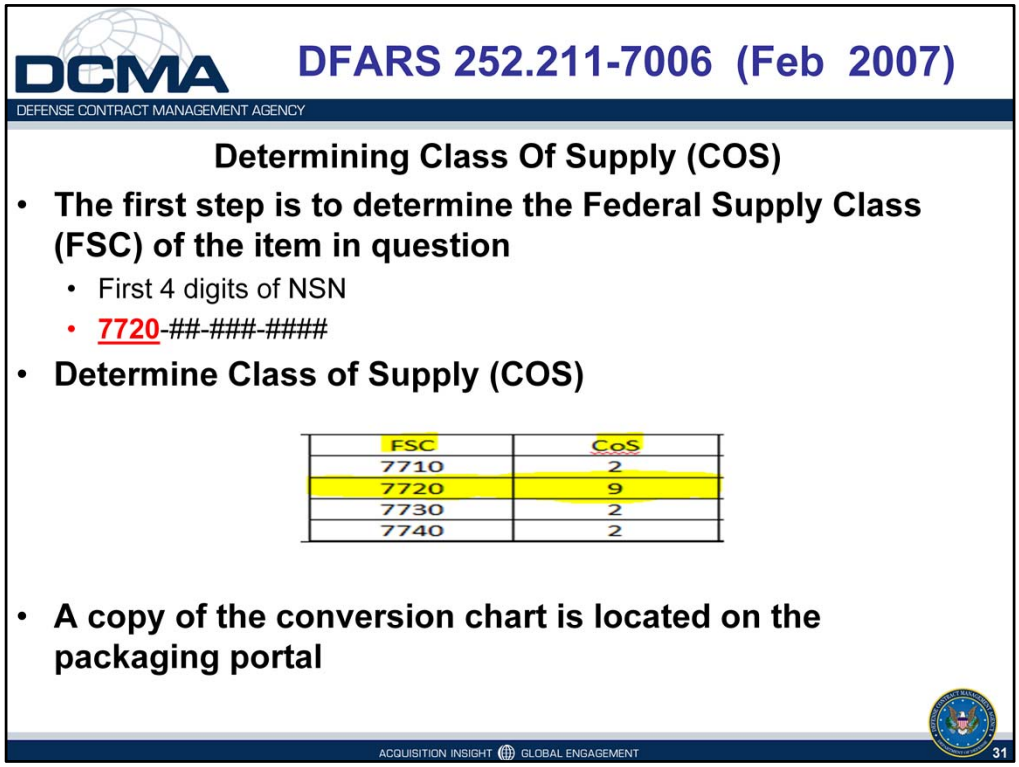


The classes of supplies that are required by the passive RFID clause.

Pharmaceuticals, biologicals and reagents will not require RFID tags at this time. DOD will follow the FDA RFID rules for these materials when they are finalized.

Suppliers should limit the mixing of excluded and non-excluded materials.

Class V (munitions/explosives) are also not required to have passive RFID at this time, until compatibility tests have been conducted.



The are only certain classes of supply that are currently required to be tagged. The class of supply is usually not identified in the contract. The first step is to determine the Federal Supply Class, which is the first 4 digits of the NSN.

The second step is to convert the FSC to the Class of Supply. A copy of the conversion chart is located on the packaging portal.

DCMA
DEFENSE CONTRACT MANAGEMENT AGENCY

DFARS 252.211-7006 (Feb 2007)

- **DLA Defense Distribution Depots**
  - Albany, GA
  - Anniston, AL
  - Barstow, CA
  - Cherry Point, NC
  - Columbus, OH
  - Corpus Christi, TX
  - Ogden, UT
  - Jacksonville, FL
  - Oklahoma City, OK
  - Norfolk, VA
  - Puget Sound, WA
  - Red River, TX
  - Richmond, VA
  - San Diego, CA
  - Susquehanna, PA
  - San Joaquin, CA
  - Tobyhanna, PA
  - Warner Robbins, GA

- **TRANSCOM Air Mobility Command Terminals**
  - Charleston, SC
  - Norfolk, VA
  - Fairfield, CA (Travis AFB)
- **All TP 1 Shipments to OCONUS Destinations**

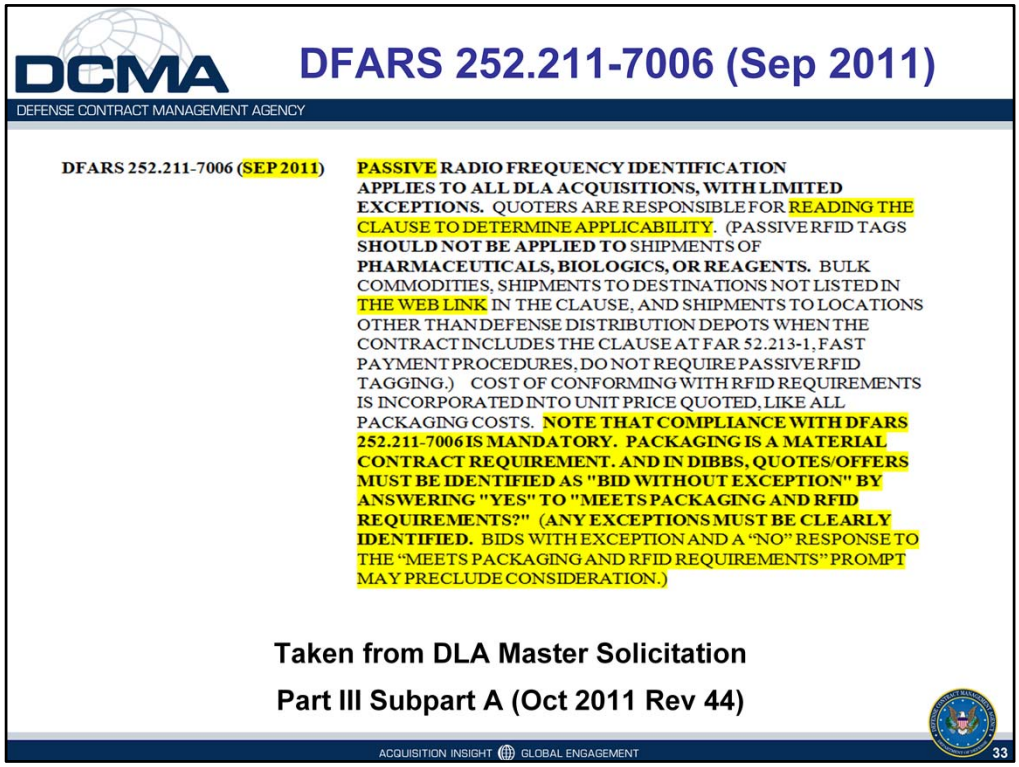
ACQUISITION INSIGHT GLOBAL ENGAGEMENT 32

The specific locations are actually listed in the DFARS clause. Some locations have several DODAACs , the RFID Clause will give the specific DOD Activity Address Codes (DODAACs) for these destinations for which the use of passive RFID tags are required.

For those contractors who think that RFID might not apply to them, Defense Depot Susquehanna, PA is more commonly referred to as “New Cumberland, PA” and DD San Joaquin is more commonly known as “Tracy, CA”.

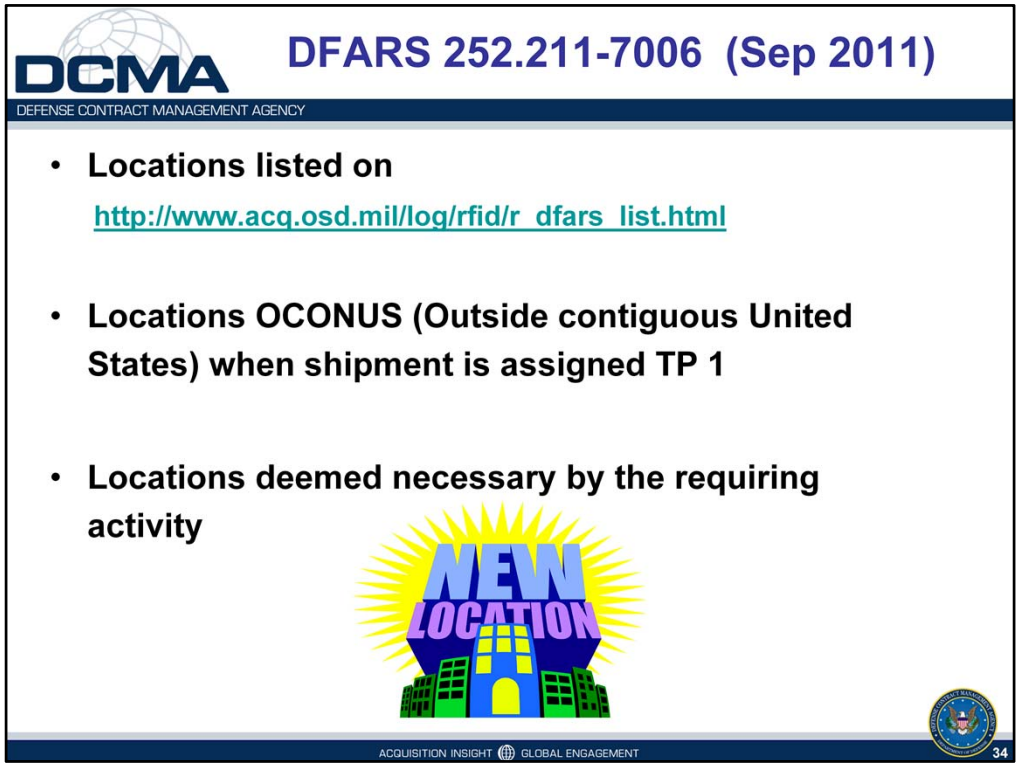
Transportation Priority. A number assigned to a shipment that establishes its movement precedence by air, land, or sea within the Defense Transportation System.

