



Inventory Management

November 2008



Agenda



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- ① Introduction
 - ① What is Inventory
 - ① Terminology
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 - ① Next Steps
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Introduction



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Introduction



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Introduction



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What is Inventory?



- Inventory is material expensed at time of consumption and not at time of purchase
- Inventory may be Valuated or Non-Valuated
- Inventory has a unique identifier (Material Master Number)
- Inventory is stored in designated physical locations
- Inventory may be replenished automatically by setting system re order triggers (MRP)



What is Inventory?



- ☉ Inventory is **NOT** a Fixed Asset
- ☉ Inventory may **NOT** be purchased via P-Card
- ☉ Inventory **DOES NOT** have to be greater than 100K in value
- ☉ Inventory is any item that is tracked by Quantity and Price or Quantity Only



Terminology



SAP Term	Description
Inventory	Inventory refers to Materials that are managed on a Quantity and price basis or quantity only in storerooms. They can be Valuated or Non Valuated.
Material Master Record	Uniquely defines a material in SAP. As a general rule, a material master record must exist for each material managed in a company. This record is stored under a system generated 6-digit material number. The material master will house basic data about materials that are purchased, or inventoried in the State



Terminology



SAP Term	Description
MRP	Material Requirements Planning is a term for procedures in requirements planning that take into account current inventory levels, projected demand (reservations), and planned replenishment (i.e. existing purchase requisitions and purchase orders.) The primary use of MRP will be reorder point planning.
Plant	An organizational unit for dividing an enterprise according to procurement and materials planning. A place where materials are procured and or stored



Terminology



SAP Term	Description
Storage Location	A physical location at which inventory is stored within a plant
Physical Inventory	Determining and recording (by weighing, counting, measuring, or estimating) existing quantities of materials in order to establish the levels of stock actually on hand
Material Groups	Key that is used to group together materials with similar attributes. SCEIS standards conform to NIGP conventions



Terminology



SAP Term	Description
Stock Transfer	A stock transfer involves the removal of materials from one inventory location and their transfer to and placement into another inventory location
Stock Transport Order	A Stock Transport Order is a mechanism to allow for the planning of the goods receipt in the receiving plant for Stock Transfers
Material Reservations	Reservations are created on inventory items to “Reserve” the material for future use



Business Processes



Business Process Number	Business Process Description
IM001	Create a new Material Master
IM002	Extend / Change an Existing Material Master
IM003	Delete a Material Master
IM004	MRP
IM005	Inventory Replenishment
IM006	Request Material
IM007	Goods Receipt for PO
IM008	Goods Receipt (Free and Reclaimed)
IM009	Goods Receipt (Material Transfers)

