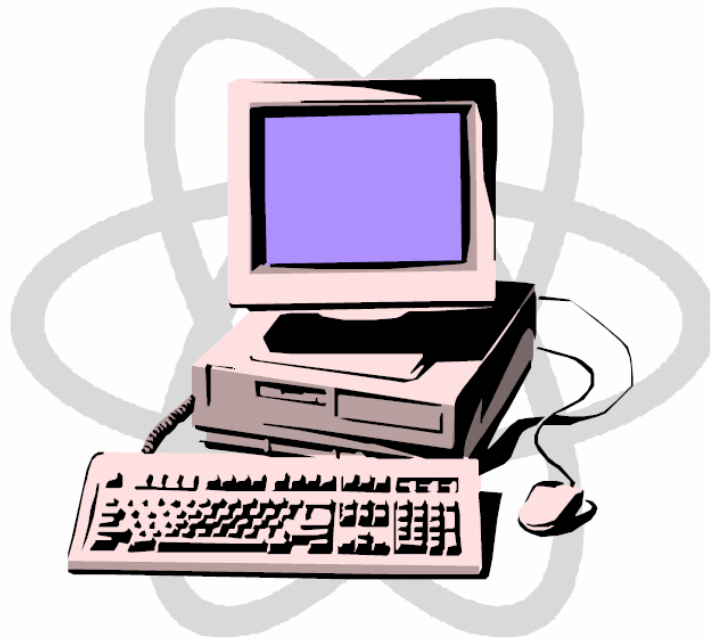


LANMAS

Nuclear Material Accounting Software



MCA 214

April 2006

**United States Department of Energy
National Training Center**

LESSON PLAN

TITLE: Software Description

COURSE: MCA-214 (v3.0)

1. Software Description

TP 1-1 (1 hour)

Lesson Goal:

TP 1-2

The goal of this lesson is to introduce students to LANMAS and its features.

TP 1-3

Lesson Objectives:

This lesson is intended to be an overview. There are no measurable objectives. The following topics will be covered as a basic introduction to LANMAS:

- Software Environment
- System Capacity
- System Administration
- Reports and Ad Hoc Inquiries
- Electronic Interface to NMMSS and Other DOE Sites

1.1 Introduction to LANMAS

TP 1-4

LANMAS, an acronym for Local Area Nuclear Material Accountability Software, is intended to be the standard software product to be used to satisfy essential records and reporting requirements established by DOE policy for the control and accountability of nuclear materials.

When installed on a suitable network, provided by each user site, and initialized with nuclear material inventory data, LANMAS will support the collection, storage, retrieval, and reporting of the basic information required for all material accounting and control program

elements.

LANMAS is not intended for use in life safety, safety significant, safety class, or nuclear criticality safety applications.

LANMAS is designed to be the core accounting system, to which site specific information and add-ons can be adapted for your particular site.

Rocky Flats has taken the LANMAS core and added site-specific components to develop what they call RockMAS; Savannah River has incorporated LANMAS into a Comprehensive Nuclear Materials Management System adding applications for bulk processing (SRSMAS), cost accounting, lab sample management, and tritium and heavy water processing. These other applications are referred to as “plug-ins” or “bolt-ons” to LANMAS. They share the LANMAS data tables and use and manipulate this information as needed for the site-specific use.

Emphasize

1.2 LANMAS Environment

LANMAS is a PC server-based accounting system. It is designed to operate as a stand-alone application or accept transactions initiated through an automatic program interface.

TP 1-5

All updates to the database are handled through the application, but users are able to electronically access and pull information from the application into other tools for manipulation and reporting.

Reference User’s Manual
Chapter 1

1.2.1 Windows Operating System

TP 1-6

The LANMAS Operating System is Windows 2000. Windows 2000 was chosen because it is

specifically designed to function on a multi-user network.

Windows 2000 uses the graphical user interface (GUI), like the other Windows operating systems, so it is very user-friendly, and provides the LANMAS user the ability to “point-and-click.”

The final and very important point regarding Windows 2000 is the high level of password security. Windows 2000 has a very robust security system, which is vital to your classified accounting needs.

1.2.2 Visual Basic Programming Language

The programming language used in LANMAS is Visual Basic. This event-driven program language is used to create the graphical interface used by LANMAS.

1.2.3 Microsoft SQL Server Database

All data entered into LANMAS is maintained in a Microsoft SQL (Structured Query Language) Server Database. This software is designed to allow simultaneous access to the data by multiple users.

1.3 System Capacity

LANMAS was originally designed to be capable of maintaining at least:

- 150,000 transactions per month
- 500,000 inventory items
- 10,000,000 transaction records.

TP 1-7

With new software and hardware enhancements, LANMAS can handle much more.

1.4 System Administration Functions

TP 1-8

A System Administrator manages the features of the LANMAS application that support its primary capabilities. This includes the administration of various tables used by the application and the user authorization tables.

1.4.1 Site Specific System Parameters

Before data can be entered into LANMAS, the System Administrator must establish the parameters for the system. These parameters are the data fields specific to your facility, that the user will see in the pop-up lists, and include:

- material balance area (MBA) designations
- subMBA designations
- location designations
- project numbers
- item description codes (IDCs) and descriptions
- American National Standards Institute (ANSI) scrap codes and descriptions
- container types
- container packaging descriptions
- tamper-indicating device (TID) descriptions
- authorized personnel for TID functions

1.4.2 Account and Location Relationships

TP 1-10

The System Administrator establishes relationships between the account structures and locations to ensure that only valid choices

NOTE: Lesson 2 will provide more detail on how LANMAS looks at

appear on the pop-up lists. The MBA designations are mapped to the location descriptions and subMBA accounts allowed for the MBA. So as a user, the only choices available to you will be those valid for your account.

accounts and locations.

1.4.3 User Authorizations and Access Levels

TP 1-11

The System Administrator also specifies the functions a user can perform and the accounts a user can access. System functions can be tailored to a user's specific job responsibilities. Individual users are given access to specific accounts and to specific functions. If you have access to an account, you can modify all the data in that account within the constraints of the functions for which you are authorized. You will not have access to functions that you cannot execute.

For example: Savannah River has a lot of MBAs that have their own accounting clerks. They also have a centralized site-wide accounting group. The individual clerks can only access their accounts; the site-wide group can access all the accounts. Also, there are certain functions that the individual MBA clerks cannot access, such as closing. Only the site-wide group can perform the closing function.

1.5 Reports and Ad Hoc Inquiries

TP 1-11

LANMAS produces several standard reports, which will be covered in more detail throughout this class. Most reports are generated using Crystal Reports. The NMMSS COEI and MBR reports are generated as XML documents and XSL style sheets that allow viewing by a browser such as Internet Explorer.

One of the primary advantages of LANMAS is that it can provide a “de-normalized” or custom-designed view of the data to facilitate ad hoc inquiries and reports. These views are then accessible through the use of commercial database utilities such as Microsoft Access.

Ad hoc inquiries and reports provide a means of gathering data into non-routine groupings and arranging that data to the user’s specifications.

This means that, if you need information about your inventory that is not already in one of the standard pre-designed LANMAS reports, you can create an ad hoc inquiry (or “query”) to retrieve the data from LANMAS and put it into another file that you can then manipulate as needed.

For example: Your local DOE office has requested a listing of all the depleted uranium on-site, by location. Your inventory reports provide this information, plus a lot more. Rather than manually extracting the data from your inventory report, you can write a query asking LANMAS to find all depleted uranium, by location. You can download this information to an Access file, in which the data can be arranged to satisfy the request and then printed in whatever format you like.

If you have a report that is routinely used, it is recommended that you have your IT department maintain that report and incorporate it into your site bolt-on application. This is important because of changes to the LANMAS database may be made that effect your report which are not apparent to the average user. Your IT department can maintain your report to be consistent when upgrades occur to the application.

Important Note

<p>1.6 Electronic Interface to NMMSS and Other DOE Sites</p> <p>LANMAS supports full electronic interface to NMMSS and other DOE sites. This does not mean that LANMAS “talks” directly to NMMSS, but that it creates datasets that can interface electronically with NMMSS. These datasets include:</p> <ul style="list-style-type: none"> • DP-740 (single party adjustments) • DP-749 (project transfers) • DP-733 (COEI) • AL-131 (shipment/receipt details) <p>The advantages of this electronic interface include providing the ability to utilize a secure data link (which means getting away from all that paper) and reducing or even negating the need to “hand-manipulate” data.</p>	<p>TP 1-12</p> <p>Adjustments that change the material balance or the SMT</p>
<p>1.7 LANMAS Development and Support</p> <p>1.7.1 LANMAS Development</p> <p>A LANMAS Users Group has been established to exchange information and advise the LANMAS team on the development of LANMAS functions to benefit all DOE sites. The User’s Group is made up of representatives from each LANMAS user site or organization and meets approximately every 3-4 months.</p> <p>The purpose of the User’s Group is to:</p> <ul style="list-style-type: none"> • Establish and maintain the requirements for the LANMAS software application. • Set priorities for future enhancements. 	<p>TP 1-13</p> <p>Ask students to identify their site reps.</p> <p>If known, state when and where the next User’s Meeting will be held.</p> <p>Reference: User’s Group Charter</p>

- Function as an interface or liaison with the safeguards material accounting policy and other programs that rely on information about NM inventories provided by LANMAS.
- Serve as a forum for discussion and identification of consistent NM accounting practices.
- Provide the mechanism for ensuring that DOE policies and practices are implemented at respective LANMAS sites.
- Facilitate and direct the development of training for the application.

As of May 2005, fifteen DOE sites have committed to LANMAS. Those using and installing LANMAS include:

- Argonne National Laboratory – East
- Argonne National Laboratory – West
- B&W – Mound
- Hanford
- Idaho National Engineering & Environmental Lab
- Nevada Test Site
- Oak Ridge National Laboratory
- Rocky Flats Environmental Technology Site
- Savannah River Site
- New Brunswick Lab
- Bettis – Idaho Naval Reactors
- Bettis Atomic Lab – Pittsburgh
- Knolls Atomic Power Laboratory
- Pantex
- ETPP

Those evaluating LANMAS include:

- LANL
- Yucca Mountain
- Portsmouth

TP 1-14

Comment: Still 14 sites?

1.7.2 LANMAS Support

The LANMAS Development Team is available to answer questions and assist with the installation, setup, and initial data loading of LANMAS. Contact information is included with the LANMAS disk.

You can also contact the LANMAS team members if you encounter any problems with the application or have suggestions for improvement.

An online reference tool that includes step-by-step procedures that you can follow while you work is being developed.

1.8 Summary

TP 1-15

In summary, here is what was covered in this lesson:

- LANMAS is the core MC&A component for DOE Accountability Systems.

We've discussed how LANMAS was designed to be the core accounting system, with the ability to tailor it to meet your site-specific accountability needs.

- Software Environment

You learned that LANMAS is a PC server-based system, running on a Windows 2000 operating system, written in Visual Basic, and using a SQL server database.

- System capacity

You learned the capacity of LANMAS:

- 150,000 transactions per month
- 500,000 inventory items
- 10,000,000 transaction records

- System Administration

We've discussed a little of what the System Administrator does, including:

- Define site-specific system parameters

These are your MBAs and locations and item description codes and etc., the information that is specific to just your site.

- Define account and location relationships

This is specifying all the authorized locations at your facility, and which accounts they are applicable to.

- Specify user authorizations and access levels

This says who can do what and in which accounts.

- Reports and Ad Hoc Inquiries

I told you about one of the big advantages of LANMAS, that is: its ability to let you pull the information you need into other applications to manipulate and format as necessary.

- Electronic interface to NMMSS and DOE Sites

We discussed that LANMAS creates files that will interface electronically with NMMSS and other DOE Sites. You can set up a secure data link and just transfer your files electronically.

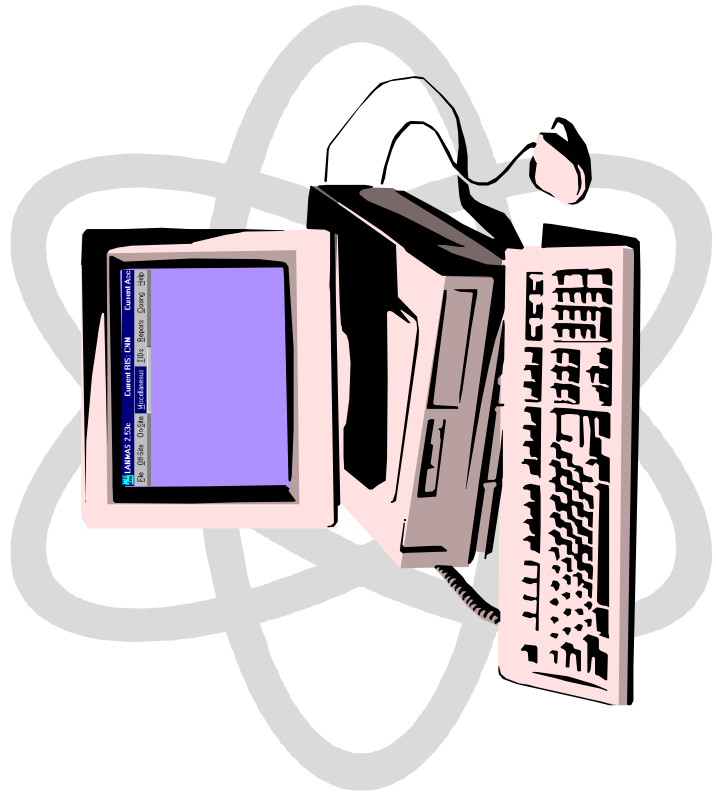
- LANMAS Users Group to benefit all DOE Sites

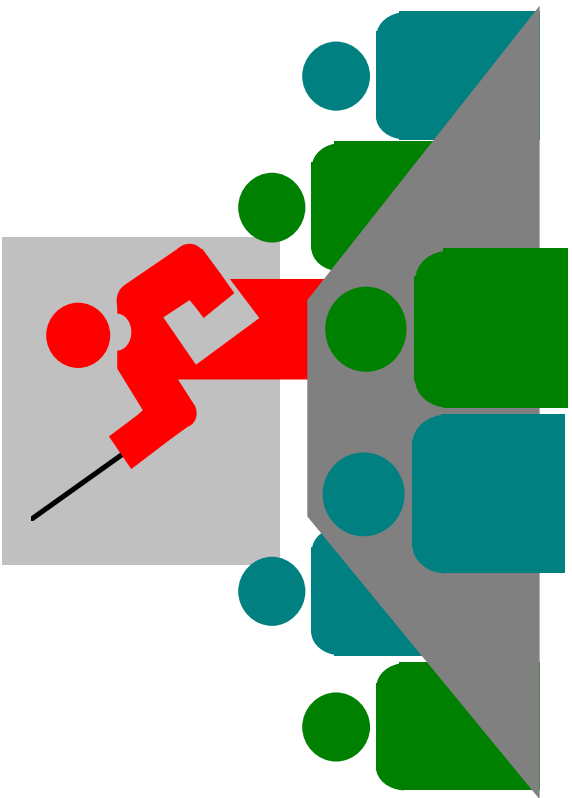
You learned that there is a LANMAS Users Group, made up of representatives from every user site that determines requirements and resolves issues in order to provide the most benefit to

everyone.

References:

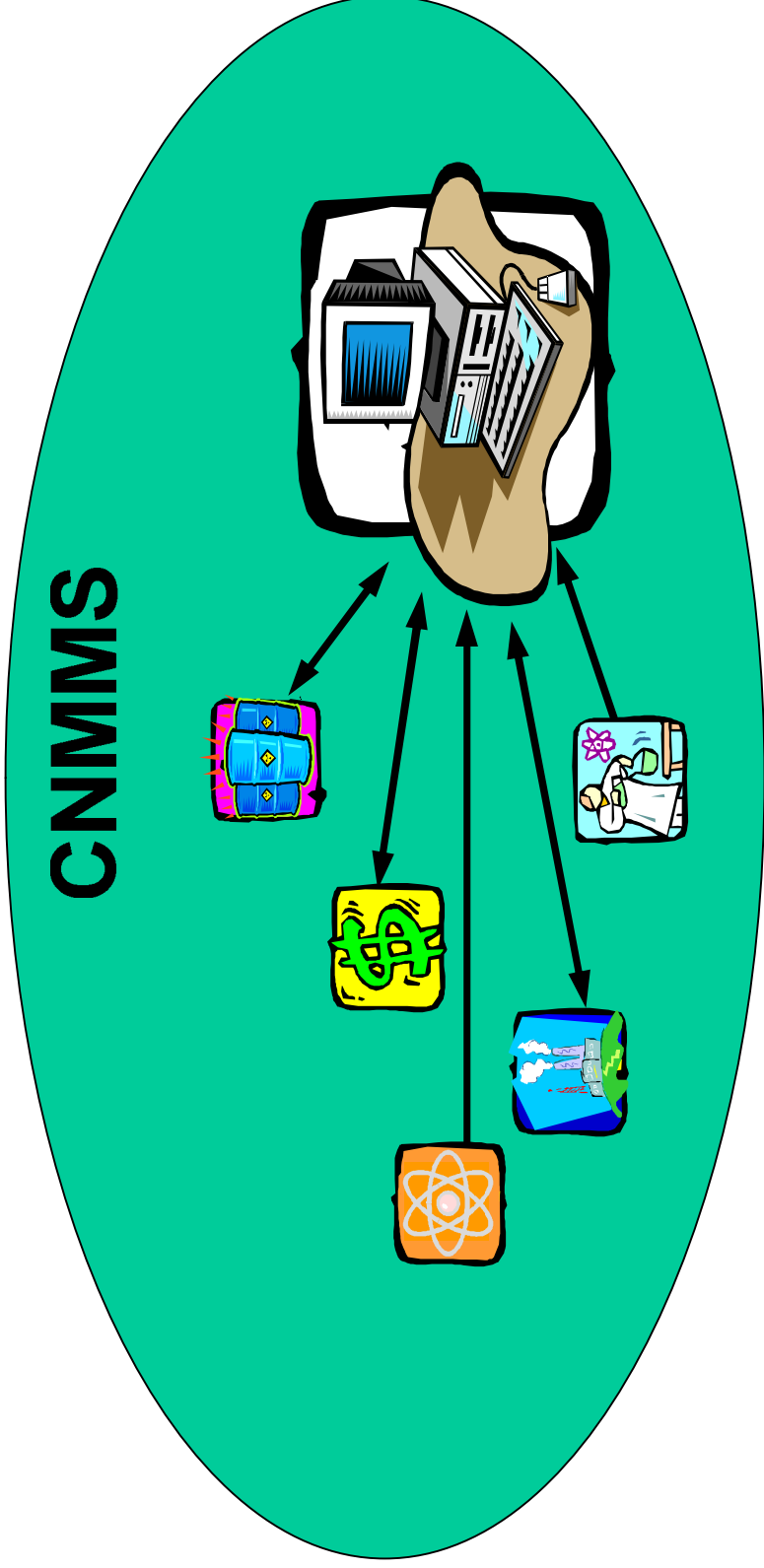
U-RS-G-00002, Software Functions and Features for
LANMAS Version 3.0, Revision 0, June 1, 1998
LANMAS User's Manual for Version 3.0
LANMAS Administration Program User's Manual for
Version 3.0

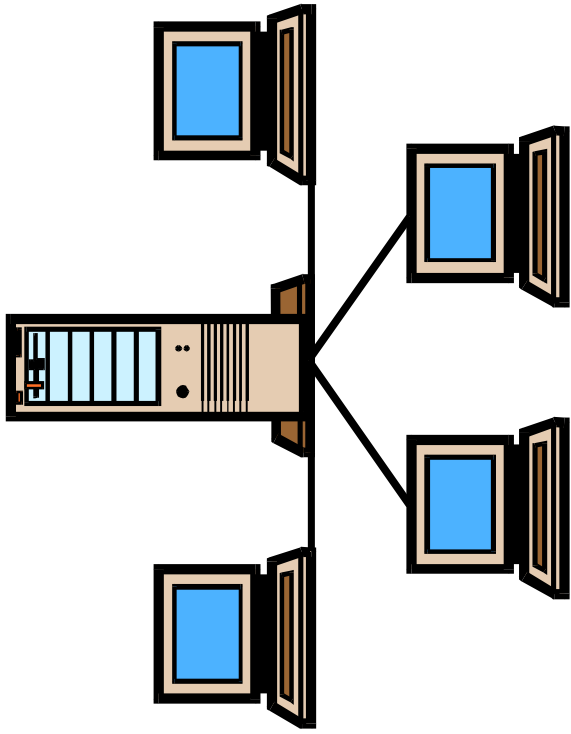


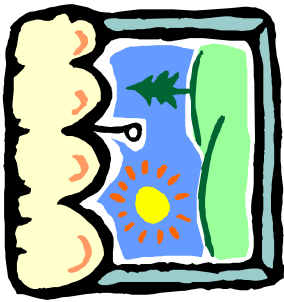


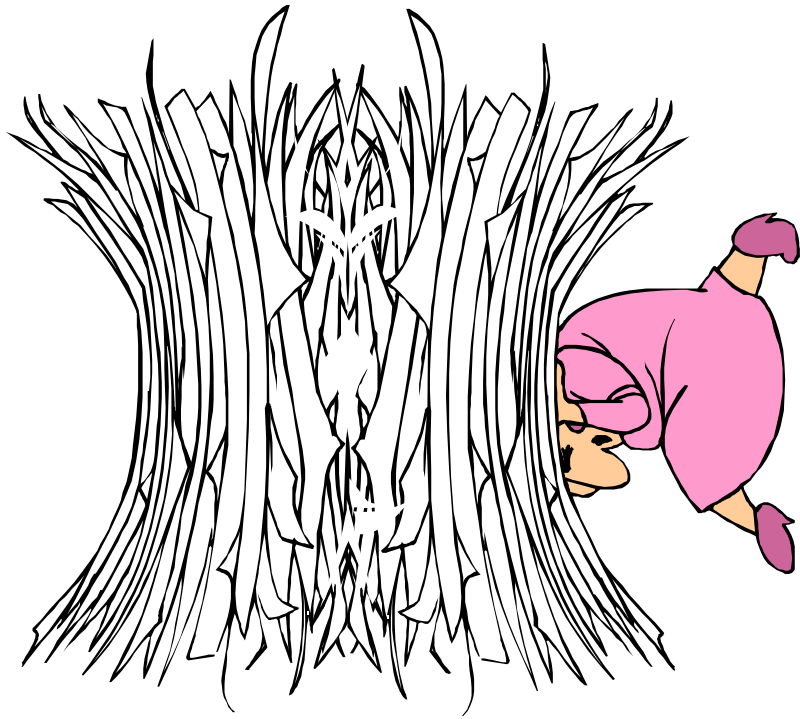
Local Area Network Material Accounting System

- Core component of accounting system









TID's MATCHING SELECTION L

MBA/SubMBA	TID Name
▶ HRF/2725	M00007
HRF/2725	M00008

Applied TID's Found: 2

Designate

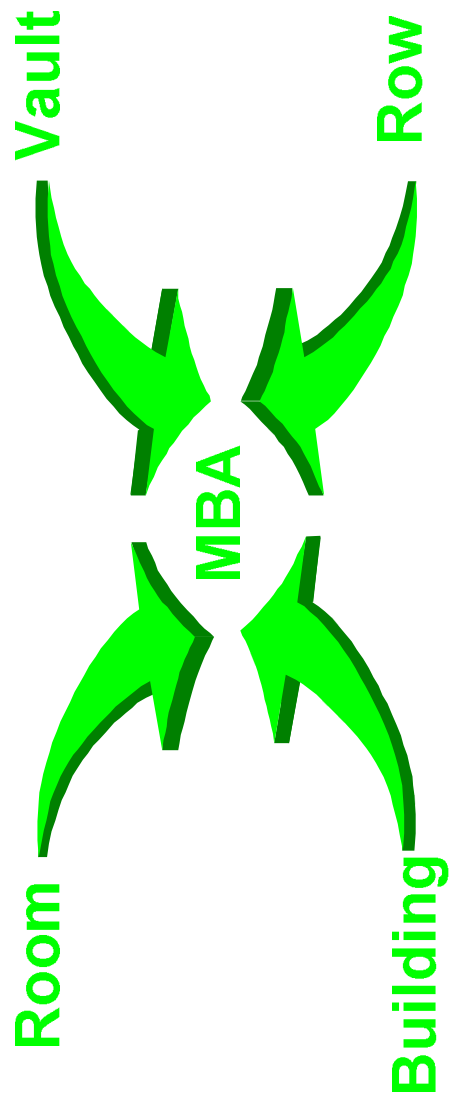
APPLY CHANGES BELOW to TID's

- Apply to:
- For Use
 - Issue
 - Re-Apply
 - Material
 - Container
 - Location

Applicator:

3 CAN KDRIVER: SRL2 Employee #9 (99)

- 3 CAN KDRIVER: SRL2
- DRESCEN CAN 28
- DRESCEN CAN TSD-1
- DRESCEN CAN TSD-2

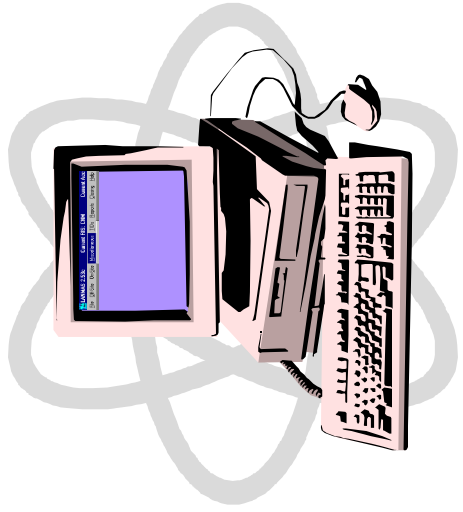












**United States Department of Energy
National Training Center**

LESSON PLAN

TITLE: System Concepts

COURSE: MCA-214

2. System Concepts

TP 2-1 (3 hours)

Lesson Goal:

TP 2-2

The goal of this lesson is for the student to understand MC&A concepts as they are used in LANMAS.

Lesson Objectives:

Students will understand the following MC&A concepts as they relate to the LANMAS software:

TP 2-3

- Inventory
- Accounts and Locations
- Transactions
- Accounting Periods
- Chargeback
- Journal
- Ledger
- Closing
- Rounding
- Items
- Piece Count
- Bulk
- Containerization/Assembly
- Limit Checking
- Peer Review
- IAEA

Stress that we are not introducing any new concepts, but simply explaining the way LANMAS handles these basic MC&A concepts.

2.1 Inventory

2.1.1 Concept

TP 2-4

Inventory in MC&A refers to the accountable material in the facility. LANMAS maintains data based on the periodic table of elements. LANMAS is not restricted to accountable nuclear materials; it is capable of accounting for any of the elements from the periodic table, and their associated isotopes.

2.1.2 System Rules

Because LANMAS is based on the periodic table, all weight entries for a single element must be in the same units. Accountable nuclear materials are recorded in the units specified by DOE, with the exception of uranium. DOE requires that different types of uranium be reported in different units. (EU is reported in grams, DU in kgs.) Because all weight entries for a single element must be in the same units when working with on-site transactions, LANMAS data for uranium is entered in grams, whether depleted, natural, or enriched. When working with off-site shipment and receipt data, NMMSS units are used.

If LANMAS is used to maintain data for other elements in the periodic table, appropriate units must be established during the initial set-up.

DOE does not maintain nuclear material inventory data based on the periodic table. Nuclear materials are grouped into 17 standard material types defined DOE & NRC. These types are referred to as summary material types (SMTs). Inventory data reported to NMMSS must be grouped according to these material types.

TP 2-5

TP 2-6
Refer to Attachment A –
list of SMT/DMT

DOE has designated sub-types for several of the summary material types to better describe the isotopic compositions or enrichment of the material. These sub-types are referred to as detailed material types (DMTs). Generally, DMTs correspond to isotopic composition ranges of the primary material type. DMTs are assigned using rules in the DOE Nuclear Material Control and Accountability Manual (DOE M 470.4-6)

Inventory data can be presented either using the periodic table view or the NMMSS view. The periodic table view displays the data as entered in LANMAS. The NMMSS view shows LANMAS data grouped into one of the standard material types and in the correct DOE reporting units and rounds the data to whole reporting units. The NMMSS view is used for all DOE reports.

In NMMSS view, DU is in kgs and EU is in grams.

2.2 Locations and Accounts

2.2.1 Concept

LANMAS is able to track nuclear material by account and location. An account is the basic unit used to document the inventory. Accounts used in nuclear material accounting are the RIS, MBA, and subMBA. A location is where the material is physically located within a facility.

TP 2-7

LANMAS supports location and account as separate concepts. However, the system is designed to let you associate material in a given location with one or more accounts when setting up site-specific operating parameters for LANMAS.

The mapping of locations to accounts is one-to-one at many sites (i.e., all the material in a location is assigned to one account). At other sites materials in a single location may be assigned to different accounts.

2.2.2 System Rules

LANMAS supports multiple reporting identification symbols (RISs) at a given site. A RIS is the highest level of account. It is usually assigned at the site level, although, large sites may have more than one RIS. The RIS designation is assigned by DOE or the NRC to each reporting organization.

A material balance area (MBA) is the highest level of account within a RIS. It represents a geographical area with defined boundaries.

Large sites may need to divide MBAs in to smaller accounts – subMBAs – to make inventory management easier.

The account structure hierarchy is RIS/MBA/subMBA.

Each RIS can contain multiple MBAs.

Each MBA can contain multiple subMBAs. But each MBA must have at least one subMBA.

TP 2-8

Ask students if they know the RIS designation(s) for their site/organization.

Account Structure Handout – Explain that handout shows structure programmed into LANMAS demonstration used in the course.

A subMBA can only be associated with one MBA.

An MBA can only be associated with one RIS.

Locations are assigned and cross-referenced at the MBA level.

The location structure supports 5 levels of a location description. For example: Bldg/Wing/Room/Shelf/Position”

Locations do not “move.”

TP 2-9

2.3 Transactions

TP 2-10

2.3.1 Concept

Transactions represent a set of predefined and recognized changes made to inventory. A transaction is recorded any time you add to, delete, or change the data stored in LANMAS.

2.3.2 System Rules

Transactions can be grouped into two categories: reportable (or external) and non-reportable (or internal).

Reportable transactions cause changes in the inventory that must be reported to an off-site organization (usually NMMSS)

TP2 –11
Refer to Attachment B List of TICs which indicates whether it is NMMSS reportable.

Non-Reportable transactions make inventory changes that are not reportable to outside organization but must be recorded for internal control and accounting of nuclear material.

TP 2-12

Transactions are recorded in LANMAS using 2 or 3 digit codes that identify the type of transaction. They are called type inventory change (TIC) codes. In general, TIC codes below 100 are used for transactions that are reportable to NMMSS, codes above 100 are site-specific (and may be reportable or non-reportable)

TP 2-13
Refer to Attachment B
List of TICs

Transactions are uniquely identified within the system.

TP 2-14

All transactions record the date the change physically occurred, the date the change was recorded, who performed the change, and the accounting period to which it was assigned.

2.4 Accounting Periods

TP 2-15

2.4.1 Concept

To manage the nuclear material inventory, you must periodically report the amount of material present in the RIS. These reports are generated by selecting a specific period of time and determining the amount of material on-hand at the end of the period. This time-period is referred to as the accounting period.

An accounting period starts at midnight on the first day of a calendar month and ends at 11:59:59 PM on the last day of that month.

LANMAS supports the concept of multiple accounting periods. This means you can enter data in a new accounting period without the previous accounting period being closed.

TP 2-16

The system is able to establish the ending inventory by item for the accounting period being closed even if subsequent transactions have occurred against items in the new accounting period.

NOTE: There should only be a window of a few days each month in which you can work in two accounting periods.

2.4.2 System Rules

Transactions entered in the new accounting period before closure of the old accounting period are reported with their values decayed to the start of the new accounting period.

When two accounting periods are open and you perform a transaction that brings the item into the new accounting period, you will receive a decay transaction for the item (when applicable).

Transactions can be booked in the past, but not in the future.

When two accounting periods are open, once a transaction is recorded for an item in the new accounting period, transactions for the item that occurred in the previous accounting period cannot be recorded in the old accounting period. Therefore, transactions should be booked in sequential order. (Although you *can* book transactions out of sequence, it is best to book them in order since you can't enter transactions between two accounting periods at this time.)

2.5 Chargeback

TP 2-17

2.5.1 Concept

Chargeback is an accounting concept that lets you adjust the records in one account due to a measurement or re-measurement of material in a different account.

Ask class for example of when you would want to chargeback.

This function allows you to either:

- Return material to an item or process (estimated weight > measured or new weight)
- Remove material from an item or process (estimated weight < measured weight)

2.5.2 System Rules

LANMAS creates a “chargeback” item in an in-transit account of the MBA that the weight is being “charged-back” to.

The chargeback account designation can be either an MBA, an MBA/subMBA, or a MBA/subMBA/location.

Chargeback items can be created with a negative weight.

This would be the case if the new weight is greater than the initial weight recorded.

Chargeback material names are generated by the LANMAS according to with the following system:

CB-XacID-MatlID

Where XacID is the identification number of the transaction creating the chargeback item and the MatlID is the unique identifier assigned to the material by LANMAS.

For example, you performed a chargeback transaction (transaction number 123) on material with a system-designated material ID of 456. The chargeback item will be named:

CB-123-456

2.6 Journal

TP 2-18

2.6.1 Concept

When a transaction is made that causes a change in the material balance (nuclear material quantity) or a change in accounts (MBA or subMBA), LANMAS records the transaction in a journal. A journal is a chronological record of these change transactions.

Changes that do not affect the amount of material in an account or an item will not show up on a journal listing. For example, location change transactions would not appear in the journal.

2.6.2 System Rules

Journals are based on the NMMSS reporting view.

LANMAS journal entries include:

- type of inventory change,
- what changed,

- the accounting period to which the change was assigned,
- the date the change physically occurred, and
- how the material balances were affected.

The journal shows the complete effect of a transaction – the amount of material involved, the originating account, and the destination account.

For an audit trail, LANMAS is able to trace a change forward to subsequent external reporting, or backward to the documents or other information on which the change is based.

The journal is updated each time a transaction is entered into LANMAS. (Note: The only exception is if a transaction is designated as requiring review. Transactions requiring a peer review are not posted until after the review is completed.)

2.7 Ledger

2.7.1 Concept

The ledger is a record of the changes in the total amount of material in an account. It provides a summary of the inventory balance at a specific point in time.

2.7.2 System Rules

The ledger is built from the information in the journal.

TP 2-19

Unlike the journal, it does not show all the details of each transaction. It is a “running” balance.

Ledgers are based on the NMMSS reporting view.

LANMAS is able to derive beginning inventory values for the fiscal year, fiscal half-year, quarter, bi-month, and month.

Specifically, beginning inventories, current balances, and ending inventories for various accounting periods are available by material type, project number, account, and COEI.

Updates to the Ledger and Journal are performed per on a routine basis (defined by a scheduled task on the server). Currently, updates are made every 5 minutes. You can update the ledger at any time using a function in the Closing menu.

2.8 Closing

TP 2-20

2.8.1 Concept

LANMAS supports the concept of closing for reporting to NMMSS. Closing is the process of establishing a material balance around an accounting period. In this process, the beginning inventory for the period is adjusted for transactions that have occurred throughout the period, and the inventory at the end of the accounting period (ending inventory) is determined.

2.8.2 System Rules

Transactions that are required to be reported externally (to NMMSS) are identified and reported.

NMMSS reports (COEI and MBR) are generated in XML using XSL style sheets. NMMSS reports are reconcilable with the NMMSS datasets.

NMMSS datasets (receipt and shipment DP740, Month End DP740, DP749, and DP733) are generated for electronic transmission to NMMSS. Datasets are reconcilable with the NMMSS reports.