TP-1 Expedited Transportation



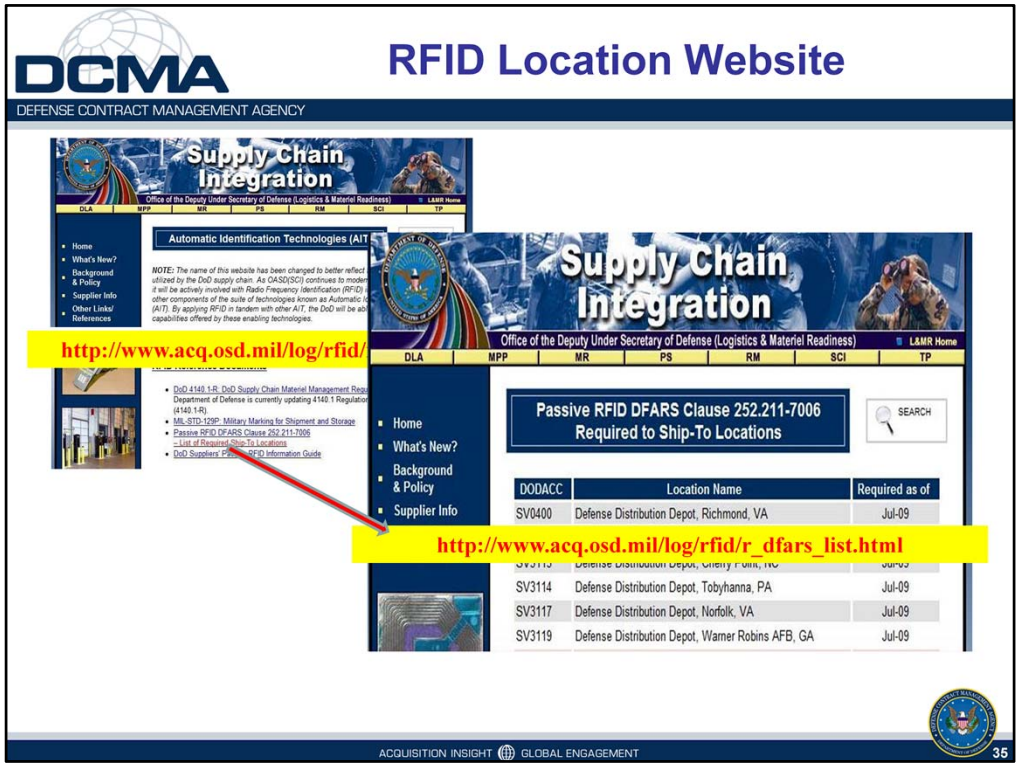
The most recent passive RFID Clause as found in the DLA Master Solicitation.

In many DLA contracts, DLA procuring activities do not specifically call out the RFID clause; however, they do specify the DLA Master Solicitation. The Master Solicitation, which can be obtained at **http://www.dla.mil/j-3/j-336/DLA/** , specifies that the RFID DFARS Clause is mandatory for all DLA contracts. Refer to the above website for the latest revision of the master solicitation.

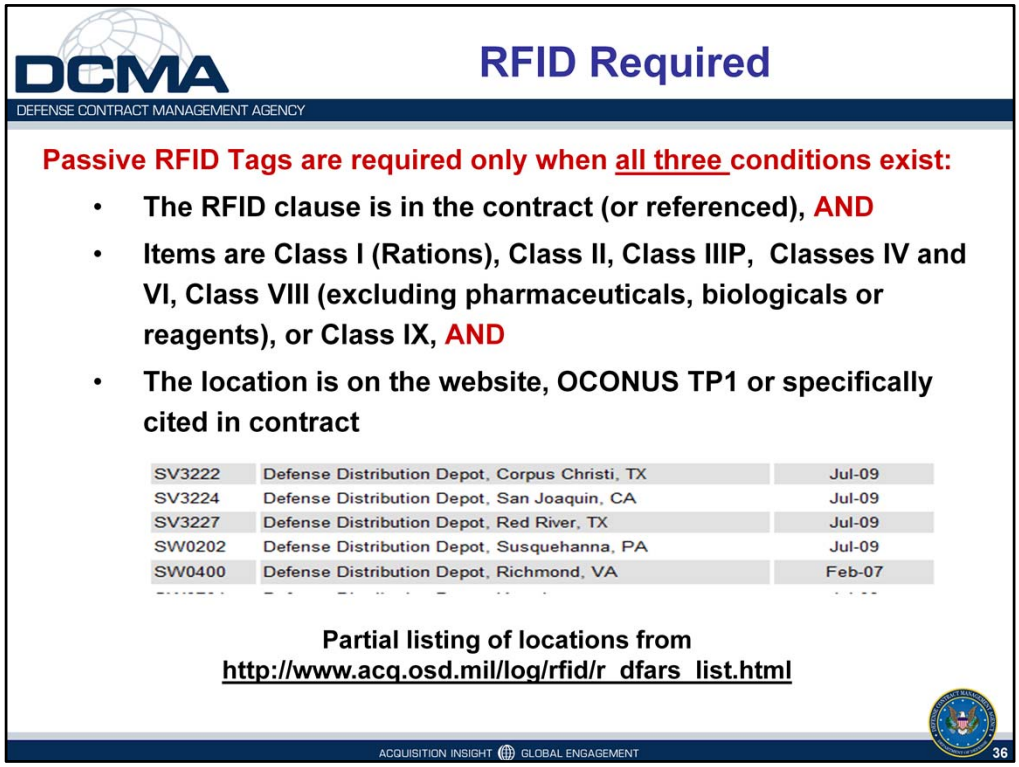


Listings of the specific locations and DODAACs are located at http://www.acq.osd.mil/log/rfid/r_dfars_list.html.

The Passive RFID clause dated 12 February 2007 listed specific locations within the clause, the recent changes to the clause has included more locations (listed on website) and the ability for the procuring activity to cite specific locations within the contract.



A link to the list is located on the Automatic Identification Technologies (AIT) page under the Passive RFID DFARS Clause 252.211-7006.



Just because the DFARS Clause is listed does not mean that passive RFID will need to be applied. All three of the requirements must be met

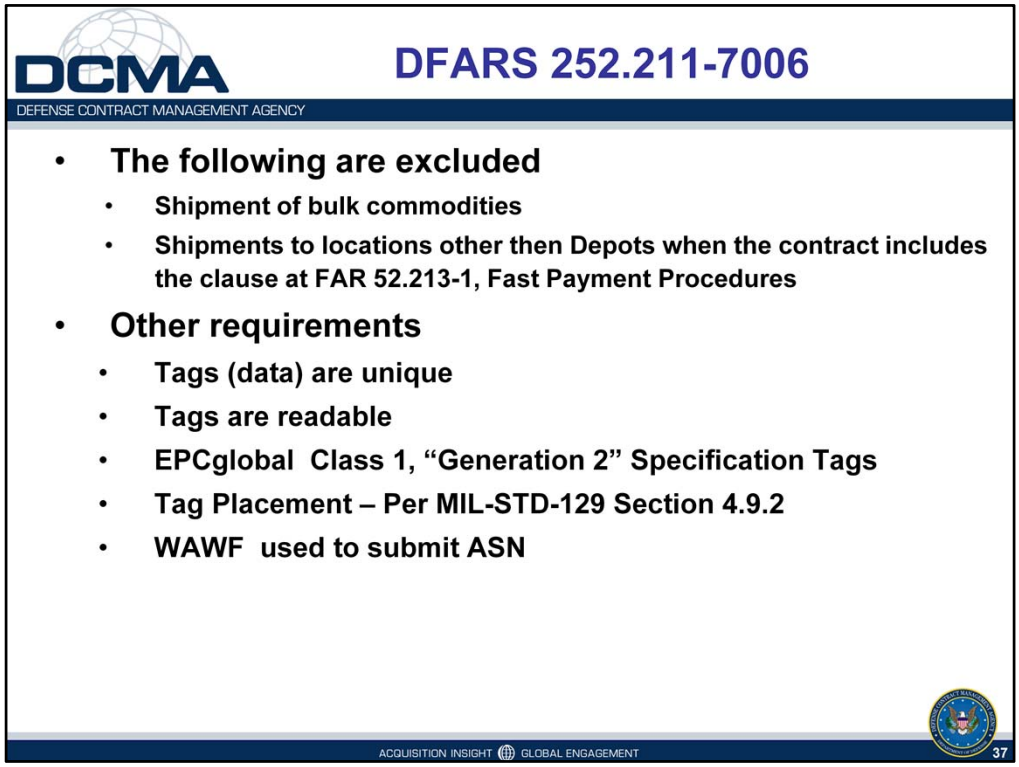
-**Clause in contract**

-Items Class of supply is listed in DFARS Clause

-Location must be on list , cited in contract or an OCONUS Transportation Priority 1 shipment

(Feb 2007 DFARS clause the locations are listed in the clause and the cited in contract is not applicable)