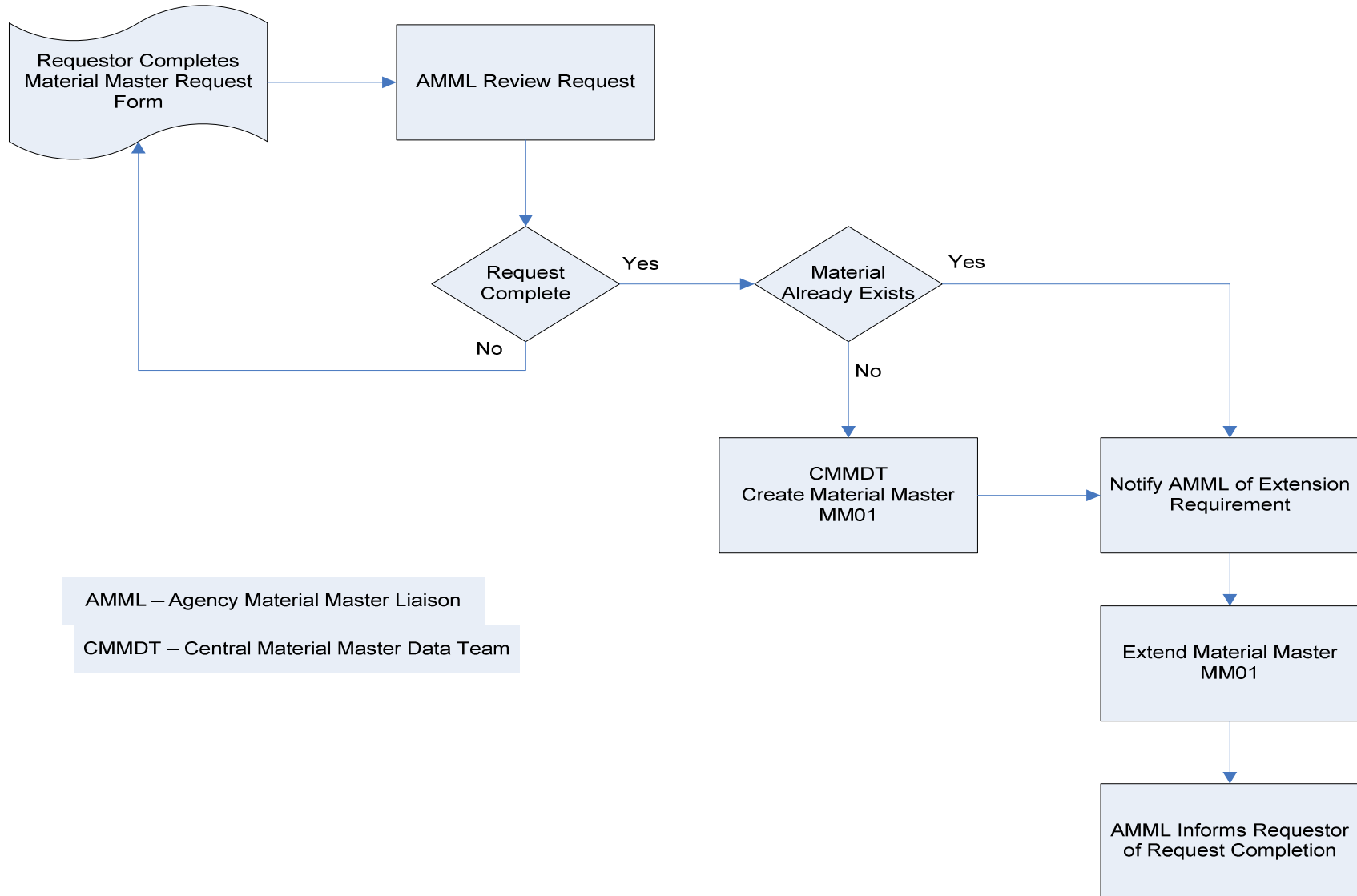


Business Processes



Business Process Number	Business Process Description
IM010	Material Scrapping
IM011	Material Reservations
IM012	Goods Issue (Expense)
IM013	Goods Issue (Material Transfer)
IM014	Serial Number Tracking
IM015	Shelf Life Expiration
IM017	Bar Coding
IM019	Physical Inventory

IM001 – Create Material Master



AMML – Agency Material Master Liaison
CMMDT – Central Material Master Data Team



IM001 – Create Material Master



Overview or Options

- ☉ This transaction is essential in creating master material data for the use in Inventory Management
- ☉ Material Masters are required for inventoried but may also be used for Non-Inventoried items
- ☉ Without material masters set up, no Inventory Management Procurement functions can take place.
- ☉ Material Masters contains descriptive data such as type, color and size and Functional Data such as MRP Type.
- ☉ Material Masters are created for new materials
- ☉ Agency Material Master Liaison (AMML) reviews all requests for a new material
- ☉ New Material Masters are created by the Central Material Master Data Team (CMMDT).

Naming / Numbering Conventions

- ☉ Material Master – 6 digit SAP internally assigned number
- ☉ Material Group – 5 digit NIGP Code

Role

- ☉ Central Material Master Data Administrator
- ☉ Agency Material Master Liaison

Integration of this data

- ☉ Used with material procurement and materials planning. Extended for each plant.
- ☉ Material Type associated to GL Valuation Class
- ☉ Inventory data can be added here