Automit is not in the system. The Safeguards Management Software edit check routine for the NMMSS datasets is supplied by NAC International, Inc.

2.9 Rounding

TP 2-21

2.9.1 Concept

Rounding is adjusting actual material weights to NMMSS reporting units. LANMAS is designed to manage rounding differences that result from maintaining an internal precision different than that which is reported externally.

2.9.2 System Rules

Users may choose to generate rounding transactions to keep the LANMAS books in balance with NMMSS.

Rounding does not change the LANMAS inventory. It generates TIC 65 “non-ledger updating” journal entries to send to NMMSS. Changes are documented on the COEI and MBR reports.

LANMAS rounds as follows:

- 50 – 99% of a whole unit rounds up
- 0 – 49% of a whole unit rounds down

Rounding transactions can be run multiple times within an accounting period. Entries are deleted and rebuilt upon each execution.

Rounding transactions generated through the rounding function can be deleted.

Rounding transactions do not adjust your books. They are only used to bring NMMSS reports into line with your books.

2.10 Items

TP 2-22

2.10.1 Concept

An “item” is the smallest subdivision of accountable nuclear material represented individually in the accounting system. Items may contain one or more accountable material types, as well as non-accountable elements and isotopes.

2.10.2 System Rules

TP 2-23

Items are identified by a three-part descriptor, similar to a first, middle, and last name concept.

The material name consists of a part number, a suffix, and a serial number.

The full name can be up to 40 characters:

Part number + \$ + Suffix + \$ + Serial Number
(16 max) (3 max) (21 max)

\$ characters added by
LANMAS count toward
40 character total.

The part number and suffix are not required.

LANMAS allows for setting the combination of the three descriptors to be unique by item within the RIS.

TP 2-24

2.11 Piece Count

2.11.1 Concept

In some cases it is not desirable to account for each item individually. This might be the case if there were a large number of very small items. LANMAS is able to represent a large number of items by a single material name along with a “count” (how many pieces) rather than entering a serial number of each item in the group.

The group of items becomes designated as one unit in the inventory records and the individual items of accountable nuclear material are considered pieces of the group. This is referred to as a “piece count” concept.

2.11.2 System Rules

If you do not specify a piece count, LANMAS assumes a piece count of one. Every item contains at least one piece.

LANMAS is able to count the total number of pieces on inventory at a given time.

LANMAS can also distinguish between pieces that are “visible” and those that are contained inside something else and therefore “not visible” (e.g., in a container or not in a container).

Transactions such as mixes, splits, and transfers support breaking up or combining the piece count items, and therefore allow the piece count to be adjusted.

LANMAS can be used to adjust and track pieces as a result of mixes, splits, transfers, and edits.

However, LANMAS does not automatically change the piece count in an item. When you add or remove material, you must manually update the piece count for the items(s) in the transfer.

2.12 Bulk Materials

TP 2-25

2.12.1 Concept

When items are combined in such a way that it becomes impossible to distinguish the individual items, a bulk material is created.

Bulk materials typically exist in tanks or in processing lines as solutions.

2.12.2 System Rules

Once a material name is assigned to a bulk material in LANMAS, the material is treated the same as an item in LANMAS.

When bulk material is moved across accountability or physical boundaries, the quantity of accountable material sent within the bulk item is updated based on measurement data.

2.13 Containerization/Assembly

2.13.1 Concept

Containerization captures the logical concept that items are often grouped together. This grouping may be in a physical container or in an assembled component.

2.13.2 System Rules

A physical container may hold an assembled part, another container, one or more types of packaging, and/or one or more items. Thus a container can contain other containers, packaging, or material.

Items to be containerized must be in the same MBA, subMBA, and location. When items are containerized, LANMAS automatically calculates the amount of nuclear material in the container by adding the data for the items in the grouping.

LANMAS assigns container names from user input in the same way it assigns item names.

Once containerized, LANMAS represents the container the same as an item.

TP 2-26

This should not be confused with piece count. When out of the container, each item is accounted for separately.

LANMAS looks at the top level of containerization. Items in a container cannot be moved individually, they must be moved together with the container.

Containerized items **CAN** be edited, adjusted, or have TIDs applied or removed, without first being unloaded from the container.

2.14 Limit Checking

TP 2-27

2.14.1 Concept

LANMAS has a limit checking feature that allows the user to place limits on amounts of certain types of material a location or group of locations. LANMAS can support setting and checking limits every time material is moved or weights are changed. Limit checking can be used to ensure an MBA stays within its designated category, the amount of material in an individual room is maintained within established safeguards limits, or any other limit you want to check based on the chemical symbol.

Emphasize that LANMAS provides a rough estimate and should NOT be used for criticality control.

2.14.2 System Rules

Limit checking rules and locations are set through the LANMAS Administration Program.

When the location or weight of an item is changed, the amount of that transaction is checked to see if it is within the destination's limit or the current location's limit.

Move transactions check all locations in the route.

Mix, split, and transfer transactions check only the destination location.

Locations can be grouped for close proximity checks by combining material from several locations.

When a limit is reached, LANMAS will stop, warn, or report to the user – depending on how the limit checking feature is set up.

- Stop prevents the transaction.
- Warn provides a warning message but allows the transaction to occur.
- Report generates a report indicating that a limit has been reached.

Material values will be converted to the unit identified when setting the limit. For example, uranium is maintained in grams but you can set limits based on kilograms and LANMAS will perform the conversion.

When limit checking is set for the parent location, all children locations are included.

2.15 Peer Review

2.15.1 Concept

Peer review incorporates a verification process that allows transactions to be verified before saving or be approved by a review authority before being posted. Peer verification is the immediate review of the information that has been entered prior to saving. Transaction review is an after the fact review of the transaction by a supervisor or review authority.

TP 2-28

2.15.2 System Rules

Peer review is available for every function that generates a transaction and can be specific to function, user, account, and/or TIC. Security will not allow the same user to enter the transaction and perform the review.

Peer verification takes place immediately by a second user on the same workstation that the transaction is entered on as part of the save process. Following verification, the transaction will be completed.

Transaction review occurs after the transaction has been saved. No changes to the transaction are allowed during the review process. The transaction will be marked pending and completed following approval.

Multiple levels of transaction review can be specified.

An accounting period cannot be closed while transactions during that period remain pending.

Transactions requiring review will make changes to the inventory tables, however the journal, ledger, reports, and datasets that reflect an inventory balance will not include the pending transactions.

When a transaction is declined, the inventory tables will revert back to the original values. Only the history that the change was declined and by whom will be saved.

2.16 IAEA

TP 2-29

IAEA Select and IAEA Facility Attached RISs are provided (DZC and HTB respectively) in this instructional database, but IAEA functionality is not discussed any further in this training. IAEA functionality is supported throughout LANMAS and can be investigated further using either of these two RISs.

2.17 Summary

This lesson covered MC&A concepts and how LANMAS handles these basic concepts.

- Inventory – LANMAS represents your nuclear material inventory from the periodic table view (all weights for a single element in the same unit) but reports the inventory data in the NMMSS view (DOE accountable material types and units).
- Accounts and Locations – The LANMAS account structure is RIS/MBA/subMBA and that locations are assigned and cross-referenced at the MBA level.
- Accounting Periods – LANMAS supports multiple accounting periods, but it's important to book transactions in sequential order because once an item is moved into the new accounting period, it cannot be moved back.
- Transactions – Transactions represent predefined and recognized changes to inventory, and there are two types – Reportable and Non-reportable.
- Chargeback – The Chargeback function allows the user to charge another MBA for a weight change without having to move the item back to the original MBA.

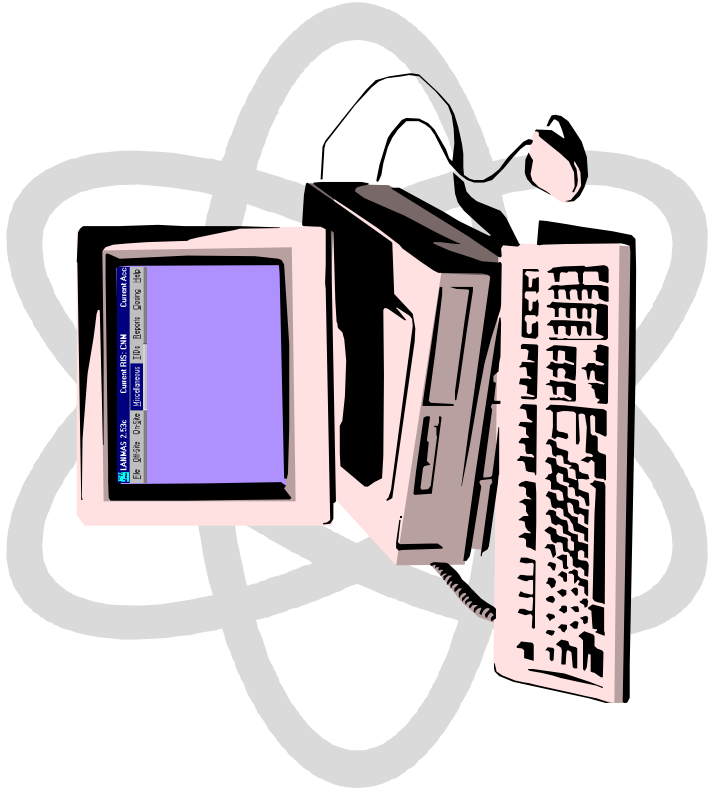
TP 2-3

- Journal – The journal is the chronological record of transactions that cause a change in nuclear material quantities or accounts.
- Ledger – The ledger is a record of changes in the total amount of material in an account. It provides a summary of the inventory balance at a specific point in time.
- Closing – Closing is the process of establishing a material balance around an accounting period.
- Rounding – Rounding is a transaction used to document the difference between the actual material weights in LANMAS and the weights as reported in NMMSS reporting units.
- Items – An item is the smallest subdivision of accountable nuclear material represented individually in the accounting system.
- Piece Count – LANMAS can represent a large number of items by a single material name along with a “count” of how many pieces.
- Bulk – When items are combined in such a way that it becomes impossible to distinguish the individual items, a bulk material is created. Once a material name is assigned to a bulk material in LANMAS, it is treated the same as an item.
- Containerization/Assembly – Containerization captures the logical concept that items are often grouped together in a physical container or assembly.
- Limit Checking – Limit checking allows users to check for multiple types of limits and groupings of locations based on their physical proximity.

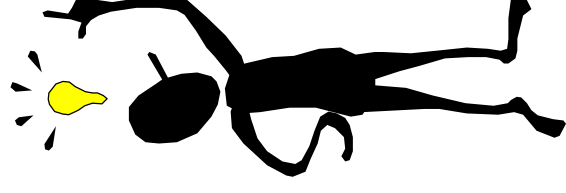
- Peer Review – Peer review incorporates a verification process that allows transactions to be reviewed prior to saving (peer verification) or be approved by a review authority prior to being posted (transaction review).
- IAEA – Supported throughout LANMAS but not covered in this training

2.18 Test

References: LANMAS Requirements and Design Documents



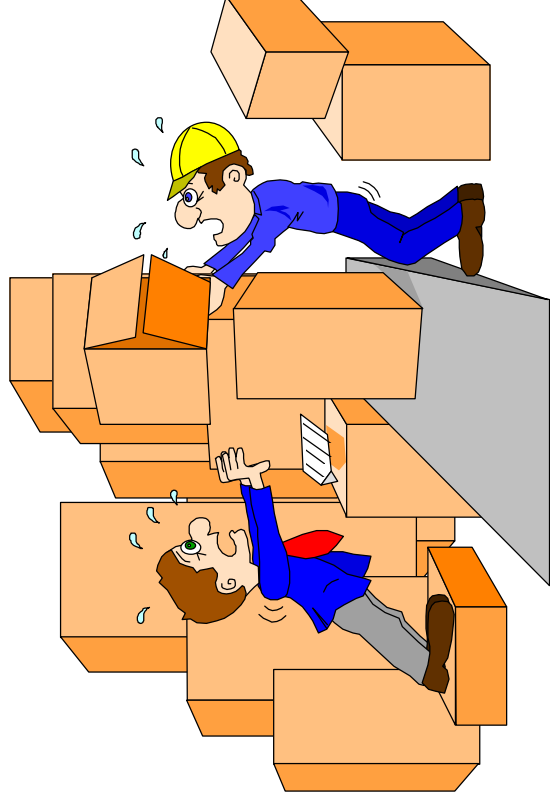
- To understand MC&A concepts as they are used in LAMMAS.



- Inventory
- Accounts and locations
- Accounting periods
- Transactions
- Chargeback
- Journal
- Ledger
- Closing
- Rounding
- Items
- Piece count
- Bulk materials
- Containerization/assembly
- Limit checking
- Transaction and peer review
- IAEA

• The accountable material in the facility, represented from two views:

- Periodic table
- NMMSS reporting



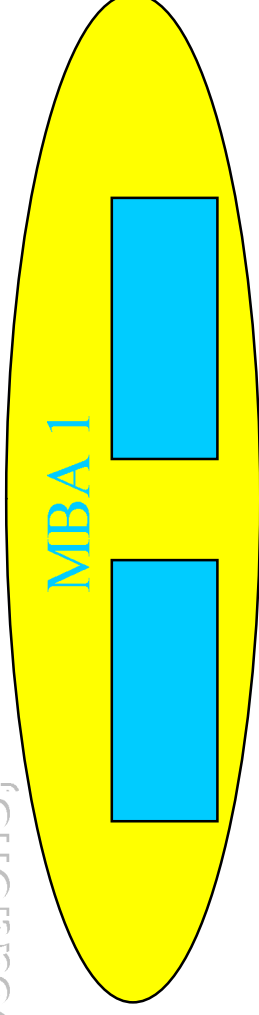
- Data Entry Units

- Weight entries for a single element must be in same units
- Accountable nuclear materials recorded per DOE M 470.4-6
- Uranium is the exception
 - ALL Uranium MUST be entered in LANNMAS in GRAMS for on-site transactions

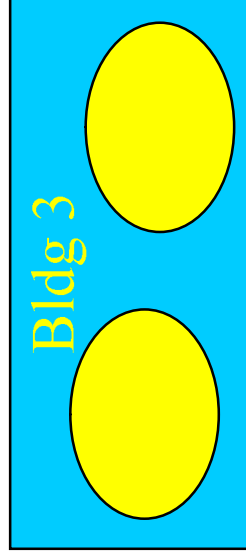
- Summary Material Types (SMT)
 - 17 standard material types
- Detailed Material Types (DMT)
 - Sub-types to describe isotopic composition or enrichment

• Inter-related concepts used to track nuclear material

— an account may encompass one or more locations,

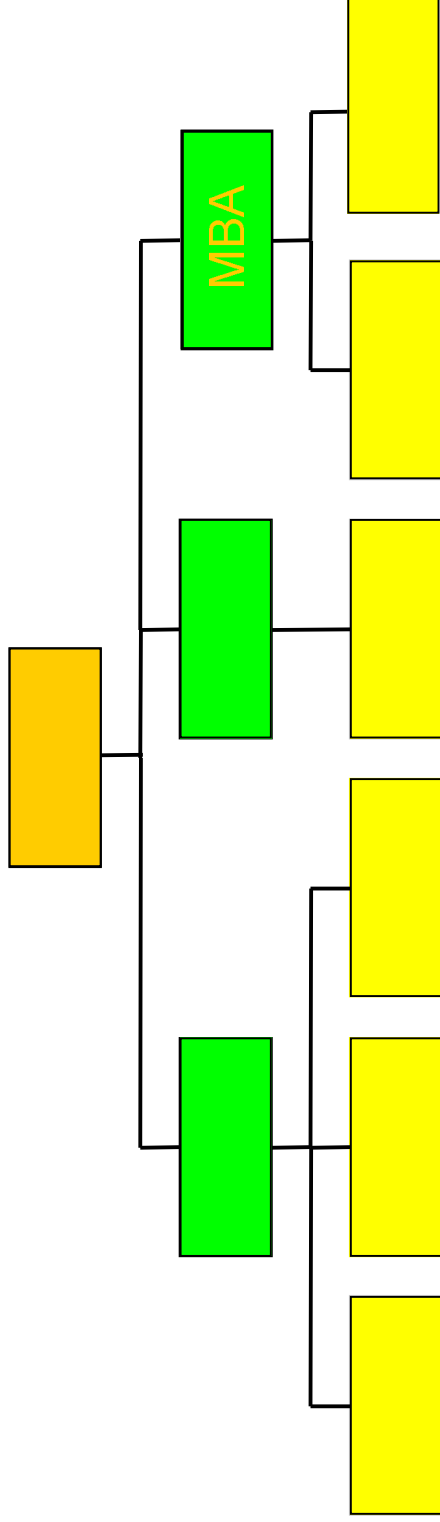


— a location may encompass one or more accounts



Locations and Accounts (cont.)

ACCOUNT STRUCTURE

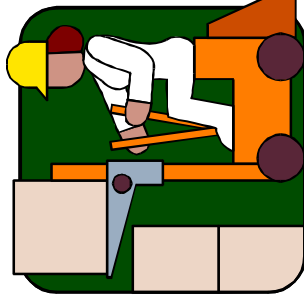


- Locations assigned and cross-referenced at the MBA level
- Location structure supports 5 description levels
 - Building / Wing / Room / Shelf / Position

- A set of predefined and recognized changes made to the inventory.
- Transactions must be entered in sequential order.
- Transactions are either Reportable or Non-Reportable.

- Reportable
 - Changes in inventory which must be reported externally (MMSS)
 - Examples: changes in DMTs, some project changes, off-site shipments/receipts, adjustments

- Non-Reportable
 - Changes in inventory for internal control and accountability
 - Examples: moves within MBAs, moves between MBAs, TID transactions, edits



- Type Inventory Change Codes (TIC Codes)

- 2 or 3 digit codes that identify the type of transaction
- Pre-programmed into LANMAS
- May be Reportable or Non-Reportable

- LAMAS assess a number of requirements of the minimum e-signature of the issuer
 - notification of the issuer
 - All transactions recorded
 - the date and time of the transaction
 - the date and time of the signature
 - who performed the signature
 - the account of the issuer
- performed to assess

- Specific period of time over which the inventory is determined.
- Begins midnight first day of calendar month.
- Ends at 11:59:59 PM on last day of the month.

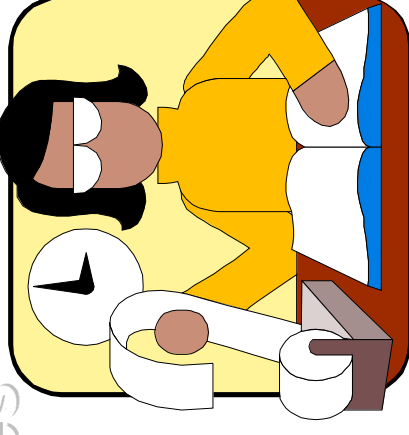
- The capability to continue processing into a new accounting period without the prior accounting period being closed.
 - Transactions in the new accounting period are reported with their values decayed to the start of the new accounting period
 - Transactions can be booked in the past, but not in the future
 - Transactions should be booked in sequential order but it is not required

• Allows you to charge another MBA for a weight change without having to move the item back to the original MBA

- Creates a new “chargeback” item
- Can have a negative weight

- A chronological listing of all transactions which create changes in the nuclear material balance or in accounts.
- Includes:
 - the type of inventory change
 - what changed
 - the accounting period the change was assigned to
 - the date the change occurred
 - how the material balances were affected

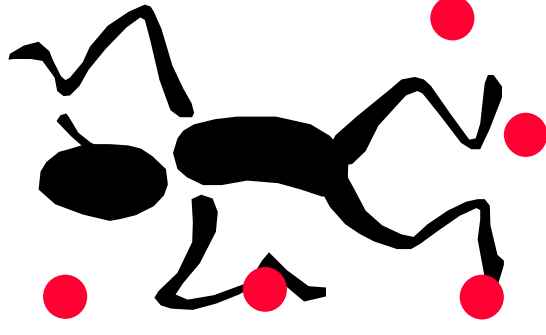
- Derives summary inventory values from various points in time.
- Includes:
 - beginning inventory values
 - total receipts
 - total removals
 - ending inventory values



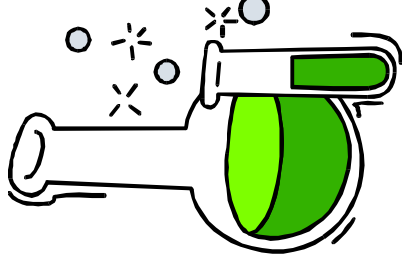
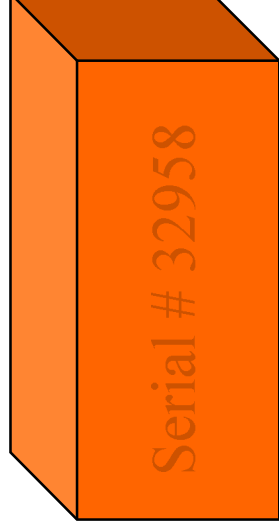
• The process of establishing a material balance around an accounting period.

beginning inventory + receipts - removals = ending inventory

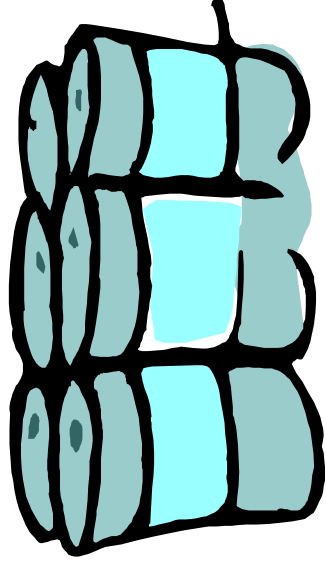
- Documents difference between actual material weights and weights in NMMSS reporting units.



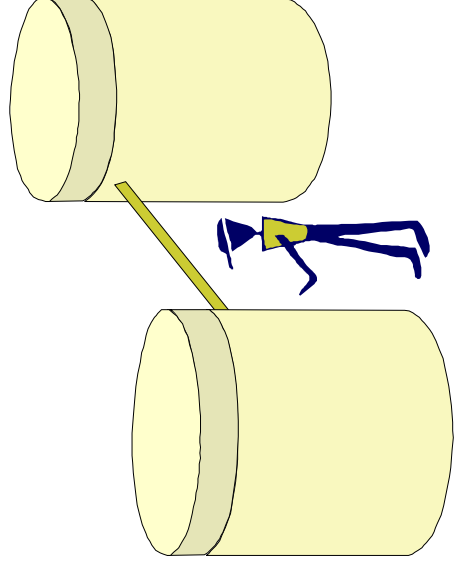
- Accountable material at the smallest subdivision represented individually
- Items have one or more accountable material types, possibly in addition to non-accountable elements and isotopes



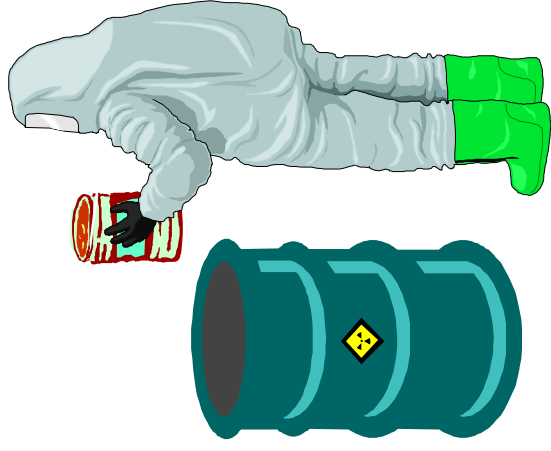
- A large number of items represented by a single part number/serial number and a count



- Materials combined in such a way that it is impossible to distinguish individual items

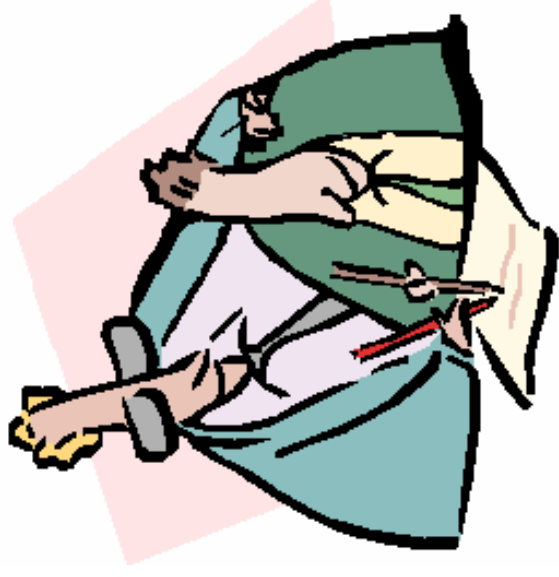


- Items are grouped together, i.e., in a physical container or in an assembled part



- Checks for multiple types of limits and grouping of locations based on their physical proximity
 - Weight change checks current location
 - Moves check all locations in the route
 - Mix, split, transfer checks destination

- Allows transactions to be reviewed prior to saving, or be approved prior to being posted



- International Atomic Energy Agency
- IAEA functionality exists throughout LANMAS
- Not covered in the training



- Inventory
- Accounts and locations
- Accounting periods
- Transactions
- Chargeback
- Journal
- Ledger
- Closing
- Rounding
- Items
- Piece count
- Bulk materials
- Containerization/assembly
- Limit checking
- Transaction and peer review
- IAEA

Lesson 2: System Concepts

Name: _____ Date: _____

Write the letter of the description that best fits the concept listed below.

Concept	Description
— Multiple accounting periods	A. The process of establishing a material balance around an accounting period.
— Bulk	B. A listing of all the transactions affecting the inventory balance.
— Closing	C. A single, discrete object with one or more accountable material types, possibly in addition to non-accountable element and isotopes.
— Containerization	D. The capability to continue processing into a new accounting period without the prior accounting period being closed.
— Inventory	E. The tracking of material within multiple levels of containment.
— Items	F. Adjusting actual material weights to NMMSS reporting units.
— Ledger	G. Any material transfer or adjustment affecting inventory values.
— Locations and Accounts	H. The accountable material in the facility.
— Piece count	I. A summary of inventory values from various points in time (a “running” balance).
— Rounding	J. Multiple items represented by a single name and a count.
— Transactions	K. Identity of where material is located within the accounting system or within the facility.
— Journal	L. Materials combined in such a way that it becomes impossible to distinguish individual items.

Key

D	Multiple accounting periods
L	Bulk
A	Closing
E	Containerization
H	Inventory
C	Items
I	Ledger
K	Locations and accounts
J	Piece count
F	Rounding
G	Transactions
B	Journal

**United States Department of Energy
National Training Center**

LESSON PLAN

TITLE: LANMAS Essentials

COURSE: MCA-214

3. LANMAS Essentials

TP 3-1 (3 hours)

Lesson Goal:

The goal of this lesson is to introduce students to LANMAS screens and explain how to move around in LANMAS.

TP 3-2

Lesson Objectives:

This lesson is intended to be an overview. There are not measurable objectives. Students will become familiar with the following:

TP 3-3

- Accessing LANMAS
- Using the LANMAS menu and commands
- Presentation and use of LANMAS data selection, material, material information, container, and container information windows
- Undoing an action in LANMAS
- Understand LANMAS edit checks
- Understand how concurrent entries are handled
- How to view detailed information about a material

As you go through this class, you will perform many different transactions, and become familiar with the LANMAS screens. But before you get started, this lesson provides a quick explanation of the main LANMAS screen and several windows that are common to many LANMAS transactions, and a little information on moving around and working in LANMAS.

3.1 Accessing LANMAS

You will need to obtain a password from your System

TP 3-4

Administrator to access LANMAS. Your password must be protected and changed according to your local computer security and classified matter security requirements.

1. Enter your password to access the computer.
2. Click the Start button.
3. Click on Programs.
4. Click on LANMAS.
5. Click on the LANMAS icon. The nuclear safety disclaimer is displayed.
6. Click [YES] to accept the disclaimer. (Selecting [NO] exits the program.)

The first time you enter LANMAS, it will ask you for the RIS and accounting period you want to work in. After you have selected these, LANMAS will default to the last ones you were working in when you exit and re-open the application.

7. Use the pull-down menu to select the desired RIS (for this class we will use RIS DZA) and click Save. Select the current accounting period and click [Change]. The main LANMAS screen is now visible.

3.1.1 Header

The header at the top of the main LANMAS screen shows a summary of the current status of LANMAS.

You should learn to check this header often, as it indicates the selected server, database, RIS, and accounting period. Any transactions you perform will be recorded in the RIS and accounting period indicated on the header.

Switch to LANMAS on overhead.

LANMAS is NOT for criticality control

Class to select RIS DZA and 1st accounting period listed (November).

LANMAS will default to the most recently used RIS, so you need to pay attention to which RIS you are in.

The last item in the header shows the status of the selected accounting period, either Open or Locked. Later in this class you will learn how to “lock” an accounting period. A locked accounting period indicates that the accounting period is not available for most users to enter transactions (typically done during month-end closing). Only specific users may enter transactions during a locked accounting period.

3.1.2 LANMAS Menu Bar

The menu bar shows the nine major menus used in LANMAS: File, Off-site, On-site, Miscellaneous, Containers, TIDs, Reports, Closing, and Help. Under each of the menu items is a list of commands.

When a command is selected, a dialog box or data entry window will be displayed.

In this class, you will normally be using the mouse to “point-and-click.” However, you are able to use your keyboard to choose commands also. To make the menu bar active, press ALT or F10.

1. Hold ALT

Then you can use the arrow keys and return or press the key corresponding to the underlined letter in the menu name.

2. Press F.

Note that the File command menu is opened. To choose a command listed on the menu with your keyboard, you would

again press the key for the underlined letter or number in the command name or use the up and down arrows. The enter key selects the highlighted command. To close a menu without choosing a command, press ESC.

3. Press ESC.

4. Now click on File with the mouse.

The File menu is used if you need to change the RIS or accounting period, freeze or unfreeze an MBA or a location (such as during physical inventory), to manage plugins, change the dataset directory, and to exit the program.

5. Now click anywhere outside the command name. (Note that this cancelled the command).

6. Click on Off-Site.

Off-site is used for shipping material off-site, receiving material from off-site, and recording receipt measurements.

7. Move pointer to On-Site.

On-site is used for moving and accepting material on-site, mixing or splitting items, transferring material from one item to another, and editing item information.

8. Move pointer to Miscellaneous.

Miscellaneous is used for making adjustments or project changes, obtaining material information, establishing and manipulating obligations, and approving or declining transactions.

9. Move pointer to Containers.

Each of these will be described later in this lesson.

Containers gives you the options to create, edit, delete, load, and unload containers. You can also review information for a specified container.

10. Move pointer to TIDs.

The TIDs commands include receiving TIDs from a vendor, TID ownership change, TID status change, applying/removing/destroying TIDs, and changing data for a TID.

11. Move pointer to Reports.

This is where you access the LANMAS pre-programmed reports: Journal Reports, an External Transaction Report, various inventory reports, TID reports, etc. We'll be covering each of these as we go through the class.

12. Move pointer to Closing.

Closing includes forcing a ledger update, rounding, NMMSS reports, datasets, lock/unlock, decay, and close the accounting period. The lock and unlock here refers to the entire RIS, as opposed to freeze and unfreeze an MBA, which was under File. Notice that Decay Materials and Close Accounting Period are dimmed because the RIS must be locked before these functions can be performed.

13. Move pointer to Help.

If you are in an IAEA RIS, an additional IAEA menu appears between the Closing and Help menus. The IAEA menu allows you to create reports specific to IAEA activities.

You will notice that a couple of the commands are dimmed, and unable to be selected. A dimmed command is not available, which may be due to a command that is still under development, which is the case here, or due to your access authorizations as designated by your System Administrator.

The Help function also includes an electronic version of the LANMAS User's Manual.

And if that doesn't provide what you need, try your System Administrator.

14. Click on About LANMAS.

This tells you what client and server versions of LANMAS you are running, and the release date.

16. Click [OK].

3.2 Material Information

Go back and click on the Miscellaneous menu.

Let's spend a few minutes on the Material Information function. The Material Information function is used to provide current and historical information on an item. You may want to use this for your exercises as the class goes on this week, so we'll go through it now.

This will also introduce you to the method for selecting data for reports and other transactions.

1. Click on Material Information.

This is the LANMAS Data Selection window. This is a window that you will see for most LANMAS transactions. Notice that it is like a

card file across the top, with the Selection Criteria tab in dark letters, and the other tab titles are gray. Throughout LANMAS, menu commands as well as fields that are not available for the user will be gray.

The Selection Criteria tab is where you provide a description of what you want to find in a particular field – the search criteria. If LANMAS finds the value in that field, it collects that record and makes it part of the found set.

The search criteria may vary slightly depending on the transaction but, in general, include the MBA, subMBA, location, batch name, material name, part number, serial number, suffix, comment, TID name, container type, project number, summary material type (SMT), detailed material type (DMT), IDC and transaction number. You can search using any or all of these fields.

The Selectable Items Only button narrows your search down to only items that are selectable. Selectable means that the item is available for the transaction. Situations that make an item not selectable would be something that has the item already in use, for instance:

- The item has been placed on a shipment.
- The item has been loaded into a container so it is not selectable for that transaction.

LANMAS will use the selection data you provide to develop a list of items that meet all of the specified search criteria.

2. Set the pointer over the arrow on the right side of the MBA field.
3. Using the pull down menu for MBA, select MBA MBA1.

Gray titles indicate that the tab is not selectable.

Ask class why would you want to look for items that are not selectable?

Once the MBA is specified, LANMAS will provide pop-up lists for valid subMBAs and locations within that MBA.

4. Select subMBA SubMBA1.

If you only know part of the information in a field, LANMAS can search using partial data. This is done using a % sign with the partial data. The % acts as a wildcard. For example:

- 6% finds all entries that begin with a 6
- %6% finds all entries with a 6 anywhere in the name
- %6 finds all entries that end with a 6

Other query characters are also available. An exclamation point means NOT. So if you know that your item does NOT include something in its name, you can put that into your search.

The % and ! can be used together to exclude items with a particular data string.

5. Type “%6” into the Material Name field.

This query will now look for everything in MBA *MBA1*, subMBA *SubMBA1* with a material name that ends in 6.

6. Click [FIND Matches].

Notice that when LANMAS finishes your search it automatically moves you to the “Material” tab. This shows the results of your query. All material in the inventory satisfying all of the search criteria you entered is listed. Notice on the Material tab at the top that LANMAS tells you how many matches it found for your query.

In other functions of LANMAS your query may find containers as well as material. In that case, the container tab at the top will also be selectable. The tab title indicates the number of containers found that matched your query.

Handout – Query characters

Notice the sliding bars on the bottom and right hand side to move across and down the entire listing.

You can resize your columns by grabbing the edge of the heading and dragging it to the size you need. You can change the order the columns are in by selecting one and dragging it to wherever you want. The dark box in the bottom left corner lets you split the grid.

You can also sort the data in the columns by placing your pointer in the column heading and clicking the right-hand mouse button. A short-cut menu appears from which you can sort the data in ascending or descending order.

The Material and Container tabs give you a lot of information about the material, but without any nuclear material quantities.

Notice the buttons across the bottom of the screen. You have the option of looking at material information for just the selected items or all material. The [Refresh] button sets the screen back to its defaults, and of course the [Exit] button on the very bottom takes you back to the main menu.

Now, select the items you want to see more information for from the list of matching items.

7. Click on the little box on the far left of item Demo Item 176 then hold down the shift button and click next to item Demo Item 256.

This puts a little arrow next to item Demo Item 176 and highlights all the items between the first and last items you clicked on. These items are now “selected.”

8. Click on the Material Info tab.

Walk through all the data available for material name.

Demonstrate resizing and splitting grid. Do not have students follow along with this.

Walk through the Material Info and Container Info data tables.