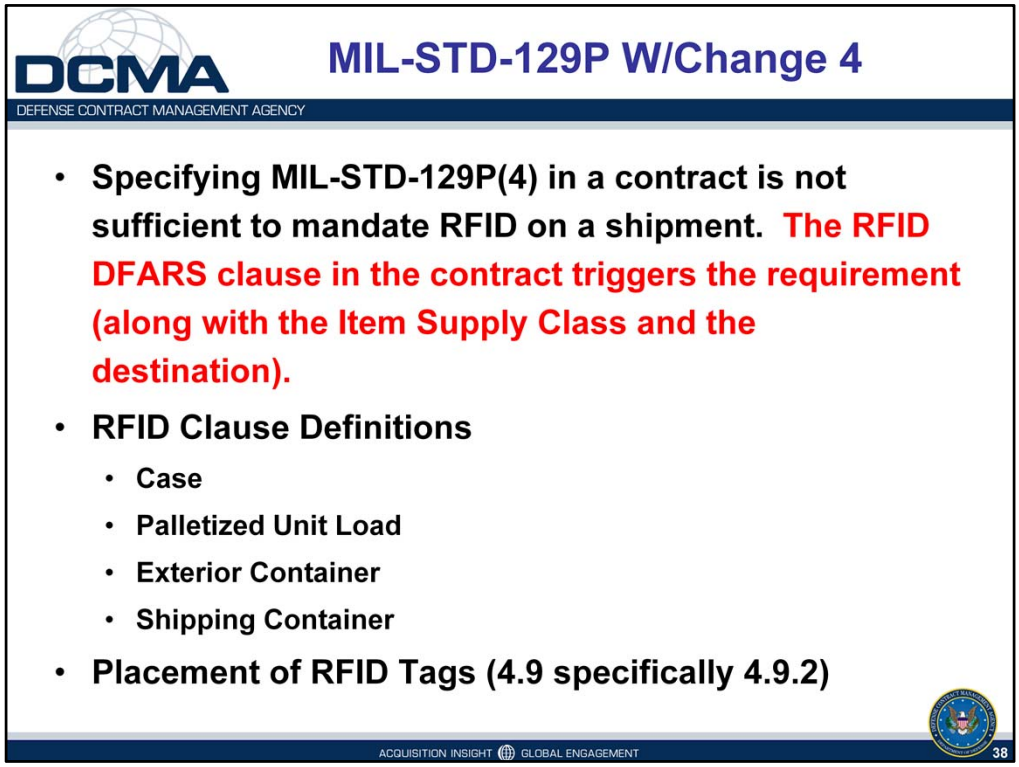
A listing of locations are available at **http://www.acq.osd.mil/log/rfid/r_dfars_list.html**. Date listed is the required as of date – 07 and earlier where listed in the Feb 2007 version.



Suppliers are allowed to apply passive RFID tags, even in contracts where the DFARS Clause requiring passive RFID tagging has not been included. However, suppliers are not allowed to apply passive RFID tags to the following commodities: Class V (munitions/explosives), Class VIII (pharmaceuticals, biologicals and reagents), bulk commodities, and shipments to locations other than Defense Distribution Depots when the contract includes the clause at FAR 52.213-1, Fast Payment Procedures.

Again contractor need to submit ASN through WAWF and ensure the tag numbers are unique, readable, EPCGlobal Class1 Gen2 and tags are placed IAW MIL-STD-129.

Excerpt form the
52.213-1 Fast Payment Procedure.
As prescribed in 13.404, insert the following clause:
Fast Payment Procedure (May 2006)
(a) *General*. The Government will pay invoices based on the Contractor's delivery to a post office or common carrier (or, if shipped by other means, to the point of first receipt by the Government).
(b) Responsibility for supplies.
(1) Title to the supplies passes to the Government upon delivery to—
(i) A post office or common carrier for shipment to the specific destination; or
(ii) The point of first receipt by the Government, if shipment is by means other than Postal Service or common carrier.

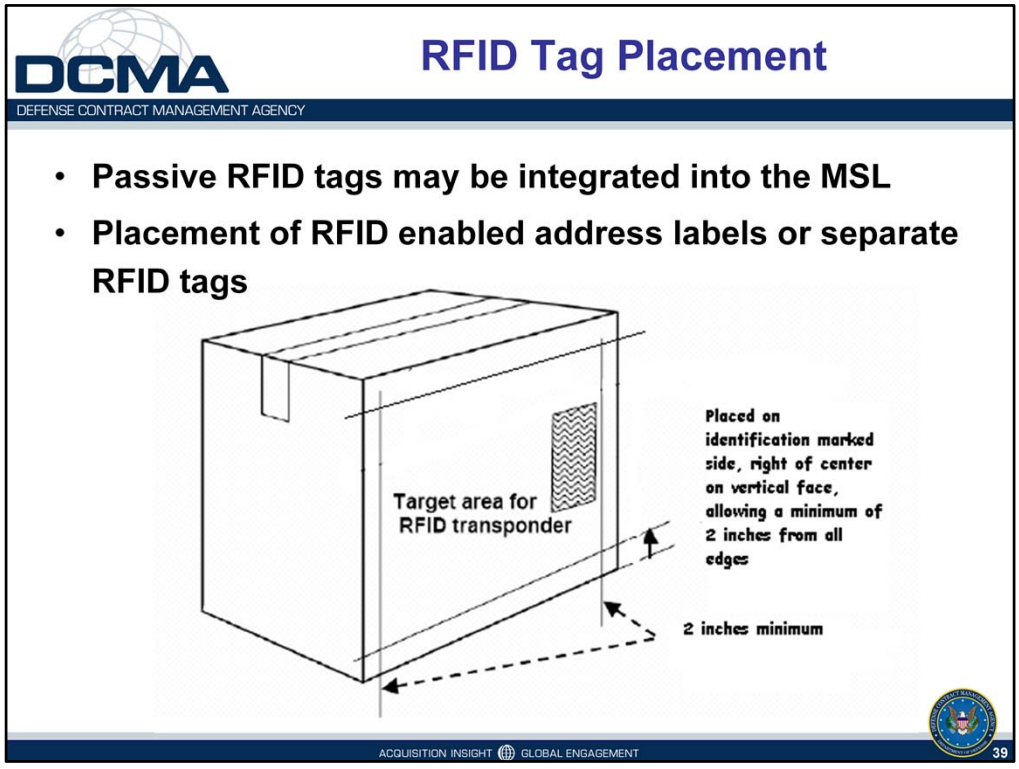


The MIL-STD-129 does not impose the requirement for placing RFID tags on items but it is used in conjunction with the RFID Clause to ensure RFID tags are correctly applied.

Numerous times the DFARS Clause refers to "MIL-STD-129" – Case, Exterior Container, Shipping Container, palletized unit load.

4.9.1 b. Bulk commodities **shall not be tagged** in accordance with passive RFID tagging requirements.

4.9.3 Tagging munitions/explosives with passive RFID. Munitions and explosives **shall not be tagged** until the following certification requirements are met for the passive RFID tag, tag reader and antenna configuration: electromagnetic effects on the environment (E3), Hazards of Electromagnetic Radiation to Ordnance (HERO), Hazards of Electromagnetic Radiation to Fuel (HERF), and Hazards of Electromagnetic Radiation to Personnel (HERP). For additional information, refer to the Product Manager Automatic Identification Technology website at http://www.eis.army.mil.



4.9.2 Passive RFID tag placement. The passive RFID tag may be integrated with the military or commercial shipping label (RFID-enabled address label) or they may be placed in separate locations on the shipment.

Keys point in placing RFID Tags

- Passive RFID tags should be affixed at a suitable location where there is a minimum risk of damage, easy access to the respective bar code symbols, and the highest potential for successful passive RFID tag interrogation.
- RFID-enabled address labels shall be applied to shipping containers or palletized unit loads per 4.3.2, including applicable sub-paragraphs.
- Address markings shall be placed on the identification-marked side of exterior shipping containers. If the container is too small to accommodate the address markings on the identification-marked side the address label shall be placed on the opposite side.

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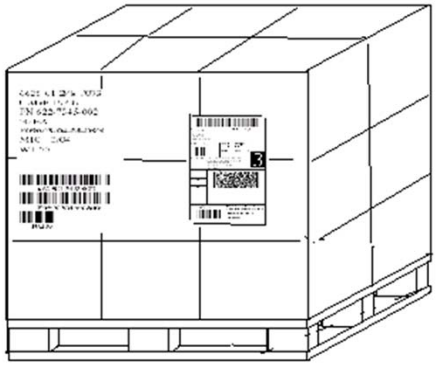
RFID Tags on Pallet Loads

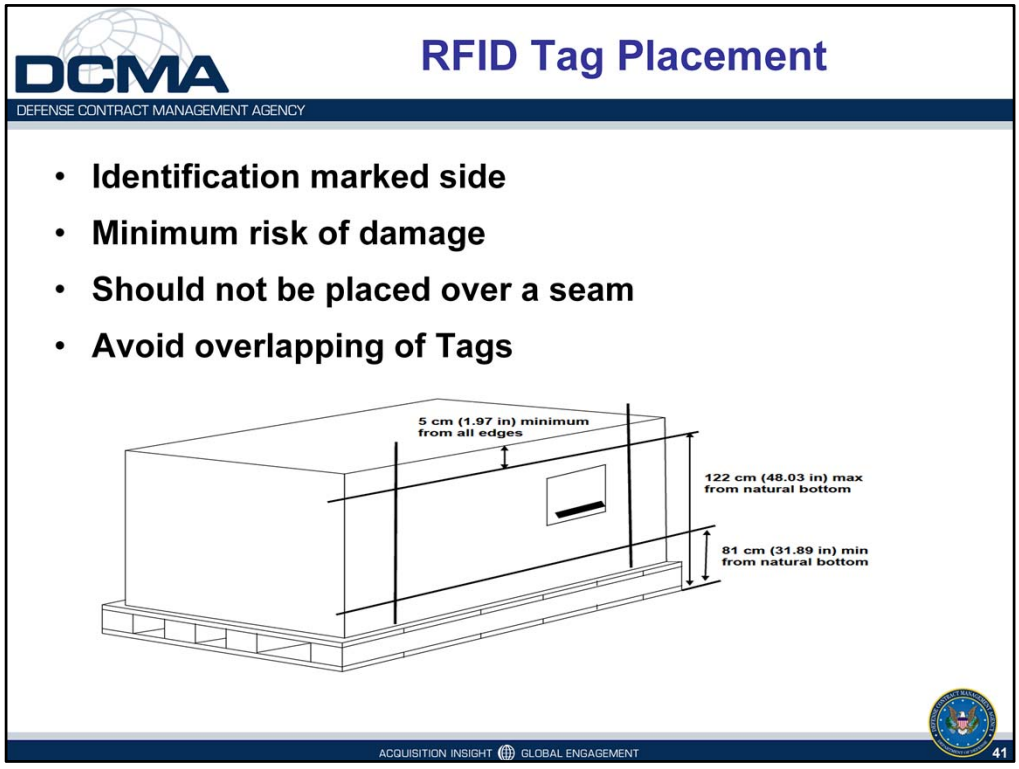
- **Address labels may be attached to the marking board or to the stretch wrap if used to bond the load**
- **Individual cases that make up the pallet load require their own passive RFID tags**