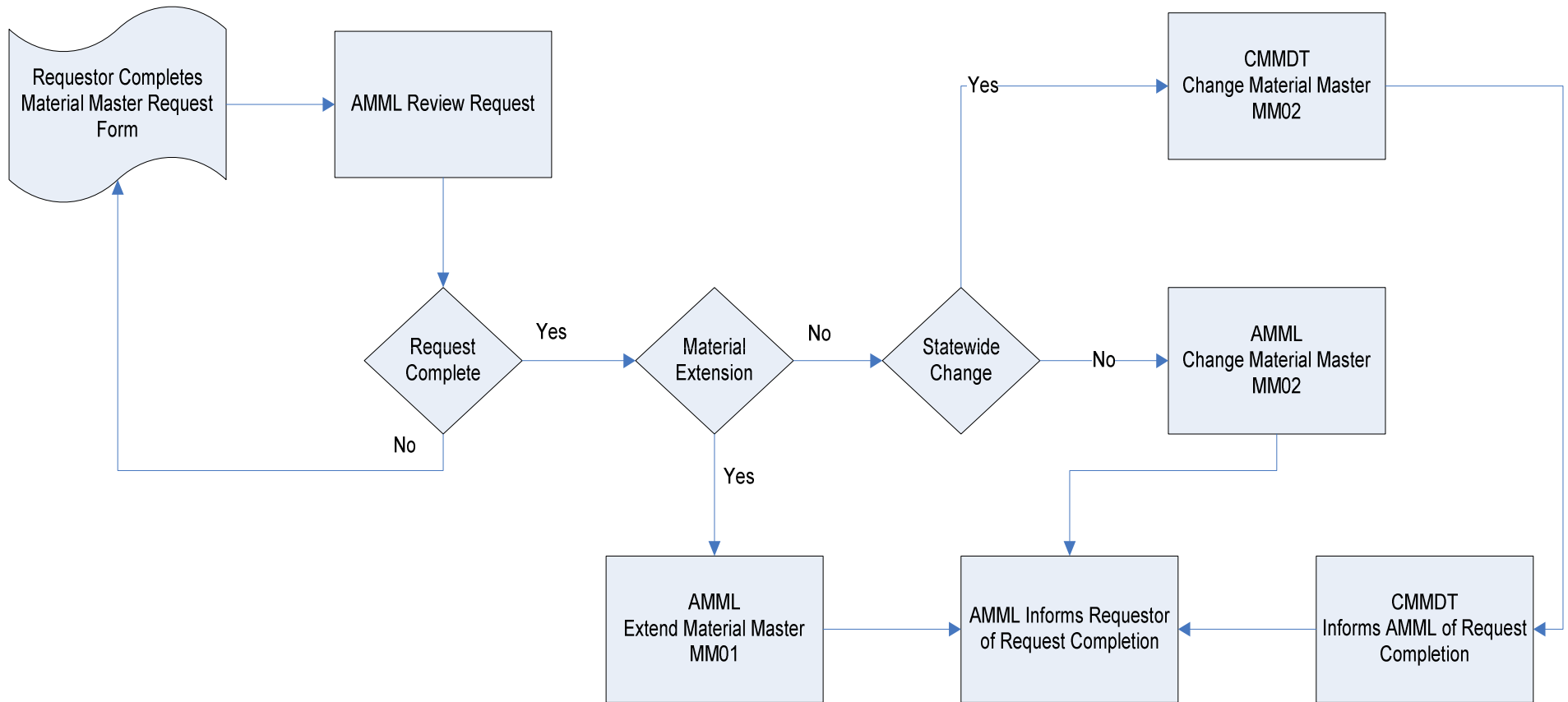
Inputs, e.g., forms

- ☉ Material Master Creation, Extend, Change and Delete Request Form

Outputs, e.g., Reports, Forms

- ☉ Manual email confirmation to Agency requestor

IM002 – Extend / Change an Existing Material Master



AMML – Agency Material Master Liaison

CMMDT – Central Material Master Data Team



IM002 – Extend / Change an Existing Material Master



Overview or Options

- ⦿ This transaction is essential in creating new master material data at the plant level
- ⦿ This transaction will change existing material master data at a plant and statewide level
- ⦿ Material Masters statewide data such as description and unit of Measure (UOM) can only be changed centrally by the Central Material Master Data Administrator (CMMDT)
- ⦿ Material Masters plant data such as MRP Type and Reorder Points are changed by the Agency Material Master Liaison (AMML)

Naming / Numbering Conventions

- ⦿ Material Master – 6 digit SAP internally assigned number
- ⦿ Material Group – 5 digit NIGP Class Item Code

Role

- ⦿ Central Material Master Data Administrator
- ⦿ Agency Material Master Liaison

Integration of this data

- ⦿ Used with material procurement and materials planning. Extended for each plant.
- ⦿ Material Type associated to GL Valuation Class
- ⦿ Inventory data can be added here