This gives you more information for the items you selected, including the element and isotope quantities.

9. Now click on the Material tab again.

Notice that your items are still selected.

10. Click on [Begin Material Information Using Selected Material]

Now you are asked what type of report you want: "Current Information" or "History." The "None" button takes you back.

11. Click on [Current Information].

LANMAS now provides you with a report showing the current information for your selected items. A lot of these fields you will learn more about as the week goes on. Current information includes:

- Material name or Item Number
- Comments
- MBA
- SubMBA
- Location
- Item Description and IDC
- Tamper-Indicating Device Name
- Material Status:
 - G means it's gone
 - I means in-transit
 - M means it needs measuring
 - S means pending shipment
 - X means the item is active
- Inventoryable

- Net weight

Describe the data fields in the Material Information tab window.

TP 3-5

Ask class for examples of items that might not be inventoryable (i.e., less than an accountable quantity).

- Create date
- Instrument name
- Measurement type
- Detail material type
- Project ID
- Date last decayed
- Element weight
- Element assay
- Element limit of error
- Isotope description
- Isotope weight
- Isotope percent
- Isotope limit of error

LANMAS uses Crystal Reports for some of the pre-programmed reports. There are several features of Crystal reports that you need to be aware of, we'll look at the basics now and cover more as we come to specific examples later in the class.

- You can use the control bar at the top of the window to move around within the report and to find a specific entry.
- The arrow keys are used to view individual pages of the report. The 1 of 3 in the control bar shows the number of the page you are currently viewing.
- The left facing arrow with the line to the side will take you to the first page. The left arrow without the line takes you back one page.
- The right arrow with the line to the side of it takes you to the last page of the report. The right arrow without the line would take you forward one page.
- The icons allow you to print/change print settings, export the report, and toggle the group tree.

- You can control the size of the page shown on the screen using the zoom field.
 - The find function can be used to locate a specific entry in the report. To use this feature, enter the value you want to find in the field (left of binoculars) and then click the find button (the binoculars). The program will search for entries that contain the value you specified, beginning on the page you are currently viewing. To find the next matching entry, click the find button again.
 - Finally, the control bar lists the size of the page (refer to the zoom field) and the total number of pages in the report.
12. Click on the black X in the right hand corner to exit the report.

Exiting takes you back to the Material tab, with your material still selected. Let's try this once again, and this time look at the historical information.

13. Click on [Begin Material Information Using Selected Material]
14. Click [History].

Historic information on an item includes: (again, a lot of these fields we will be covering in later lessons)

- Material name
- MBA
- Activity date
- Type inventory change
- Detail material type
- Creating transaction ID
- System Date
- Item description code
- Tamper-indicating device

- Element weight
- Measurement type
- Net weight
- Location
- Container
- User name
- Source Document Number

15. Click the black X in the right hand corner to exit this screen.

Now we can get back to walking through the main menu.

16. Click [Exit].

3.3 Undoing an Action

Before you start entering transactions in LANMAS, there are a few topics you need to be aware of. First is how to UNDO an action.

Before a transaction is executed (i.e., saved), you can edit any user-specified data, i.e., you can change what you picked from your pull-down menus, etc. You can go back and forth between the tabs at the top and revise your search criteria. Some windows actually have a button that allows you to UNDO specific actions.

Transactions can also be cancelled at anytime using the [EXIT] button at the bottom of the window.

HOWEVER, once you have executed a transaction, the ONLY WAY to undo it is to enter a correcting or reversing transaction.

The only exception to this is if your transaction has been set up to require a peer review. Disapproving the transaction will back out any changes you were

Switch overhead back to slides.
TP 3-6

trying to make. But remember, you can't disapprove your own transaction, someone else with the proper authority has to.

3.4 Transaction Numbers

LANMAS assigns a transaction number in a dialog box when a transaction has been executed. These numbers are assigned sequentially every time a transaction is executed.

The transaction number can be recorded on your source document to show that the transaction was entered. They can also be used to review the sequence of actions involving a particular item.

Once LANMAS displays the transaction number, you can't go back unless you were already set up for transaction review. In all other cases, you will have to make another transaction that will reverse the incorrect transaction or change the incorrect information.

Ask students what source documents are.

3.5 Edit Checks

At specific points in the program, LANMAS will conduct routines that evaluate the data you have entered to ensure that it is valid for the field or transaction you are trying to enter. LANMAS will display a dialog box when an edit check is not satisfied. You will have to correct the error before you can continue. Some of the common edit checks are:

- Material name conforms to LANMAS naming rules

Lesson 2 covered how to name items and containers. These are specific rules, and LANMAS will be checking to see that the name conforms.

TP 3-7

- Sum of isotopes does not exceed the element weight

LANMAS knows that you can't have 60 grams of U-235 in an item with 30 grams of total Uranium.

- COEI and Material Type cross-reference

Anytime you change a material type or IDC code, LANMAS will verify that they are allowable for the COEI code.

- Valid project numbers, owner codes, RIS's, accounts, and locations are entered

LANMAS will be checking all of these type fields to ensure that you are using what your System Administrator has set up as valid for your facility.

- Unique Names

LANMAS can also be set up to check new material and container names for uniqueness within a RIS. If this feature is used, when you attempt to create or change the name of a material or container, LANMAS verifies that the name is unique.

New material or container names can be checked for uniqueness against either:

- The current inventory or
- Both the current inventory and the historical inventory.

If a non-unique name is found LANMAS can be set to either:

- Stop the user from completing the transaction until the name is made unique.
- Warn the user about the unique name violation, but not prevent the name change.
- Ignore the unique name violation.

Settings for unique name review are established in the LANMAS Administration Program.

In addition to these checks, there are additional edit checks that pertain to specific transactions. These will be covered as you get to the specific transactions later this week.

3.6 Concurrent Entries

TP 3-8

One final point that you need to be aware of when working in LANMAS is what happens when you have concurrent entries. Because LANMAS is designed for multiple users, it is possible for two people to be working on the same item and the same time.

When this happens, LANMAS will accept the first action that is completed. The second user will have to reenter the transaction.

3.7 Summary

TP 3-3

In summary, here is what was covered in this lesson:

You logged into LANMAS and we walked through the LANMAS menus.

You also accessed the Material Information command and learned how to use the Selection Criteria window to find items involved in a transaction. You also learned that the Material Information command can be used to view data on an item.

I explained that you can edit and cancel your work as you go along, but once you get the transaction number, the change has been made and the only way to undo it is to make a correcting transaction.

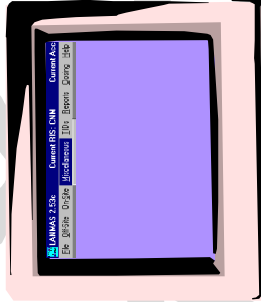
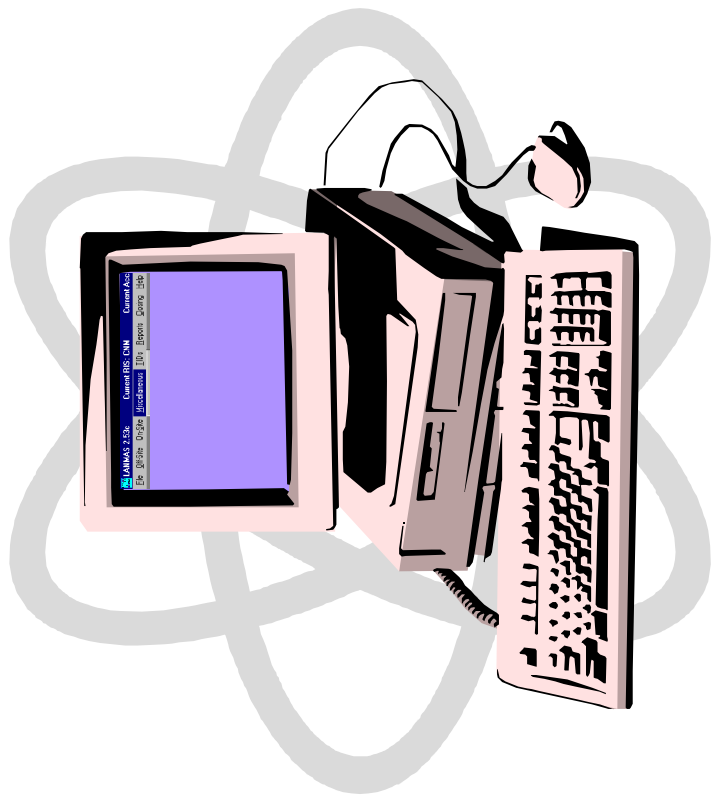
We talked about a few of the edit checks that LANMAS performs: isotope can't be greater than element, valid locations, etc.

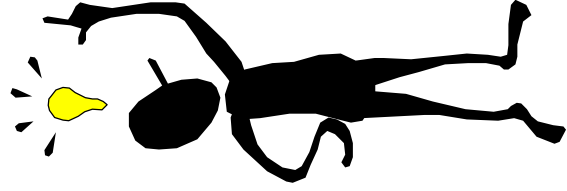
And we discussed what happens when two people are trying to work on the same item at the same time:

somebody gets kicked out.

References:

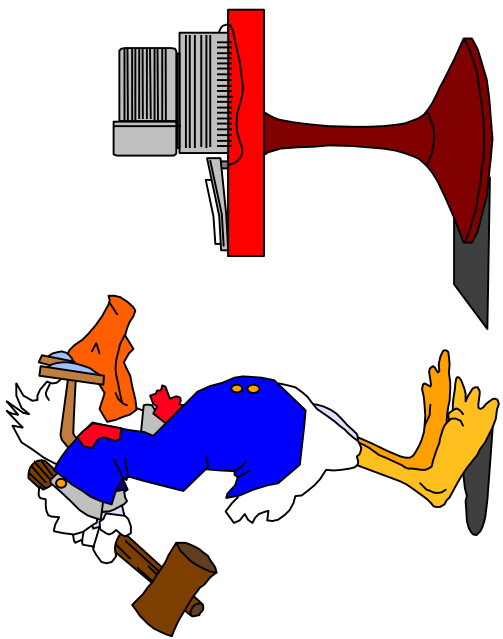
U-RS-G-00002, Software Functions and Features for
LANMAS Version 3.0, Revision 0, June 1, 1998
LANMAS User's Manual for Version 3.0.



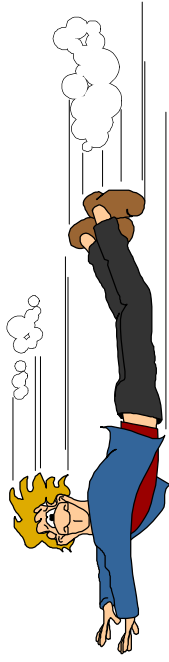


LANMAS Client Version 2.9 - (Server: LS-DEV) - (Database: LANMAS) Current RISDZA Current Acct Prd Begin:12/01/2000 Current Acct Prd Status:Open

File Off-Site On-Site Miscellaneous Containers IIDs Reports Closing Help







**United States Department of Energy
National Training Center**

LESSON PLAN

TITLE: File Menu Options

COURSE: MCA-214

4. File Menu Options

TP 4-1 (1 hour)

Lesson Goal:

The goal of this lesson is for the student to understand how to use the FILE menu options in LANMAS.

TP 4-2

Lesson Objectives:

TP 4-3

Students will perform the following functions:

- Select a RIS
- Select an Open Accounting Period
- Freeze/Unfreeze an MBA
- Freeze/Unfreeze a Location
- Manage Plug-ins (discussed, not performed)
- Change Dataset Directory

4.1 RIS (Reporting Identification Symbols)

TP 4-4

This function allows the user to select a RIS to work in. Although LANMAS allows multiple RIS's at one site, you can only work in one RIS at a time

Switch to LANMAS on the overhead.

1. Click on File
2. Click on RIS
3. Select RIS *DZA* from the pulldown menu (even if already highlighted).
4. Click [Save].

LANMAS opens that RIS and goes directly to 'SELECT an OPEN Accounting Period' screen.

Note that the RIS selected is now displayed in the header at the top of the screen.

5. Select the last accounting period, by clicking on the arrow adjacent to the period, then click on [Change].

LANMAS opens that accounting period and returns to the Main Menu.

Note that the accounting period you just selected is displayed in the header at the top of the screen. This is **not** the accounting period that we will be working in during the training.

3.2 Select an OPEN Accounting Period

LANMAS supports the concept of multiple accounting periods. This function allows the user to select which open accounting period to work in.

There are two ways to open this screen:

- Through the RIS command like we just did, or
- Through the Select an OPEN Accounting Period command

Two accounting periods are usually available for data entry. LANMAS displays the beginning and ending dates of the two accounting periods from which you select the correct option.

An accounting period starts at midnight on the first day of a calendar month and ends at 11:59:59 p.m. on the last day of that month.

LANMAS has the capability to continue processing into a new accounting period without the prior accounting period being closed.

TP 4-5 (Students should stay in LANMAS until summary.)

TP 4-6

LANMAS has the capability to establish the ending inventory by item for the accounting period even if subsequent transactions have occurred against items in the new accounting period.

Transactions in the new accounting period prior to the closure of the old accounting period are reported with their values properly decayed to the start of the new accounting period.

The header displays the current RIS and accounting period and the status of the current accounting period (OPEN or CLOSED).

1. Click on File
2. Click on Select an OPEN Accounting Period
3. Select the first accounting period, by clicking on the arrow adjacent to the period, then click on [Change].

LANMAS opens that accounting period and returns to the Main Menu.

Note that the header has been updated at the top of the screen.

4.2 Freeze/Unfreeze a Material Balance Area

This function is used during inventories to prevent activity within a MBA. Freezing the MBA allows for efficient reconciliation of anomalies encountered during inventories.

A frozen MBA is not visible in pulldown menus and is not selectable by a user for any activity. (*Note: The system administrator can allow select users/groups to access and record transactions in frozen MBAs.)

Switch to LANMAS on the overhead.

Switch to slides on overhead.
TP 4-7

1. Click on File.

2. Click on Freeze/Unfreeze MBA.

3. Select MBA *MBA1* from the pull-down menu.

LANMAS knows if the MBA you select from the pulldown menu is currently frozen or not. Thus the only button you will get (freeze or unfreeze) will be the one to change the current condition.

4. Click [Freeze].

Let's go into a function to verify that the MBA has been frozen.

6. Click on On-Site.

7. Click on Move within MBA.

8. Click [OK] to get past the select activity date window. We will talk about this window later.

9. Pull-down the MBA menu.

Note that MBA *MBA1* is not listed.

10. Click [Exit] to exit the Move Items Within an MBA window.

11. Click on File.

12. Click on Freeze/Unfreeze MBA.

13. Click [Unfreeze] for the *MBA1* MBA. Notice that this was the only choice for *MBA1* reflecting the fact that *MBA1* was already frozen.

4.3 Freeze/Unfreeze a Location

Switch to LANMAS on overhead.

Switch to slides on overhead
TP 4-8

Now let's try freezing and unfreezing a location. This works just like freezing an MBA. (***Note:** Access to frozen locations can also be granted by the System Administrator.)

1. Click on Freeze/Unfreeze Location.

2. Select MBA *MBA1* in the first data field and location *Areal/Building1* from the pull-down menu for the second data field.

3. Click [Freeze].

The location freeze and unfreeze function works just like that for the MBA, it knows what the current status of the location is and the only button you get is the one to change it.

Now let's see what we did to the *Areal/Building1* location.

4. Click on On-Site.

5. Click on Move within MBA.

6. Click [OK] to get past the select activity date window.

7. Select *MBA1* from the MBA pull-down menu. (Note that *MBA1* is back in the pull-down list because we unfroze it).

8. Open the location pull-down list. Notice that *Areal/Building1* is not listed.

9. Click [Exit] to exit the Move Items Within an MBA window.

Let's go back and unfreeze that location so that we can use it during class.

10. Click on File.

Switch to LANMAS on overhead.

11. Click on Freeze/Unfreeze Location.
12. Select MBA *MBA1* and location *Areal/Building1* from the pull-down menus.
13. Click [Unfreeze]. Notice that this was the only choice for *Areal/Building1*.

Let's verify that our location is selectable again.
14. Click on On-Site.
15. Click on Move within MBA.
16. Click [OK] to get past the activity date window.
17. Select *MBA1* from the MBA pull-down menu.
18. Open the location pull-down list. Notice that *Areal/Building1* and all of the locations within *Building1* are now listed.
19. Click [Exit] to exit the Move Items Within an MBA window.

4.4 Manage Plug-ins

Remember in Lesson 1 we discussed that LANMAS is designed to be a core accounting system and you can "add-on" site-specific functions. This is where your system administrator will identify any site-specific plug-ins or bolt-ons that you will be using.

1. Click on File

Obviously, we won't be using any plug-ins during this class. The LANMAS Administration Program class discusses how to manage plug-ins.

Switch to slides on overhead.
TP 4-9

Switch to LANMAS on overhead.

4.5 Change Dataset Directory

The next option is to change the dataset directory. The dataset directory is where LANMAS will store the datasets it creates for shipping and receiving and during closing.

1. Click on Change Dataset Directory
2. Using the pull-down menu, select C drive, if it is not already selected.
3. Click on LANMAS Datasets directory under Program Files, if it is not already highlighted.
4. In the New Directory field near the bottom of the page type in "Classroom datasets."
5. Click on [Create New Directory]

Notice that the new directory, "Classroom Datasets", has been added under Program Files, LANMAS Datasets, and is highlighted. (NOTE: If Classroom Datasets is not highlighted, click on "Classroom Datasets" to highlight it before setting the directory.)

6. Click [Set DataSet Directory]

Now all the datasets that are created as we work in LANMAS this week will be stored in the "Classroom Datasets" directory.

4.6 Exit

Go back to File, and notice that the only function left is Exit. This takes you completely out of LANMAS, just like the black X in the upper right corner.

Switch to slides on overhead.
TP 4-10

Switch to LANMAS on overhead.

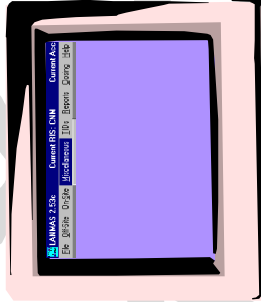
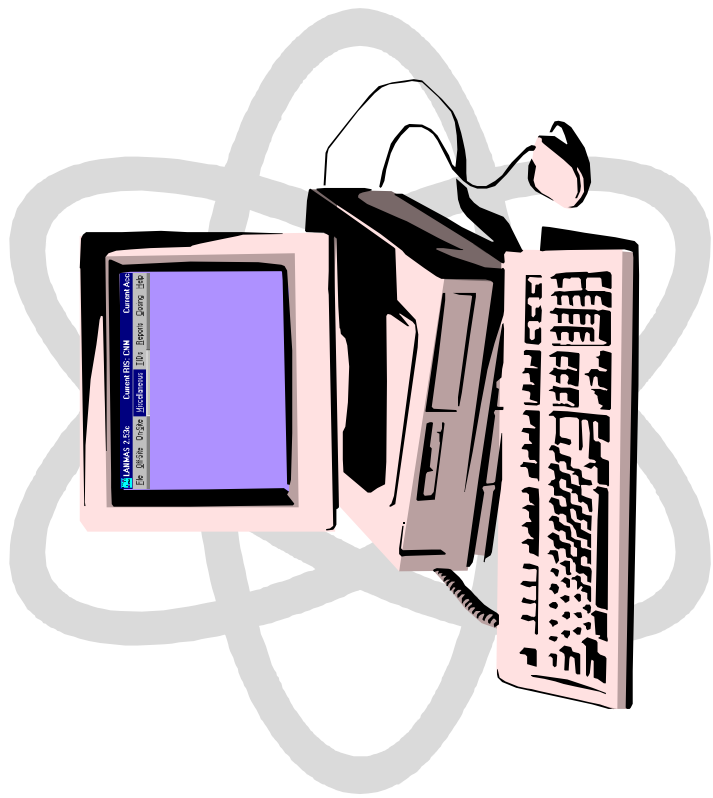
4.7 Summary

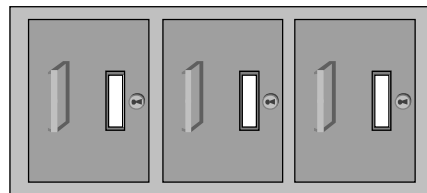
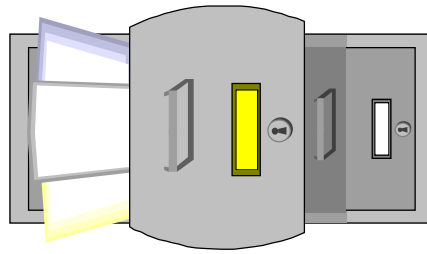
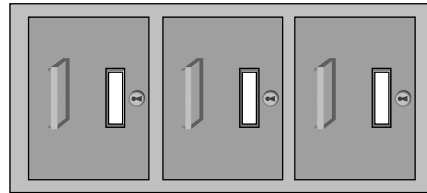
Let's summarize what we've covered. The File Menu Options include:

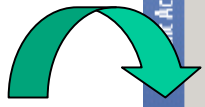
- Selecting a RIS – You learned how to select the RIS that you want to work in, and that although LANMAS allows multiple RIS's, you can only work in one at a time.
- Selecting an Accounting Period – You learned how to select the open accounting period that you want to record your transactions in.
- Freezing/Unfreezing an MBA – You learned how to freeze an MBA to prevent any activity, and how to unfreeze it to allow transactions again.
- Freezing/Unfreezing a Location – You also learned that you can freeze and unfreeze locations just like MBAs, to prevent transactions.
- Managing Plug-ins – You learned that your system administrator can “plug-in” or “bolt-on” additional programs and functions for site-specific information.
- Change Dataset Directory – You learned how to set the directory to tell LANMAS where to store the datasets it creates for you.

Switch back to slides on overhead.

TP 4-3







LANMIAS Version 2.8 - (Server: DEVELOPMENT) - (Database: LANMIAS) Current RIS: DZA Current Acct Prd Begin: 12/01/2000 Current Acct Prd Status: Open

File Off-Site Miscellaneous Containers IMUs Reports Closing Help

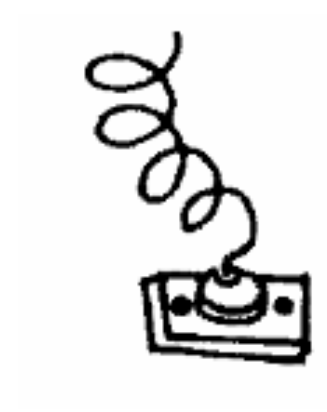


LANMAS Version 2.8 - (Server: DEVELOPMENT) - (Database: LANMAS) Current: Acct Prd Begin: 12/01/2000 Current: RIS:02A Current: Acct Prd Status: Open
File Off-Site Miscellaneous Containers IDs Reports Closing Help











**United States Department of Energy
National Training Center**

LESSON PLAN

TITLE: On-Site Menu Options

COURSE: MCA-214

5. ON-SITE Menu Options

TP 5-1 (7 hours)

Lesson Goal:

The goal of this lesson is for students to understand how to use the ON-SITE menu options in LANMAS.

TP 5-2

Lesson Objectives:

Students will identify the appropriate transaction to use for a given situation and perform the following functions:

TP 5-3

- Move items within an MBA
- Move items to another MBA
- Accept items from another MBA
- Mix items
- Split items
- Transfer bulk material
- Edit data
- Generate and review a Material Transaction Report to verify transactions performed during lesson

TP 5-4

5.1 Introduction

The commands in the On Site menu are used to move items or material from one account, location, or item to another.

The move within and move to commands can only be

TP 5-5

used to move items and containers, along with their contents, within or between MBAs.

It is important to keep in mind that only the highest level of containment is available to move. When you move a container, the container and all of the items or containers in it are moved as a unit. So if you want to move only one of several items in a container, the item must first be removed (“unloaded”) from the container. (This will be discussed in a later lesson.)

If you want to only move the contents of an item, you need to use the commands for moving material between items – Mix, Split, and Transfer.

5.2 Move Within MBA

This function is used to relocate items or containers to a new location or subMBA within the same MBA. It can only be used to move entire items and containers, along with their contents.

5.2.1 Required Data

The following data is required in order to complete a move within an MBA:

- Transaction date
- MBA
- Originating subMBA
- Material name
- Destination subMBA
- Destination location

5.2.2 Procedure

1. Verify RIS and accounting period.

Let’s use RIS *DZA*, and the first open

TP 5-6

Switch to LANMAS.

Verify in the LANMAS

accounting period.

2. Select On-Site.
3. Select Move Within MBA.
4. Select MBA *MBA1*.
5. Select subMBA *SUBMBA1*.

Notice that this screen has a new box, on the right, that we didn't cover in the previous lesson. This box allows you to further control your search by specifying whether you want to search for material, containers, or both material and containers. All the previous lessons dealt only with materials.

6. Click on the button for BOTH materials and containers.
7. Make sure the [Selectable Items Only] button is not selected.

Selectable items are those items that you can perform functions on. You need to be aware that although you can specify that your search find the non-selectable items, you will NOT be able to use them. 'Non-selectable' means just that – you cannot 'select' the item to be used in your move.

An important point to keep in mind when conducting a search – if the Selectable Items Only button is selected, LANMAS will only look at the outermost level of containment. You will not be able to find an item within a container using the item selection window.

8. Type "%2%" into the Item Name field.

header.

Discuss when and why you would want to prevent functions on an item. (on shipment, etc.)

Ask students why this button prevents you from finding material in containers? (not 'selectable')

9. Click on [FIND Matches]

Ask students if their search found unselectable items. How can they tell they are unselectable? Why are they unselectable?

Now you select the items you want to work with from the lists of matching items by highlighting the desired items. Transactions cannot be entered until the affected item or items are selected.

Demonstrate what happens if you try to continue with no selected items.

10. Click on *Demo Item 192*.

To select several items listed in a row, select the first item by pointing to the left of the item and clicking. Then hold down the SHIFT key and click on the last item to be included in the selection.

11. Hold down the shift key and click on *Demo Item 352*.

To select several nonconsecutive items, select the first item by pointing and clicking, and then press the CONTROL key while clicking on each additional item to be selected.

12. Click on *Demo Item 32* and while holding the control key click on *Demo Item 112*.

To select several consecutive and nonconsecutive items, first select the consecutive items using the SHIFT key, then select the nonconsecutive items using the CONTROL key.

13. Click on *Demo Item 128*, hold down the SHIFT key and click on *Demo Item 192*.

14. Hold down the CONTROL key and click

on *Demo Item 240*.

15. Still holding the CONTROL key, click on *Demo Item 112*.
16. Click [*Begin Move within MBA Using Selected Materials*].

You are now looking at the Move Items Within MBA tab. The materials that you selected are listed here, if we had selected any containers, they would be listed in the lower half of the screen in the Container box.

Let's go back and select a container to add to the transaction. You must select containers and materials separately.

17. Click the *Data Selection* tab at the top of the window.
18. Click the *Containers* tab.
19. Select container *CI-Demo Item 120*.
20. Click [*Begin Move within MBA Using Selected Containers*].

You are returned to the Move Items Within MBA window and the selected container is listed in the table in the lower half of the window.

You can use the Remove All Items and the Remove Selected Items to remove those items that you do not want off of your list.

21. Highlight item *Demo Item 152* and click the [Remove SELECTED Items] button.

Notice that the material you highlighted has been taken off your list.

If you wish to remove all of the items on the selected items list, you would click the [Remove ALL Items] button.

If necessary, you can return to the Data Selection, Material or Container tabs to select other items to be moved. The previously found set will still be there.

Once you have selected the items to be moved, you must specify the new location and subMBA for the items. Notice that LANMAS provides the valid locations and subMBAs for the MBA in the Destination box at the bottom of the screen.

22. Highlight the first item in the material table.
23. Select location *Area1/Building1* from the pull-down list.
24. Click the [Assign] button next to the location field.

Notice that location *Area1/Building1* has been assigned to the selected item.

25. Click [All] next to the location field.

Notice that the location has now been assigned to all of the items and containers. You can assign subMBAs and locations to specific items with the [Assign] button or to all items with the [All] button.

Notice the single and double asterisk buttons in between the [Assign] and [All] buttons. These buttons allow you to assign the location and subMBA at the same time. The single asterisk will assign both the location and the subMBA to the

selected items. The double asterisk will assign both the location and the subMBA to all of the items.

26. Select the second item on the material list.

27. Select *Area1/Building2* from the Location list.

28. Select *SubMBA2* from the list for the SubMBA field.

29. Click the [***] button.

Notice that *Area1/Building2* and *subMBA2* have been assigned to the second item.

30. Select *Area1* from the Location list.

31. Select *SubMBA2* from the list for the SubMBA field.

32. Click the [****] button.

Notice that *Area1* and *subMBA2* have been assigned to the all items and containers.

Verify the correct destination location *Area1/Building2* and subMBA *SubMBA2* are assigned for the items and containers.

You must specify both a destination location and subMBA, or LANMAS will display a message stating that the “move to” information was not completed. When you have assigned a location and subMBA to each selected item, click [Save] to execute the transaction

Have students keep notes of the transactions they are performing in order to verify the information later.

33. Click *[Save]*.

Generally, as mention earlier, TICs above 100 are not reportable to NMMSS, below 100 are reportable. Notice that the TIC for an internal move is 127, which is above 100, so it is not reportable to NMMSS, so the Process and Action codes are blank. There is only one TIC available so it is already selected for you.

34. Click *[OK]*.

When the transaction is executed, LANMAS updates the ledger if an account change (subMBA) was made, updates the inventory, and assigns a transaction number.

A dialog box appears showing you the transaction number.

35. Click *[OK]* to close the dialog box after recording the transaction number.

36. You will be taken back to the material tab where you can continue to select material to move.

37. Click *[Exit]*.

38. Run the Material Information - History Report using the Transaction Number that was recorded to verify the operation.

Have students record their transaction number.

5.3 Move items to MBA

A shipment of items between MBAs on-site is completed in two parts, the shipper's and the receiver's. The shipping MBA identifies the items to be transferred and the receiving MBA. The receiving MBA accepts the shipment and indicates where the

Switch to slides.
TP 5-7

material will be placed within the MBA.

LANMAS also provides the receiver with the ability to check his MBA inventory totals with the receipt added, and if necessary, return the material to the shipper instead of accepting it.

Depending on your authorizations, you may be able to perform both the shipper's and receiver's parts of the move.

The shipper uses Move to MBA to initiate the transaction. This function places material in an "in-transit" account for the receiver's MBA (designated with a blank subMBA).

5.3.1 Required Data

As the shipper, you must know the following data to complete a move to another MBA:

- Names of items or containers to ship
- Date of the move
- Originating MBA
- Originating subMBA
- Destination MBA.

The receiver must know the following:

- Names of items or containers to receive
- Date received
- Destination location
- Destination subMBA.

5.3.2 Procedure

1. Verify that you are in RIS *DZA* and the first accounting period.
2. Select *On-Site*.

TP 5-8

Switch to LANMAS

3. Select *Move To MBA*.
4. Select a date in the accounting period and click *[OK]*.
5. Select MBA *MBA1*.
6. Select subMBA *SubMBA2*.
7. Click *[Find Matches]*.
8. Highlight the following items:
 - *Demo Item 114*,
 - *Demo Item 138*, and
 - *Demo Item 170*.
9. Click *[Begin Move to MBA Using Selected Materials]*.
10. Select the first item.
11. Select destination MBA *MBA2*.
12. Select destination subMBA *SubMBA1*.
13. Select destination location *Area2*.
14. Click *[Assign to Selected]*.
15. Select the remaining two items.
16. Select destination MBA *MBA2*.
17. Click *[Assign to Selected]*.
18. Verify that you have the following destination information:
 - *Demo Item 114* to MBA *MBA2*, subMBA *SubMBA1*, location *Area2*
 - *Demo Item 138* to *MBA2*

- *Demo Item 170 to MBA2*

19. Click *[Save]*.

The Transaction Data screen comes up, showing the transaction date you selected and TIC 107.

20. Click *[OK]*.

You will get a transaction number. Record it and click *[OK]*. Then a dialog box asking if you wish to proceed with the accept operation is presented.

Have students record their transaction numbers.

The material is now in the receiving facilities “in-transit” accounts. This indicates that the material is no longer in the shipping MBA but has not yet been accepted and accounted for by the receiving MBA. The material is placed in the receiving MBA’s account with a blank subMBA.

Those items that we did not specify a subMBA and location for, the ones going to *MBA2*, are now in *MBA2*’s “in-transit” account. The receiver (*MBA2*) will have to perform an Accept operation to move the material from “in-transit” and assign it to a subMBA and location.

However, from this point we can complete the move for the one item that we did specify a subMBA and location for, the one that went to *MBA2*. If your system administrator has enabled it, you can complete the receipt side of the transaction from here.

21. Click *[Yes]* to perform the accept operation.

The transaction data screen comes up with the same transaction date. Notice that this time the TIC is 108, move material FROM in-transit.

22. Click *[OK]*.

23. The transaction number appears. Click *[OK]*. You will be taken back to the material tab where you can continue to select material to move.

24. Click *[Exit]*.

25. Run the Material Information - History Report using the Transaction Numbers that were recorded to verify the operations.

Have students record their transaction numbers.

5.4 Accept From MBA

This function is used to complete a shipment. This transaction moves the material out of the receiver's "in-transit" account and assigns the location and subMBA.

The receiver has the ability, if necessary, return the material to the shipper instead of accepting it.

5.4.1 Required Data

- Receiving MBA
- Receiving subMBA
- Receiving location

5.4.2 Procedure

1. Verify RIS and accounting period.
2. Select *On-Site*.

3. Select *Accept from MBA*.
4. Select a date in the accounting period and click *[OK]*.
5. Select receiving MBA *MBA2*.
6. Click *[Find Matches]*.
7. Notice the only items to receive are:
 - *Demo Item 138*
 - *Demo Item 170*
8. Select *Demo Item 138* and click *[Begin Accept from MBA Using Selected Materials]*.
9. Select destination location *Area2*.
10. Select destination subMBA *SubMBA2*.
11. Click *[**]*.
12. Click *[OK]*.

If accepting it causes a change in the category or some other anomalous condition, you can refuse to accept the material and return it.

The *[Return All]* button at the bottom of the window places the material into the shipping MBA's in-transit account. Basically, it reverses the shipper and receiver.

A transaction will be recorded indicating that the shipment was returned. Then the original shipper must accept the shipment to place the material back into their inventory.

13. We're going to accept this shipment.
Click [*Save*].
14. Click [*OK*] at the transaction data screen.
15. The transaction number appears. Click [*OK*] after recording it.
16. You will be taken back to the material tab where you can continue to select material to accept (in this case there is none).
17. Click [*Exit*].
18. Run the Material Information - History Report (covered in Lesson 3 Section 3.1.2) using the Transaction Number that was recorded to verify the operation.

Students should record the transaction number.

5.4.3 Exercises – Exercises 5.1-5.2

Exercise 5.1 – 5.2

5.5 Mix items

Switch to slides.
TP 5-9

This function is used to move material from many items into one item (this can be an existing item or you can create a new item through this function). You input the delta (difference) OR the new weights of the "FROM" items(s) and LANMAS calculates the "TO" item.

"many-to-one"

It is important to keep in mind that LANMAS enforces conservation of mass. In other words, the total weight of the material going "in" is equal to the total weight of material that was taken "out."

5.5.1 Basic requirements for a Mix

TP 5-10

There are some basic requirements you must be aware of before you can mix materials in LANMAS:

- All items must be in the same MBA
- Conservation of mass enforced
- Material cannot go negative

And finally, LANMAS will assign a new Detailed Material Type (DMT) code to the final item based on the types of material you have combined.

Note: When a weight change occurs in LANMAS the decay start date and weight of the item is reset.

This slide illustrates what happens with a mix.