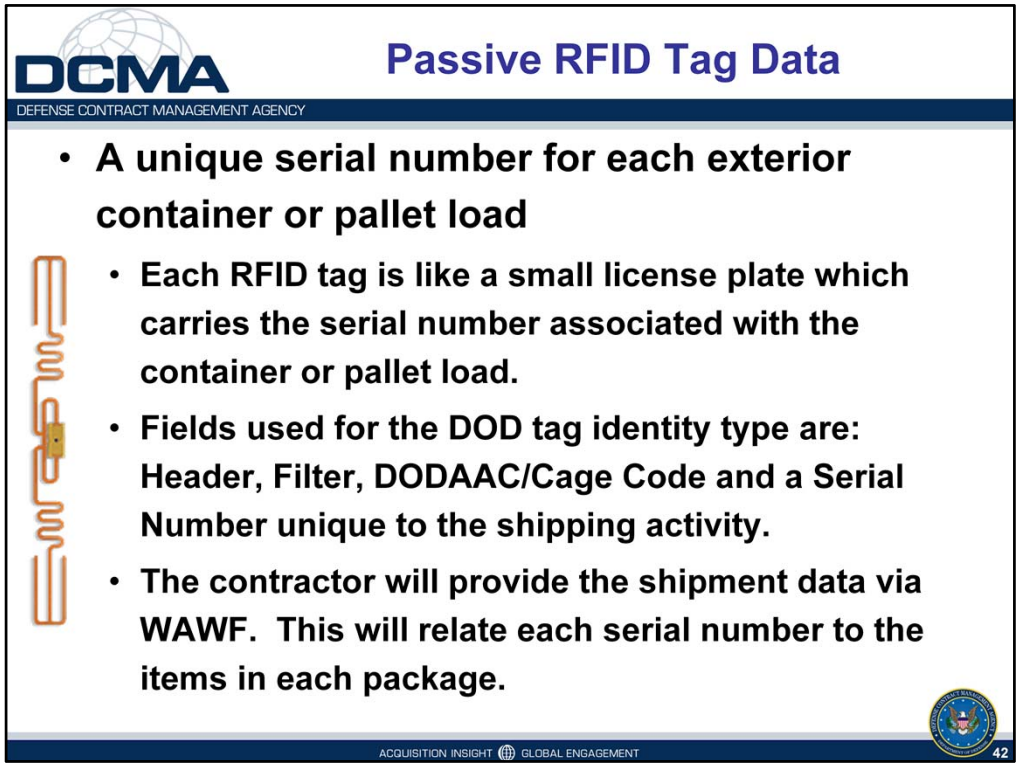
The RFID-enabled label for a palletized unit load should not be attached to an exterior container if the cargo within the exterior container will not be removed for receipt processing and storage

The RFID label should not be placed in a manner that overlaps any other existing RF transponder. There should be at least a 4 inch separation.

MIL-STD-129P, Change #4, Page 42, paragraph 4.3.2.7.d describes the placement of the address label on palletized loads.



Additional information concerning Tag placement may be found in the Passive RFID Supplier's Guide – version 15.0
http://www.acq.osd.mil/log/rfid/guide/DoD_Suppliers_Passive_RFID_Info_Guide_v15.pdf



The “serial number” required in the passive RFID tag ID Identifier does not refer to the serial number of the product being shipped but rather a unique number assigned by the supplier.

The serial number is the link between the tag and the information contained in the database. Just like a license plate number along does not identify you to anyone unless they have access to the data base of license plate numbers.

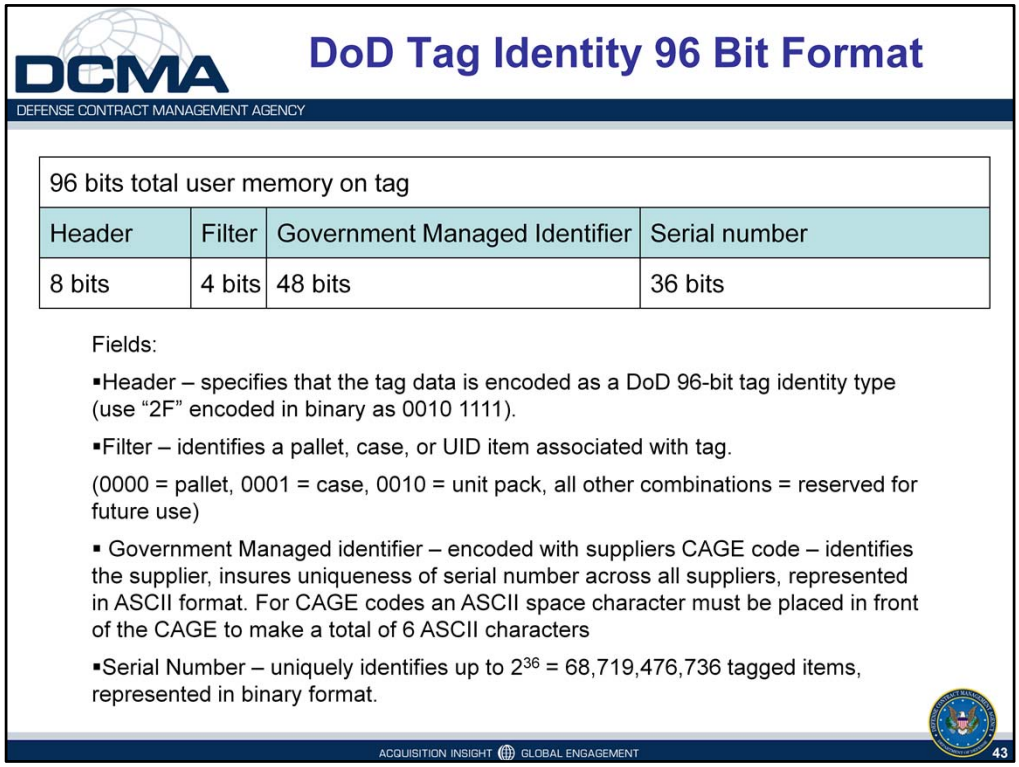
Suppliers have two options for encoding RFID tags -

EPCglobal™ subscriber and possesses a unique EPC™ company prefix, the Contractor may use any of the identifiers and encoding instructions described in the most recent EPC™ Tag Data Standards document to encode tags.

DoD identifier, use assigned Commercial and Government Entity (CAGE) code and shall encode the tags in accordance with the tag identifier details in the Suppliers Guide, located at http://www.acq.osd.mil/log/rfid/tag_data.htm.

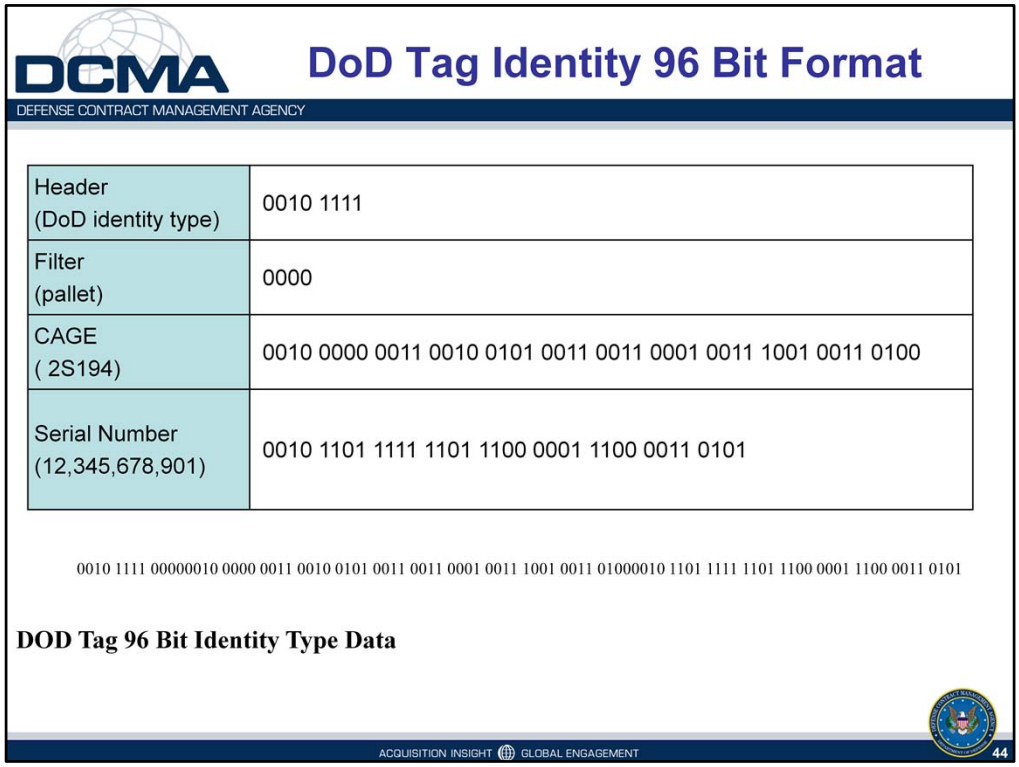
If the Contractor uses a third-party packaging house to encode its tags, the CAGE code of the third-party packaging house is acceptable.

Regardless of the method, the Contractor with which the Department holds the contract is responsible for ensuring that the tag ID is globally unique.