Inputs, e.g., forms

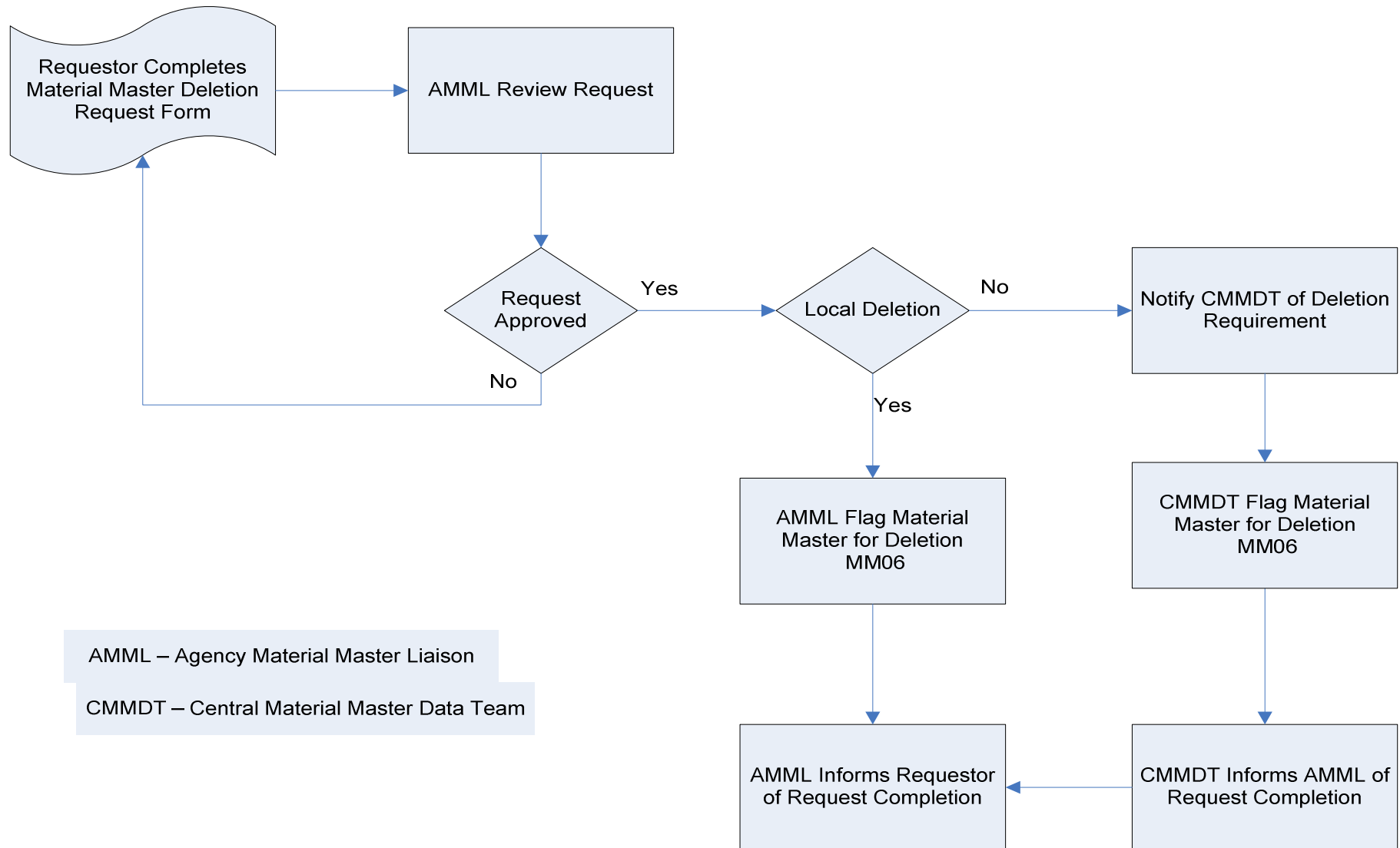
- ⦿ Material Master Creation, Extend, Change and Delete Request Form

Outputs, e.g., Reports, Forms

- ⦿ Manual email confirmation to Agency requestor



IM003 – Delete a Material Master





IM003 – Delete a Material Master



Overview or Options

- ⦿ This transaction is essential in deleting master material data at the plant level
- ⦿ This transaction will delete existing material master data
- ⦿ Deleting Material Masters at a statewide level can only be executed by the Central Material Master Data Administrator (CMMDT)
- ⦿ Deleting Material Masters at a plant /Storage Location level can be executed by the Agency Material Master Liaison (AMML)
- ⦿ Materials are not physically deleted from the database, they are just flagged for deletion
- ⦿ All follow on documents (eg: Requisition, Purchase Order, BOM) must be physically deleted before a material can be physically deleted

Naming / Numbering Conventions

- ⦿ Material Master – 6 digit SAP internally assigned number
- ⦿ Material Group – 5 digit NIGP Class Item Code

Role

- ⦿ Central Material Master Data Administrator
- ⦿ Agency Material Master Liaison

Integration of this data

- ⦿ Used with material procurement and materials planning. Extended for each plant.
- ⦿ Material Type associated to GL Valuation Class
- ⦿ Inventory data can be added here