Walk through slide
TP 5-11

5.5.2 Required Data

- MBA & SubMBA of material
- Names of material ('From' & 'To')
- Weight values of material
- Location of material if new item

5.5.3 Procedure

1. Select *On-Site*.
2. Select *Mix*.
3. Select a date in the accounting period and click *[OK]*.
4. Select MBA *MBA1*.
5. Select subMBA *SubMBA1*.
6. Select location *Area1/Building1/Room3*.

Switch to LANMAS

7. Enter 88 for the SMT.

Notice the new button on the bottom of this screen – [Create NEW Item]. If you need to, you can create a new item from here for the “to” side of the mix transaction.

We will cover creating items at another time.

8. Click [*Find Matches*].

9. Select items:

- *Demo Item 312*
- *Demo Item 352*
- *Demo Item 600*

10. Click [*Begin Mix Using Selected Materials*].

The Mix window is divided into three sections.

The top section, Material Data, identifies the material you have selected. The column “New” indicates whether you have created a new item or not. Notice each item has an N under new, this means NO the item is not new.

The Transaction Side column identifies whether the material is ‘to’ or ‘from.’ You use the [Set Selected Item as TO] to identify this.

11. Select *Demo Item 352*.

12. Click [*Set Selected Item as TO*].

LANMAS filled out the transaction side

Remind students that mix

<p>column, notice all the items have now been marked as 'from' and 'to.'</p> <p>Notice that you now have a little box in the Kill if Zero column for your 'from' items. Kill if zero means to remove the item from the inventory (or 'kill' it) if the quantity of material in the item goes down to zero.</p> <p>Clicking the [Check Kill if Zero] button or double-click the gray box in the Kill If Zero column toggles the check mark for each 'from' item.</p> <p>LANMAS checked the kill box on your from items. Notice that if you change your mind you have an [Un-check Kill if Zero] button that will remove all the checks.</p> <p>To un-check the Kill If Zero column for a single item, double-click it in.</p> <p>The last button in the Material Data box is [Set New Weights to Zero]. This is the easy way to do your mix if <u>everything</u> from <u>all</u> your 'from' items is going into your 'to' item. It will set everything to zero in all your 'from' items.</p> <p>The next two sections provide the element and isotope data for your items. You need to be aware that you have to select an item under Material Data to see the information for that item. With nothing selected you are looking at the information for the first item.</p> <p>13. Select <i>Demo Item 352</i> ('To' Item).</p> <p>Notice that several fields that were white are now gray. That is because this is your 'to' item so LANMAS is going to</p>	<p>is 'many-to-one' so can only have one 'to' item</p> <p>Ask students why kill an item? Why not?</p> <p>Demonstrate the Kill If Zero functionality by clicking the [<i>Check Kill if Zero</i>] button and double-click the gray box in the Kill If Zero column to toggle the check mark for each 'from' item. <i>Un-check</i> the Kill If Zero Column for the item by double-clicking it in order to.</p> <p>Have students scroll across to see all the headings under Element Data and Isotope Data</p>
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calculate these fields. You are not able to change them. Let's go back to a 'from' item so we can input our changes.

14. Select *Demo Item 312* (A 'From' Item)

Notice the radio buttons across the bottom of the screen. These give you options on what you want to enter versus what you want LANMAS to calculate. The measurements that you are going to input determine which button you want to use.

The [Calc Wt Based on Iso %] button should be already selected. Notice that this allows you to input the delta (difference) or the new weight for the element and the new isotope percent. LANMAS will calculate the new isotope weights based on the information you provide.

15. Click [*Calc Iso % Based on Wt*].

Notice that the light blue column headings for the isotope have changed. You can still enter the delta or new weight for the element but now you can also enter the delta or new weight for the isotope. LANMAS will then calculate the new isotope percent.

16. Click [*No Wt or % Calc*].

Now you've told LANMAS not to perform the isotope weight or percent calculations, you want to input the data yourself.

For this exercise, let's let LANMAS calculate the isotope weight based on the new element weight and the current isotope percent.

Ask students why would you want to use this button?

17. Click [*Calc Wt Based on Iso %*].

You should still have the *Demo Item 312* selected. This item has about 35 g of Neptunium as well as some other elements. We are going to take out 17 g of the Neptunium.

18. Find the row containing the Neptunium element and click in the '*Delta El Wt*' column. Type in "17".

Notice the little pencil on the far left of this row. This indicates that you are editing this line. Hit [*Enter*] or [*Tab*].

LANMAS calculated the new element weight, it now says 18.3846154 g. You could also have typed in "18.3846154" under New El Wt and LANMAS would calculate the difference for you and entered it in the Delta El Wt column.

LANMAS also calculated the new isotope weight for the isotope(s) based on the weight percent that is currently associated with each isotope.

LANMAS indicates what the delta for the element and each isotope is (that's the amount that's going into the 'to' item) and what's left in the item after the mix.

Let's assume our new measured uranium weight is 1800 g.

19. In the row containing the uranium element, click in the 'New El Wt' column. Enter *1800*.

Notice that LANMAS calculates the delta weight of the element for you. LANMAS

also calculated the new isotope weight for the isotope(s) based on the weight percent that is currently associated with each isotope.

20. Select *Demo Item 600* and make the following changes:

- Neptunium New El Wt 10 g
- Uranium Delta El Wt 10,110 g

21. Select *Demo Item 352*.

Notice that you can't change anything here, but you can see what the totals are in your new item. Now you can check your new quantities against any limits you may have set.

22. Click [*Save*].

23. Click [*OK*] at the transaction data screen. (Note the only allowable TIC is 132 – Mix).

Upon completion of the transaction the system will display new weights for each item along with assigned detail material type (DMT) code. If there is a conflict in the DMT assignment, then the user must select the one to be assigned.

The Calculate Detail Material Type screen is what you get when LANMAS doesn't know which DMT to assign to one of the items that has changed.

The top of the screen shows you everything that is in the items involved in the transaction. The bottom of the screen shows the assigned DMTs.

Those that LANMAS was able to

Handout 5-1 DMT screen example.

<p>determine have an OK under the message column. Those that LANMAS couldn't determine have some options provide for you to choose from.</p> <p>24. Click <i>[OK]</i> after recording the transaction number.</p> <p>25. You are taken back to the listing of materials that matched your search criteria.</p> <p>26. Click <i>[Exit]</i>.</p> <p>27. Run the Material Transaction Report using the Transaction Number that was recorded to verify the operation.</p>	<p>Have students record their transaction number.</p>
<p>5.5.4 Exercise 5.3.1 – Mix (Optional Placement)</p>	<p>Exercise 5.3.1 can be completed now or after the Transfer discussion (Section 5.7).</p>
<p>5.6 Split Items</p> <p>This function is used to remove material from one item to many items. Again, LANMAS is using conservation of mass.</p> <p>The user inputs the delta or new weights of the “TO” item and the system calculates the final “FROM” item. The “TO” item can already exist or a new item (or items) can be created.</p>	<p>Switch to slides TP 5-12</p> <p>“one-to-many”</p>
<p>5.6.1 Basic Requirements for a Split</p> <p>There are some basic requirements you must be aware of before you can split materials in LANMAS:</p> <ul style="list-style-type: none"> • All items must be in the same MBA 	<p>TP 5-13</p>

- Conservation of mass enforced
- Material cannot go negative

And finally, LANMAS will assign Detailed Material Type (DMT) codes to the items.

Note: When a weight change occurs in LANMAS the decay start date and weight of the item is reset.

This slide illustrates what happens with a split.

Walk through slide TP 5-14

5.6.2 Required Data

- MBA and subMBA of from material
- Names of material ('From' & 'To')
- Weight values of material
- Location of material if new item

5.6.3 Procedure

1. Select *On-Site*.
2. Select *Split*.
3. Select a date in the accounting period and click *[OK]*.
4. Select MBA *MBA1*.
5. Select subMBA *SubMBA1*.
6. Select location *Area1/Building1/Room3*.

Switch to LANMAS

Notice the [Create NEW Item] button also appears on this selection criteria window. You can create a new item from here for

the “to” side of the split transaction if needed.

7. Enter *20* in the SMT field.
8. Click [*Find Matches*].
9. Select *Demo Item 344*, *Demo Item 56*, and *Demo Item 632*.
10. Click [*Begin Split Using Selected Materials*].

The Split screen is set up just like the Mix screen.

The Split screen is divided into three sections. Fields that you can manipulate are white, under a light blue heading.

As with the Mix window, the top section, Material Data, identifies the material you have selected. The column “New” indicates whether you have created a new item or not. Notice each newly created item has a Y under new meaning YES (it’s new) and the Demo Item has an N under new, this means NO, the item is not new.

The Transaction Side column identifies whether the material is ‘to’ or ‘from.’ You use the [Set Selected Item as FROM] to identify this.

11. Select your ‘from’ item as *Demo Item 56*.
12. Click [*Set Selected Item as FROM*].

LANMAS filed out the transaction side column, notice all the items have now been marked as ‘from’ and ‘to.’

Have students scroll across to see all the headings under Material Data.

Remind students that split is ‘one- to-many’ so they can only have one ‘from’ item

Let's use the Kill if Zero column to remove Demo Item 56 from the inventory (or 'kill' it) if we take all of the material out of the item.

13. *Double-click* the gray box in the Kill If Zero column to toggle the checkmark on.

Again, the next two sections provide the element and isotope data for your items.

14. Select *Demo Item 56* ('From' Item).

Notice that, in the case of a split transaction, you are not able to change the data for the 'from' item – LANMAS will calculate this information based on what you put into the 'to' items.

Let's enter the data for the 'to' items.

15. Select *Demo Item 344* (a 'to' item).

Again, the radio buttons across the bottom of the screen tell LANMAS what isotope data you will enter versus what LANMAS calculates.

16. Click [*Calc Iso % based on Wt*].

17. Select *Demo Item 56* ('from' item)

Notice that this item has approximately 53.6 g of Neptunium and roughly 52.6 g of Uranium.

18. Select *Demo Item 344*.

19. In the row containing the Neptunium element, click in the 'Delta El Wt' column and type in "15".

Notice the little pencil on the far left of this row. This indicates that you are editing this line. Hit *[Enter]* or *[Tab]*.

LANMAS calculated the new element weight, it now says about 54.4 g. You could also have typed in "54.4285715" under New El Wt and LANMAS would calculate the delta for you.

20. Click on the row containing the Neptunium 237 isotope and click in the 'New Iso Wt' column. Type in "54.4285715". (Notice LANMAS calculates the 'New Iso Pct' for you.)
21. Perform these same steps for the Uranium element making the following changes:
 - U Element delta 20
 - U-235 delta 0.67
22. Select *Demo Item 632*.
23. Make changes to this item using the following data:
 - Np – new wt. 40
 - Np-237 – new wt. 40
 - U – new wt. 36
 - U-235 – delta 0.1
24. Click *[Save]*.
25. Click *[OK]* for TIC 133 - Split.
26. Click *[OK]* after recording the transaction number.
27. Click *[Exit]*.
28. Run the Material Transaction Report using

the Transaction Number that was recorded to verify the operation.

5.6.4 Exercise 5.3.2 – Split (Optional Placement)

Exercise 5.3.2 can be completed now or after the Transfer discussion (Section 5.7).

5.7 Transfer

Switch to slides TP 5-15

This function is used to transfer material from one bulk item to another. Both “FROM” and “TO” items must already exist. Conservation of mass applies.

“one-to-one”

The user inputs the delta or amount of material transferred from the “FROM” item. LANMAS calculates the final values of both items. You cannot create a new material/item here. This function can also be used to charge material back to a processing area.

5.7.1 Basic requirements for a Transfer

TP 5-16

Basic requirements for a transfer include:

- Can be in different MBAs
- Enforces conservation of mass
- Material cannot go negative

And finally, LANMAS will assign a new Detailed Material Type (DMT) code.

Note: When a weight change occurs in LANMAS the decay start date and weight of the item is reset.

This slide illustrates what happens with a

Walk through slide

Transfer.

TP 5-17

5.7.2 Required Data

- MBA & SubMBA of material
- Names of material ('From' & 'To')
- Weight values of material

5.7.3 Procedure

Switch to LANMAS

For the purposes of this example, let's assume that we are transferring material from a tank in MBA 1, subMBA 2 to a tank in MBA 2, subMBA 1.

1. Select *On-Site*.
2. Select *Transfer*.
3. Select a date in the accounting period and click *[OK]*.
4. Enter the criteria to locate items with a "5" in their name that are located in MBA 1 and subMBA 2.
 - Enter *MBA1* in the MBA field.
 - Enter subMBA *SubMBA2*
 - Type *%5%* in the Material Name field.

Allow students to supply the answers, especially for the Material Name field.

Notice that you don't have the Create New Material option anymore.

5. Click *[Find Matches]*.
6. Select *Demo Item 258*.
7. Click *[Begin Transfer Using Selected Materials]*.

Note that the screen stayed where it was.

LANMAS is waiting for you to identify the next item for the transfer.

Let's assume our destination material name is Demo Item 105 in MBA 2, subMBA 1.

8. Click on the *SELECTION CRITERIA* tab.
9. Select MBA *MBA2*.
10. Select subMBA *SubMBA1*.

Since our destination material name also has a "5" in it, we can keep the %5% criteria.

11. Click [*Find Matches*].
12. Select *Demo Item 105*.
13. Click [*Begin Transfer Using Selected Materials*].

We are now in the Transfer window and can begin to move the material.

You should recognize this screen now, it looks just like the mix and split screens.

14. Select *Demo Item 105*.
15. Click [*Set Selected Item as TO*].

Note that you can only edit the 'from' item.

16. Click the [*Calc Iso % Based on Wt*] button.

Notice that the [*Adv. Weight Calculation*] button becomes enabled. Clicking this button activates a form that allows for extremely complex weight distributions to

Instructor can click on button to show window if desired.

be made. The use of this feature is outside the scope of this course.

17. Click the [*Calc Wt based on Iso %*].
18. Enter 20 in the 'Delta El Wt' column for the neptunium element and hit [*Enter*].
19. Enter 20 in the 'Delta El Wt' column for the thorium element and hit [*Enter*].
20. Enter 20 in the 'Delta El Wt' column for the uranium element and hit [*Enter*].
21. Select the 'to' item – *Demo Item 105* – and note the changes LANMAS made to it (isotope weight changes were made using the existing isotope percent).
22. Click [*Save*].
23. Note the only allowable TIC is 134 – Transfer. Click [*OK*] at the transaction data screen.

You can see that LANMAS successfully assigned a DMT to all of the material because the Calculate DMT Screen is shown but immediately goes away without any input from the user.

24. Record the transaction number and click [*OK*].
25. You are taken back to the listing of materials that matched your search criteria. Select *Demo Item 105* and click on the MATERIAL INFO tab to verify that the appropriate changes were made to this item.
26. Click [*Exit*].

Have students record their transaction number.

27. Run the Material Transaction Report using the Transaction Number that was recorded to verify the operation.

5.7.4 Exercise 5.3 or Exercise 5.3.3

The complete Exercise 5.3 should be done here if not completed in sections earlier in the lesson.

5.8 Edit data

Switch to slides
TP 5-18

The last function under On-Site is Edit. This function is used to edit non-NMMSS reportable information for material in the LANMAS database.

Explain “non-reportable”

5.8.1 Basic requirements for an edit.

- Used to change basic information related to a material name.
- Can not edit accountable weights or other reportable information.

5.8.2 Items that can be changed:

Material Data

- Category
- Attractiveness
- Material name (serial number, part number, and suffix)
- Piece count
- IDC
- ANSI Code
- Inventoryable flag
- Last verified date
- Manufacture fill date
- First fill date
- Measurement type
- Instrument name

- Net weight
- Weight units
- Local owner
- Material comments
- Container type
- Gross weight
- Tare weight

Element Data

- Owner ID
- Country control number
- Concentration Pct
- Label weight
- Element assay method code
- Element assay date

Isotope Data

- Decay Start Date
- Decay Start Iso Wt
- Decayable Flag
- Isotope assay method code
- Isotope assay date

5.8.3 Procedure

1. Select *On-Site*.
2. Select *Edit*.
3. Select a date in the accounting period and click *[OK]*.
4. Select MBA *MBA1*.
5. Select subMBA *SubMBA2*.
6. Type *%10* in the Material Name field.
7. Make sure that [Selectable Items Only] is checked.

Switch to LANMAS

8. Click [*Find Matches*].

9. Click [*Begin Edit Using All Materials*].

Note that the blue headed columns indicate data that can be changed.

Most data can be edited directly by highlighting the data and typing the new information in the data field.

10. *Add a comment* about the material in the Comment field for several items.

Some data fields, such as the IDC and ANSI scrap code, must be changed by changing the information in another field and assigning the change to the desired material(s).

11. *Change the IDC code* for several items by entering the new IDC in the IDC field under the material data table and then clicking [*Assign to ALL Materials*].

12. Click [*Save*].

13. Click [*OK*] at the transaction data screen. (Note the only allowable TIC is 130 – Edit Non-Reportable Item Information).

14. Click [*OK*] after recording the transaction number.

Have students record their transaction number.

15. You are taken back to the listing of materials that matched your search criteria. Verify that the appropriate changes were made to the items.

16. Click [*Exit*].

17. Run the Material Transaction Report using the Transaction Number that was recorded

to verify the operation.

5.8.4 Exercise 5.4

Exercise 5.4

5.9 Summary

Let's summarize what you've done in this lesson. You learned that you use the move commands to move items and containers, along with their contents, within or between MBAs. These moves are accomplished using the following commands:

TP 5-3

- Move within MBA
- Move to MBA
- Accept from MBA

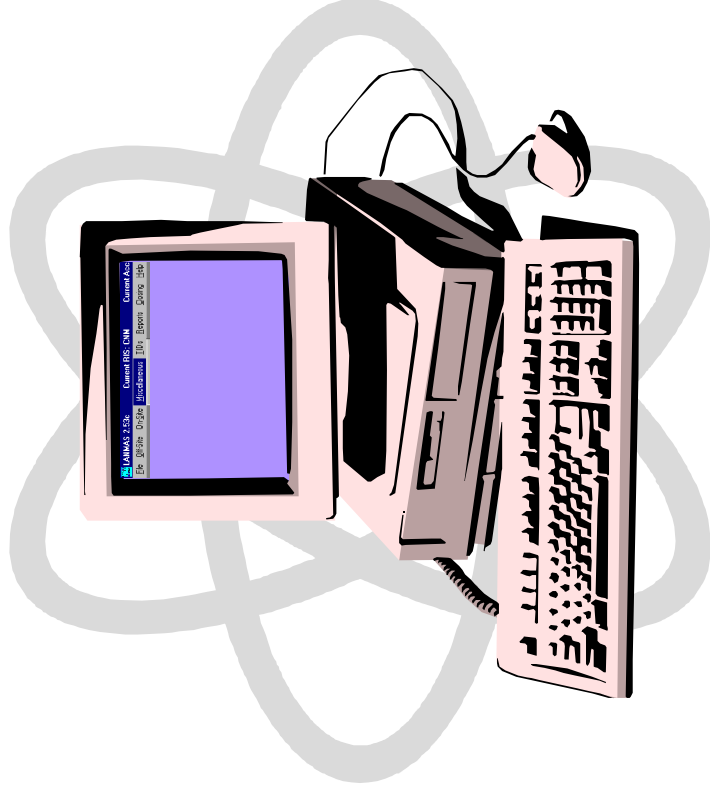
You also learned that, if you want to only move the contents of an item, you use the commands for moving material between items – Mix, Split, and Transfer.

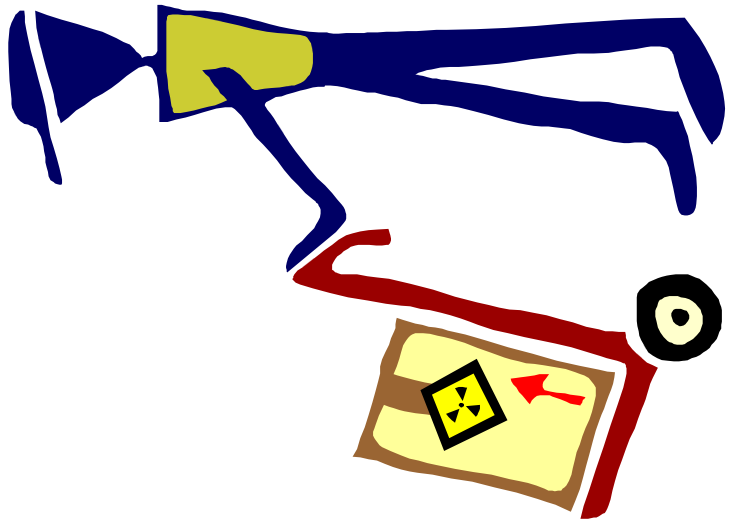
TP 5-4

You also learned how to edit non-reportable data.

Go over any problems anyone had during the exercises.

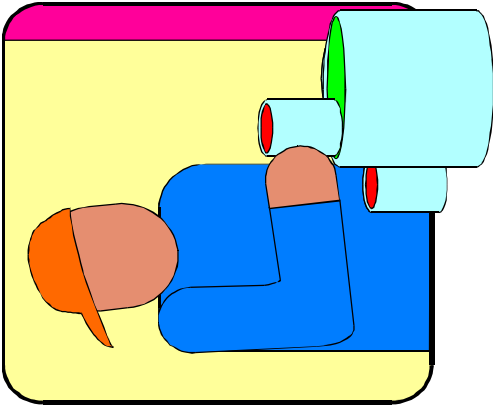
Lesson 5

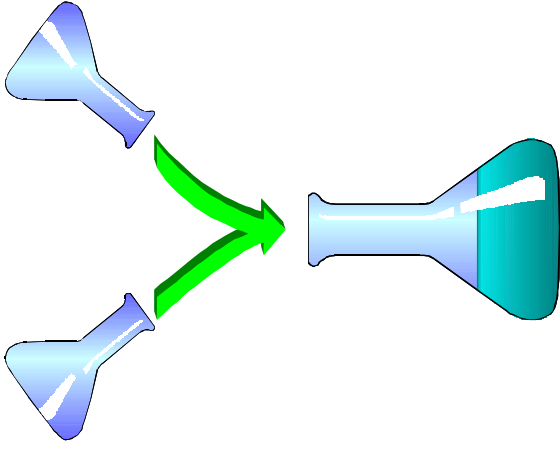


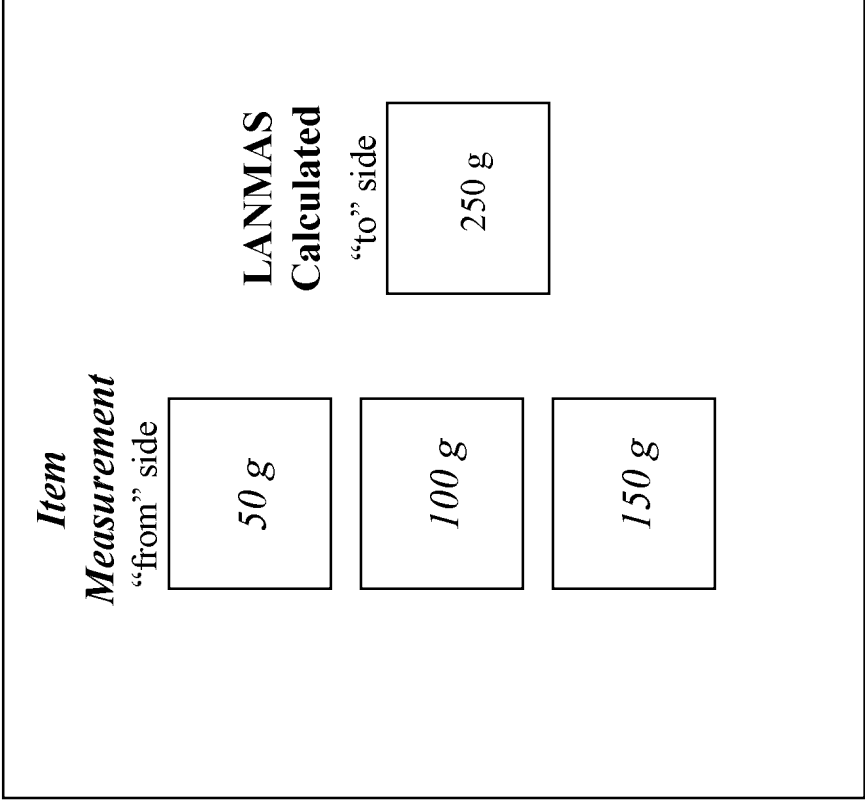
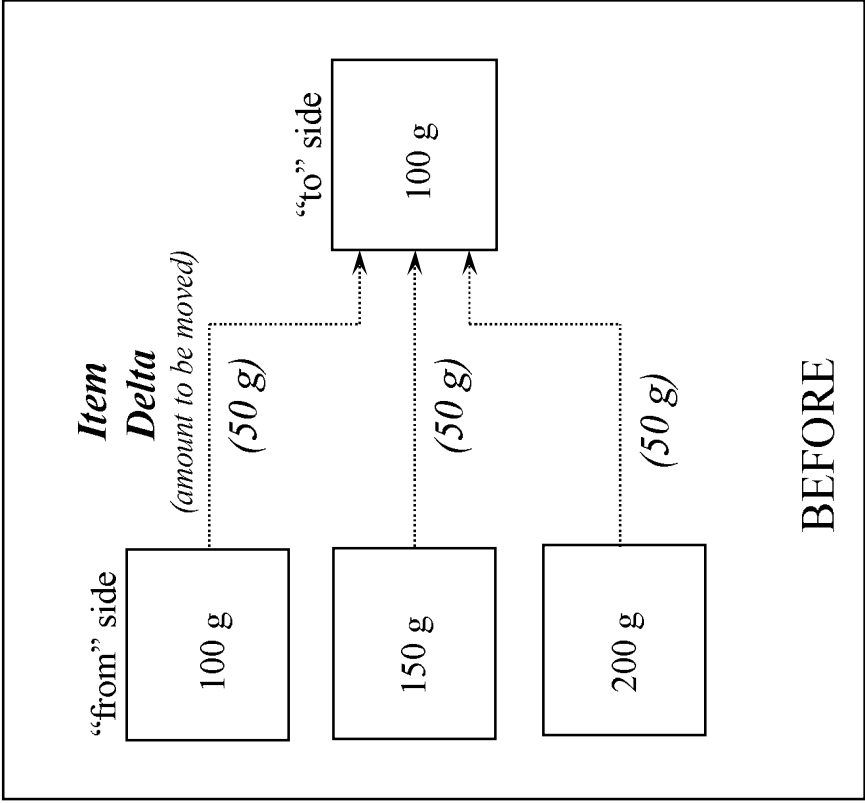


Students will perform the following:

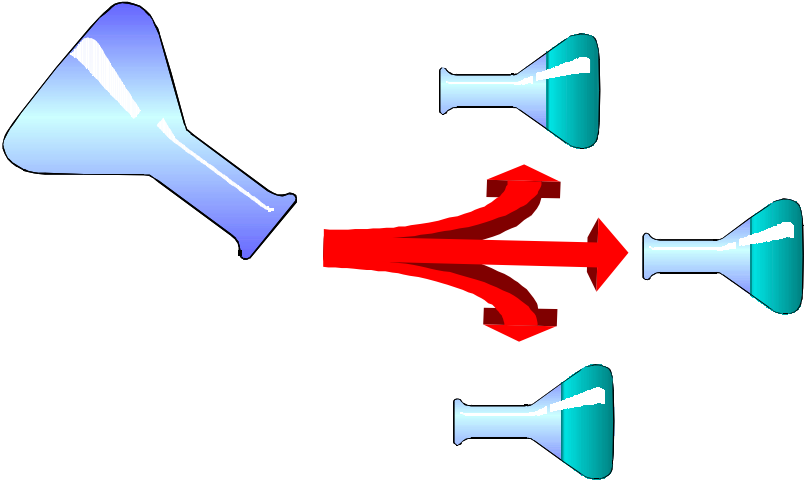


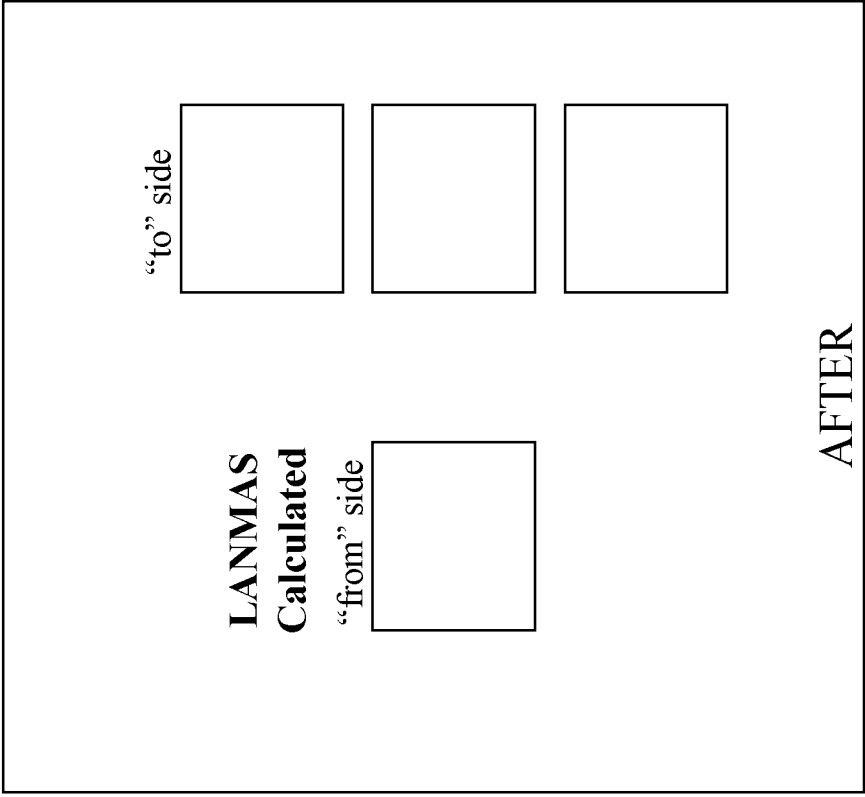
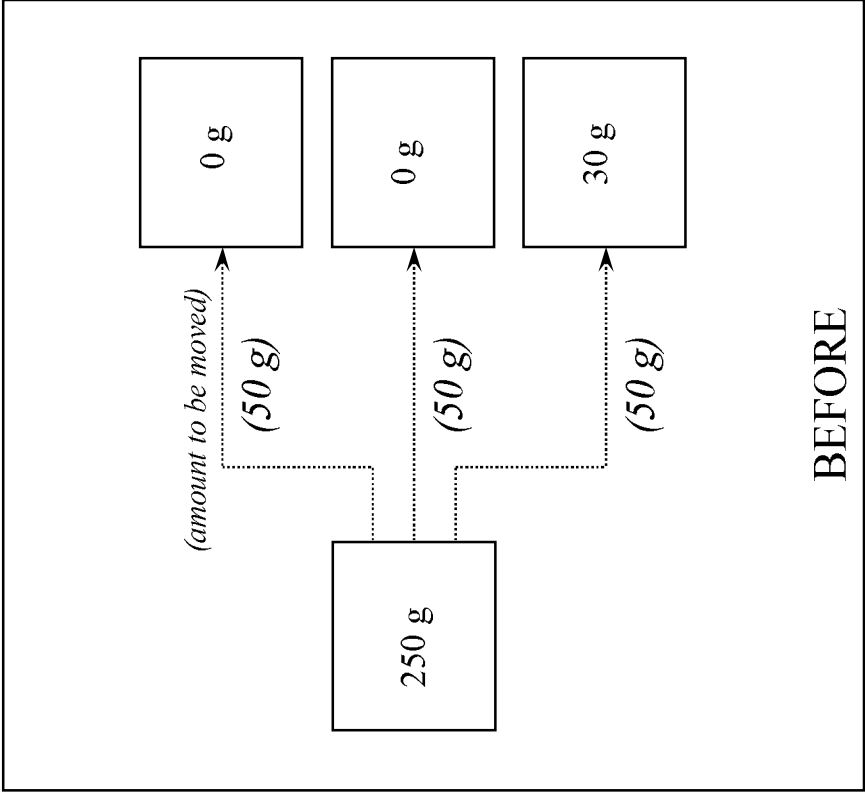




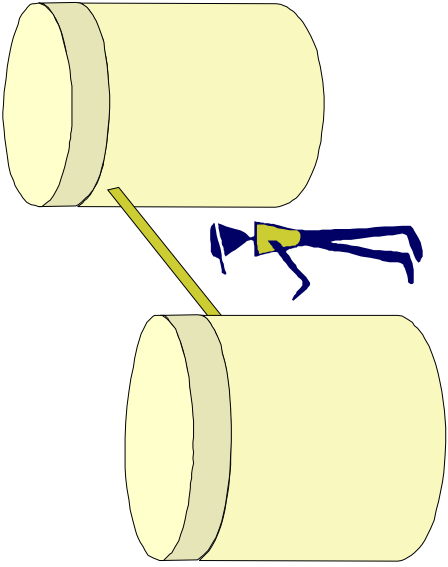


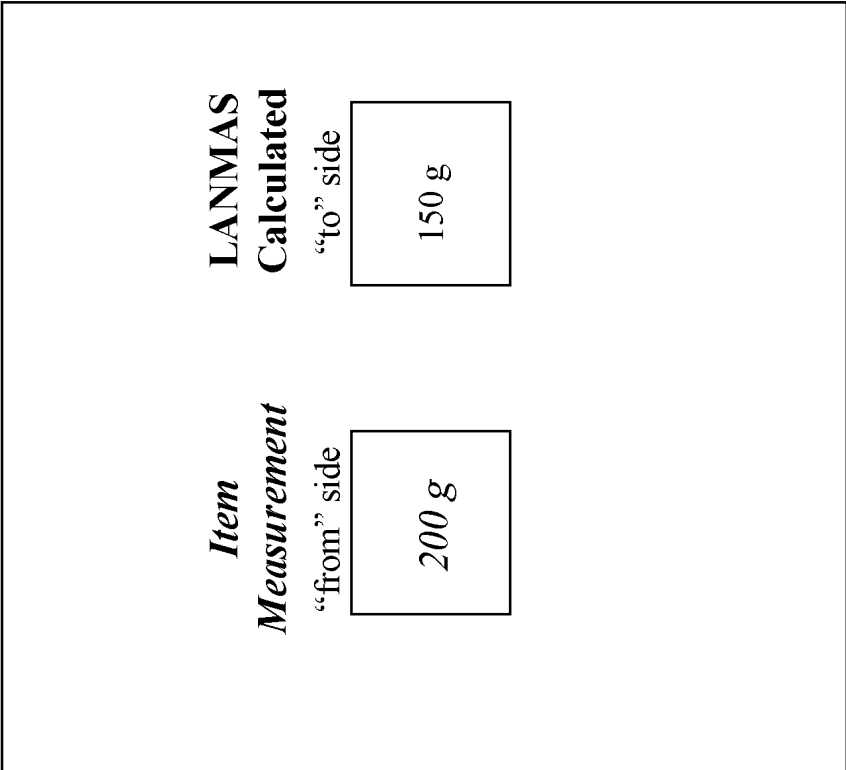
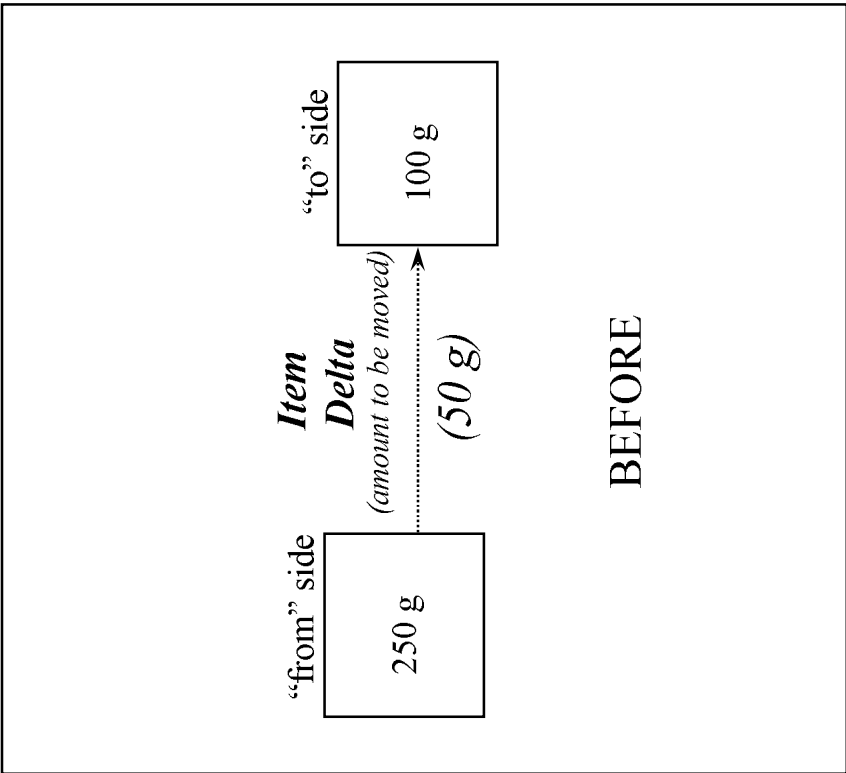
NOTE: You can enter either the Item Delta values or the Item Measurement values.
You are able to create a new item for the “to” side.