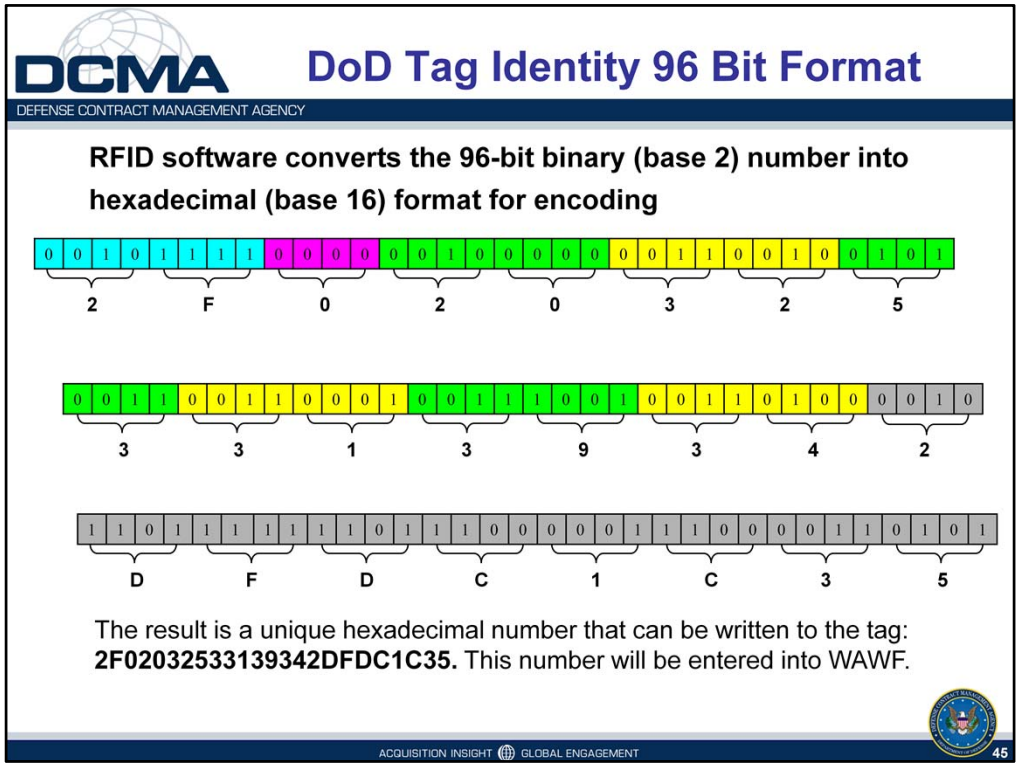


Suppliers that choose to employ the DoD tag identity type will use the Commercial and Government Entity (CAGE) code previously assigned to them.

This shows the 96 bit format using the DoD tag identity type. The header information defines the overall length, identity type and structure of the EPC encoding. The Filter is not part of the EPC or DoD identifier but is additional data that is used for fast filtering and pre-selection of basic item/asset/pack types. The CAGE code is encoded in ACSCII format.



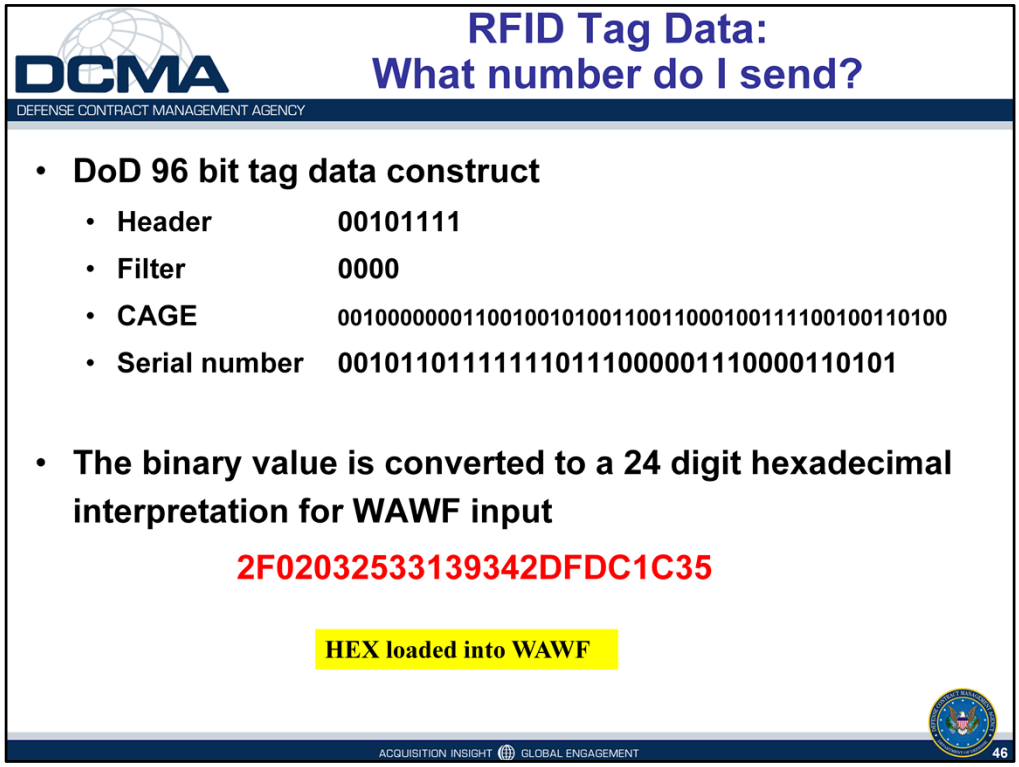
This slide again shows the DoD identity type for 96 bit tag including the applicable data encoding. Note that this data is a unique serial number only – it does not contain information on what is included in the pallet/box that the RFID tag is attached to. That information must be electronically transmitted in an Advance Shipment Notice to the receiving location.



RFID numbers are reported and recorded in a hexadecimal format. (Numeric base 16, with characters 0,1,2,3,4,5,6,7,8,9,0,A,B,C,D,E,F.)

The binary serial number generated by the computer must be converted to a hexadecimal number to be entered into WAWF. This conversion is normally made by the software when the RFID tag is read. The hexadecimal RFID tag number will be displayed on RFID readers and scanners.

This slide shows the conversion of the binary data into a hexadecimal format.



See the Suppliers' Passive RFID Information Guide at http://www.acq.osd.mil/log/rfid/guide/DoD_Suppliers_Passive_RFID_Info_Guide_v15.pdf for additional information on constructing RFID numbers using the DOD construct option.

Advance Shipment Notice

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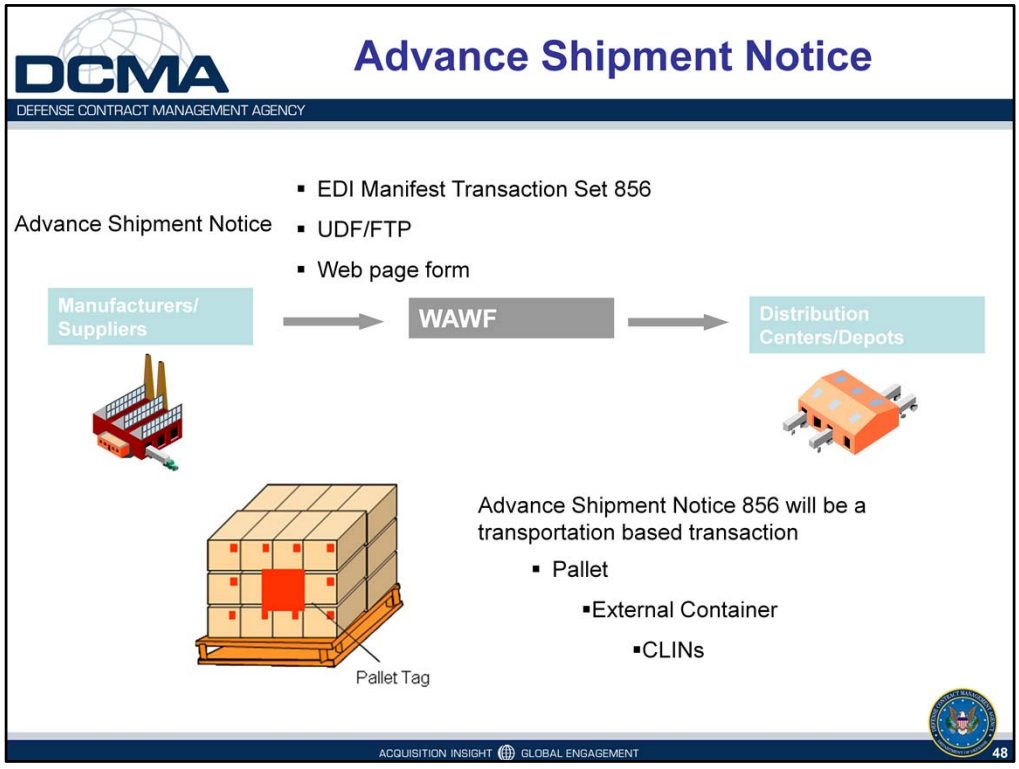
- **Advance Shipment Notice (ASN) via Wide Area Workflow (WAWF).**
- **Information that describes contents & configuration of a shipment:**
  - **Contract information**
    - **Contract Number, Shipment Number**
    - **Prime Contractor, Shipment Date**
  - **Product description**
    - **Line Item Number, NSN**
    - **Item Description, Quantity**
  - **RFID Tag Data**
    - **RFID Tag Number**
    - **Line Item Number**
    - **Quantity**

Wide Area Workflow (WAWF)
Information and registration at:
https://wawf.eb.mil/

ACQUISITION INSIGHT GLOBAL ENGAGEMENT 47

MIL-STD-129P, Change Notice 4, page 70, paragraph 4.9.4 – Electronic Data Interchange (EDI) transactions are used to link the passive RFID tag to the content level detail information associated with each of the container types. Consignors are required to transmit these EDI transactions to consignees in advance of the shipment.