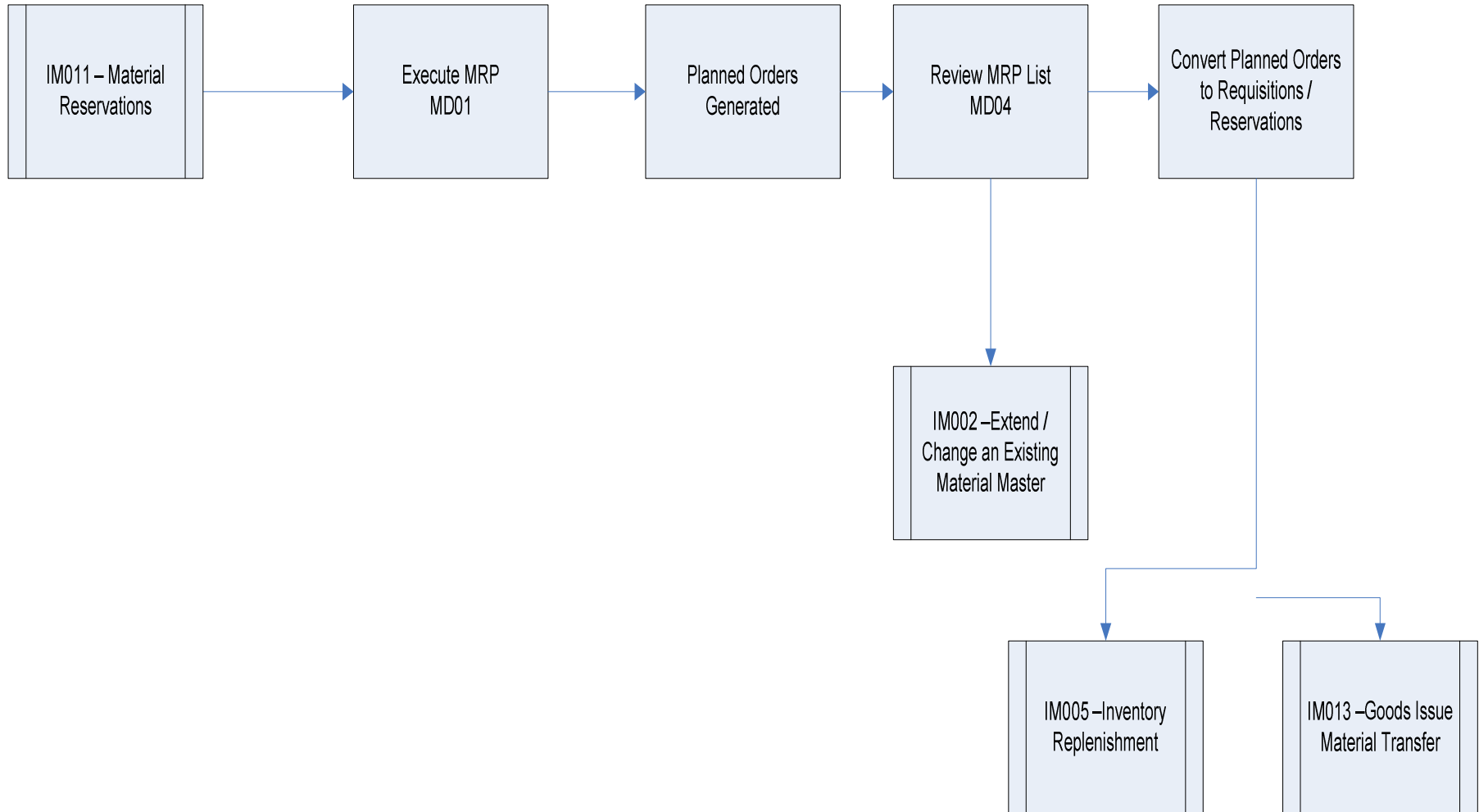
Inputs, e.g., forms

- ⦿ Material Master Creation, Extend, Change and Delete Request Form

Outputs, e.g., Reports, Forms

- ⦿ Manual email confirmation to Agency requestor

IM004 – MRP





IM004 – MRP



Overview or Options

- SAP transaction MD01 Material Requirements Planning (MRP)
- The main purpose of this transaction is to identify suggested replenishment needs for inventoried materials in order to improve operating efficiency as well as minimize material shortages and overstock situations.
- The MRP planning run takes into consideration
 - Demands on inventory from manual reservations, transfers
 - all planned orders and purchase requisitions, desired safety stock levels, material purchase orders, available stock on hand, and defined order lot sizes, as well as lead times. These figures are used to calculate suggested material purchase / replenishment quantities.

Naming / Numbering Conventions

- N/A

Role

- MRP Controller

Integration of this data

- Planned Orders from the Material Requirements Planning (MRP) run.
- Material Masters representing inventoried materials.