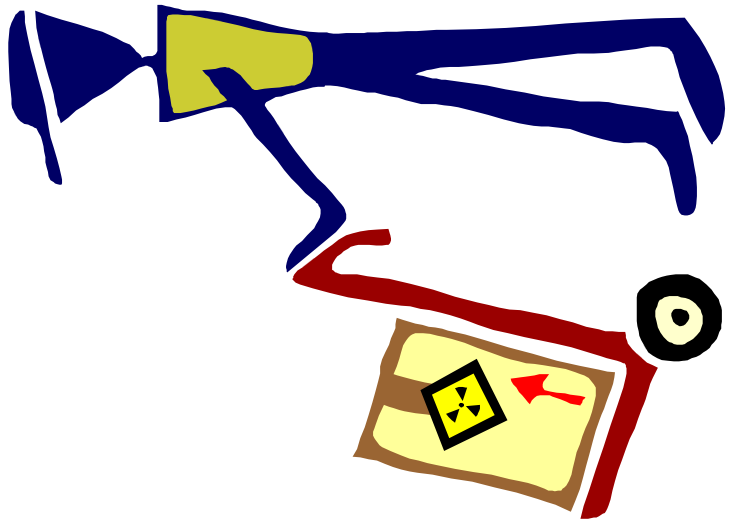


NOTE: You can enter either the Item Delta values or the Item Measurement values.
 You are able to create new items for the “many” side.





NOTE: You can enter either the Item Delta values or the Item Measurement values. You cannot create new items for a transfer.





Exercise 5.1 Moving Items within an MBA – Instructor Notes

Exercise Objectives: Gain practical experience entering transactions using the Move Within MBA command.
Use a concrete example to demonstrate how location changes and account changes are reflected in various LANMAS reports and the difference between a ledger report and a journal report. (optional instruction)

Instructions: Read each exercise and enter the appropriate transaction(s) into LANMAS. Record the transaction number assigned by LANMAS in the space provided.

Exercise 5.1.1 – Changing Locations

You are entering data for MBA3. Operations personnel are preparing for an off-site shipment and are measuring the items that will be shipped. On April 1, move Demo Item 109 from Area 1/Building 1/Room 3 to Area 1/Building 1/Room 2 for measurement. The SubMBA will remain the same.

Before Transaction

MBA = 3
SubMBA = 2
Location = Area 1/Building 1/Room 3

After Transaction

MBA = 3
SubMBA = 2
Location = Area 1/Building 1/Room 2

Transaction number: _____.

Exercise 5.1.2 – Changing Accounts

On November 2, MBA3 personnel moved Demo Item 132 from subMBA1 to subMBA2. Enter the transaction to move the item to the appropriate account and/or location.

Before Transaction

MBA = 3
SubMBA = 1
Location = Area 1/Building 1/Room 3

After Transaction

MBA = 3
SubMBA = 2
Location = Area 1/Building 1/Room 3

Transaction number: _____.

Challenge

Click on the Reports menu. Using the information you learned in Lesson 2 about ledgers and journals, identify the reports that will show the transaction you entered in

Exercise 5.1 Moving Items within an MBA – Instructor Notes

Exercise 5.1.1. Next, identify the reports that may show the transaction entered in Exercise 5.1.2.

Instructor Notes:

- Make sure all students realize that they must first change the RIS before they can enter the transactions.
- Make sure students have entered the correct date in the transaction data window. It should be the date the transaction occurred, not the date the transaction was entered.
- Assist students as necessary to find and select the item required for the transaction.
- Remind students of the procedure for moving the item between locations and accounts. (You may want to write it down on the board or review it before the students start.)
- Tell students that they can verify that they have moved the item to the correct location/account by reviewing the data in the table in the Materials Selected section of the window. They should do this before they click [Save]. (The additional data columns can be viewed by scrolling the table to the right.)

Post-Exercise Discussion:

- Ask students if they had any problems entering the transaction. Discuss problems.
- Ask students if any tried the “Challenge” question. Ask students to identify the reports and explain which transaction is shown and which is not and why.
The transaction entered in Exercise 5.1.1 is only shown on the material transaction report. This is because only the location was changed. The account in which the material is located (MBA1, subMBA2) did not change. Ledger and journal reports only show account changes. (Optional: Allow students to view the Material Transaction Report showing the transactions.)
Exercise 5.1.2 involves a change in account from subMBA 1 to subMBA 2 and therefore will show up on the journal and ledger reports listed. (Optional: Allow the transaction. Explain the differences in types of information and presentation for each type of report.)

Exercise 5.1 – Moving Items within an MBA

Instructions Read each exercise and enter the appropriate transaction(s) into LANMAS.
 Record the transaction number assigned by LANMAS in the space provided.

Exercise 5.1.1 – Changing Locations

You are entering data for MBA 3. Operations personnel are preparing for an off-site shipment and are measuring the items that will be shipped. Two days ago, operations personnel moved Demo Item 109 from Area 1/Building 1/Room 3 to Area 1/Building 1/Room 2 for measurement. The subMBA remains the same.

Before Transaction	After Transaction
MBA = 3	MBA = 3
SubMBA = 2	SubMBA = 2
Location = Area 1/Building 1/Room 3	Location = Area 1/Building 1/Room 2

Transaction number: _____

Exercise 5.1.2 – Changing Accounts

Yesterday, MBA 3 personnel moved Demo Item 132 from subMBA1 to subMBA2. Enter the transaction to move the item to the appropriate account and/or location.

Before Transaction	After Transaction
MBA = 3	MBA = 3
SubMBA = 1	SubMBA = 2
Location = Area 1/Building 1/Room 3	Location = Area 1/Building 1/Room 3

Transaction number: _____

Challenge

Click on the Reports menu. Using the information you learned in Lesson 2 about ledgers and journals, identify the reports that will show the transaction you entered in Exercise 5.1.1. Next, identify the reports that may show the transaction entered in Exercise 5.1.2.

Exercise 5.2 Moving Items Between MBAs – Instructor Notes

Exercise Objectives: Gain practical experience entering transactions using the Move to MBA and Accept from MBA commands.
Use the material information window to obtain information about a specific material name.

Instructions: Read each exercise and enter the appropriate transaction(s) into LANMAS.
Record the transaction number assigned by LANMAS in the space provided.

Exercise 6.2.1 – Moving Items Out of an MBA

MBA 3 has sent three items to MBA 4. Complete the shipping MBA's part of the transaction to move items Demo Item 125, Demo Item 156, and Demo Item 157 to MBA4. Assume the transaction occurred today.

Move Items from MBA 3 to MBA 4 Intransit Account
Demo Item 125
Demo Item 156
Demo Item 157

Transaction number: _____

Exercise 5.2.2 – Receiving Items into an MBA

The items from Exercise 5.2.1 are received into SubMBA 2 and placed in Area 2. MBA 4 can not accept any tritium and Demo Item 157 is a tritium item. It was sent by mistake so it will be returned to MBA 3.

Accept Items Into MBA 4/SubMBA 2 and in Location Area 2
Demo Item 125
Demo Item 156

Reject Item/Return to Intransit for MBA 3
Demo Item 157

Transaction number(s): _____

Exercise 5.2 Moving Items Between MBAs – Instructor Notes

Instructor Notes:

- Make sure all students are in the correct RIS after completing exercise 5.1.
- Assist students as necessary to find and select the item required for the transaction.
- Remind students of the procedure for moving the items between MBAs. (You may want to write it down on the board or review it before the students start.)
- Exercise 5.2.1
 - Verify that the Move to MBA transaction has been correctly entered.
- Exercise 5.2.2
 - Remind students that they can click on the Material Information tab to look at the element weights for each item to identify the item(s) that should be rejected. (The item containing tritium – Demo Item 157 – should be rejected since tritium cannot be accepted in Area 2.)
 - Make sure all students remove the correct item from the list of items to be accepted.
 - Make sure students complete the “reject” part of the exercise.
 - If time permits, students can complete the transaction accepting the rejected item back into MBA3. (optional, instructor to provide oral directions)

Post-Exercise Discussion:

- Ask students if they had any problems entering the transaction. Discuss problems.
- If the students did not complete the transaction accepting the rejected item back into MBA3, the instructor may want to demonstrate how to complete the transaction accepting the material back into the original shipping MBA using the Accept from MBA command. (optional)
- Discuss the report(s) that the transaction would be shown on and which report would be the best to review. (optional)

Exercise 5.2 – Moving Items Between MBAs

Instructions Read each exercise and enter the appropriate transaction(s) into LANMAS.
Record the transaction number assigned by LANMAS in the space provided.

Exercise 5.2.1 – Moving Items Out of an MBA

MBA3 has sent three items to MBA 4. Complete the shipping MBA's part of the transaction to move items Demo Item 125, Demo Item 156, and Demo Item 157 to MBA 4. Assume the transaction occurred today.

Move Items from MBA 3 to MBA 4 Intransit Account

Demo Item 125
Demo Item 156
Demo Item 157

Transaction number: _____

Exercise 5.2.2 – Receiving Items into an MBA

The items from Exercise 5.2.1 are received into SubMBA 2 and placed in Area 2. MBA 4 can not accept any tritium and Demo Item 157 is a tritium item. It was sent by mistake so it will be returned to MBA 3.

Accept Items Into MBA4/SubMBA 2 and in Location Area 2.

Demo Item 125
Demo Item 156

Reject Item/Return to Intransit for MBA 3

Demo Item 157

Transaction number(s): _____

Lesson 6: Student Exercises

5.3.1 Exercise - Split Material

MBA MBA3
 SubMBA SubMBA1

From	Element Wt	New EI Wt	New Isotope Wt.	New Iso Wt Pct
Demo Item 260	47.5164836 (Am)	7.5164836 (Am)	2.5274726 (Am-243)	30
	48.5274726 (Cm)	8.5274726 (Cm)	2.5274726 (Cm-246)	30
To				
Exercise Item 1	0 (Am)	20 (Am)	6 (Am-243)	30
IDC = IDC020	0 (Cm)	20 (Cm)	6 (Cm-246)	30
Exercise Item 2	0 (Am)	20 (Am)	6 (Am-243)	30
IDC = IDC020	0 (Cm)	20 (Cm)	6 (Cm-246)	30

Lesson 6: Student Exercises

5.3.2 Exercise - Mix Material

MBA MBA3
SubMBA SubMBA1

From	Element Wt	New EI Wt	Isotope Wt.	New Iso Wt
Demo Item 244	16.1758242 (Th)	-----	16.1758242 (Th-228)	-----
Demo Item 164	33.3626374 (Np)	20.3626374 (Np)	33.3626374 (Np-237)	20.3626374 (Np-237)
	32351.6484 (U)	20006.6484 (U)	95.4373628 (U-235)	49.0196127 (U-235)
To				
Demo Item 348	48.5274726 (Np)	61.5274726 (Np)	48.5274726 (Np-237)	61.5274726 (Np-237)
	46.5054946 (Th)	62.6813188 (Th)	46.5054946 (Th-228)	62.6813188 (Th-228)
	47.5164836 (U)	12392.5164836(U)	1.3067033 (U-235)	37.7244534 (U-235)

Note: Sample Item 1 should be off of inventory after this transaction because Kill If Zero was set for this item.

Lesson 6: Student Exercises

5.3.3 Exercise: Transfer Material

From MBA MBA3
 From SubMBA SubMBA2
 To MBA MBA4
 To SubMBA SubMBA1

From	Element Wt	New EI Wt	Isotope Wt.	New Iso Wt
Demo Item 21	42.4615385 (Am)	2.4615385 (Am)	12.738462 (Am-241)	0.7384615 (Am-241)
	43.4725275 (Cm)	2.4725275 (Cm)	13.041758 (Cm-246)	0.7417582 (Cm-246)
	41.4505495 (Pu)	2.4505495 (Pu)	8.704615 (Pu-239)	0.5146153 (Pu-239)
			3.5232967 (Pu-240)	0.2082967 (Pu-240)
			12.435165 (Pu-241)	0.7351648 (Pu-241)
To				
Demo Item 102	27.2967033 (Am)	67.2967033 (Am)	8.189011 (Am-241)	20.1890115 (Am-241)
	28.3076923 (Cm)	69.3076923 (Cm)	8.492308 (Cm-246)	20.7923078 (Cm-246)
	26.2857143 (Pu)	65.2857143 (Pu)	5.52 (Pu-239)	13.7099997 (Pu-239)
			0.5257143 (Pu-240)	3.8407143 (Pu-240)
			7.885714 (Pu-241)	19.5857142 (Pu-241)

Exercise 5.3 Mix, Split, Transfer – Instructor Notes

Exercise Objectives: Gain practical experience entering transactions using the Mix, Split, and Transfer commands.
Gain practical experience creating an item during a mix or split transaction.

Instructions: Read each exercise and enter the appropriate transaction(s) into LANMAS. Record the transaction number assigned by LANMAS and the name(s) of any item(s) created in the spaces provided. Use the default activity date.

Exercise 5.3.1

MBA3 operates a process line that makes an americium/curium oxide. The process line is located Room 3 in Building 1 (Area 1). The material will be in subMBA1 until it is moved to the vault. You are removing material from a process line containing an americium/curium mixture. You are placing 40 grams of material into two new containers for storage. (Assume each item contains 20 grams of Am and 20 grams of Cm with isotopic percents the same as that in the process area.) The process line is represented in LANMAS as Demo Item 260. If items are created during the transaction, they should use an IDC of ID020.

Transaction number: _____

Item Name(s): _____

Exercise 5.3.2

MBA 3 has a solution of Np, Th, and U in its process. The process is represented in LANMAS as Demo Item 348 and is accounted for in subMBA1.

Operations personnel add all of the material from Demo Item 244 to the process. They also add 12358 grams of material from an item containing a U and Np mixture (Demo Item 164) into the process. It is estimated that this represents 13 g of Np and 12345 g of U. (Assume the isotopic percents for each element in both items remain the same.)

Transaction number: _____

Exercise 5.3 Mix, Split, Transfer – Instructor Notes

Exercise 5.3.3

MBA3 and MBA4 have process lines that are connected by imbedded piping. MBA3 routinely transfers an americium/curium/plutonium solution from their process line (represented by Demo Item 21) to the MBA4 process line (represented by Demo Item 102). Today, MBA3 has transferred solution containing 40 grams of Am, 41 grams of Cm, and 39 grams of Pu to MBA4. (Assume the isotopic percent for each element remains the same.)

The MBA4 process line is in subMBA1, Area 2. MBA3's process line is in subMBA2, Area 1, Building 1, Room 3.

Transaction number: _____

Instructor Notes:

- Make sure students use the correct command for each exercise. (Exercise 5.3.1 – Split, Exercise 5.3.2 – Mix, Exercise 5.3.3 – Transfer.) Assist students as necessary to identify the correct command.
- Remind students of the procedure for completing mix, split, and transfer transactions. (You may want to write it down on the board or review it before the students start.)
- Assist students as necessary create the new items.
- Make sure students have checked the correct radio button at the bottom of the Mix, Split, and Transfer windows.

Post-Exercise Discussion:

- Any questions or problems?
- Exercise 5.3.1
 - Make sure students recognize this transaction as a “split” transaction and use the Split command.
 - Did anyone check “kill if zero” for Demo Item 260? Why or why not? Note: Students should not have “killed” Item 260 because, since Item 260 represents the process line and not a single item, they would be removing the process line from the database.
- Exercise 5.3.2
 - Did anyone check the “kill if zero” box for Demo Item 244? Why or why not? Students could have checked the box since it was for an item that is empty after the transaction is complete.
 - Run the material transaction report. If the students checked the “kill if zero” box, the status in the transaction report will show “G” for gone.
- Exercise 5.3.3
 - Make sure students recognize this transaction as a “transfer” transaction and use the Transfer command.
 - Why can't you just use the Move Between MBAs command instead of the Transfer command?

Exercise 5.3 – Mix, Split, and Transfer Transactions

Instructions

Read each exercise, select the appropriate LANMAS command, and enter the transaction(s) into LANMAS. Record the transaction number(s) and the name(s) of any item(s) created for the transaction in the spaces provided. Use the default activity date.

Exercise 5.3.1

MBA3 operates a process line that makes an americium/curium oxide. The process line is located Room 3 in Building 1 (Area 1). The material will be in subMBA1 until it is moved to the vault. You are removing material from a process line containing an americium/curium mixture. You are placing 40 grams of material into two new containers for storage. (Assume each item contains 20 grams of Am and 20 grams of Cm with isotopic percents the same as that in the process area.) The process line is represented in LANMAS as Demo Item 260. If items are created during the transaction, they should use an IDC of ID020.

Transaction number: _____

Item Name(s): _____

Exercise 5.3.2

MBA 3 has a solution of Np, Th, and U in the process. The process is represented in LANMAS as Demo Item 348 and is accounted for in subMBA1.

Operations personnel add all of the material from Demo Item 244 to the process and remove the item from inventory. They also add material from an item containing a U and Np mixture (Demo Item 164) into the process. 13 g of Np and 12345 g of U are mixed into the process from this item. (Assume the isotopic percents for each element in both items remain the same.)

Transaction number: _____

Exercise 5.3 – Mix, Split, and Transfer Transactions

Exercise 5.3.3

MBA3 and MBA4 have process lines that are connected by imbedded piping. MBA3 routinely transfers an americium/curium/plutonium solution from their process line (represented by Demo Item 21) to the MBA4 process line (represented by Demo Item 102). Today, MBA3 has transferred solution containing 40 grams of Am, 41 grams of Cm, and 39 grams of Pu to MBA4. (Assume the isotopic percent for each element remains the same.)

The MBA4 process line is in subMBA1, Area 2. MBA3's process line is in subMBA2, Area 1, Building 1, Room 3.

Transaction number: _____

Exercise 5.4 Edit – Instructor Notes

Exercise Objectives: Gain practical experience changing non-reportable material data using the Edit command.

Instructions: Read each exercise and enter the appropriate transaction(s) into LANMAS. Record the transaction number assigned by LANMAS in the space provided. Use the default activity date.

Exercise 5.4 – Editing Material Information

MBA3 has just completed a verification measurement of Demo Item 5. You are using LANMAS to keep track of when these measurements are made so you must enter the verification information into the database. The weight measurement was made today using instrument name Scale 01. You also noticed that the item description code for the item was entered incorrectly in LANMAS. The IDC should be ID030.

Update fields for Demo Item 5
Instrument Name = Scale 01
IDC = ID030

Transaction number: _____

Instructor Notes:

- Remind students of the procedure for completing an edit transaction. (You may want to write it down on the board or review it before the students start.)
- Assist students as necessary.

Post-Exercise Discussion:

- Any questions or problems?
- What report(s) could you use to review your changes? Where else could you find a record of your changes? (Later, the Material Information command will be discussed. This is also a good way to view changes.)

Exercise 5.4 – Editing Material Information

Instructions Read each exercise, select the appropriate LANMAS command, and enter the transaction(s) into LANMAS. Record the transaction number(s) in the spaces provided. Use the default activity date.

MBA 3 has just completed a verification measurement of Demo Item 5. You are using LANMAS to keep track of when these measurements are made so you must enter the verification information into the database. The weight measurement was made today using instrument name Scale 01. You also noticed that the item description code for the item was entered incorrectly in LANMAS. The IDC should be ID030.

Update fields for Demo Item 5

Instrument Name = Scale 01

IDC = ID030

Transaction number: _____

**United States Department of Energy
National Training Center**

LESSON PLAN

TITLE: Miscellaneous Menu Options

COURSE: MCA-214

6. Miscellaneous Menu Options

TP 6-1 (4 hours)

Lesson Goal:

The goal of this lesson is for students to understand how to use the MISCELLANEOUS menu options in LANMAS.

TP 6-2

Lesson Objectives:

Students will learn how to perform the following functions:

TP 6-3

- Adjust the current weights of an item
- Add new elements and isotopes to an item
- Associate assay methods with elements/isotopes
- Create items
- Change a project number

6.1 Adjustments

TP 6-4

This function is used to adjust (or change) the element and isotope weights in an existing item. The adjustment function can also be used to add a new item to the inventory.

Inventory adjustments result from activities such as:

- Measurements
- Re-measurements
- Material changes
- Rounding
- Write-offs

In an adjustment transaction, LANMAS will allow you to credit/debit the amount of the adjustment to

the proper account or item. This is referred to as “chargeback.” We will talk more about this later in this lesson.

6.1.1 Weight Adjustments

Let’s enter some data for an adjustment transaction. In this case, let’s assume that material in our process has been re-measured and we are replacing the values on our records with the new value. The item is in MBA1, subMBA2. We also need to delete an item that has been written off of our inventory.

1. Verify RIS and accounting period.

Let’s use RIS *DZA*, and the first open accounting period.

2. Select *Miscellaneous*.
3. Select *Adjustments*.
4. Select a date in the accounting period and click *[OK]*.
5. Use the selection criteria to find Demo Item 146 in MBA 1 and subMBA 2.
 - Select MBA *MBA1*.
 - Select SubMBA *SubMBA2*.
 - Type “%6” into the Item Name field.
 - Click *[Find Matches]*.
 - Select Item *Demo Item 146*.
 - Click *[Begin Adjustments Using Selected Materials]*.

The Adjust Material window should look pretty familiar to you by now. With a few exceptions, it is identical to the mix, split, and transfer windows we talked about in the last lesson. Remember the blue fields

Switch to LANMAS

Allow students to find the items on their own. Provide guidance using the bulleted steps if required. Provide tips on using “%6” to find everything with a 6 at the end.

Have students notify you when they are at the Adjust Material window.

are “editable.”

One difference in this window is that there are a lot more buttons.

- [Delete Material]

In the material data section you have a [Delete Material] button. If you select an item and click this button, it removes the item from the inventory

- [Add/Delete Element], [Add/Delete Isotope]

The element and isotope data boxes have buttons for you to add or delete elements and isotopes.

- [Cascade Net Weight]

Some DOE sites determine new values for the element and isotope weights based on a change in net weight for an item or material. This can be accomplished in LANMAS using the cascade net weights feature.

When you enter new net weight information, LANMAS automatically determines new element and isotope weights based on the ratio of those weights to the new net weight.

- [Calculate Decay]

This button allows you to calculate decay for a single item and post it as a transaction during the accounting period. It also lets you determine ingrowth for a material.

6. Select *Demo Item 146*.

7. Verify that the *Calc Wt based on Wt %* button is selected at the bottom of the window.
8. Select the row containing the neptunium element.
9. Type -5 in Delta El Wt and hit *[Enter]*.

LANMAS calculated the New Ele Wt, the Delta Iso Wt, and the New Iso Wt.

10. Click *[Save]*.

Notice that you have lots of TICs to choose from now! LANMAS does not do an error check on the adjustment TICs, it's up to you to make sure you're assigning the correct TIC.

11. Click on TIC 89, Redetermination of Material in Process and click *[OK]*.
12. Record the transaction number and click *[OK]*.

LANMAS brings you back to the Material tab. Notice the item you deleted (*Demo Item 226*) is no longer there. Scroll over and you can see that the TIC for *Demo Item 146* is 89.

6.1.2 Deleting Items

Now, we will use the Adjustment transaction to delete an item that has been written off of our inventory.

Note the negative number. Ask students what the (-) sign means. New element wt. less than original wt.

Briefly scroll through available TICs. Point out that TICs with both 'M' and 'I' action codes are listed. If necessary review what these mean.

Have students record their transaction numbers.

1. Click the *Selection Criteria* tab.
2. Use the selection criteria to find Demo Item 226 in MBA 1 and subMBA 2.
 - Select MBA *MBA1*.
 - Select SubMBA *SubMBA2*.
 - Type “%6” into the Item Name field.
 - Click [Find Matches].
 - Select Item *Demo Item 226*.
 - Click [Begin Adjustments Using Selected Materials].

3. Select *Demo Item 226* and click [*Delete Material*].

LANMAS crossed out the material data, and the element and isotope information for the item. Notice that the button changed from [Delete Material] to [Undelete Material]. Just in case you change your mind!

13. Click [*Save*].
14. Click on TIC 76, Approved Write-Offs and click [*OK*].
15. Record the transaction number and click [*OK*].

LANMAS brings you back to the Material tab. Notice the item you deleted (*Demo Item 226*) is no longer there.

6.1.3 Chargebacks

Whenever possible, inventory differences should be credited to or debited from the

Allow students to find the items on their own. Provide guidance using the bulleted steps if required. Provide tips on using “%6” to find everything with a 6 at the end.

Have students notify you when they are at the Adjust Material window.

Ask students why you would delete material?

If necessary, emphasize the difference between the remove buttons ([Remove Selected Items], [Remove All Items]) vs. delete button. Remove only removes from transaction, delete permanently removes from inventory.

Have students record their transaction numbers.

TP 6-5

account where the material originated. This allows you to maintain a proper balance in the originating account. This concept is referred to as “chargeback” since the inventory difference is charged back (i.e., returned) to the originating account.

The chargeback function in LANMAS allows you to automatically apply a difference created by an adjustment to a specified MBA, subMBA, and location. This is done through the use of a “chargeback item.”

When material is charged back to another account, LANMAS automatically creates a chargeback item in the specified chargeback MBA, subMBA, and location.

The chargeback amount is posted to the chargeback account by creating a “chargeback item” with weight values equal to the amount of the adjustment (i.e. the amounts in the Delta El Wt and Delta Iso Wt columns). LANMAS automatically creates and names chargeback items. Names are generated using a combination of the transaction number and the LANMAS-designated numerical material identifier preceded by a “CB” prefix.

CB - Transaction Number - LANMAS-Generated Material Identifier

The element and isotope weights in a chargeback item can be positive (if the new weight is less than the original weight) or negative (if the new weight is more than the original weight).

If the user entering the transaction specifies only a chargeback MBA designation and not a subMBA or location, the chargeback item is placed in the chargeback MBA’s in-transit account.

TP 6-6

WRITE ON BOARD
naming example:

Transaction Number =
123
Material ID = 1234567
Chargeback Item Material
Name: CB-123-1234567

The chargeback function also provides the user the option of automatically removing the chargeback item from the chargeback account as an inventory difference. If this option is chosen, the chargeback amount is automatically assigned to a user-specified inventory difference TIC and the chargeback item is removed from inventory. Note: The TIC used for the chargeback item will be applied to all materials included in the transaction.

Chargeback items not automatically assigned to an inventory difference TIC remain in the chargeback MBA's account until they are reassigned or written off in a separate transaction. These materials can be included with other materials in an adjustment transaction. The adjustment TIC specified at the end of the transaction is not applied to materials charged back to another account but not immediately written off. This is because the chargeback amount is not removed from inventory, only moved to another account. (LANMAS automatically assigns a chargeback TIC to these materials, not an adjustment TIC.)

The chargeback process can generate two distinct transactions. The first transaction creates the chargeback item and makes the desired change in the inventory. In this transaction, the material amounts in both the adjusted item and the chargeback item are updated.

The second transaction that can occur is the removal of the chargeback amount as an inventory difference.

6.1.4 Adjustments with a Chargeback and Using a Calc Method

Let's enter some data for an adjustment transaction. In this case, let's assume that material has been removed from a process and put into Demo Item 106 at an estimated value. The lab has measured the item using the mass spectrometer and provided new weights for the material. We need to enter the new data and return the difference back to the process (since it represents either material that was never removed from the process or material that should have been removed from the process). The item is in MBA1, subMBA2 and the process is in MBA2, subMBA1, Area2.

1. Click the *Selection Criteria* tab.
2. Use the selection criteria to find Demo Item 106 in MBA 1 and subMBA 2.
 - Select MBA *MBA1*.
 - Select SubMBA *SubMBA2*.
 - Type "%6" into the Item Name field.
 - Click [Find Matches].
 - Select *Demo Item 106*.
 - Click [Begin Adjustments Using Selected Materials].

3. Select *Demo Item 106*.

Let's record our measurement type.

4. Type "mass spec" under Measure Type.

Scroll over to the Chg Back MBA column. This is where you enter the MBA where you want the inventory difference to go. This allows the weight to be put back into the process.

Switch to LANMAS

Allow students to find the items on their own. Provide guidance using the bulleted steps if required. Provide tips on using "%6" to find everything with a 6 at the end.

Have students notify you when they are at the Adjust Material window.

5. Select *MBA2* under 'Chg Back MBA'.

If you are returning the inventory difference to another MBA, you may not have the proper security authorizations to enter the receiving subMBA and location. In this case, the chargeback item containing the amount of the adjustment is maintained in the originating MBA's in-transit account until it is accepted into the MBA and assigned to a subMBA and location.

6. Select *SubMBA1* under 'Chg Back subMBA'.

7. Select *Area2* under 'Chg Back Location'.

The next column is Write Off as ID. This column contains a checkbox. If the box is checked, the inventory difference created by the adjustment transaction will be immediately removed from the books as an inventory difference. An additional transaction removing the chargeback as an inventory difference for MBA 2 will be recorded and MBA 2 won't have to enter any further transactions related to the chargeback.

If the box is not checked, the adjustment transaction will create a chargeback item in the chargeback account – in this case, MBA 2. MBA 2 will then need to use the transfer or mix functions to return the material in the chargeback item to the correct material name.

We will leave the box un-checked for our example.

Notice a new column – Calc Method – appears in the material data table.

Calculation methods are used to make advanced calculations for adjustments using raw process data. Although details about using calculation methods are covered in the advanced LANMAS course, let's take a quick look at the form.

8. Click in the 'Calc Method' column and select PUCALC from the list.

Calculation methods are programmed in to LANMAS through LANMAS Administration Program. Each step is entered and the calculation method is named. In this case, someone has created a method to calculate the amount of total Pu, Pu-239, Pu-240, and Pu-241 in a material name.

The step types indicates if the value is a:

- M indicates measured value – these are the values you enter.
- F indicates a final value – these are the results of the calculation.
- I indicates an intermediate step – LANMAS calculates these values and uses them in other calculations.

You can scroll right and look at the other information you can capture in LANMAS using this window.

9. Enter the following values for the measurement information:
 - Density: *0.05*
 - Liquid Level: *9.885*
 - Conc. Reading #1: *0.875*
 - Conc. Reading #2: *0.94*
 - PU-239: *20.99*
 - PU-240: *5.5*
 - PU-241: *30*

Point out that all the data entry steps have an 'M' in the Step Type column.
WRITE data on board

10. Click [*Calc*] and you can see what the calculation result are.

11. Click [*Save*].

Notice that none of the materials values changed on the adjustment screen.

12. Select *PUCALC* in the '*Calc Method*' column to open the Measurement Calculation form again. Notice that your data is still there.

Notice the 'Change Books?' box in the upper right-hand corner of the form. When this box is checked, the results of the calculation will be used to update the material weights of the item selected in the main Adjust Material window.

Ask students why they would NOT want to change the books?

13. Check the '*Change Books?*' check box.

14. Click [*Save*].

Notice that LANMAS calculated the changes to the Plutonium element for you this time.

Now we are going to add uranium to Demo Item 106. Let's assume the uranium contains the isotope U-235.

15. Click [*Add Element*].

Notice the top of this form is disabled. This is because we are editing an existing item, not creating a new item.

Notice that plutonium is missing from this list because this material already contains a plutonium element.

16. Select *uranium* from the Element Name pull down list.

17. Give this element an Owner ID of *G*.
18. Select *ABC1010101* from the Project ID pull down list.
19. Select *USUS0000* from the Country Control Number pull down list.
20. Select *Uranium 235* from the Isotope Description pull down list.
21. Click [*Save*].

LANMAS has added uranium to the element list, notice the 'Y' in the New column, indicating that this element is new.

Notice that the U-235 is not showing up in the isotope column. This is because, now that we have more than one element, we have to select the element that we want to see the isotopes for. If none is selected, the isotopes for the first element will be listed.

22. Select the *uranium* row by clicking on the far left box.

Now you see the isotope data for the uranium element.

23. Click on the '*New El Wt*' field for the uranium element.
24. Type *20* and hit [*Enter*].
25. Make sure the 'Calc Wt based on Wt %' button is selected, then type *95* in the 'New Iso Pct' field for the U-235 isotope and hit [*Enter*].

Ask students what kind of chargeback item this adjustment will create?
An item with a negative uranium value.

Notice that LANMAS calculated the 'Delta El Wt' for the element and the 'Delta Iso Wt' as well as the 'New Iso Wt' for the Isotope.

You can enter your own measured values, instead of letting LANMAS calculate them for you. LANMAS will assure that the weight values are logical, i.e., the sum of the isotopes cannot be more than the element.

When you enter your own values, LANMAS will also ensure that the values you enter are within the 20% tolerance of the calculated values from the percent isotope. Your system administrator has the ability to change the tolerance limit.

26. Click [*Save*].

Notice that, this time you only have one TIC to choose from – TIC 137 – Chargeback. This is because you have charged the measurement difference back to the originating process.

27. Click on TIC 137 and click [*OK*].

28. Record the transaction number and click [*OK*].

LANMAS brings you back to the Material tab. Scroll over and you can see that the TIC for *Demo Item 106* is 137 – Chargeback.

6.1.5 Creating a New Item

You can create new items in LANMAS either as part of an adjustment transaction or when entering a mix or split transaction as we

Have students record their transaction numbers.

Switch to slide TP 6-7

mentioned before. The initial part of the procedure – defining the material – is the same regardless of the transaction creating the item. The only difference is that, when you create an item through a mix or split the material will be placed in the item through the mix or split transaction.

When you create an item to be added to the inventory in an adjustment transaction, you must also tell LANMAS how much material is in the item as well.

Items created through the mix and split functions **MUST** be used in those transactions. If you only want to add an item to the inventory (and not involve it in another transaction at the time you create it), you must create it using the adjustment function.

1. Click the *Selection Criteria* tab.
2. Select MBA *MBA1*.
3. Select subMBA *SubMBA2*.
4. Select location *AREA1/BUILDING2*.
5. Click [*Create NEW Item*].

This screen is where you identify your new item. The material name, location (identified in the previous screen), and the IDC fields are all required.

As with many of the other windows, the window is divided into Material Data, Element Data, and Isotope Data sections.

When creating an item for a mix or split transaction, only the Material Data section of the window is available.

This is our first look at the Create Material window. At this time, we will quickly create a couple of items.

Optional – Instructor to close out of current Create window and open Create window through the Mix or Split function.