Contractors must submit the ASN via WAWF. Most of the data required by an ASN is already being submitted to the DOD via WAWF. Additional data required for RFID are the RFID tag number, the line item number, and the quantity.



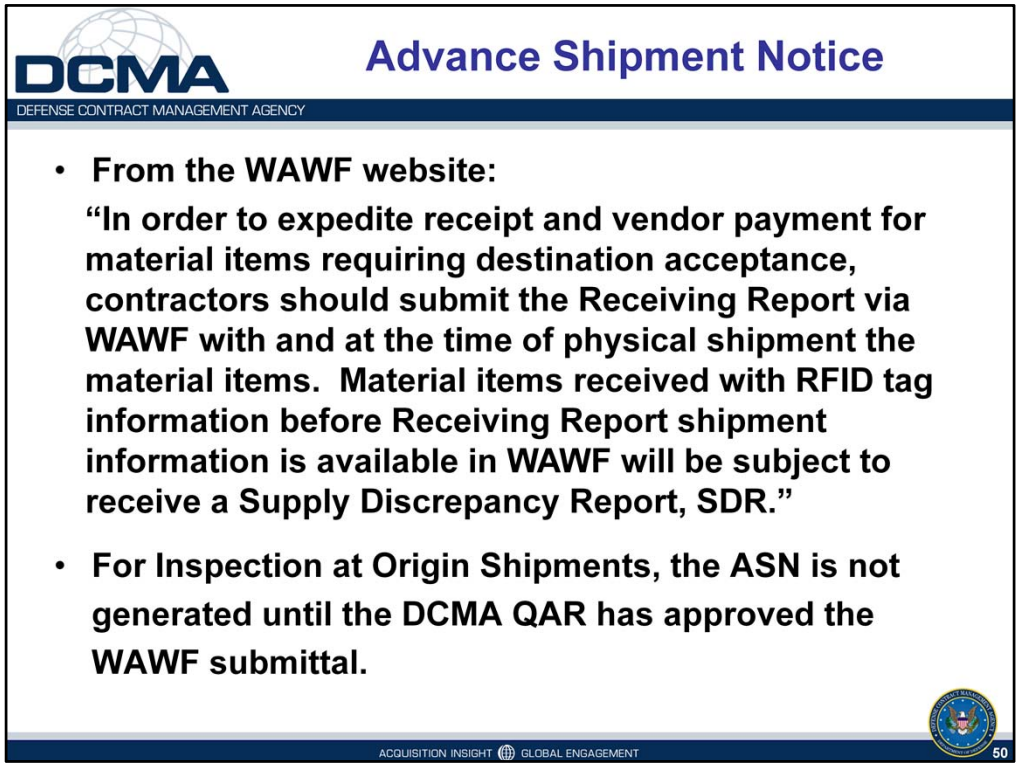
Once the contractor enters and submits the RFID tag data into WAWF, it will be transmitted to the receiving depot's database, awaiting arrival of the shipment. When the shipment arrives and the RFID tags are read, the shipment will automatically be updated as received by the depot.

The supplier has three options for entering data into the WAWF website. The supplier can manually enter the RFID tag ID into the WAWF website, use an 856 EDI document, or use a User Defined File (UDF) to transfer into WAWF. The latter two methods facilitate a more automated data capture and ASN creation process.

RFID antennas are mounted on either side of the truck dock area.

As shipping containers or pallet loads of boxes are moved past the antennas via forklift, RFID tags are automatically scanned and RFID tag data is submitted to the depot's computer system.

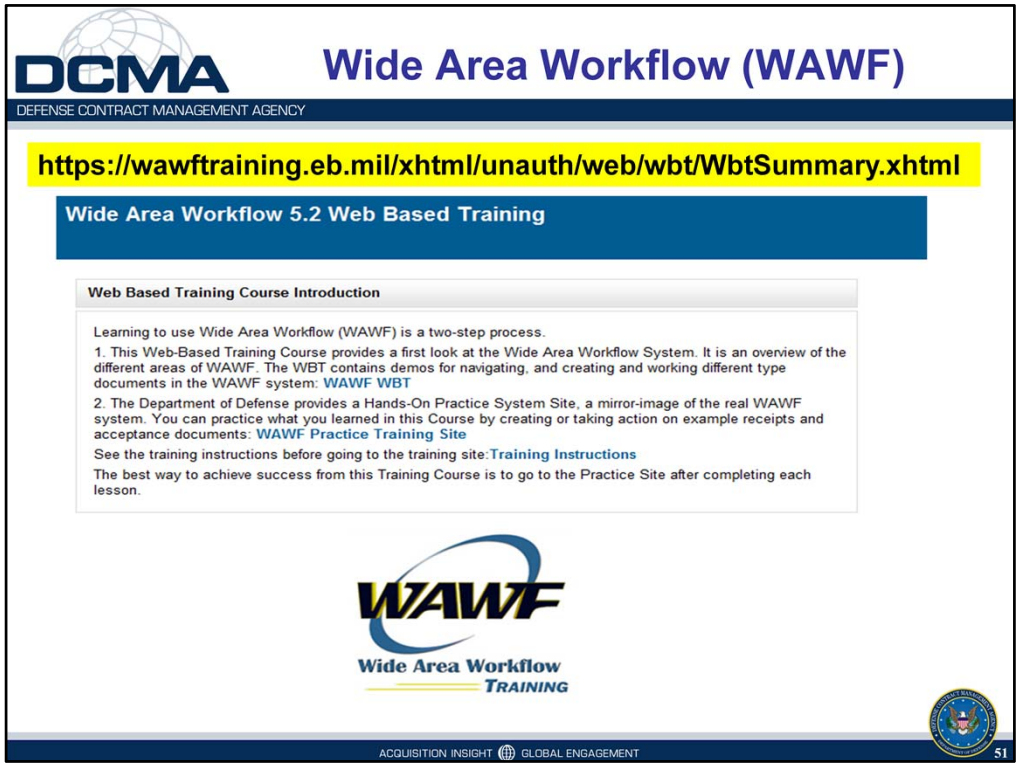
RFID tags can only be read when they go past an antenna system or portal which has been set up for this purpose.



For items inspected and accepted at source by a DCMA QAR, the ASN is not generated from the WAWF system until the WAWF submittal has been approved by the DCMA QAR. **Contractors should beware of shipping RFID-tagged parts prior to acceptance of the Receiving Report. Shipments made prior to QAR acceptance may be received at the destination prior to the arrival of the Advance Shipment Notice.**

SDRs ARE being received on RFID shipments. Approximately 50% are for lack of RFID labels. The other 50% is for RFID tags on the containers, but no ASN in the system.

Recent Notice to DLA Suppliers:
Non-compliances for RFID "Radio Frequency Identification Device" labeling will now impact Suppliers ABVS scores if found non-compliant due to missing tags or other RFID labeling discrepancies in which the supplier is non-compliant.



The RFID data is input in the PACK tab.

Information and training on entering RFID information is available WAWF website https://wawftraining.eb.mil/ .

https://wawftraining.eb.mil/xhtml/unauth/web/wbt/WbtSummary.xhtml

This site provides both a pdf file (containing screen shots on how to input RFID data) and a demo. Additionally it has a hands on practice site.

Many good documents are available on this site. It will contain the latest changes and updates to the DoD RFID policy. The web site also includes the DoD Suppliers' Passive RFID Information Guide, the passive RFID DFARS Clause, list of locations and a section for Frequently Asked Questions.

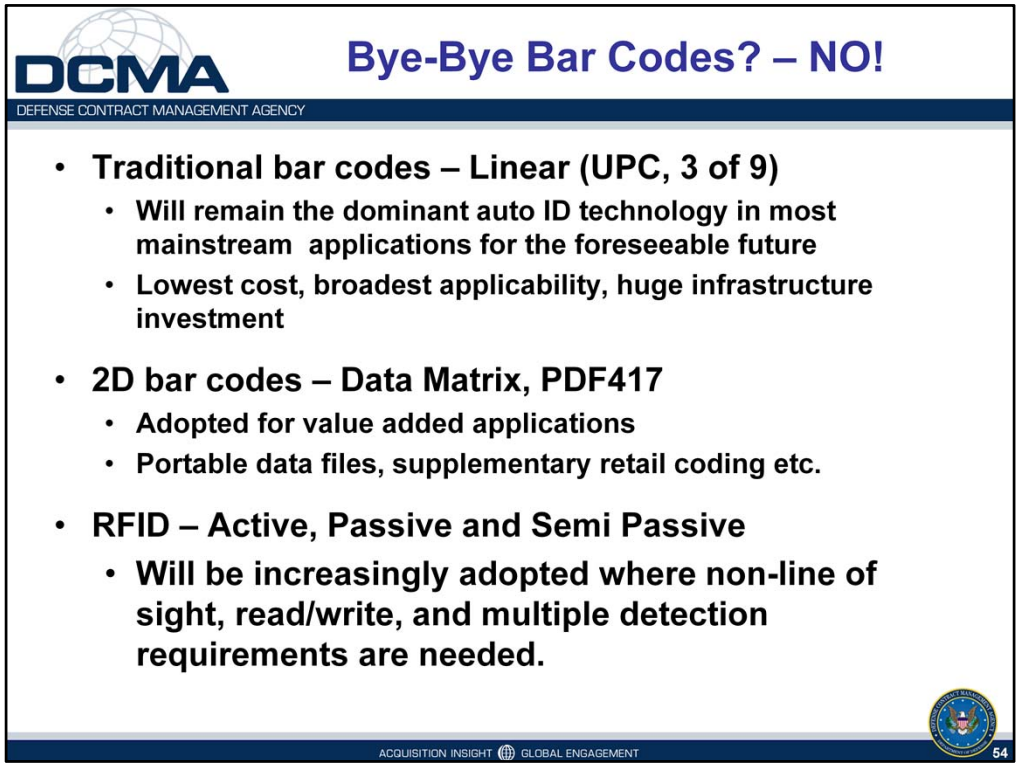
http://www.acq.osd.mil/log/rfid/index.htm

Automatic Identification Technologies (AIT) page – contains links to Clause, Supplier's Guide, FAQs, Locations as well as background and policy information and other related RFID websites.