Inputs, e.g., forms

- N/A

Outputs, e.g., Reports, Forms

- MRP list (Shows the results of the MRP run)



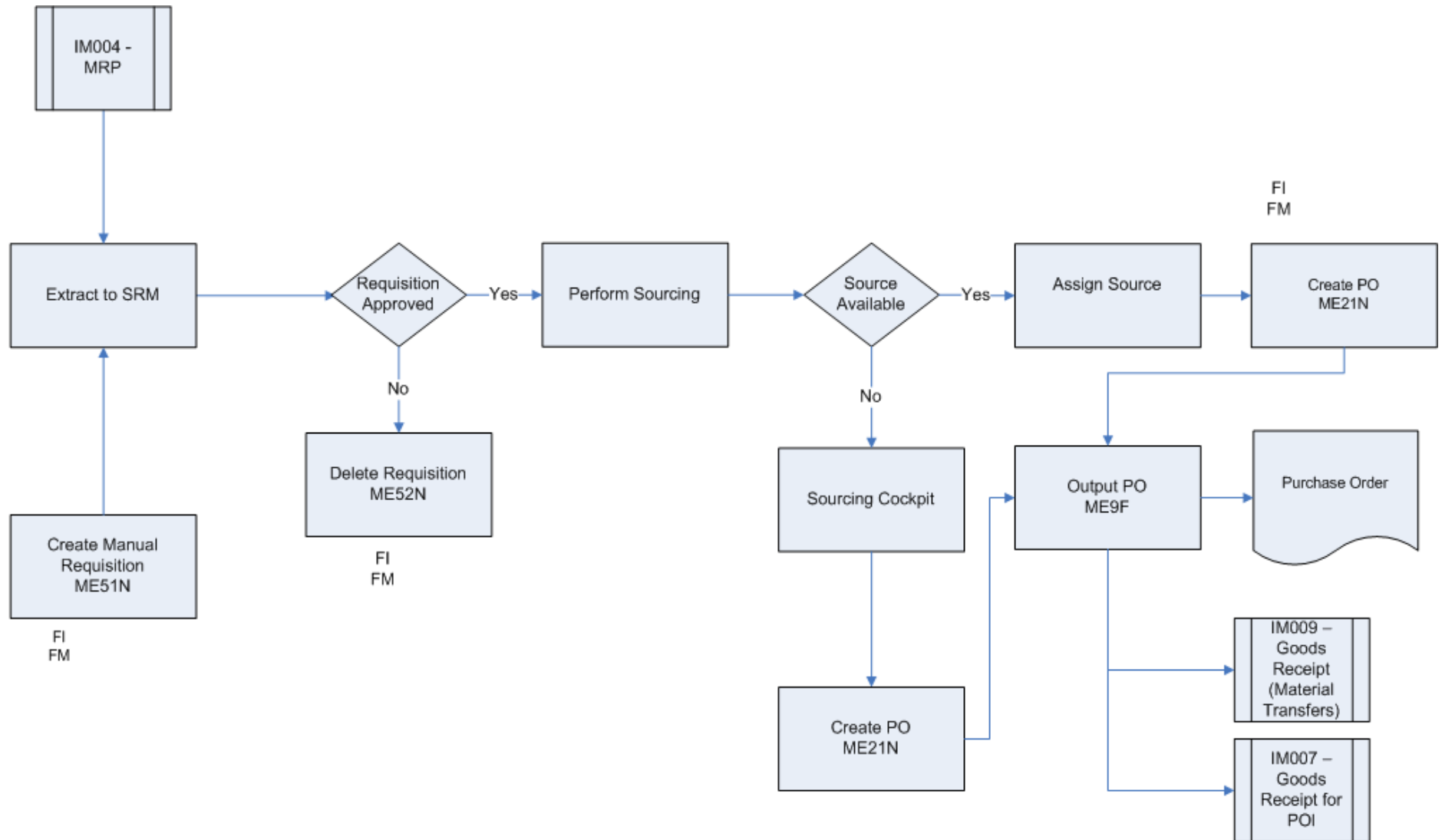
IM004 – MRP cont.



Overview or Options

- Results from the planning run can always be modified (e.g., increase, decrease or eliminate the requirements quantity for a material). However, the system will take any changes into consideration in the next planning run in order to avoid surplus or deficit stock situations.
- It is expected that most materials will utilize re-order points and maximum stock to trigger replenishment. However, other methods such as independent requirements, forecasting and BOM explosion can be used for specific materials if appropriate.
- MRP is typically run in a nightly batch process, but could be done weekly if desired. MRP can also be run online for individual materials as needed throughout the day

IM005 – Inventory Replenishment





IM005 – Inventory Replenishment



Overview or Options

- ☉ Inventory Replenishment will ensure that adequate inventory levels will be maintained in your agency warehouse
- ☉ Most of the demand will be generated by MRP.
- ☉ Manual Requisitions are an exception.
- ☉ Requisitions will be extracted to SRM for Sourcing
- ☉ Requisitions must be approved in SRM

Naming / Numbering Conventions

- ☉ N/A

Role

- ☉ MRP Controller
- ☉ Agency Inventory Administrator
- ☉ SRM Manager Role
- ☉ SRM Buyer
- ☉ SRM Procurement Officer

Integration of this data

- ☉ Planned Orders from the Material Requirements Planning (MRP) run.
- ☉ Material Masters representing inventoried materials.