The following data is required to define a new item in any transaction:

- MBA
- SubMBA
- Location
- Material Name
- Item Description Code

Numerous optional data fields are available fields to record measurement information, inventory status, container type, etc.

When adding a new item to inventory through an adjustment transaction, you must also specify the:

- Element Name
- Owner ID
- Project ID (based on Owner ID)
- Country Control Number (based on SMT)

6. Type *Sample Item 3* in the Serial Number field.
7. Select IDC code *ID031* from the pull down list.

As you scroll across the columns, notice that the inventoryable checkbox defaults to checked (yes) and piece count defaults to 1.

8. Under comments, type “Created new item for Lesson 6.”

For mix and split transactions, no additional information would be required.

Since we are adding an item to inventory,

Scroll through data fields available in the Material Data section of the window.

we will keep going down to the element data table.

9. Select *Plutonium* from the Element Name pull down list.
10. Assign the plutonium an owner ID of *G*.
11. Select *CDE2020202* from the Project ID pull down list.
12. Click on the 'Assay Method Code' field and select *ELEM01* from the dropdown list.

Now let's specify our isotopes.

13. In the isotope data table, select *Plutonium 238* from the Isotope Name pull down list.
14. Click [Add Isotope].
15. Select *Plutonium 239* from the Isotope Name pull down list.
16. Click [Add Isotope] again.
17. Select *Plutonium 240* from the Isotope Name pull down list.
18. Assign all isotopes an 'Assay Method Code' of *ISO01*.

6.1.5.1 Creating Multiple Items

If you need to create other items, you have two options. You can create the materials one at a time by clicking the [Add Material] button to add a new line for each item you want to add. You then create the item in the same

Instructor's Note:
Purposely skip the CCN to demonstrate use of the [Validate] feature later.

way you just did for Sample Item 3.

But, if you want to duplicate your existing item and just change the data that is different, you can now make a copy of this material name and edit the desired fields. .

The fields in the box at the top of the window are used to create a series of sequentially named items with the same data as the item already listed in the table.

Let's create two items named MT000005AB and MT000006AB.

1. To begin, Type *MT* in the 'Begin Chars' field. These characters will be shown at the beginning of each material name.
2. Type *6* in the 'Size' field. This tells how long the digit or number field should be.
3. Type *AB* in the 'End Chars' field. These characters will appear at the end of each material name.
4. Type *5* in the 'Beginning #' field. This is the first sequential number we will create.
5. Type *2* in the 'Count' field. This is the number of items we are creating.
6. Click [Generate Materials].

Notice how the generated names relate to each of the fields and that the generated materials are simply copies of the first material that we

Point out how zeros are used to take up spaces if the size is larger than the specified numbers.

created. We can make any changes that we like to these newly generated materials, but we will not.

7. Select both of the newly generated materials and click [Remove Selected Items].
8. Click [OK] on the 'Changes Pending' warning message.

Let's validate our data to make sure we have entered everything. This is done by clicking the [Validate] button. These buttons appear in lots of LANMAS windows and, in each case, you can click them to make sure you have entered all of the required data before you try to save the transaction.

9. Click [Validate].

Notice that an Errors box appears showing all errors that would prevent us from saving the transaction. The box shows that we have forgotten to record a CCN for our item.

10. Click [Return].
11. Select *USUSUS00* from the Country Control Number pull down list for plutonium in Sample Item 3.
12. Click [Validate] again and you can see that our errors are corrected. Click [OK].

This message comes up each time you exit a transaction without saving it.

13. Click [Save].

You are now at the Adjust Material screen, where you need to enter your element and isotope quantities.

14. Make sure the 'Calculate Iso % Based on Wt' option is selected.

15. Click on the 'New El Wt' field and type 225 and hit [Enter].

16. Click on the 'New Iso Wt' field for plutonium-238 and type 15 and click [Enter].

17. Click on the 'New Iso Wt' field for plutonium-239 and type 140 and hit [Enter].

18. Click on the 'New Iso Wt' field for plutonium-240 and type 68 and hit [Enter].

19. Click [Save].

20. Select TIC 34 – Receipts - Miscellaneous and click [OK].

21. Click [OK] after recording the transaction number.

22. Click [Exit].

If we had not used the validate feature, we would have been notified of the CCN error when we tried to save the transaction.

Have students record their transaction number. They will need this for the obligation demonstration later in this lesson.

6.1.6 Exercise

Exercise 6.1

6.2 Project ChangeSwitch to slides
TP 6-8

The project change function provides the mechanism to record a transfer of material from one project to another project where there is no change in material balance. Important points to remember about project changes are:

- Project changes must be reported to NMMSS unless NMMSS initiated the change.
- Can change a single item or many items.
- Project transfers initiated by a site are reported to NMMSS on the DP-749 Project Transfers report.

If NMMSS initiates the project number change, it is considered a non-reportable project number change. You do not need to report the change back to NMMSS since they started the change.

6.2.1 Procedure

Switch to LANMAS

1. Select Miscellaneous.
2. Select Project Change.
3. Select a date in the accounting period and click [OK].

Let's say we want to change all materials with a DMT of 16 in the RIS with one particular project number to a new project number.

Ask students what kind of search they would do? By project number and DMT=16.

4. Click [Clear Search Criteria] to erase the MBA and subMBA fields.

5. Select Project ID *CDE2020202* from the pull down list.
6. Select DMT *16* from the pull down list.
7. Click [Find Matches].
8. Click on [Begin Project Change Using All Materials].

Notice that you can now assign a new project number to one item at a time, to as many as you select at one time, or to everything all at once.

9. Select project number *ABC1010101* from the pull down list for the New Project field at the bottom of the page.
10. Click [Assign to All].

LANMAS filled in the 'New Project ID' field for every item.

11. Click [Save].

Note that you have TIC choices for a project transfer. TIC 111 is used when the project transfer was initiated at the site and must be reported to NMMSS. TIC 135 is used when NMMSS instructed you to make the project number change.

12. Select TIC 111 – Project Transfer and click [OK].
13. Click [OK] after recording the transaction number.
14. Click [Exit].
15. Use the Material Information – History report (using DMT=16) to quickly verify

Have students record their transaction number.

the change in TIC and no change in the weights. For a more detailed view, run the Material Transaction Report using the transaction recorded from this operation.

6.2.2 Exercise

Exercise 6.2

6.3 Approve/Decline Transactions

Switch to slides
TP 6-9

We have already discussed the Material Information command in Lesson 3. That is the command used to view either the current information or the historical information for a material.

The next function under the Miscellaneous menu is Approve/Decline Transactions. The Approve/Decline Transactions command will be grayed out unless you have been given permission to perform transaction reviews by your system administrator. Since use of this command is usually restricted to a few users, it will not be covered in this course. However, for the sake of completeness, let me explain briefly how this command works.

In Lesson 2, we discussed the concept of peer review – of providing a way for transactions to be reviewed either before saving or, after they are saved but before they are finally posted.

The Approve/Decline Transactions command is how the approver accesses transactions awaiting review. When this command is selected, a before and after picture of the transaction is presented. The reviewer looks over the information and can choose to O.K. the transaction or reject the change.

If a transaction is declined, the inventory tables revert back to the original values. Only the fact that the transaction was declined and the reviewer's identity will be saved.

Transactions requiring review will make changes to

the inventory tables; however the journal, ledger, reports, and datasets that reflect an inventory balance will not include the pending transactions. When the transaction is approved, the records will be updated.

An accounting period cannot be closed if there are transactions needing review.

6.4 Summary

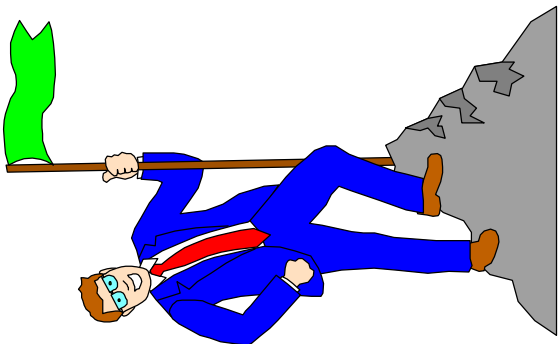
Let's summarize what you've learned in this lesson.

Per the objectives, you learned how to perform the following transactions in LANMAS.

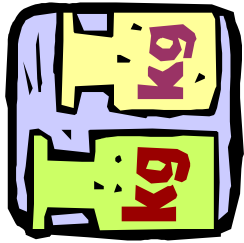
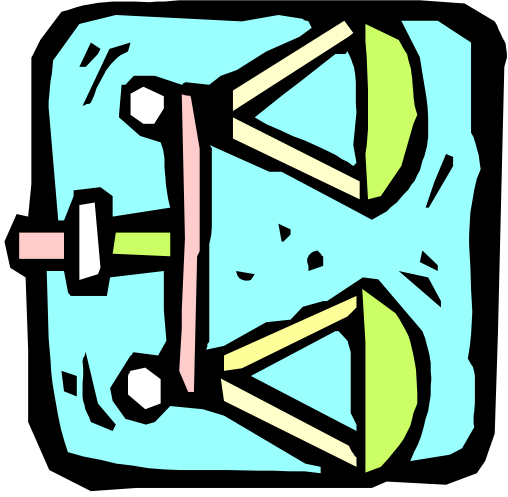
- Adjust the current weights for a material.
 - Create new items.
 - Add new elements to an item.
 - Add new isotopes to an item.
 - Associate assay methods with elements/isotopes.
 - Change a project number
- As part of this objective you also learned how to determine if the project change is reportable or non-reportable so you know which TIC to assign to the transaction.

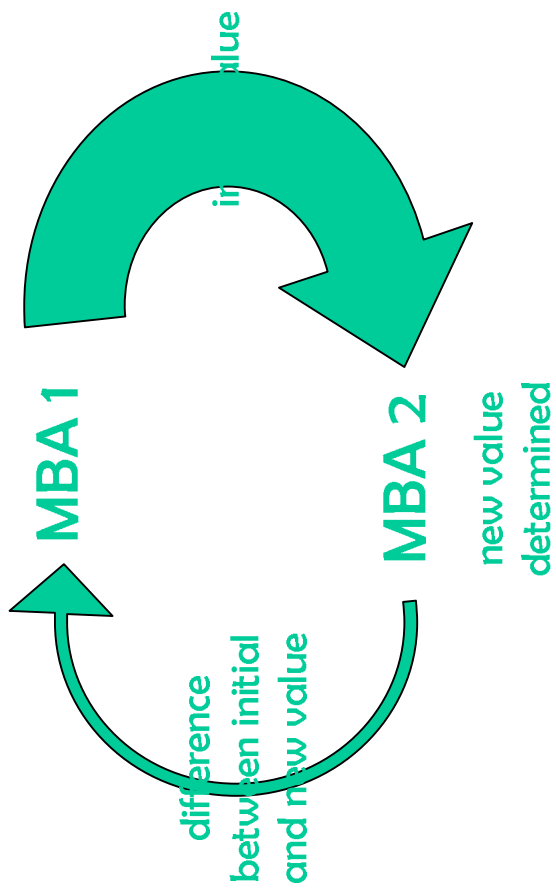
TP 6-3

Go over any problems students encountered during exercises

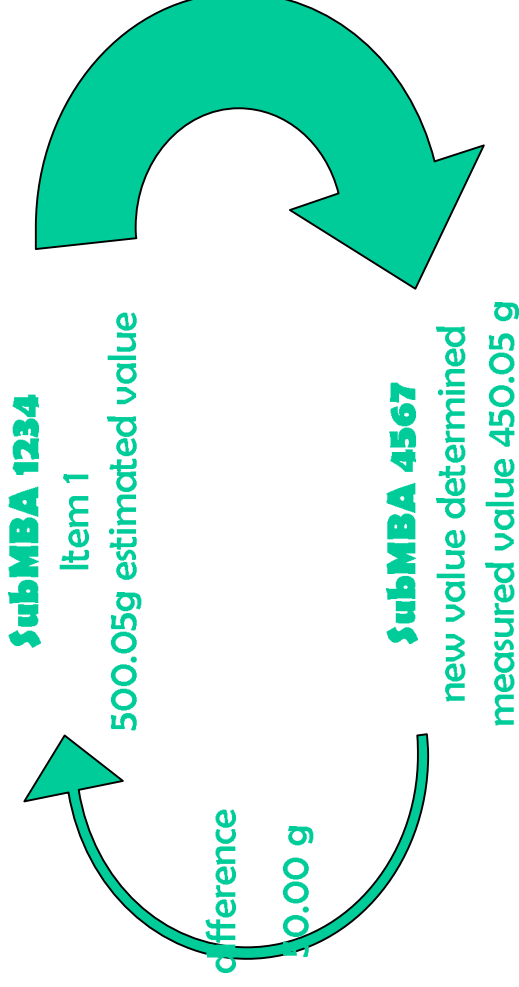




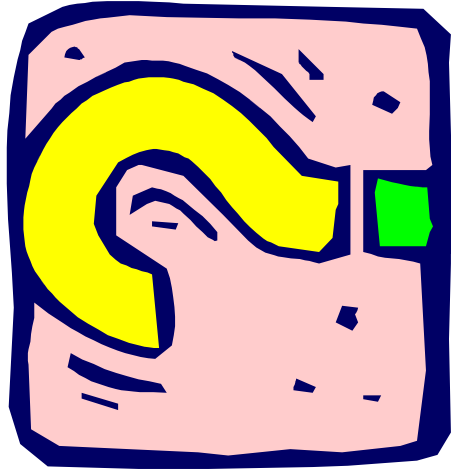




Chargebacks



The difference of 50.00 grams represents material that was not actually removed from subMBA 1234 and therefore, should be returned to the subMBA 1234 inventory. This is done by transferring the 50.00 gram difference from subMBA 4567 to subMBA 1234.



balances by RIS _____ obligation

- **RIS obligation balances cannot exceed inventory by material type**



**United States Department of Energy
National Training Center**

LESSON PLAN

TITLE: Container Menu Options

COURSE: MCA-214

7. Containers Menu Options

TP 7-1 (3.5 hours)

Lesson Goal:

The goal of this lesson is for students to understand how to use the Container menu options in LANMAS.

TP 7-2

Lesson Objectives:

Students will perform the following functions:

TP 7-3

- Create new containers
- Edit existing containers
- Load a container
- Unload a container
- Destroy a container
- Enter a book value for an entire container
- Generate and review a book inventory report

7.1 Containers

LANMAS allows you to group one or more items together as a single unit, referred to as a container. A container may be a bottle, can, shipping cask, assembly, or any other configuration of items that you need to represent as a single unit.

TP 7-4

Physical containers may also contain packing, an assembled part, another container, or individual items. LANMAS supports groups within groups by allowing an infinite number of groups within a container.

In order for items to be loaded into a container, both the items and the container must be in the same MBA, subMBA, and location.

Once the items are placed in the container, they are treated as a group by LANMAS. The nuclear material values for the group are equal to the sum of the items in the group. You can only make movements that affect the entire group. However, you CAN adjust and edit the material inside the container.

7.1.1 Creating New Containers

1. Verify RIS *DZA* and the first open accounting period is selected.
2. Select Containers.

Note the options available:

- Create
- Edit
- Information
- Load/Unload
- Book Values

Material can be placed into existing containers, or you can create a new container in the database.

3. Select Containers – Create.
4. Select a date in the accounting period and click [OK].

The Containers – Create window is divided into three parts: container name, container definition, and container account and location.

The container name must follow the LANMAS naming rules for items. If you

Switch to LANMAS

Ask students how you would move or transfer containers? Just like material – On-site/Move within MBA or Move to MBA.

can't remember the naming rules, click the [Naming Rules] button.

5. Click on [Naming Rules].
6. Click [OK].
7. Enter *Sample Container 1* in the 'Serial Number' field.
8. Click [Unique Name Review] to verify that the assigned name is not a duplicate name. Click [OK].

The definition section of the window is where you specify the attributes for the container you are creating. The container type is a physical description of the container.

9. Click on the arrow to pull down the list of container types.

The lists in the pull down menus are those descriptions that your System Administrator specified during LANMAS setup.

10. Select *DRM55TRU*.

The weight of the container and its contents is entered into the gross weight field. The weights are optional fields.

11. Enter *100.0* into the gross weight field.

The empty weight of the container is entered into the tare weight field.

12. Enter *25.0* into the tare weight field.

The gross and tare weights must both be in

the same units of measurement.

13. Select *Pound* from the Units pull down menu.

Entering the category and attractiveness of the container is optional. We will leave these fields blank.

The two buttons in the Definition section indicate if the container can be inventoried or if it will not be accessible or visible during a physical inventory.

For example, once you put a container into another container, the inner container is no longer inventoryable.

14. Make sure this container is marked as inventoryable.

The final section of the window is where you specify the account and location for the container. Remember that the container must be in the same account and location as the items you want to put in it.

As soon as you specify an MBA, the pull down lists of valid subMBAs and locations for that MBA will be shown.

15. Select MBA *MBA1*.
16. Select subMBA *SubMBA1*.
17. Select location
AREA1/BUILDING1/ROOM3.
18. Click [Create].

LANMAS creates the container in the database and assigns a transaction number.

19. Click [OK] for the TIC assignment (220 – Create New Container).

20. Click [OK] after recording the transaction number.

After you have created a container, you can create another container without exiting and reentering the window. You can easily create another container of the same type, in the same location, without re-entering all the information. Just remember to change the name.

21. Enter *Sample Container 2* in the ‘serial number’ field.

22. Click [Create].

23. Click [OK] for TIC.

24. Click [OK] after recording the transaction number.

25. Create additional containers 3 through 5.

Clicking the [Exit] button cancels the current create transaction. Any create transactions already executed by clicking the [Create] button are not affected.

26. Click [Exit] to exit the window.

7.1.2 Editing Existing Containers

This function is used to edit non-reportable data related to existing containers. Non-reportable container data includes:

- Container name

Have students record their transaction numbers

TP 7-5

- Inventory status (inventoryable)
- Container type
- Gross weight
- Tare weight
- Measurement units
- Calculation method
- Local owner
- Attractiveness
- Category

1. Select Containers.
2. Select Containers – Edit.
3. Select a date in the accounting period and click [OK].

The Container – Edit window starts with the selection criteria for you to search for the container(s) to edit.

4. Select MBA *MBAI*, SubMBA *SubMBAI* and type *C%* in the ‘Container Name’ field.

This will give us all containers in *MBAI*, *SubMBAI*, with a name that begins with the letter *C*.

Note: You can edit both loaded and empty containers.

5. Click [Find Matches].

The containers tab is now showing you all containers that match our criteria. Notice the field next to “Status” that says “Empty.” A check in the box means the container is empty.

6. Highlight Container *C1-Demo Item 104*.

Switch to LANMAS

- Let's look at the contents of the container.
7. Click on the Container Info tab.

The container info tab provides a container "tree," showing you everything in the container(s) you selected. The tree is an outline with each container you selected listed. Under the major heading, containers, are additional levels of containers and/or material. To show the lower levels, click on the "+" next to the major heading. Each time you click on a "+" a lower level is displayed.
 8. Go back to the Selection Criteria tab.
 9. Remove the criteria of *C%* and type *Sample%*.

This will return the containers that we just created.
 10. Highlight *Sample Container 1* and *Sample Container 2*.
 11. Click [Begin Containers – Edit Using Selected Containers].

The container information is shown in the top section of the window.

Remember that the container name is a combination of the serial number, part number, and suffix. To edit the container name you can type over the information in these fields.
 12. Change *Sample Container 1* to *Sample Drum 1*.
 13. Change *Sample Container 2* to *Sample*

Review the contents of the container.

Note different icons for containers vs. material.

Open a material to show the element and isotope values.

Drum 2.

The inventoryable status can also be changed by typing a Y or N over what is in the inventoryable field.

The container type description field cannot be edited directly like the name. To change the container type description, highlight the container, then select a valid description from the pull down list in the Container Type box at the bottom of the screen and assign it to the highlighted container.

14. Highlight *Sample Drum 1*.
15. Select *DRM55GAL* from the 'Container Type' pull down menu.
16. Click [Assign to Selected].

The units description records the units of measurement used for the gross and tare weights. This field also can only be changed using the pull down menu in the Units box.

17. Select *KILOGRAM* from the 'Units Description' pull down menu.
18. Click [Assign to All].

You can also record or update container weight information by typing over the existing information.

19. Highlight the tare weight on *Sample Drum 1* and change it to 50.
20. Click [Save].

We will not change the calculation method, local owner, attractiveness, or category for the container.

21. Click [OK] for the TIC (221 – Edit Container Definition Data).
22. Click [OK] after recording the transaction number.
23. Click [Exit]

Have students record their transaction number.

We will skip the Containers – Information command at this time.

7.1.3 Load/Unload Containers

The Load/Unload function is used to place material or containers into a container and to remove material and containers from containers.

TP 7-6

Items being placed in containers must be in the same account and location as the container. If they are not, you must move either the items or the container before you can load it.

1. Select Containers.
2. Select Containers – Load/Unload.
3. Select a date in the accounting period and click [OK].
4. Select MBA *MBA1*, SubMBA *SubMBA1*, and location
AREA1/BUILDING1/ROOM3

Switch to LANMAS

Make sure that the ‘Selectable Items Only’ box is checked.

5. Type *Sample%* in the Container Name

field.

6. Click [FIND Matches].
7. Select the containers that we created.
8. Click [Begin Containers – Load/Unload Using Selected Containers].

The Load/Unload tab window shows the containers you selected in the tree on the left side of the screen.

The icons on the top right of the screen are used to take an inner container or item out of its parent container, or to unload the entire contents of the container.

The right side of the screen also lists all the material (with its associated element and isotope information) in the same MBA, subMBA, and location as the containers you have selected.

Any packing material types available will show in the Packing Material table. The System Administrator establishes the packing materials during LANMAS setup. You cannot manually enter a packing material that is not on the list.

To perform the load transaction, you select the material or packing material that you want to load (it is highlighted in blue), and drag it to the desired container.

9. Drag *Demo Item 16* into *Sample Drum 1*.

You can tell that you have “snagged” the material name if a file folder icon appears.

If you drag the material to the wrong

container, you can drag it from there to the correct container.

10. Drag the same material from *Sample Drum 1* to *Sample Container 3*.

You can also load one container into another container here.

11. Drag *Sample Container 3* to *Sample Drum 1*.

You unload one item (container or material) from another by dragging the inner container or material to the top level of the tree, or to the [Take Out of Parent Container] icon.

The [Take Out of Parent Container] icon unloads the item you have selected from its parent container.

The [Unload Contents] icon unloads everything out of the container you select and drag to it.

12. Load *Demo Item 32* into *Sample Container 4*.

13. Load *Demo Item 64* into *Sample Container 5*.

14. Load *Sample Container 4* and *Sample Container 5* into *Sample Drum 2*.

15. Load *Sample Drum 2* into *Sample Drum 1*.

16. Load some packing material (your choice) into *Sample Drum 1*.

Demonstrate while you go through this without the students trying to follow along. Let them practice when you are through.

17. Right click on *Sample Drum 1*.

Notice that the box below the tree now shows the total element and isotope quantities inside that container. All items inside the container are included.

You can right click on any container in the tree to see the total material quantities inside.

18. Unload the item from *Sample Container 5*.

19. Unload *Sample Container 4* from *Sample Drum 1*.

20. Right click on *Sample Drum 1*.

Note that the total quantities should be different now because the item is no longer in *Sample Container 5*, and *Sample Container 5* is still in *Sample Drum 1*.

Now you verify that the correct containers, items, and packing materials are shown in the container tree section of the window. If it is not correct, you click [Exit]. If it is correct, you click [Save].

21. Click [Save].

22. Click [OK] for the TIC (222 – Put Items in Container).

23. Click [OK] after recording the transaction number.

24. Click [Exit].

Everything should now be in *Sample Drum 1*.

Have students record their transaction number.

7.1.4 Delete

Empty containers are removed from the database using the edit function. Only empty containers can be deleted.

1. Select Containers.
2. Select Containers – Edit.
3. Select a date in the accounting period and click [OK].
4. Enter *Sample%* in the ‘Container Name’ field and click [Find Matches].
5. Click [Begin Containers – Edit Using All Containers].
6. Click [Delete All].

You should have gotten a dialog box telling you that you are trying to delete a container that is not empty. LANMAS will only allow you to delete empty containers.

7. Click [OK].
8. Select *Sample Container 5*.
9. Click [Delete Selected]

Note that LANMAS crossed out *Sample Container 5*.

Remember, *Sample Container 5* was loaded into *Sample Drum 2* and then *Sample Drum 1*. You need to keep in mind that LANMAS will delete any empty container, regardless of whether it is

loaded into another container or not.

10. Click [Save].
11. Click [OK] for the TIC (221 – Edit Container Definition Data).
12. Click [OK] after recording the transaction number.
13. Click [Exit].

Have students record their transaction number.

7.1.5 Entering a Book Value for a Container

Switch to slides.
TP 7-7

When materials are placed into a container, LANMAS determines the weight of the material in the container by adding the element and isotope weights of the individual items in the container. Sometimes after material is placed into a container, a measurement is performed on the whole container. You can record this measured value for the container as a “book value” for the container and use this book value for inventory purposes.

When a “book value” for a container is initially entered into LANMAS, the previous element and isotope weights (obtained by adding the weights for the individual items in the container) are replaced with the weights determined for the entire container. The difference is charged to an inventory difference TIC code you designate at the end of the transaction.

LANMAS still maintains the measured values for the individual items in the container. When the container is unloaded, LANMAS automatically retrieves these values for the individual items and the items are placed in inventory at their previous weight values. Any

difference between the sum of the weights of the individual items and the book value assigned to the container is removed as an inventory difference.

1. Select Containers.
2. Select Containers – Book Values.
3. Select a date in the accounting period and click [OK].
4. Enter *Sample%* in the ‘Container Name’ field and click [Find Matches].
5. Select *Sample Container 4*.
6. Click [Begin Containers – Book Values Using Selected Containers].

Since we are adjusting a weight, the Container – Book Values window looks just like the other weight change windows used for mix, split, transfer, and adjustment transactions.

7. Make the following changes to the element weight data. Make sure the ‘Calc Wt based on Wt %’ button is checked.
 - D2O – new element wt. = 5
 - Lithium – new element wt. = 6
8. Click [Save].
9. Select TIC 88 – Redetermination of Discrete Items and click [OK].
10. Click [OK] after recording the transaction number.
11. Click [Exit].

Switch to LANMAS

Point out that you can also use an established calculation method to determine the book values.

Have students record their transaction number.

When the inventory is conducted, the new values we entered will show up on the books.

7.2 Viewing Container Information

The Containers – Information command can be used for containers like the material information command is used for materials. You can view the current or historical information for a container using this command.

1. Select Containers.
2. Select Containers – Information.
3. Enter *Sample%* in the Container Name field.
4. Click [Find Matches].
5. Click [Begin Containers – Information Using All Containers].
6. Select [Current Information].
7. Click the X in the upper right corner to close the report.
8. Click [Begin Containers – Information Using All Containers].
9. Select [History].
10. Click the X in the upper right corner to close the report.
11. Click [Exit].

Now let's look at the book inventory report and see

Review the information in the report.

Review the information in the report.

how placing items in a container shows up on this report.

7.3 Generate and review a Inventory Report – Book

The inventory report - book can be used to view the inventory at a specified point in time. Let's use this report to verify the containerization transactions we performed.

1. Select Reports.
2. Select Inventory Report - Book.

The Book Inventory Report provides a detailed listing of all material stored in a specified MBA. Using this command allows you to compile a book inventory list as of the date you compile the report. You cannot specify any other date or accounting period for this report.

The filters allow you to generate a report for a specific MBA or for the entire RIS, and for a specific SMT, DMT, or location. It will also let you include locations without material in them so you can document the conduct of a wall-to-wall inventory.

3. Select MBA *MBA1* and location *AREA1/BUILDING1/ROOM3*.
4. Click [Preview].
5. Click the first right arrow at the top of the window.

The Book Inventory Report shows the material in the MBA as of the date specified in the report title. The RIS, MBA, and subMBA designations are indicated at the top of the page. A new page

Review report controls at the top of the window, if required.

Report is generated as of current date.

is generated for each subMBA.

This report has a “tree” button next to the export button in the control bar. Clicking this button splits the report window and creates a column to the left of the report showing an outline or “tree” for the report.

The report tree is a graphical summary of the report. The tree is an outline with each heading in the report listed. Under each major heading are several levels of sub-headings. To show the sub-headings, click on the “+” next to the major heading. Each time you click on a “+” a lower level of heading is displayed.

To collapse the tree, click on the “-“ next to the heading. Clicking on a heading or sub-heading in the tree will take you to that information in the report. This is especially useful in long reports.

6. Click on *subMBA2* – you will jump to that section of the report.

To remove the tree column, click the tree button in the control bar.

The report is arranged in order of ascending MBA. Within an MBA, the listing is presented by subMBA and material name.

The first column lists the material name. The next lists the location. The third indicates the container, if applicable. Columns 4-8 describe the composition of the item. The next shows the net weight (if no weight was entered, the entry shows a zero). The last two columns show the type of measurement made on the material, and the IDC.

7. Look for *Demo Item 16* and *Demo Item 32* in the report and verify that they are in *Sample Drum 1*. Using the report tree is useful in this instance.

Works like container tree we already talked about.

Have students locate and review the containers they’ve been working

8. Click the X in the upper right corner to close the report.

7.4 Exercise

7.5 Summary

In this lesson you learned how to use LANMAS to:

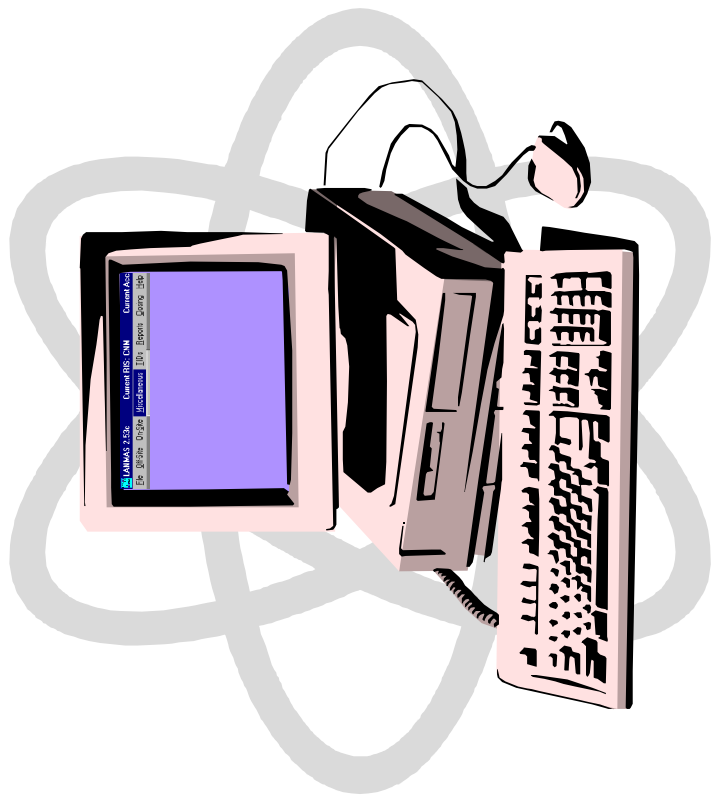
- Create new containers
- Change information for existing containers
- Load and unload a container
- Destroy a container
- Record book inventory values for a container
- Generate and review a book inventory report

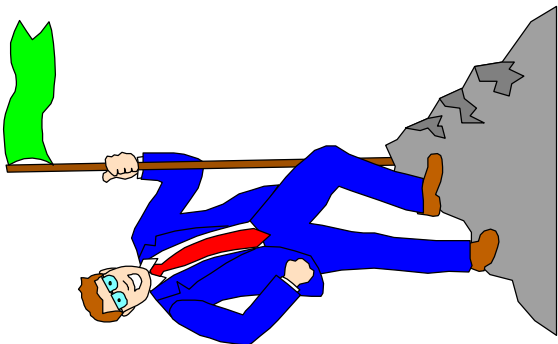
with.

Lesson 7 exercises

Switch to slide
TP 7-3

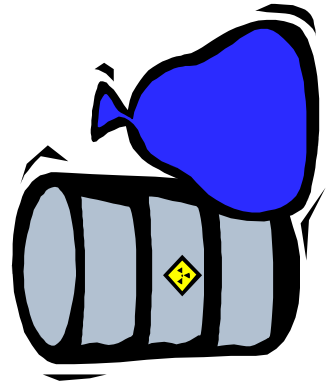
Review any problems
students may have
encountered in the
exercise

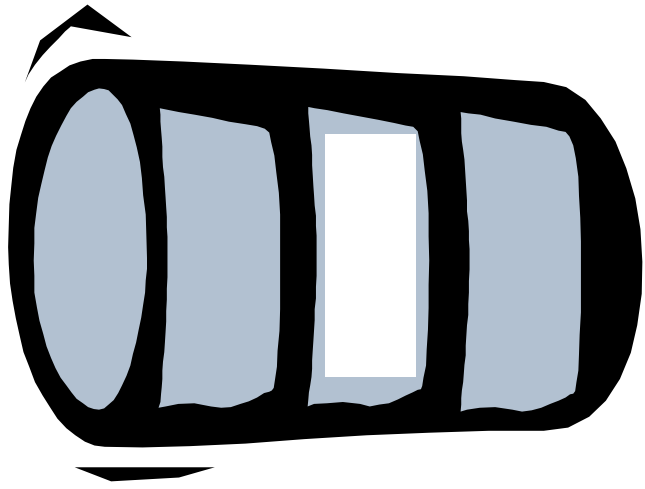


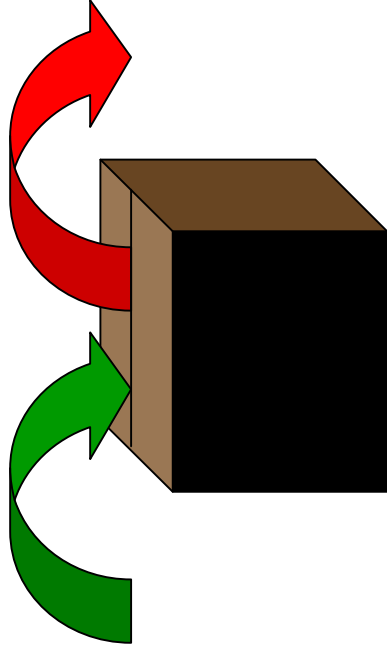


Students will perform the following:









Students performed the following:



**United States Department of Energy
National Training Center**

LESSON PLAN

TITLE: Tamper Indicating Devices

COURSE MCA-214

8. Tamper Indicating Devices

TP 8-1 (3 hours)

Lesson Goal:

The goal of this lesson is for the student to understand how to use the TID menu options in LANMAS.

TP 8-2

Lesson Objectives:

The student will perform the following functions:

TP 8-3

- Receive TIDs from vendor
- Transfer TIDs to other MBAs
- Change the status of TIDs including issuing seals for application and returning TIDs to the “for use” supply.
- Apply TIDs
- Destroy TIDs
- Edit TIDs
- Generate TID reports

8.1 General TID Requirements

Before we get into the TID function on LANMAS, we need to discuss the way LANMAS handles TIDS.

TP 8-4

8.1.1 TID Types

TID types are pre-defined in LANMAS by your System Administrator. As a user, you will select the type of seal you need to work with from these pre-defined lists.

8.1.2 TID Names

Parameters for TID names can be pre-defined in the system.

TID names can be:

- Maximum of 21 characters
- Unique

If TID names are pre-defined in LANMAS you will not need to enter the entire TID name when creating TIDs in LANMAS. You only enter the beginning and ending TID numbers – LANMAS will fill in the rest! (We will see this later in the lesson.)

If the TID names are not pre-defined in the system, you must enter the complete TID name when creating new TIDs.