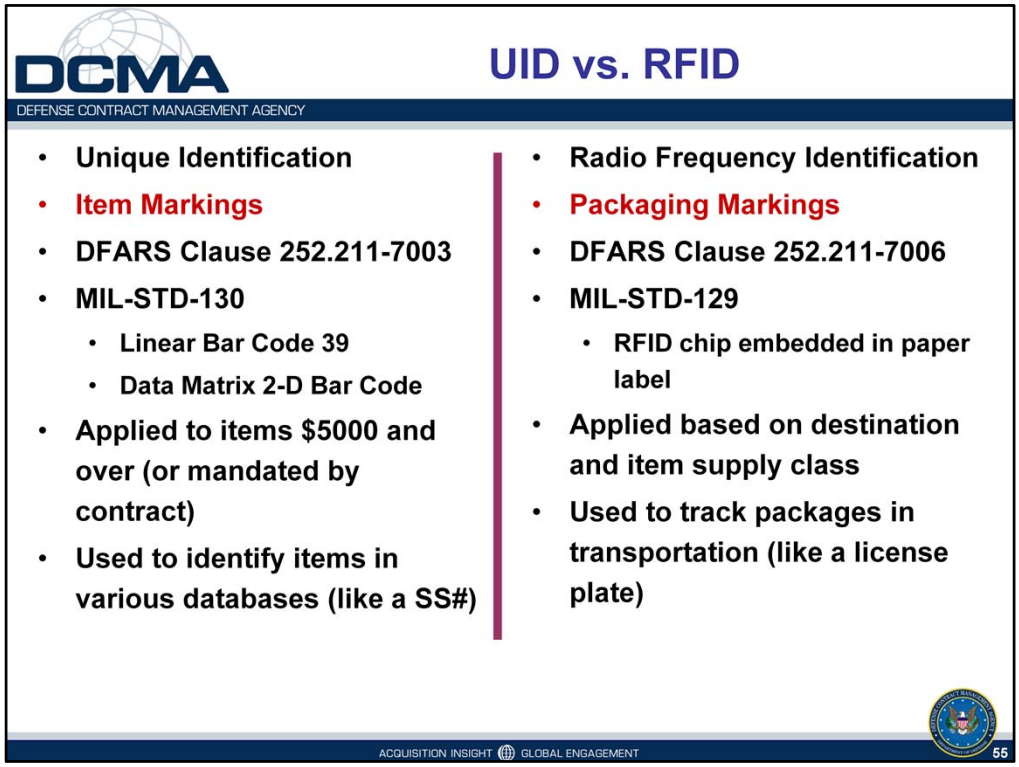
Listed below are links to the DFARS Clause, Location Lists, Suppliers Guide and Tag Data

The Link to the WAWF site – including the link to WAWF training.

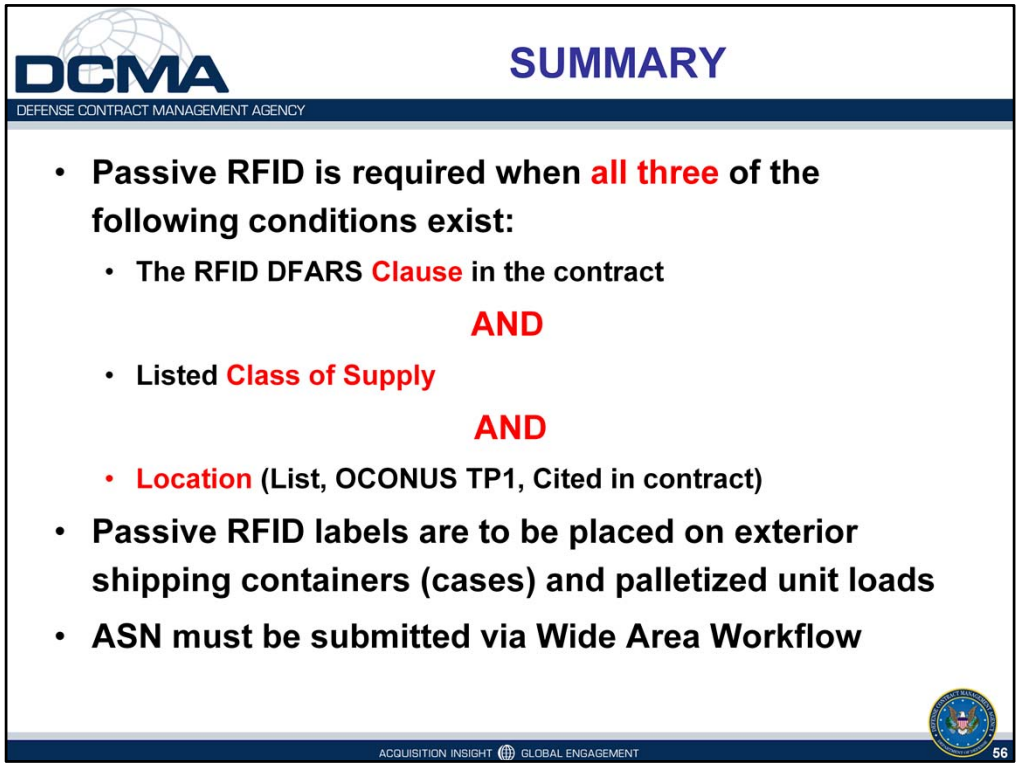
Last is a link to the EPCGlobal standards.



Will barcodes still be required on cases/cartons? Yes. The requirement s of human-readable, linear bar codes, and 2D Military Shipping labels have not been altered by the RFID initiative. These methods of marking must remain as a backup when the RFID can't be read.



UID and RFID are frequently confused for each other. Both are part of the AIT suite and their implementation has been mandated by the Department of Defense in the past few years. This is a quick guide to identify the differences between the two systems.

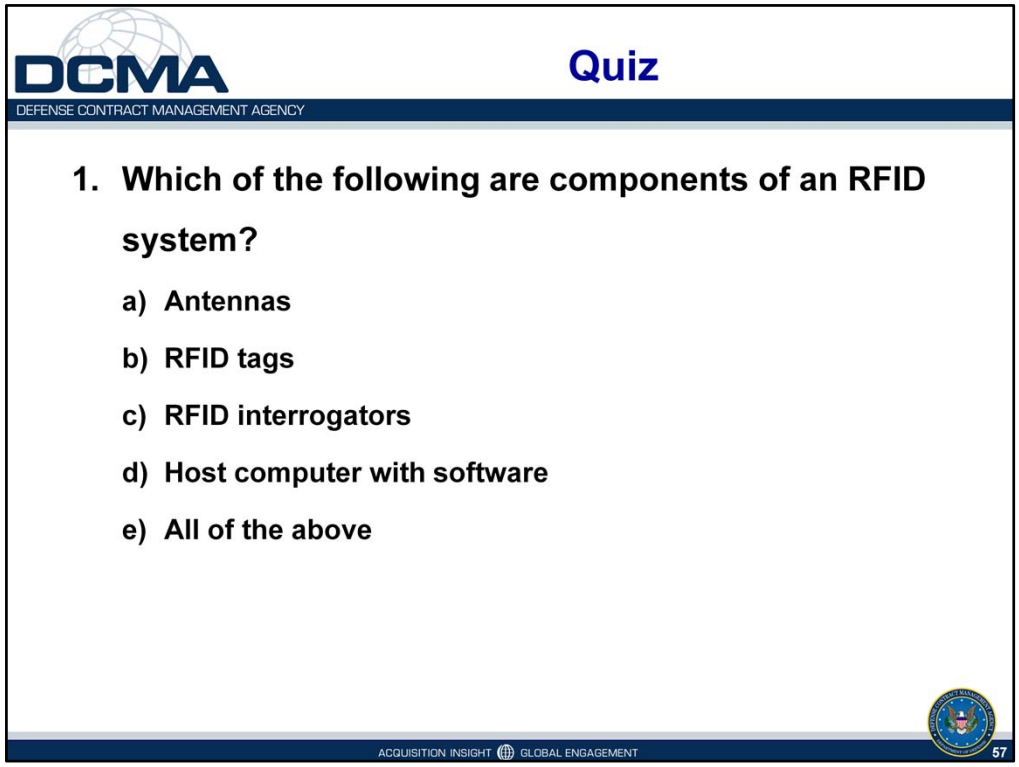


Passive RFID is required when all three of the following conditions exist:

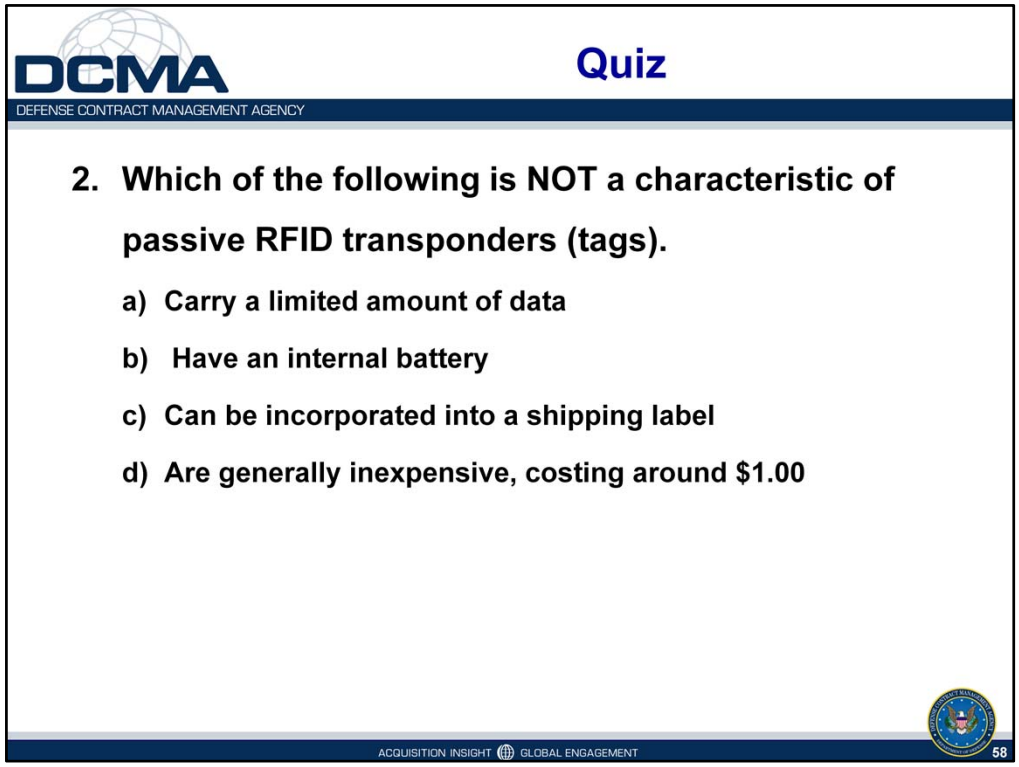
The RFID DFARS Clause in the contract
Listed Supply Class - Class I (Rations), Class II, Class IIIP, Classes IV and VI, Class VIII (excluding pharmaceuticals, biologicals or reagents), or Class IX, AND
Location (List, OCONUS TP1, Cited in contract)

Passive RFID labels are to be placed on exterior shipping containers (cases) and palletized unit loads.

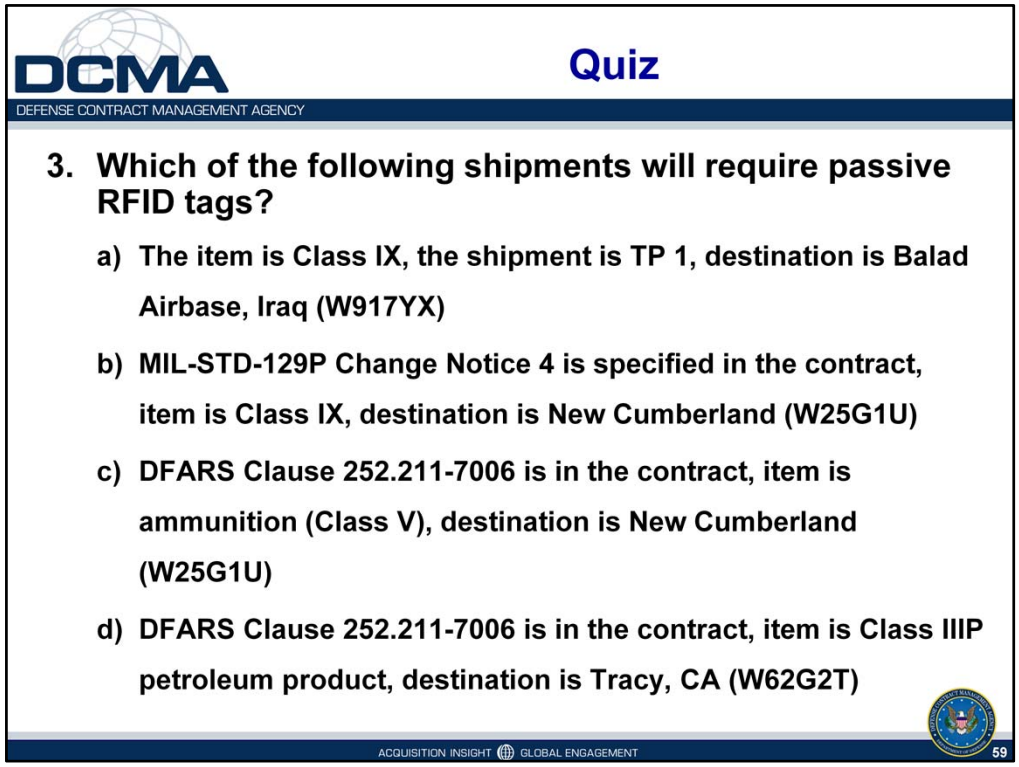
Advance Shipment Notice containing RFID information must be submitted through Wide Area Workflow (WAWF).



e) All of the above

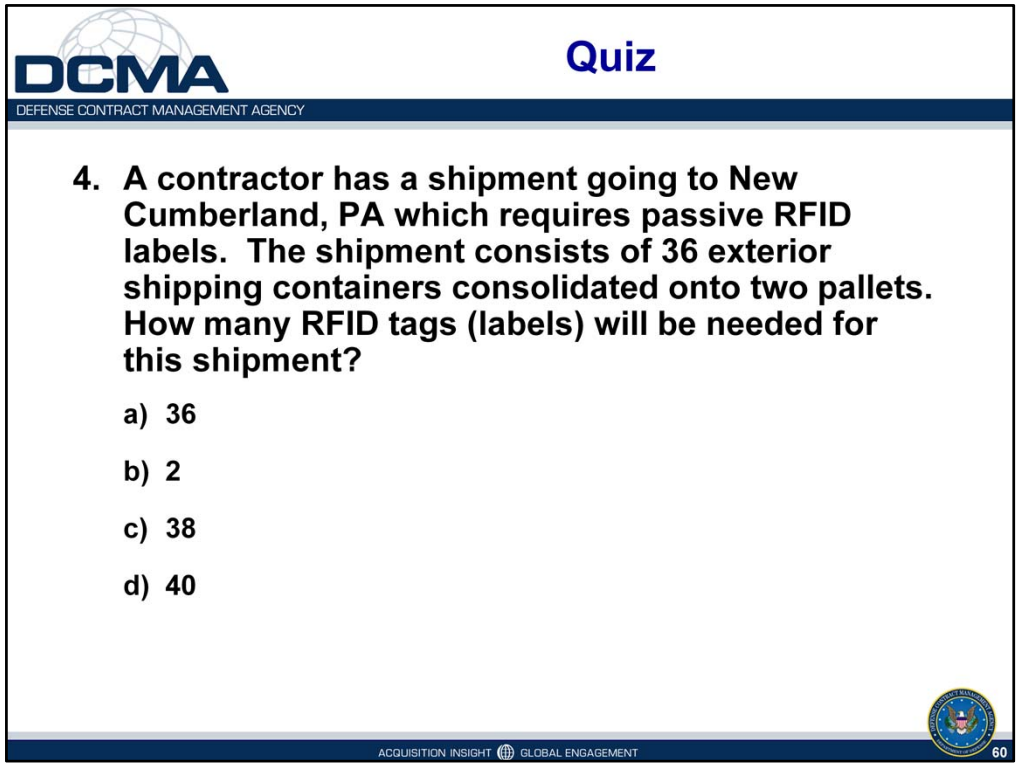


b) Have an internal battery

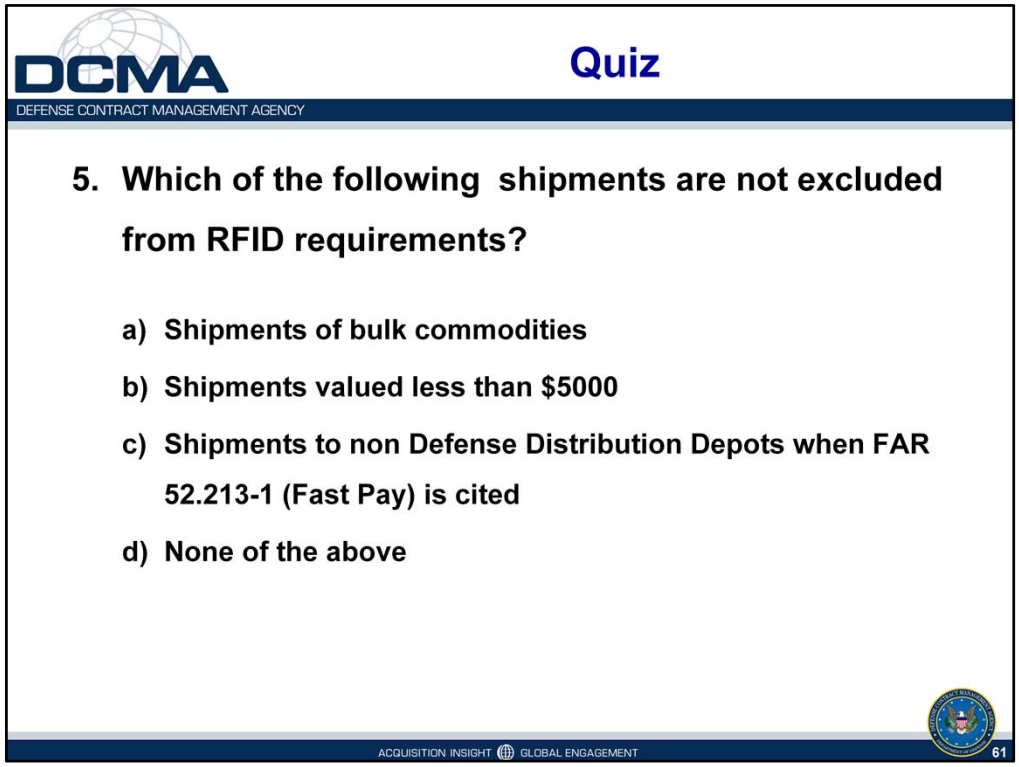


d) DFARS Clause 252.211-7006 is in the contract, item is Class IIIP petroleum product, destination is Tracy, CA (W62G2T)

Note: If a) had the DFARS clause in the contract, it would also meet the criteria for RFID tags, but we did not indicate that the clause was in the contract. This is a case where the DFARS clause probably SHOULD be in the contract.



c) 38—One for each shipping container, plus one for each pallet load.



c) Shipments valued less than $5000