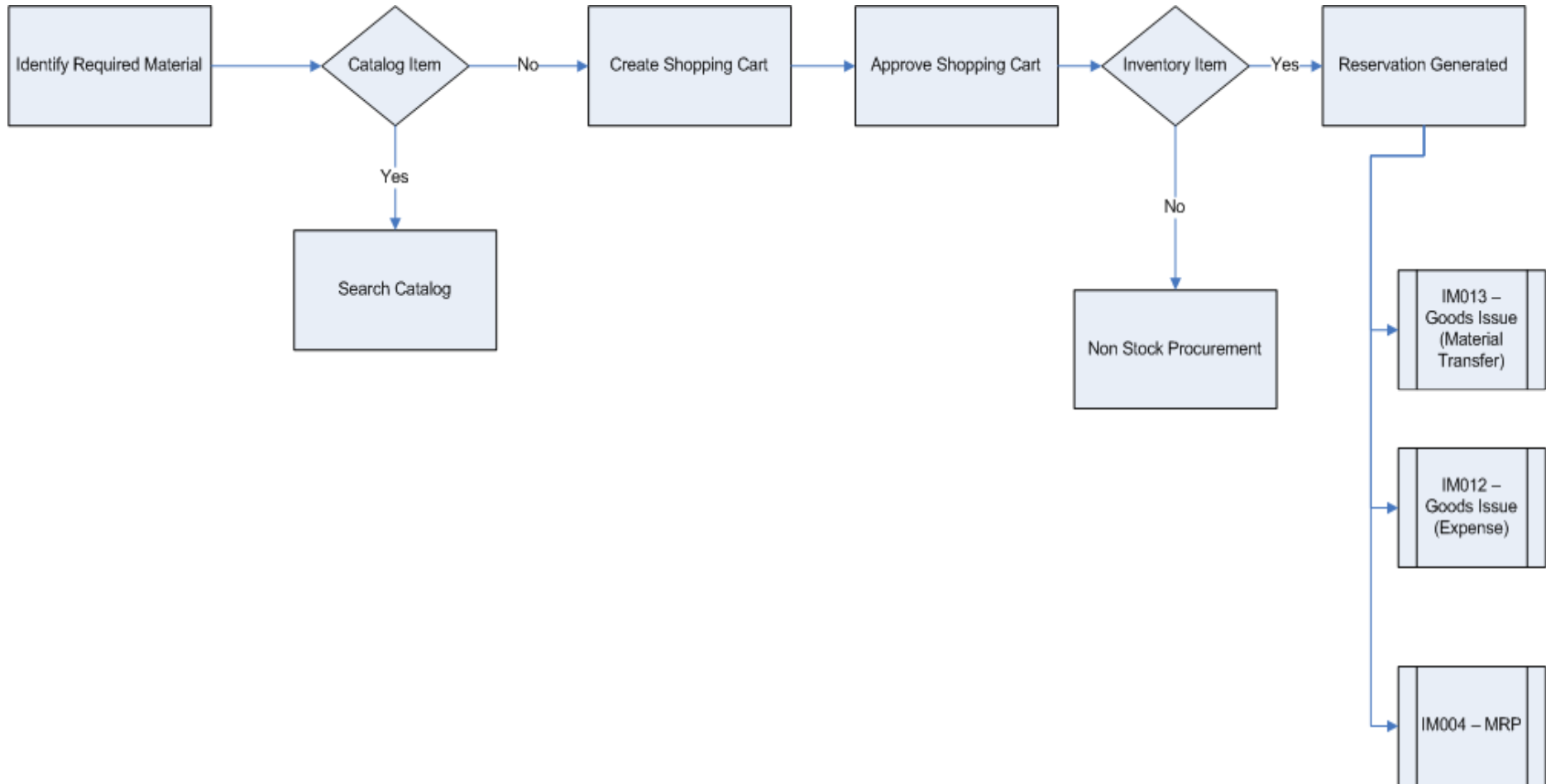
Inputs, e.g., forms

- ☉ N/A

Outputs, e.g., Reports, Forms

- ☉ Purchase Order

IM006 – Request Material





IM006 – Request Material



Overview or Options

- ☉ Enter request in shopping cart
- ☉ System will determine whether Inventory or Non Inventory Item
- ☉ Inventory Items will create a Reservation
- ☉ Non Inventory will create a Purchase Requisition