8.1.3 TID Status

All TIDs in the system are assigned a status to designate the current condition of the TID seal. Useable status codes are designated by the System Administrator.

As seals are assigned and used the status automatically changes. The status is also used in the creation of reports being generated.

Typical status codes are:

- For Use (F) – indicates the TID is ready for use.

TP 8-5

Instructor to explain each code

- Issued (I) – indicates TID has been issued for application.
- Applied (A) – indicates a TID applied to a material, container, or location.
- Destroyed (D) – indicates the TID has been removed and destroyed.
- Shipped (S) – indicates the TID has been sent off-site.
- Removed (R) – indicates a TID that has been removed but not necessarily destroyed.
- Pending (P)
We have not dealt with this in this class, but LANMAS can be configured to allow – or require – you to change the status of a TID when you enter a transaction.

Sometimes, you may not have all of the TID information at hand or, for some other reason, you don't want to complete the TID transaction. These TIDs can be given a status of "pending" indicating that a change in the status has been made in the facility, but has not been completely documented in LANMAS yet.

TIDs can be applied to locations, containers, or material.

8.1.4 Authorized Users

The LANMAS TID function records the identity of personnel who apply, destroy, control, remove, and issue

Ask students to cite examples of these types of TIDs.

Whether recording the TID transaction is require or optional is set by the System Administrator.

Give example of when this might happen. E.g., You moved some items into a TID-sealed vault and then re-sealed it. LANMAS may give you the option to record the destruction of the TID on the vault at the beginning of the "move within MBA" transaction and the option to record the application of the new seal at the end of the transaction.

TP 8-6

TIDs.

This is accomplished by assigning personnel with TID responsibilities to groups based on their responsibility.

Typical LANMAS TID groups are:

- Applicator
- Applicator Witness
- Destroyer
- Destroyer Witness
- Owner
- Remover
- Remover Witness
- Receiver
- Receiver Witness
- Issuer
- Issuer Witness

The actual TID authorization groups can be customized to fit the needs of each site.

Personnel can be assigned to more than one group (e.g., applicator, applicator witness, destroyer, destroyer witness) commensurate with the separation of duties requirements for your site's TID program.

There are no cross checks within LANMAS to enforce separation of duties in regard to TID authorizations.

The System Administrator establishes the number of employees that must be recorded for each type of TID transaction and status change. The number of employees can be set to either 0, 1, or 2.

Instructor to explain each group

Ask students if they use any other TID groups.
Set by System Administrator.

8.1.5 TID Prompts

LANMAS can be set up to provide a TID prompt in the form of a dialog box either before or after you enter a transaction.

For each transaction, LANMAS can be set to:

- Warn the user that TID changes may be required as a result of the transaction. If this happens, LANMAS will open the TID window. You may exit the window without making any changes.
- Ignore any TID changes resulting from the transaction.
- Change the status of a TID to “pending” indicating that the TID has been affected by the transaction, but the TID transaction will be entered at a later time.
- Prevent you from entering a specific transaction until the TID is dispositioned. If this restriction level is used, you will not be able to complete the transaction without making changes to the TID.

LANMAS can also be set up to allow the user the option of immediately entering the TID function to apply TIDs at the end of designated transactions.

Once again, this is set by the System Administrator.

This is done through the use of “flags” in the LANMAS Administration Program that are associated with each type of transaction. If the TID restriction level is set to “warn” or “stop” and the “allow apply” flag is set to yes, you will be required to access the TID window before you can save the

8.2 Receive from Vendor

TID seals received from a vendor can be created two ways in LANMAS.

- Individually (i.e., one seal at a time)
- You can create a whole range of TIDs at a time if the LANMAS TID function is configured to auto-name seals.

Created TIDs can either be assigned to an individual “owner” or to an account.

8.2.1 Required Data

- Type of TID
- TID number(s), beginning TID number and ending TID number, or number of TIDs received
- Person(s) receiving TID(s)
- Owner or account to which TIDs will be assigned

8.2.2 Procedure

1. Select the TIDs menu.
2. Select Receive from Vendor.
3. Click [OK] for transaction date.
4. Select *Multi-LOK 12 In.* from the TID type pull-down list.

Notice the column next to the TID type labeled “Auto?” This

transaction. A TID dialog box will also appear after you enter the TIC asking you if you want to apply TIDs.

Switch to LANMAS

NOTE: All TID activity is treated as a transaction and recorded within the system.

column indicates whether LANMAS has been programmed to automatically enter any required prefixes and/or suffixes to the TID number. For example, type “E” cup seals have a prefix of “C” before the identification number (i.e., C03001). If the “Auto?” box is checked, LANMAS will automatically enter the prefix and/or suffix to the TID numbers you specify. If the “Auto?” box is not checked, you must enter the entire TID name (prefix, numeric identifier, and suffix) for each TID created.

The next field is the TID Name field. If the auto-name feature is not enabled, you must create each TID separately by entering the complete TID name (i.e., with any prefixes and suffixes) in this field. Since the “Auto?” box was checked for multi-LOK seals we do not need to enter anything here.

The next fields are to enter the beginning and ending numbers of a range of TIDs to be created. You can also create a range of TIDs by entering the beginning number and the number of TIDs to be created (the count).

The beginning and ending TID number fields are only used for TID types defined as “auto.”

Notice that the Beginning # field is automatically completed based on the TID numbers already in the system. If this was the first time

you received seals of this type, you would enter 1 in this field.

5. Create 5 new TIDs by either entering the ending number **or** a "5" in the Count field

As I said earlier, TIDs can be assigned to an individual owner (such as a TID custodian) or to an account. The account designation is useful if you have more than one custodian in a facility or if several facilities share TIDs.

6. We will be assigning these TIDs to an MBA so click the For Accounts radio button. (You can assign the TIDs to an individual by clicking the For Owners button.)

Note that the Owner field cannot be changed since the For Accounts button was clicked.

When selecting an owner, the owner can be the same as the receiver.

7. Select *MBA1* and *subMBA1*.
8. Select *Employee #1* as the Receiver.
9. Select *Employee #2* as the Witness.

As previously mentioned, the entries required for the Receiver and Witness fields are based on the settings put in place by the System Administrator. For our training, LANMAS is set up to

require only one authorized person for this transaction. If desired the Witness field can be left blank.

LANMAS will not let you save the transaction unless the correct number of employees is specified.

10. The Status field is automatically set to "For Use" since this is a Receive from Vendor transaction.

11. Click [Generate TIDs].

LANMAS fills the TIDs Generated box with the TIDs that you designated.

Note how LANMAS created the TID Names.

12. Click [Save].

13. Click [OK] for the TIC.

14. Record your transaction number and click [OK].

15. Click [Exit].

8.2.3 Exercise 8.1

The available status designations for the Receive from Vendor transaction are set by the System Administrator. In our case, only "for use" has been allowed.

Have students record their transaction numbers

Optional placement of exercise 8.1. [Instructor has the option of completing the exercise at this point or waiting until the end of the lesson.]

8.3 Ownership Change

TID seals can be transferred between accounts or individual owners. The Ownership change command can be used to transfer seals with any status. (E.g., Transferring “for use” seals or a seal applied to a piece of equipment from one MBA or custodian to another. (LANMAS automatically transfers seals applied to materials along with the material.)

The status of the TIDs does not change during this process.

8.3.1 Required Data

- TID name
- Old owner or account
- New owner or account

8.3.2 Procedure

1. Select the TIDs menu.
2. Select Ownership Change.
3. Click [OK] for transaction date.
4. Enter the TID selection criteria.
 - Select *Mylar 10 In. Silver* as the TID type.
 - Select *For Use* as the status.
5. Click [Find Matches].
6. Select seals *0018*, *0044*, and *0070*.

Point out and describe the selection criteria fields unique to TID transactions.

Should be the first three seals listed.

7. Click [Begin Ownership Change Using Selected TIDs].

Notice that only the Owner Type and Owner Name fields can be changed.

Let's assign these seals to an individual owner.

8. Select *User* as the Owner Type and *Employee #5* as the Owner Name for each TID listed.

Notice how each line is grayed out as the changes are made.

9. Click [Save].
10. Click [OK] for the TIC.
11. Record the transaction number and click [OK].
12. Click [Exit].

Only authorized people will be listed in the Owner Name drop-down list.

Have students record their transaction number

8.3.3 Exercise 8.2

Optional placement of exercise 8.2. [Instructor has the option of completing the exercise at this point or waiting until the end of the lesson.]

8.4 Status Change

The Status Change function allows for TID activities such as the transfer of custody of the TID(s) from the storage area within the MBA to a TID applicator or return unapplied TIDs to "for use" storage.

The types of status changes allowed (e.g., applied to destroyed, applied to pending, applied to removed, for use to issued, for use to applied, etc.) are established by the System Administrator.

The Status Change command should not be used to apply, remove, or destroy seals.

Multiple TIDs of differing types can be involved in a status change transaction.

8.4.1 Required Data

- TID name
- Status change desired
- Personnel who completed task

8.4.2 Procedure

For our demonstration, we will issue a “for use” TID.

1. Select the TIDs menu.
2. Select Status Change.
3. Click [OK] for transaction date.
4. Select *Mylar 10 In. Green* from the TID type pull-down list.
5. Select *MBA1*.
6. Click [Find Matches].
7. Select seal *FC0058* from the TID list.
8. Click [Begin Status Change Using Selected TIDs].

9. Select the TID and change its status to “issued.” Enter *Employee #10* as the Issuer in the User #1 Name column.

Your site may require a second person to issue TIDs. If that is the case, you will be required to enter the name of a witness in the User #2 Name field.

10. Click [Save].
11. Click [OK] for the TIC.
12. Record the transaction number and click [OK].
13. Click [Exit].

Have students record their transaction numbers

8.4.3 Exercise 8.3.1

Optional placement of exercise 8.3.1. [Instructor has the option of completing the exercise at this point or waiting until the end of the lesson or the end of section 8.5.]

8.5 Apply/Remove/Destroy TID Seals

The Apply/Remove/Destroy TID seals function allows TID seals to be applied to and removed from material, containers, or locations within LANMAS. It records when the TID was applied, removed, or destroyed and the employees who completed and witnessed the action.

Although, by design, most TIDs are destroyed when removed, LANMAS has the capability to allow the reuse of TIDs. This is done by the System Administrator who can set a “reuse flag.” Using this flag lets users remove and reapply the specified TID type.

(This feature is used for TIDs such as cable seals and RF seals that are reused.)

One or more TIDs can be applied to a single item. LANMAS can also be configured to allow a single TID to be applied to multiple containers or material names. This is done using a “multi-use” flag for the TID type.

This flag is set by the System Administrator for each type of TID. Once a TID is placed on material, a location, or a container, the status of the TID is changed to “Applied.”

8.5.1 Required Data

- TID name
- Name of container, item, or location to be sealed (for apply transactions)
- Personnel who completed task

8.5.2 Procedure

1. Select the TIDs menu.
2. Select Apply/Remove/Destroy.
3. Click [OK] for transaction date.
4. Select *Mylar30/35 In. Gold* from the TID type pull-down list.
5. Select *MBA1*.

You can apply multiple TIDs to multiple material, containers, and locations all in one transaction.

6. Click [Find Matches]
7. Select the second, third, and fourth TIDs: *FC0062*, *FC00114*,

and *FC00166*. Also select *FC00517*.

8. Click [Begin Apply/Remove/Destroy Using Selected TIDs].

Now you have a window that looks similar to the containers window we used earlier. On the left side of the window are folders representing the TID seals.

Notice that the applied TID lists the object – in this case a container – to which it is applied.

The middle of the window is where the materials, locations, or containers to be sealed will be displayed. On the right are spaces for you to specify the type of TID transaction, and the personnel involved in the transaction.

Let's apply one TID to an item, one to a container, and one to a location. We will also destroy the applied TID.

When you apply a TID you must identify the TID to be applied and then the material, container, or location to be sealed.

We already identified the TIDs to be applied, now let's find the material and the container we need to apply the TID to.

Notice that the Apply/Remove/Destroy window has four large tabs across the top of the window. We used the first

Note: This is the window that appears when you click [Yes] in the TID dialog boxes that appear in other LANMAS transactions.

tab (TID Selection) to find the TIDs for our transaction. The next two tabs are used to access windows that let you select the materials, containers, and locations to be sealed.

9. Click the Material/Container Selection tab.

This is the familiar material/container selection criteria window we have used for our other transactions. It is used the same way here.

10. Enter *Demo Item 257* in the Material/Container Name field and click [Find Matches].
11. Select *Demo Item 257* and click [Begin Apply/Remove/Destroy Using Selected Materials].
12. Return to the Material/Container Selection/Selection Criteria tab and enter *CI-Demo Item 200* in the Material/Container Name field. Click [Find Matches]
13. Select *CI-Demo Item 200* from the list of containers and click [Begin Apply/Remove/Destroy Using Selected Containers]

Now let's find our location to be sealed in the same way.

14. Click the Location Selection tab.

This window is different in that you only need to specify an MBA and a list of valid locations for the MBA will be shown.

15. Select *MBA1*.
16. Select *Area1/Building1/Room1* and click [Apply Using Selected Locations].

First, we will apply a TID.
17. Make sure the radio button for “apply” is selected.
18. Select the first TID (*FC00062*).
19. Select *Demo Item 257*.
20. Select *Employee #1* as the operator (applier).
21. Select *Employee #2* as the Witness.

22. Click [Apply].

Notice that the information appears in the table in the middle of the window. Also notice that, like the container transaction, the item, location, or container that was sealed is listed below the TID name.

If you make an error, click the Refresh button to clear the entries.
23. Apply *FC00114* to the container (*CI-Demo Item 200*) and *FC00166* to the location using the same process.

Only people included in the Applicator group will be listed.

Explain the By Employee ID checkbox.

Show students what happens when the applicator and witness are the same person.

A single TID can be applied to multiple items by selecting several items before you click [Apply].

24. Follow the same procedure to remove *FC00517*, except select the Remove radio button.

Note the [Pend Selected], [Restore Selected], [Remove Selected] and [Remove All] buttons at the bottom of the window.

[Pend Selected] – This is used most often when you access this window during another transaction. It lets you change the status of the TID to “pending.” This allows you to note that the TID status needs to be changed but that it will be updated later.

[Restore Selected] – This button is used to reset the information for the selected TID to the way it was at the beginning of the transaction. You can use this button if you make a data entry mistake (before you save the transaction).

[Remove Selected] and [Remove All] – These buttons remove the desired TIDs from the transaction.

25. Click [Save] when all transactions have been entered.

26. Since we applied and removed in the same transaction, select TIC 204 and click [OK] for the TIC.

27. Record the transaction number and click [OK].

In the TID window, notice that the status of the TIDs we applied

Ask students for examples of when they would use [Pend Selected].

Explain use of TICs 205 and 206.

Have students record their transaction numbers

changed from “for use” to
“applied.”

28. Click [Exit]

8.5.3 Exercise 8.3.2-8.3.3

Optional placement of exercise
8.3.2 – 8.3.3.

8.6 Edit TIDs

The Edit TID function allows you to change the following information about a TID.

- Owner type
- Owner name
- Status
- Names of employees involved in the TID transaction
- Times reused.

You can also add comments about a TID.

This is the command to use if you have mistakenly applied, destroyed, or shipped a TID off-site.

8.6.1 Required Data

- Required change to TID information
- Personnel who completed transaction (if changing status)

8.6.2 Procedure

1. Select TIDs.
2. Select Edit TID Data.
3. Click [OK] for transaction date.
4. Select *MBAI*.

Note that if you use the Edit TID Data to change the status to applied, you will not have a record of what the TID is applied to. To apply a TID you should use the Apply/Remove/Destroy command.

5. TID Type *Multi-LOK 24 In. – M Ser.*

6. Click [Find Matches].

7. Select TID *M00535*.

8. Click [Begin Edit TID Data Using Selected TIDs].

In the Edit Data table, the columns with the blue headings have data that can be changed.

9. Change the owner type to *Account*, the owner name to *DZA/MBA1/subMBA1* and change the status to *Shipped*.

LANMAS automatically records shipped TIDs attached to items or containers that are shipped. This is the only way you can manually record a shipped TID.

10. Click [Save].

11. Click [OK] for the TIC.

12. Record the transaction number and click [OK].

Have students record their transaction numbers

13. Click [Exit].

8.7 Special Conditions

There are two conditions within the LANMAS application that will automatically update the status of the TIDs in the system. These are material transfers between MBAs and off-site shipments.

When material or a container is transferred to another MBA, the LANMAS application will automatically change the account associated with the TID to the receiver's account (this is

NOTE: On all other transactions it is up to the user to remember to update the TID information in the system.

NOT an ownership change).

If material or containers are shipped off-site via a 741, the TIDs that are applied to the containers or material within the shipment will have their TID status change to "shipped." This will remove them from the active TID seals within the system

8.8 TID Reports

Switch to slides
TP 8-7

There are three TID reports available to help manage the TID program. These reports are:

- TID Current Status
- TID History
- TID Summary

These reports are accessed through the LANMAS Reports menu.

8.8.1 Current Status Report

The Current Status report lists the information related to all of the active TIDs in the system. The TID seals will have a status of "for use," "issued," "applied," or "removed." (Destroyed and shipped seals are not considered active seals.)

8.8.2 History Report

The history report is used to view the entire history of a TID seal. It will list all of the transactions that have occurred related to the TID program. This helps to support the 'life to death' tracking of a TID seal.

8.8.3 Summary Report

The TID Summary report is used to obtain a list of the TID seals in a given area. This

report is very useful for conducting an inventory of “for use” TIDs.

8.8.4 Procedure – Current Status Report

1. Click *Reports*.
2. Click *TID Current Status*.
3. Click the *For Owners* radio button.

Notice that an Owner data entry field appears.

4. Click the *For Accounts* radio button.

Notice now the Owner data field changes to an Account data field.

5. Enter *DZA/MBA2/SubMBA1* in the Account field.
6. Enter *Applied* in the TID Status field.

Notice that several other radio buttons appear in the lower section of the window allowing you to generate reports for TIDs applied to materials, containers, locations, or all three.

These buttons only appear if a status of “applied” is selected.

7. Clear the TID Status field so we can view the report for all TIDs.
8. Click [Preview].

TID status reports are presented

Switch to LANMAS.

Review the remaining data entry fields and describe their affect on the report. Mention the Populate Names button.

Review the data presented in the report.

grouped by ownership.

9. Click the X in the upper right hand corner of the report to close the report.
10. Click [Exit].

8.8.5 Procedure – TID History Report

1. Click Reports.
2. Click *TID History*.
3. Click the *Ignore Ownership* radio button.
4. Enter *MBA2* in the MBA field. This produces a report of the history of all TIDs in MBA2.
5. Click [Preview].

TID history reports are presented grouped by TID type.

6. Click the X in the upper right hand corner of the report to close the report.
7. Click [Exit].

8.8.6 Procedure – TID Summary Report

1. Click *Reports*.
2. Click *TID Summary*.
3. Click the *Ignore Ownership* radio button.
4. Enter *MBA2* in the MBA field.

Review the data presented in the report.

5. Enter *For Use* in the TID Status field.

This produces a list of all 'for use' TIDs in the MBA. This list can be used to conduct a periodic audit of the TIDs on hand.

6. Click [Preview].

TID status reports are presented grouped by owner and then by TID type.

A total for each type of TID assigned to the owner is also presented.

7. Click the X in the upper right hand corner of the report to close the report.
8. Click [Exit].

Review the data presented in the report.

8.9 Exercises (Optional Placement)

Lesson 8 exercises

8.10 Summary

To summarize, in this lesson you performed the following:

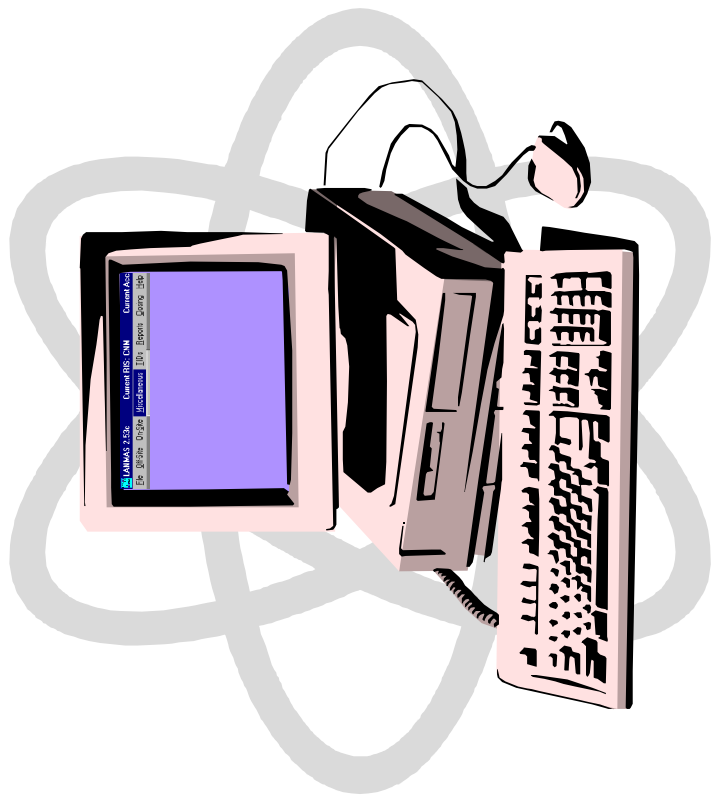
- Received TIDs from a vendor
- Transferred TIDs between owners
- Changed the status of TIDs
- Applied, removed, and destroyed TIDs

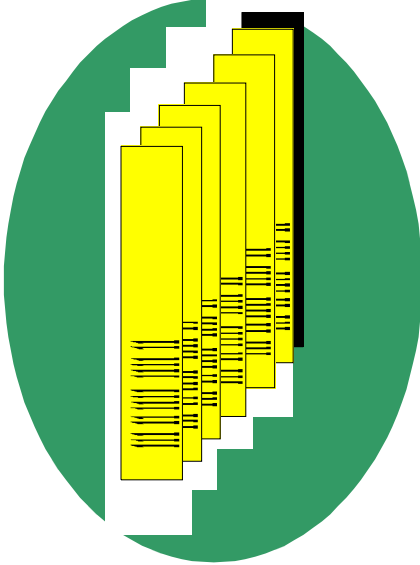
You also learned how to:

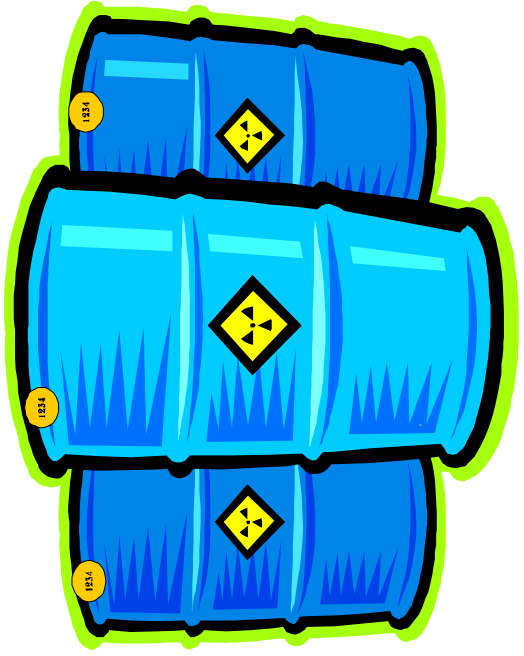
- Edit TID data
- Generate and use TID reports

TP 8-8

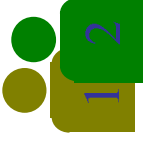
Review any areas the students may have had problems with during the exercise.

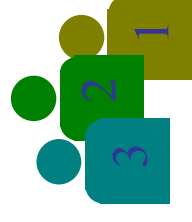
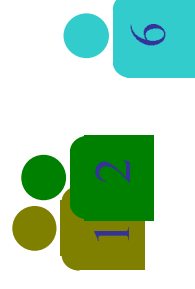




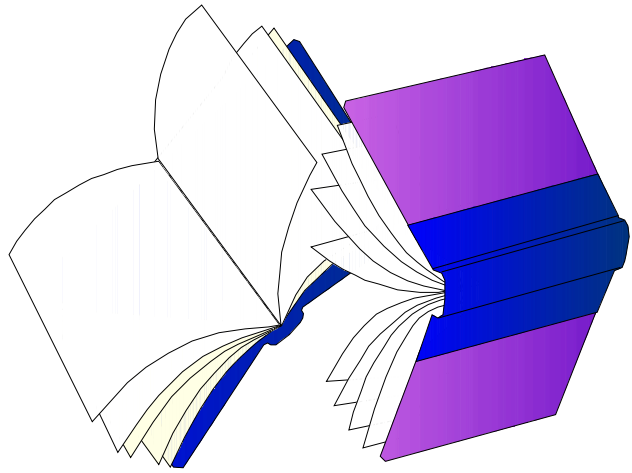


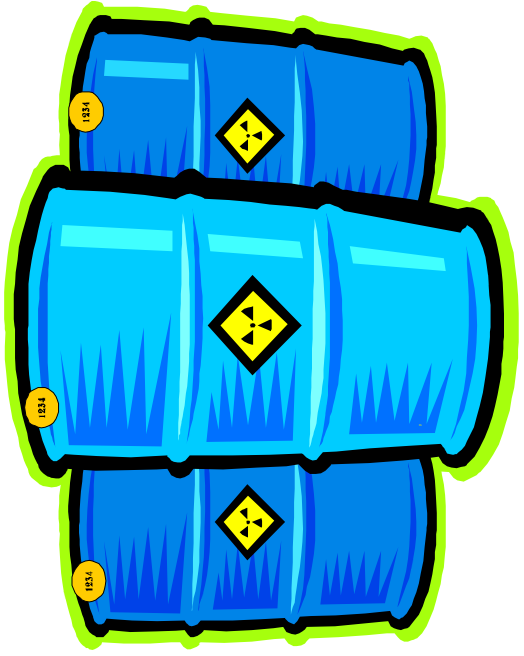
TID Authorizations

- **Authorization (User) Groups**
 - **Applicator**  • **Remover witness**
 - **Applicator witness** • **Receiver**
 - **Destroyer** • **Receiver witness**
 - **Destroyer witness** • **Issuer**
 - **Owner** • **Issuer witness**
 - **Remover**



- **Groups can have same members**
- **Separation of duties based on set up**
- **Tracks user name and ID**





Exercise 8.1 Receiving New TIDs – Instructor Notes

Exercise Objectives: Gain practical experience using the Receive from Vendor command.

Instructions: Read each exercise, select the appropriate LANMAS command, and enter the transaction(s) into LANMAS. Record the transaction number(s) assigned by LANMAS in the space provided. Use the default activity date.

Exercise 8.1

The Employee #8 works in site MC&A for RIS DZA has received 10 24"-long, series A Multi-LOK TID seals from the vendor. (Per site requirements, a receiving witness is not required.) The seals are numbered from A03200-A03209. These TIDs will be assigned to the owner Employee #4 until they are dispensed to the various MBAs. Complete the transaction receiving the TIDs.

Receive TIDs
A03200-A03209 – Series A Multi-LOK 24"
Owner Employee #4
Received by Employee #8

Transaction number: _____

Instructor Notes:

- Remind students of the procedure for receiving TIDs. (You may want to write it down on the board or review it before the students start.)
- Assist students as necessary.

Post-Exercise Discussion:

- Any questions or problems?
- Allow students to discuss authorization groups at their site? Is a witness required to receive TIDs? To issue TIDs?
- Talk about the TID reports that can be used to review the changes made to the TIDs.

Exercise 8.1 – Receiving New TIDs

Instructions Read each exercise, select the appropriate LANMAS command, and enter the transaction(s) into LANMAS. Record the transaction number(s) assigned by LANMAS in the space provided. Use the default activity date.

The Employee #8 works in site MC&A for RIS DZA has received 10 24”-long, series A Multi-LOK TID seals from the vendor. (Per site requirements, a receiving witness is not required.) The seals are numbered from A03200-A03209. These TIDs will be assigned to the owner Employee #4 until they are dispensed to the various MBAs. Complete the transaction receiving the TIDs.

Receive TIDs
A03200-A03209 – Series A Multi-LOK 24”
Owner Employee #4
Received by Employee #8

Transaction number: _____

Exercise 8.2 TID Ownership Change – Instructor Notes

Exercise Objectives: Gain practical experience using the Ownership Change command.

Instructions: Read each exercise, select the appropriate LANMAS command, and enter the transaction(s) into LANMAS. Record the transaction number(s) assigned by LANMAS in the space provided. Disregard Use the default activity date.

Exercise 8.2

MC&A personnel in MBA3 need 5 24"-long, series A Multi-LOK TIDs. They pick them up from the site TID custodian (Employee #4) and take them back to the MBA. Site MC&A has given the following TIDs to MBA3.

A03200 – A03204

MBA3 has 3 TID custodians so they assign their TIDs to the whole MBA rather than to a single individual. Complete the transaction transferring the “for use” TIDs from site MC&A to MBA3.

TIDs A03200 – A03204

Change Owner from Employee #4 to Account MBA 3

Transaction number: _____

Instructor Notes:

- Remind students of the procedure for completing change ownership of TIDs. (You may want to write it down on the board or review it before the students start.)
- Assist students as necessary.

Post-Exercise Discussion:

- Any questions or problems?
- Ask students to provide practical examples of where ownership of a TID would change at their site.
- What TID report(s) could you use to review your changes?

Exercise 8.2 – TID Ownership Changes

Instructions Read each exercise, select the appropriate LANMAS command, and enter the transaction(s) into LANMAS. Record the transaction number(s) assigned by LANMAS in the space provided. Use the default activity date.

MC&A personnel in MBA3 need 5 24”-long, series A Multi-LOK TIDs. They pick them up from the site TID custodian (Employee #4) and take them back to the MBA. Site MC&A has given the following TIDs to MBA3.

A03200 – A03204

MBA3 has 3 TID custodians so they assign their TIDs to the whole MBA rather than to a single individual. Complete the transaction transferring the “for use” TIDs from site MC&A to MBA3.

TIDs A03200 – A03204

Change Owner from Employee #4 to Account MBA 3

Transaction number: _____

Exercise 8.3 Issuing, Applying, Removing, and Destroying TIDs – Instructor Notes

Exercise Objectives: Gain practical experience using the Apply/Remove/Destroy command.

Instructions: Read each exercise, select the appropriate LANMAS command, and enter the transaction(s) into LANMAS. Record the transaction number(s) assigned by LANMAS in the spaces provided. Use the default activity date.

Exercise 8.3.1

An MBA3 TID custodian (Employee #10) has issued 3 seals to operations personnel to be applied in the facility. Employee #11 witnessed the issuance.

Transaction number: _____

Exercise 8.3.2

Operations personnel applied the TIDs from Exercise 8.3.1 to each of the following materials, containers, and locations.

<u>TID Number</u>	<u>Material/Container/Location</u>	<u>Applicator/Witness</u>
A03200	Demo Item 133	Employee #1/ Employee #2
A03201	C1-Demo Item 101	Employee #1/ Employee #2
A03202	Area 1, Building 1, Room 3	Employee #1/ Employee #2

The material and container are in MBA3, subMBA2, Area 1, Building 1, Room 3.

Transaction number: _____

Exercise 8.3.3

The same operations personnel (Employee #1/Employee #2) re-entered Room 3 and destroyed the TID A03202 applied to the room in Exercise 8.3.2.

Transaction number: _____

Exercise 8.3 Issuing, Applying, Removing, and Destroying TIDs – Instructor Notes

Instructor Notes:

- Exercise 8.3.1
 - Remind students of the procedure for changing the status of a TID.
 - Be sure students use the correct command, and don't go straight from "for use" to "applied."
- Exercise 8.3.2
 - Assist students as necessary to locate the correct TIDs, materials, containers, and locations.

Post-Exercise Discussion:

- Any questions or problems?
- What TID report(s) could you use to review your changes?

Exercise 8.3 – Issuing, Applying, Removing, and Destroying TIDs

Instructions Read each exercise, select the appropriate LANMAS command, and enter the transaction(s) into LANMAS. Record the transaction number(s) assigned by LANMAS in the spaces provided. Use the default activity date.

Exercise 8.3.1

An MBA3 TID custodian (Employee #10) has issued 3 seals to operations personnel to be applied in the facility. Employee #11 witnessed the issuance.

Transaction number: _____

Exercise 8.3.2

Operations personnel applied the TIDs from Exercise 8.3.1 to each of the following materials, containers, and locations.

<u>TID Number</u>	<u>Material/Container/Location</u>	<u>Applicator/Witness</u>
A03200	Demo Item 133	Employee #1/Employee #2
A03201	C1-Demo Item 101	Employee #1/Employee #2
A03202	Area 1, Building 1, Room 3	Employee #1/Employee #2

The material and container are in MBA3, subMBA2, Area 1, Building 1, Room 3.

Transaction number: _____

Exercise 8.3.3

The same operations personnel (Employee #1/Employee #2) re-entered Room 3 and destroyed the TID A03202 applied to the room in Exercise 8.3.2.

Transaction number: _____

**United States Department of Energy
National Training Center**

LESSON PLAN

TITLE: Report Menu Options

COURSE: MCA-214

9. LANMAS Reports

TP 9-1

Lesson Goal:

TP 9-2

The goal of this lesson is for students to understand how to use the Reports menu options in LANMAS – with the exception of the TID reports which were covered in Lesson 8.

Lesson Objectives:

TP 9-3

- Students will identify the purpose of each report.
- Students will use the Reports menu options to generate specific reports.
- Students will understand the ad hoc report capability.

9.1 Introduction to Reports

LANMAS users can generate reports showing various inventory representations, including those required by the Nuclear Materials Management Safeguards System (NMMSS). The reports you can generate are based on your security authorizations.

Reference User Manual,
Chapter 12

The LANMAS pre-programmed reports are generated using Crystal Reports. As soon as we open a report, we'll review how to navigate in Crystal Reports – we talked about most of the navigation tools in earlier lessons.

You can specify the type of data you want to show in each report by setting parameters, or filters, for the report. Filters include:

TP 9-4

- MBA and SubMBA

MBA and subMBA filters allow you to compile a report for a single MBA or subMBA.

- Type Inventory Change (TIC)

The TIC code filter will allow you to view data from a specific type of transaction.

- Transaction Date

Reports can be generated for a specific date or for the accounting period indicated in the LANMAS header. Only dates in an open accounting period can be specified.

- Summary Material Type (SMT)

- Detail Material Type (DMT)

The SMT and DMT filters allow you to generate a report for a single SMT or DMT within an MBA or RIS.

- Location

The location filter allows you to compile a report for a specific location within an MBA.

All of these filters are not available for each report.

This lesson will cover the reports that LANMAS is currently programmed to generate, and then we will discuss how to get more information out of LANMAS than the pre-programmed reports provide through generating what we call “ad hoc” reports.

We will briefly discuss how to design a database query to create a custom report, using programs such as Microsoft Access, Microsoft Query, and Fox Pro.

TP 9-6

9.2 Pre-programmed Reports

9.2.1 Account Journal Transfer - Receipts

Switch to LANMAS.

1. Click on *Reports*.

Many of the pre-programmed reports are listed in the Reports menu. You've already seen several of these reports, so we won't be going over those again.

The Journal reports provide listings of transactions that affect the amount of material in an account. If a transaction does not affect the account (such as a location change), it is not shown.

Several types of journal reports are available. The first shows receipts into an MBA, the next one shows removals from an MBA, and the one near the bottom – the Transaction Journal Report – shows a compilation of all the account transactions in an MBA.

2. Click on Account Journal Transfer Rpt – Receipts.

This report will compile a list of receipt transactions.

Available filters are:

- Accounting period - the report can either be generated for the previous accounting period or the current period.

Do not change the selection.

- MBA – use this filter to specify a

particular receiving MBA; the report will include receipts from other MBAs, as well as receipts into all of the associated subMBAs. If the field is left blank, the report will include all MBAs in the RIS.

- SMT – use this to limit your report to a particular SMT.
 - TIC – to use the TIC filter, you must select a TIC that corresponds to a transaction that resulted in the addition of material to the MBA or subMBA. Selecting a TIC that is not a receipt or that does not cause an account change (such as moving material between locations or moving empty containers) will generate a “No Records...” message.
3. Leave the filters blank to get the report for the entire RIS, and click [Preview].

When you click Preview, the first page of the report is shown. This is a cover page showing the report title and the dates for which the report was generated.

You can use the control bar at the top of the window to move around within the report and to find a specific entry.

The arrow keys are used to view individual pages of the report. The control bar shows the number of the page you are currently viewing. The total number of pages will be displayed after you view the last page of the report.

4. Click on the right arrow with the line to the side of it.

This takes you to the last page of the report. Notice the page numbers have been updated.

5. Click on the left facing arrow with the line to the side to take you back to the first page.

The icons allow you to print, export the report, toggle the group tree, change the viewing size and find entries in the report.

You can control the size of the page shown on the screen using the zoom field.

The find function can be used to locate a specific entry in the report. To use this feature, enter the value you want to find in the field and then click the find button (the binoculars). The program will search for entries that contain the value you specified, beginning on the page you are currently viewing. To find the next matching entry, click the find button again.

Some reports also have a “tree” button next to the export button in the control bar. We talked about this tree button earlier. Clicking this button splits the report window and creates a column to the left of the report showing an outline or “tree” for the report.

The report tree is a graphical summary of the report. The tree is an outline with each heading in the report listed. Under each major heading are several levels of sub-headings. To show the sub-headings, click on the “+” next to the major heading. Each time you click on a “+” a lower level of heading is displayed.

To collapse the tree, click on the “-“ next

to the heading. Clicking on a heading or sub-heading in the tree will take you to that information in the report. This is especially useful in long reports.

To remove the tree column, click the tree button again.

6. Click on the right arrow to go to the next page.

This report displays the records in a table format. The report is in order of ascending receiving MBA designations. Multiple receipts from a single shipping MBA are shown in order of ascending SMT.

The first two columns show the “from” MBA and subMBA. Receipts due to adjustments have “Adjst” in the “From MBA” column and the TIC code in the from subMBA column.

The next two columns show the “receiving” MBA and subMBA. A blank “Charge To SubMBA” entry indicates a full container or item was received into the MBA’s in-transit account or an empty container was received into the MBA.

The next column displays the TIC recorded for the transaction.

The next six columns show information about the material or container received.

The last three columns show information about the transaction entry. The user ID shows the person that entered the transaction, the date shows the transactions date, and the last column is the transaction number that was assigned.

The gray-shaded blocks show the total element and isotope weights received for transactions with the same to MBA and subMBA, from MBA and subMBA, SMT, and DMT.

7. Click the X in the corner of the window to close the report.
8. Click [Exit].

9.2.2 Account Journal Transfers - Removals

The Account Journal Transfer Report for Removals compiles a list of removals from an account.

1. Click on Reports.
2. Click on Account Journal Transfer Rpt – Removals.

The list can be compiled for a specific MBA or for the entire RIS. You can also specify a single date or obtain the list for the entire month.

The filters are similar to the Receipt report.

3. Leave the filters blank (or unchanged as is the case for the Accounting Period filter) and click [Preview].
4. Click the right arrow to move to the second page.

The format for the removals report is identical to the receipt report except that the data is in order of ascending shipping MBA designation.

5. Click the X in the corner of the window to close the report.
6. Click [Exit].

9.2.3 External Transaction Activity Report

The External Transaction Activity Report compiles data on material shipped to or received from another RIS during the accounting period. Shipments and receipts sent to an adjustment account are not shown on this report.

Since this report shows off-site shipments and receipts, the only TICs shown will be:

- 30 – Receipts reported on DOE 741
- 51 – Shipments reported on DOE 741
- 102 – Received Material
- 104 – Pending Material Shipment

This report displays data in order of ascending 741 number. The details for each shipment are listed, then the data is summarized by 741.

9.2.4 Inventory Report – Book

Three inventory reports can be automatically generated. These reports are used to conduct and document the physical inventory. The book inventory reports can also be used to view the inventory at a specified point in time.

The first report is the Book Inventory Report. We reviewed this report in Lesson 7. Next is the Book Inventory Summary.

9.2.5 Inventory Report – Book Summary

1. Click on *Reports*.
2. Click on *Inventory Report – Book Summary*.

The Inventory Report – Book Summary shows the total book inventory for each DMT for the entire MBA. Totals for each subMBA are also provided. This data is compiled as of the current date.

The filters are identical to those for the Inventory Report – Book.

3. Leave the filters blank and click [Preview].
4. Click the right arrow.

The Inventory Report – Book Summary shows the material in the MBA as of the date specified in the report title. If the report was compiled for a specific MBA, the inventory is summarized first for the entire MBA, then for each subMBA. If you compiled the report for the RIS, as we did, the inventory is summarized by MBA.

The report is arranged in order of ascending MBA. The data is summarized by DMT. The data is summarized first for the entire MBA, then for each subMBA. The MBA totals and the totals for each subMBA are listed on separate pages.

The summary shows the SMT, each DMT associated with the SMT, the element weight associated with the DMT, and the names and amounts of the isotopes present.

5. Click the X in the corner of the window to close the report.

6. Click [Exit].

9.2.6 Physical Inventory Report

1. Click on *Reports*.
2. Click on *Inventory Report – Physical*.

The Physical Inventory (PI) report provides a list of items and containers in the MBA, sorted by location, that can be used to conduct the PI. The report can be generated for an MBA or for the entire RIS. PI Reports are compiled as of the current date.

The filters available for the PI report are the MBA and location, and the activity dates or system dates.

You can also indicate if you want to include empty locations or empty containers.

The filters also include radio buttons to indicate if the inventory is routine or an emergency inventory. Selecting an emergency inventory will generate a list of the highest level of TID-sealed containment, including the location and the seal number.

3. Select an activity date at the end of the open accounting period and make sure that the routine button is selected, and click [Preview].
4. Click the right arrow.

Ask students why they might want to include empty locations or containers. (To document the completion of a wall-to-wall inventory.)

The PI report lists the RIS and MBA at the top. The data is then presented by location in order of ascending material name.

Depending on time, you may want to review an emergency inventory report to point out the differences in the two versions of this report.

5. Click the X in the corner of the window to close the report.
6. Click [Exit].

9.2.7 Item Adjustment Report

1. Click on *Reports*.
2. Click on *Item Adjustment Report*.

The Item Adjustment Report lists any change to the element or isotope weight due to a single-party transaction. This report can be used as a tool to evaluate the number and type of adjustments made to the inventory.

Filters available for this report are the MBA, subMBA, transaction date, and TIC.

3. Leave the filters blank and click [Preview].
4. Click the right arrow.

The Item Adjustment Report displays the “to” MBA, “to” subMBA, SMT, and TIC above the report data. The body of the report is similar to the journal reports.

The amount of material removed from the item is shown to let you see the amount of the adjustment. The gray box shows the

total difference for the SMT.

This report shows the material data entered at the time the transaction was executed. Any changes made to the material name, IDC, TIC, weight, or measurement identification entered into LANMAS after the adjustment transaction was executed will not be reflected in this report.

5. Click the X in the corner of the window to close the report.
6. Click [Exit].

9.2.8 Material Balance Area Ledger Report

1. Click on *Reports*.
2. Click on *Material Balance Area (MBA) Ledger Report*.

The MBA Ledger Report shows the ending book inventory for an account and is used to verify that the LANMAS system is in balance. It summarizes the beginning inventory, receipts, removals, adjustments, and ending book inventory associated with a specific MBA.

If two accounting periods are open, the MBA Ledger Report can only be used for the first open accounting period. You cannot generate a complete ledger report for the second open accounting period until the first one is closed. This is because the ending inventory for the first accounting period is the beginning inventory for the next accounting period.

This report uses the MBA and SMT as

filters.

3. Leave the filters blank and click [Preview].
4. Click the right arrow.

The MBA, subMBA, and SMT are shown above the report body. The first line in the body of the report shows the beginning ledger inventory. The number at the beginning of the line indicates the line number for the corresponding entry on the Material Balance Report (MBR).

Next the receipts of the specific SMT into the subMBA are shown, with the corresponding TIC code and weights. The last receipt line shows the total amount of material received. Removals of the SMT from the subMBA are shown next. As with receipts, removals are listed individually by TIC and then totaled.

The next line shows if the database ledger and journal balance. This is determined by taking the beginning inventory + receipts – removals – the ending inventory. This line should always be zero.

The next line shows the ending book inventory, based on the journal entries. Following the ending inventory is the station balance. The station balance is the current book inventory obtained by adding the amount of material on inventory from the detailed material records.

The last line also indicates if the LANMAS program is working properly. This difference is determined by subtracting the ending ledger from the station balance. If LANMAS is working correctly, this line should always be zero.

5. Click the X in the corner of the window to close the report.

6. Click [Exit].

9.2.9 Transaction Journal Report

The Transaction Journal Report compiles a list of all movements between accounts or projects.

1. Click on *Reports*.

2. Click on *Transaction Journal Report*.

This report uses the “from” and “to” MBA and subMBA as filters, as well as DMT and TIC.

3. Leave the filters blank and click [Preview].

4. Click the right arrow.

The report is arranged in ascending Transaction Number. The transaction number is listed along with the Activity Date, User ID, and TIC associated with the transaction. All items affected by a transaction are listed in the form of From (F) and To (T) entries showing how each item was affected by the transaction.

5. Click the X in the corner of the window to close the report.

6. Click [Exit].

9.2.10 Location Transfer Report & Limit Checking Report

These two reports are used for Limit Checking and are discussed as part of the LANMAS Advanced User Course.

9.2.11 Material Transaction Report

The Material Transaction Report compiles a list of all transactions on a particular material. This report was reviewed in Lesson 6.

9.2.12 TID Reports

The TID Reports: Current Status, History, and Summary, were covered in Lesson 8.

9.3 Ad Hoc Reports

Although a lot of information is provided in the LANMAS pre-programmed reports, you will always get requests for information not provided in one of the reports.

You can create a query to view LANMAS data in different ways. When you make a query, you retrieve data from one or more LANMAS database tables using criteria you specify. You can then display the data in the order you want. You can use programs such as Microsoft SQL, Microsoft Access, Microsoft Query, or Fox Pro to create a query.

You will not learn how to create a query in this class. The objective of this portion of the class is for you to understand the ad hoc capability of LANMAS. To demonstrate that, I will show you a query that has already been built to find all the materials in *MBA1* with an SMT of *20* and an IDC of *ID031*.

TP 9-5

Reference User Manual, for instructions on creating queries

Use "AdHoc.SQL" in the SQL folder that came with the training for this query example.

9.4 Exercise

Lesson 9 Exercises

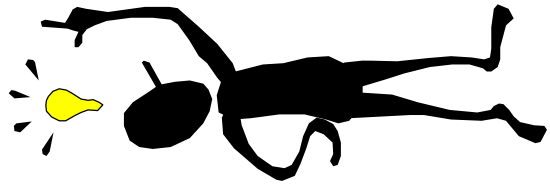
9.5 Summary

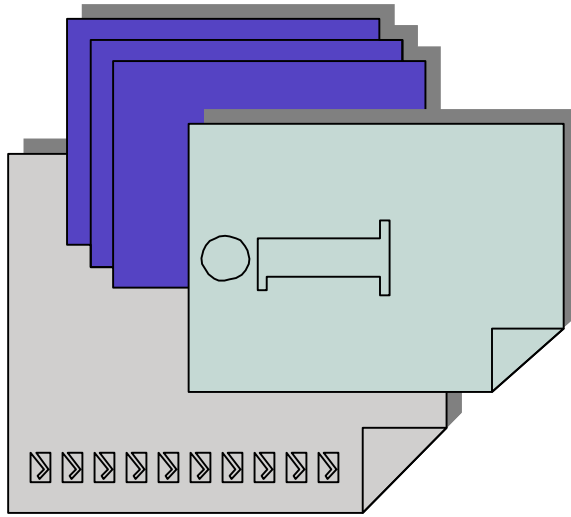
Switch to slides
TP 9-3

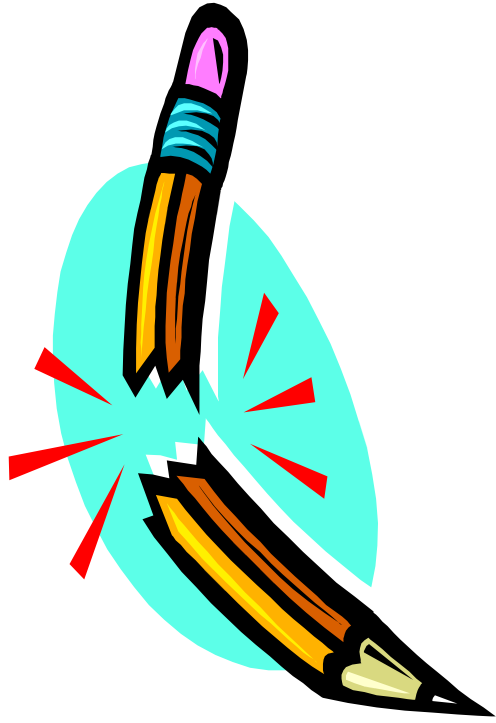
During this lesson you performed the following:

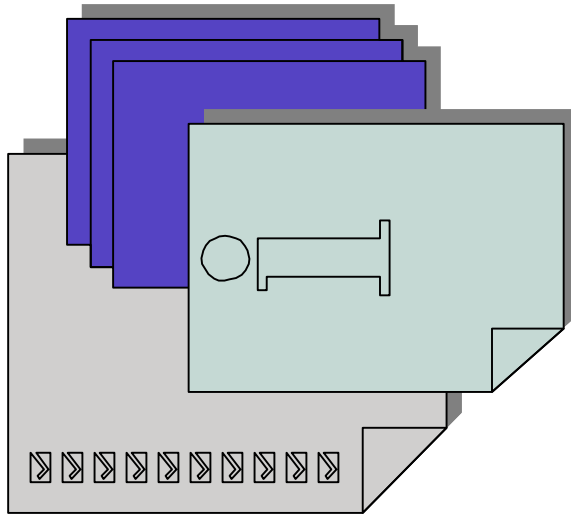
- We reviewed the purpose of each of the LANMAS pre-programmed reports not previously discussed.
- You learned how to use the Reports menu to generate the report you need.
- We briefly discussed the method for generating specialized reports using the ad hoc report capability.

Discuss any problems the students may have encountered during the exercise.









LANMAS Query Characters

Both the LANMAS program and the LANMAS Administration Program contain fields that work together to allow you to search for specific data either in a list or in the LANMAS database. LANMAS will search for an exact match for the data you enter unless you use special characters to instruct LANMAS to include or eliminate specific data. The characters and the effect of their use are described in the following table.

Query Characters *	Effect
X	Returns only entries that are an exact match for the character(s).
%X	Returns all entries that end with the specified character(s).
X%	Returns all entries that start with the specified character(s).
%X%	Returns all entries that have the specified character(s) anywhere in the string.
!X	Returns all entries that are not an exact match for character(s).
!%X	Returns all entries that do <u>not</u> end with the specified character(s).
!X%	Returns all entries that do <u>not</u> start with the specified character(s).
!%X%	Returns all entries that do <u>not</u> have the specified character(s) anywhere in the string.
#X,Y,Z	Several characters in list.

*X, Y, and Z represents character(s) to be found

Searches are not case sensitive. Only the first four query formats can be used in the selection criteria window. The queries containing a “!” can be used to further filter the results once your initial query is completed.

Material Status Designations

LANMAS uses single character designations to represent the status of a material. The following table describes the meaning of each material status designation.

Status Designation	Description
G	Material is gone from the site's inventory.
I	Material is in an in-transit account.
M	The material is awaiting measurement.
S	The material is pending shipment.
X	The material is active and no other status designations apply.

Attachment A

Summary Material Types

Material Type	Summary Material Type Code	Data Entry Units	DOE Reporting Units
Americium-241	44	Gram	Gram
Americium-243	45	Microgram	Microgram
Berkelium	47	Microgram	Microgram
Californium-252	48	Gram	Microgram
Curium	46	Gram	Gram
Deuterium	86	Kilogram	Kilogram
Lithium-6	60	Kilogram	Kilogram
Neptunium-237	82	Gram	Gram
Plutonium-238	83	Gram	Gram
Plutonium-239-241	50	Gram	Gram
Plutonium-242	40	Gram	Gram
Thorium	88	Kilogram	Kilogram
Tritium	87	Gram	Gram
Uranium-depleted	10	Gram	Kilogram
Uranium-enriched	20	Gram	Gram
Uranium-normal	81	Gram	Kilogram
Uranium-233	70	Gram	Gram

Detail Material Types

Summary MT	Detailed MT	Type Description	Summary MT	Detailed MT	Type Description
Uranium Depleted in U-235			Plutonium		
10		Total Uranium (Kg)	50		Total Plutonium (Gm)
	11	0.21% U-235		51	<4.00% Pu-240
	12	0.21 to <0.24% U-235		52	4.00 to 7.00% Pu-240
	13	0.24 to <0.26% U-235		53	7.00 to 10.00% Pu-240
	14	0.26 to <0.28% U-235		54	10.00 to 13.00 % Pu-240
	15	0.28 to <0.31% U-235		55	13.00 to 16.00% Pu-240
	16	0.31 to <0.50% U-235		56	16.00 to 19.00% Pu-240
	17	0.50 to <0.60% U-235		57	19.00% and above Pu-240
	18	0.60 to <0.711% U-235			
Uranium Enriched in U-235			Lithium Enriched in Li-6		
20		Total Uranium (Gm)	60		Total Lithium (Kg)
	21	0.77 to <0.90% U-235		61	>Normal to <55.00%
	22	0.90 to < 1.15% U-235		62	55.00% to <80.00%
	23	1.15 to < 1.60% U-235		63	80.00% and above
	24	1.60 to < 2.00% U-235			
	25	2.00 to < 2.60% U-235			
	26	2.60 to < 2.90% U-235			
	27	2.90 to < 3.10% U-235			
	28	3.10 to < 3.40% U-235			
	29	3.40 to < 3.90% U-235			
	30	3.90 to < 4.10% U-235			
	31	4.10 to < 5.00% U-235			
	32	5.00 to < 10.00% U-235			
	33	10.00 to < 20.00% U-235			
	34	20.00 to < 35.00% U-235			
	35	35.00 to < 45.00% U-235			
	36	45.00 to < 80.00% U-235			
	37	80.00 to <92.00% U-235			
	38	92.00 to < 94.00% U-235			
	39	94.00% and above U-235			
Plutonium 242			Uranium Enriched in U-233		
40		Total Plutonium (Gm)	70		Total Uranium (Gm)
	41	20% through 60%		71	<5 ppm U-232
	42	>60%		72	5 to <10 ppm U-232
				73	10 to <50 ppm U-232
				74	50 ppm and above U-232

Transaction Aides

Move Within MBA

1. Select Date
2. Query Items
3. Begin Move Using Selected
4. Select Location and SubMBAs of the Destination
5. Assign
Options: Location – Assign - to those selected
 All – assigns location to all
 SubMBA – Assign – Assigns SubMBA to selected
 All – assigns SubMBA to all
 * - Assigns location and SubMBA to selected
 ** - Assigns SubMBA and location to all items
6. Save

Move To MBA (Shipper Side)

1. Select Date
2. Query Items
3. Begin Move Using Selected
4. Select Destination MBA in dropdown
5. IF SubMBA and Location to be assigned, select in dropdown
6. Assign
Options: Location – Assign - to those selected
 All – assigns location to all
 SubMBA – Assign – Assigns SubMBA to selected
 All – assigns SubMBA to all
 * - Assigns location and SubMBA to selected
 ** - Assigns SubMBA and location to all items
7. Save
8. IF MBA/SubMBA/Location assigned, you may be able to accept.

Accept Into MBA

1. Select Date
2. Query Items (Recommend “Selectable Items Only”)
3. Begin Accept Using Selected
4. Select SubMBA/Location in dropdown
5. Assign
Options: Location – Assign - to those selected
 All – assigns location to all
 SubMBA – Assign – Assigns SubMBA to selected
 All – assigns SubMBA to all
 * - Assigns location and SubMBA to selected
 ** - Assigns SubMBA and location to all items
6. Save

Mix/Split/Transfer

1. Select Date
2. Query Items
3. If new item to Mix/Split into – Create New Item
4. Select Item to Begin Mix
5. Assign “To” Item
6. Enter Delta or New Weight on From Side Items
7. For Mix, if all weights to be set to zero (From side items), click set new weights to zero
8. Check Items to be killed if any
9. Save

Adjustment

1. Select Date
2. Query Item(s) – Create Items
3. Begin Adjustment Using Selected
4. Update weights/Add Elements and Isotopes
5. If Chargeback, enter MBA/SubMBA/Location and if Inventory Difference
6. Save

Accounts Structure Handout

DZA – Domestic
DZA/MBA1
DZA/MBA1/SUBMBA1
DZA/MBA1/SUBMBA2
DZA/MBA2
DZA/MBA2/SUBMBA1
DZA/MBA2/SUBMBA2
DZA/MBA3
DZA/MBA3/SUBMBA1
DZA/MBA3/SUBMBA2
DZA/MBA4
DZA/MBA4/SUBMBA1
DZA/MBA4/SUBMBA2
DZA/VAR
DZA/VAR/Variance
DZC – IAEA Selected
DZC/MBA1
DZC/MBA1/SUBMBA1
DZC/MBA1/SUBMBA2
DZC/MBA2
DZC/MBA2/SUBMBA1
DZC/MBA2/SUBMBA2
DZC/VAR
DZC/VAR/Variance
HTB – IAEA Facility Attached
HTB/MBA1
HTB/MBA1/SUBMBA1
HTB/MBA1/SUBMBA2
HTB/MBA2
HTB/MBA2/SUBMBA1
HTB/MBA2/SUBMBA2
HTB/VAR
HTB/VAR/Variance

Attachment A
Summary & Detail Material Types

Summary MT	Detailed MT	Type Description	Summary MT	Detailed MT	Type Description
Uranium Depleted in U-235			44	Gm	Americium 241 (Gm)
10		Total Uranium (Kg)	45		Americium 243 (Gm)
	11	0.21% U-235	46		Curium (Gm)
	12	0.21 to <0.24% U-235	47		Berkelium (micro Gm)
	13	0.24 to <0.26% U-235	48		Californium (micro Gm)
	14	0.26 to <0.28% U-235			
	15	0.28 to <0.31% U-235	Plutonium		
	16	0.31 to <0.50% U-235	50		Total Plutonium (Gm)
	17	0.50 to <0.60% U-235		51	<4.00% Pu-240
	18	0.60 to <0.710% U-235		52	4.00 to <7.00% Pu-240
				53	7.00 to <10.00% Pu-240
Uranium Enriched in U-235				54	10.00 to <13.00 % Pu-240
20		Total Uranium (Gm)		55	13.00 to <16.00% Pu-240
	21	>0.712 to <0.90% U-235		56	16.00 to <19.00% Pu-240
	22	0.90 to < 1.15% U-235		57	19.00% and above Pu-240
	23	1.15 to < 1.60% U-235			
	24	1.60 to < 2.00% U-235	Lithium Enriched in Li-6		
	25	2.00 to < 2.60% U-235	60		Total Lithium (Kg)
	26	2.60 to < 2.90% U-235		61	>Normal (7.42%) to <55.00%
	27	2.90 to < 3.10% U-235		62	55.00% to <80.00%
	28	3.10 to < 3.40% U-235		63	80.00% and above
	29	3.40 to < 3.90% U-235			
	30	3.90 to < 4.10% U-235	Uranium Enriched in U-233		
	31	4.10 to < 5.00% U-235	70		Total Uranium (Gm)
	32	5.00 to < 10.00% U-235		71	<5 ppm U-232
	33	10.00 to < 20.00% U-235		72	5 to <10 ppm U-232
	34	20.00 to < 35.00% U-235		73	10 to <50 ppm U-232
	35	35.00 to < 45.00% U-235		74	50 ppm and above U-232
	36	45.00 to < 80.00% U-235			
	37	80.00 to <92.00% U-235	81		Normal U (0.711% U-235) (Kg)
	38	92.00 to < 94.00% U-235	82		Np 237 (Gm)
	39	94.00% and above U-235	83		Pu-238 (Gm to tenth)
			86		D2 (Kg to tenth)
Plutonium 242			87		Tritium (Gm to hundredth)
40		Total Plutonium (Gm)	88		Thorium (Kg)
	41	20% through 60%	89		U in Cascades (Gm)
	42	>60%			

For operational reasons, NMMSS will accept a range from .710% to .712% for Material Type 81. This does not however, redefine or change the definition of "Normal U" as contained in the Safeguards and Security Glossary of terms in DOE O470.1 *Safeguards and Security Program*.

Attachment B
Type Inventory Change Listing

TIC No.	TIC Description	NMMSS Reportable
11	Procurement from DOE	N
13	Procurement - For Account of DOE	Y
14	DOD Returns - Use A	Y
15	DOD Returns - Use B	Y
16	DOD Returns - Other Uses	Y
21	Production	Y
22	From Other Materials	Y
30	Receipts reported on DOE 741	Y
34	Receipts - Miscellaneous	Y
37	Procurement by others	Y
38	Donated Material - from DOE to Others	Y
39	Donated Material - from Others to DOE	Y
41	Expended in Space Programs	Y
42	Sales to DOE	Y
43	Sales to Others for the Account of DOE	Y
44	DOD - Use A	Y
45	DOD - Use B	Y
46	DOD - Other Uses	Y
47	Expended in DOE Tests	Y
48	Routine Tests	Y
51	Shipments reported on DOE 741	Y
54	Shipments - Miscellaneous	Y
58	Donated Material - to DOE by Others	Y
59	Donated Material - to Others by DOE	Y
65	Rounding bias	Y
71	Degradation to Other Materials	Y
72	Decay	Y
73	Fission and Transmutation	Y
74	Normal Operational Losses/Measured Discards	Y
75	Accidental Losses	Y
76	Approved Write-Offs	Y
77	Inventory Difference	Y
88	Redetermination of Discrete Items on Inventory	Y
89	Redetermination of Material in Process	Y
90	Process Holdup Differences	Y
91	Equipment Holdup Differences	Y
92	Measurement Adjustments	Y
93	Rounding	Y
94	Adjustments to Prior Recording and Reporting Errors	Y
95	Shipper - Receiver Adjustments	Y
96	Identifiable Item Adjustments	Y

97	Actual Inventory Difference	Y
102	Received Material	N
104	Pending Material Shipment	N
107	Moved Material to Intransit	N
108	Moved Material from Intransit	N
111	Project Transfer	Y
122	From Other Materials - Non-Reportable	N
127	Move Items Within MBA	N
130	Edit Non-Reportable Item Information	N
132	Mix	N
133	Split	N
134	Transfer	N
135	Project Transfer - Non-Reportable	N
137	Charge Back	N
138	Obligations	N
165	Rounding bias - Non-Reportable	N
171	Degradation to Other Materials - Non-Reportable	N
200	Receive TID from vendor	N
201	TID Ownership Change	N
202	TID Status Change	N
204	TID Apply	N
205	TID Destroy	N
207	Edit TID	N
220	Create New Container	N
221	Edit Container Definition Data	N
222	Containers – Load/Unload	N

Attachment C
TID Roles

Role ID	Role Name	Role Description
1	Applicator	TID Applicator
2	ApplicatorWitness	TID Applicator Witness
3	Destroyer	TID Destroyer
4	DestroyerWitness	TID Destroyer Witness
5	Owner	TID Owner
6	Remover	TID Remover
7	RemoverWitness	TID Remover Witness
8	Receiver	TID Receiver
9	ReceiverWitness	TID Receiver Witness
10	Issuer	TID Issuer
11	IssuerWitness	TID Issuer Witness

TID Types

ID	Description	Mask	MultipleFlag	AutoFlag	ReuseFlag
1	Multi-LOK 12 In.	M%5%	N	Y	N
2	Multi-LOK 24 In. - M Ser	M%5%	N	Y	N
3	Multi-LOK 24 In. - A Ser	A%5%	N	Y	N
4	Type "E" Cup Seal	C%5%	N	Y	N
5	Mylar 10 In. Silver	%5%	N	Y	N
6	Mylar 10 In. Green	FC%4%	N	Y	N
7	Mylar 15/20 In. Green	TU%7%	N	Y	N
8	Mylar 35 In. Blue	FC%6%	N	Y	N
9	Mylar 30/35 In. Green	FC%5%	N	Y	N
10	Mylar 30/35 In. Gold	FC%5%	N	Y	N
11	Mylar - U Shaped	US%5%	N	Y	N
12	Waste Box Seal	WB%5%	N	Y	N
13	Cable Seal	%6%	N	Y	N
14	RFTID		Y	N	Y

Attachment D
ANSI Scrap Codes

ANSI Scrap Code	Description
A00	ANSI NONCONFORMING METAL
A02	ANSI METAL (IMPURE)
A03	ANSI METAL SCRAP FOR OXIDIZING
A04	ANSI METAL COMPOSITE
A10	ANSI RECAST METAL PURE
A11	ANSI RECAST METAL. PICKLING NOT REQUIRED
A13	ANSI SOLID RECASTABLE METAL REQUIRING PI
A14	RECASTABLE METAL
A17	ANSI PARTIALLY CLAD RECASTABLE METAL
A20	ANSI RECASTABLE METAL
A40	ANSI METAL IMPURE
B02	ANSI ALLOY (IMPURE)
B10	URANIUM-ALUMINUM ALLOY SOLIDS & RESIDUES
B11	ANSI PU-AL ALLOY
B12	ANSI B12; RECASTABLE METAL-CHIP
B15	URANIUM OXIDE IN ALUMINUM
B20	ANSI TERNARY ALLOYS OF PU
B34	ANSI ALLOY COMPOSITES
B40	ANSI PU-DU ALLOY (PU CONTENT)
B41	ANSI PU-U-MO ALLOY
B50	ANSI PU-NU ALLOY
B70	ANSI PU-EU ALLOY
B80	ANSI PU-TH ALLOY
C00	ANSI NONCONFORMING COMPOUNDS
C01	ANSI OXIDES(LOW-FIRED)
C02	ANSI OXIDES(HIGH-FIRED)
C04	ANSI URANIUM OXIDES (IMPURE) WITH ZRO2
C27	ANSI PLUTONIUM NITRIDES
C30	ANSI PU-NITRIDE
C35	ANSI URANIUM NITRIDES
C40	ANSI PU-DU COMPOUNDS
C41	ANSI PU-DU OXIDES(LOW-FIRED)
C42	ANSI PU-DU COMPOUND HI-FIRE
C43	ANSI PU-DU OXIDES(HI-FIRED)
C50	ANSI PU-NU COMPOUNDS
C51	ANSI PU-NU OXIDES(LOW-FIRED)
C52	ANSI PU-NU OXIDES HI FIRE
C53	ANSI PU-NU OXIDES IMPURE
C54	ANSI PU-NU HALIDES
C70	ANSI PU-EU COMPOUNDS
C71	ANSI PU-EU OXIDES (LOW-FIRED)
C72	ANSI PU-EU OXIDES(HIGH-FIRED)

C77	ANSI PU-EU NITRIDES
C80	ANSI PU-TH COMPOUNDS
C90	ANSI PU-NP COMPOUNDS
E01	ANSI MISC-METAL
E04	ANSI GRAPHITE
F14	ANSI CAUSTIC PICKLING SOLUTIONS
G00	ANSI NON-CONFORMING RESIDUES
G01	DISCARD SOLIDS
G03	ANSI INCINERATOR ASH
G04	ANSI GRIT BLAST RESIDUES
G05	ANSI REDUCTION RESIDUES
G70	ANSI PU-EU RESIDUES

Attachment E

Country Control Numbers for LANMAS Training

Note: Country Control Numbers are no longer reported after October 1,2005

Summary Material Type	Material Description	Country Control Number
10	Uranium Depleted in U-235 - Total	USUS0000
20	Uranium Enriched in U-235 - Total	USUS0000
40	Plutonium 242 - Total	USUSUS00
50	Plutonium - Total	USUSUS00
81	Uranium - Normal - Total	US000000
83	Plutonium 238 - Total	USUSUS00

Notes:

All other Material Types have a **BLANK** country control number.

Country Control Number breaks down as follows:

- 1st two – Country of origin
- 2nd two – Country where isotopic separation
- 3rd two – Country where reactor products produced
- 4th two – Other

Attachment F
Project Number Descriptions

Project Number	Project Description
ABC1010101	TEST PROJECT 1
CDE2020202	TEST PROJECT 2
EFG3030303	TEST PROJECT 3

Attachment G
Container Type Listing

Code (ConTypeCode – Max 12)	Description (ConTypeDescr – Max 40)
BOTGLSCR	Bottle Glass Screw Lid
BOTGLSOT	Bottle Glass Other
BOTGLVIL	Bottle Glass Vials or Ampules
BOTOTHER	Bottle Other Material
BOTPLAST	Bottle Plastic
BOTPLVIL	Bottle Plastic Vials or Ampules
BOTPOLYS	Bottle Polyethylene
BOTUNKWN	Bottle Unknown Material
BOTB12BL	Box B12 Burial
BOTB21BL	Box B25 Burial
BOXCARDS	Box Cardboard
BOXMETAL	Box Metal
BOXOTHER	Box Other
BOXPOLYS	Box Polyethylene
BOXUNKWN	Box Unknown Material
BOXWOODS	Box Wood
CANMECHL	Can Mechanical Seal
CANOTHER	Can Other Seal
CANSCREW	Can Screw Seal
CANSLIPS	Can Slip Seal
CANUNKWN	Can Unknown Seal
DRM30GAL	Drum 30 Gallon
DRM55GAL	Drum 55 Gallon
DRM55TRU	Drum 55 Gallon TRU waste
DRM5PAIL	Pail 5 Gallon
DRMOTHER	Drum Other Size
DRMUNKWN	Drum Unknown Size
EP60CONT	EP60
EP6160CT	EP61 w/ Inner EP60
OBUCKSLG	Slug Bucket
OBUNDGEN	Bundle General Purpose Tube
OBUNDLOT	Bundle 105-L Off-Site Tube
OBUNDOTH	Bundle Other
OBUNDSTD	Bundle Square Tube Dissolver
OBUNDTST	Bundle Test Tube
OPIGSRCS	Pig - Lead or Other Material for Sources
OTRNCASK	Transport Cask
OTRNTANK	Transportable Tank
OTRNTRAL	Transportable Trailer
SHPC2030	Shipping Container 2030-1
SHPC5320	Shipping Cask 5320
SHPC6M10	Shipping Container 6M-10 Gallon
SHPC6M30	Shipping Container 6M-30 Gallon
SHPC6M55	Shipping Container 6M-55 Gallon
SHPC6MOT	Shipping Container 6M-Other Size

Attachment G
Container Type Listing (continued)

Code (ConTypeCode – Max 12)	Description (ConTypeDescr – Max 40)
SHPC9965	Shipping Container 9965
SHPC9968	Shipping Container 9968
SHPC9973	Shipping Container 9973
SHPC9974	Shipping Container 9974
SHPC9975	Shipping Container 9975
SHPCALR8	Shipping Container ALR8
SHPCFL10	Shipping Container FL10
SHPCOTHR	Shipping Container Other Type
SHPCUNKN	Shipping Container Unknown Type
TUBALUMN	Storage Tube Aluminum
TUBOTHER	Storage Tube Other Material
TUBUNKWN	Storage Tube Unknown Material