Naming / Numbering Conventions

- ☉ N/A

Role

- ☉ SRM Shopping Cart User

Integration of this data

- ☉ Material Master

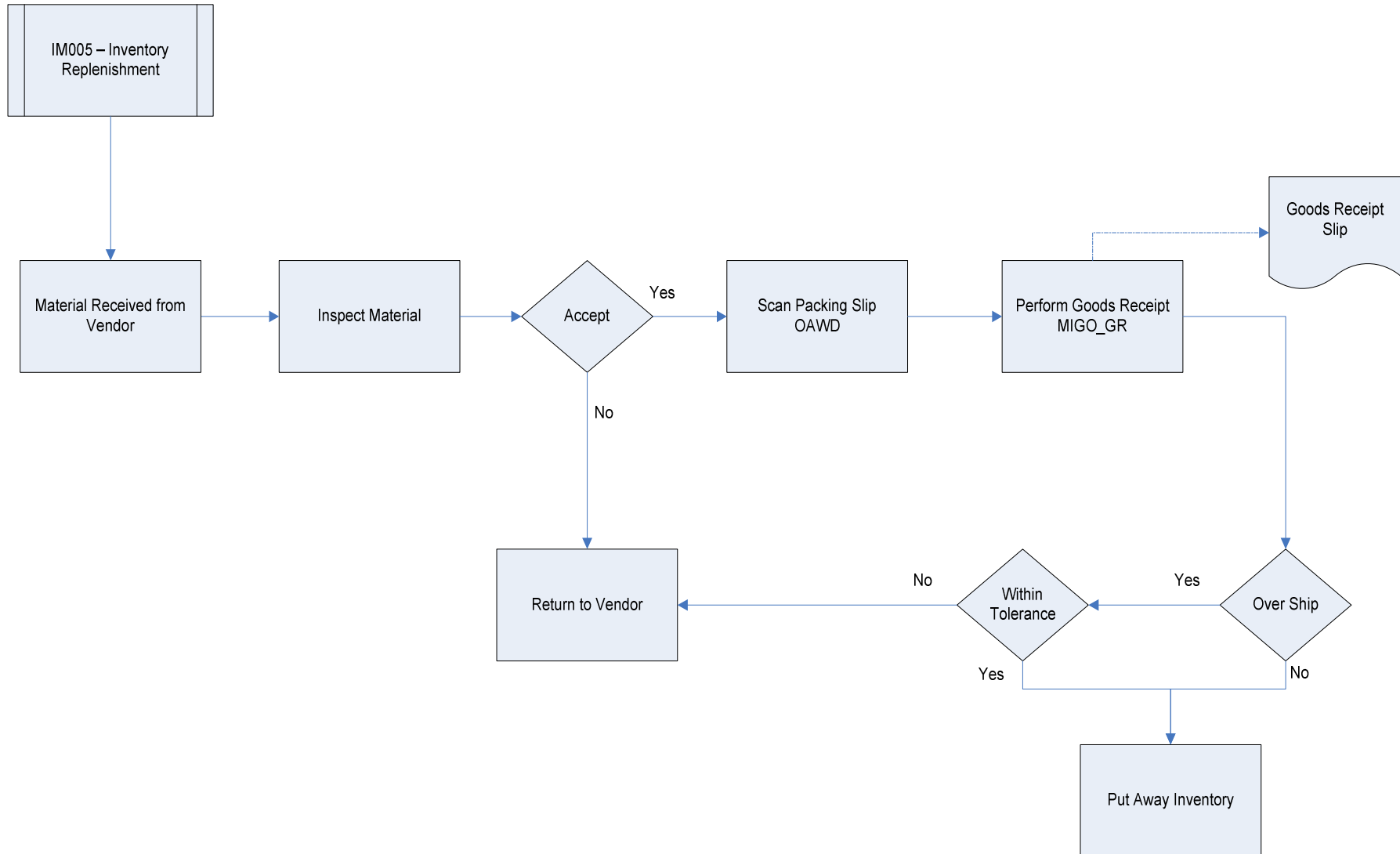
Inputs, e.g., forms

- ☉ N/A

Outputs, e.g., Reports, Forms

- ☉ N/A

IM007 – Goods Receipt for Purchase Order





IM007 – Goods Receipt for Purchase Order



Overview or Options

- ☉ This flow applies to the receipt of material from an external source.
- ☉ This transaction will update stock on hand.
- ☉ Receiving history report can be viewed using transaction ME23N.
- ☉ If a quantity less than the order amount is received for an item, the system will display the balance due when a user starts the process to do the next receipt
- ☉ Tolerance limits for Over/Under shipments can be applied

Naming / Numbering Conventions

- ☉ Movement type 101 is for Goods receipt

Role

- ☉ Agency Inventory Receiver

Integration of this data

- ☉ Materials are received referencing a purchase order that was created in SAP

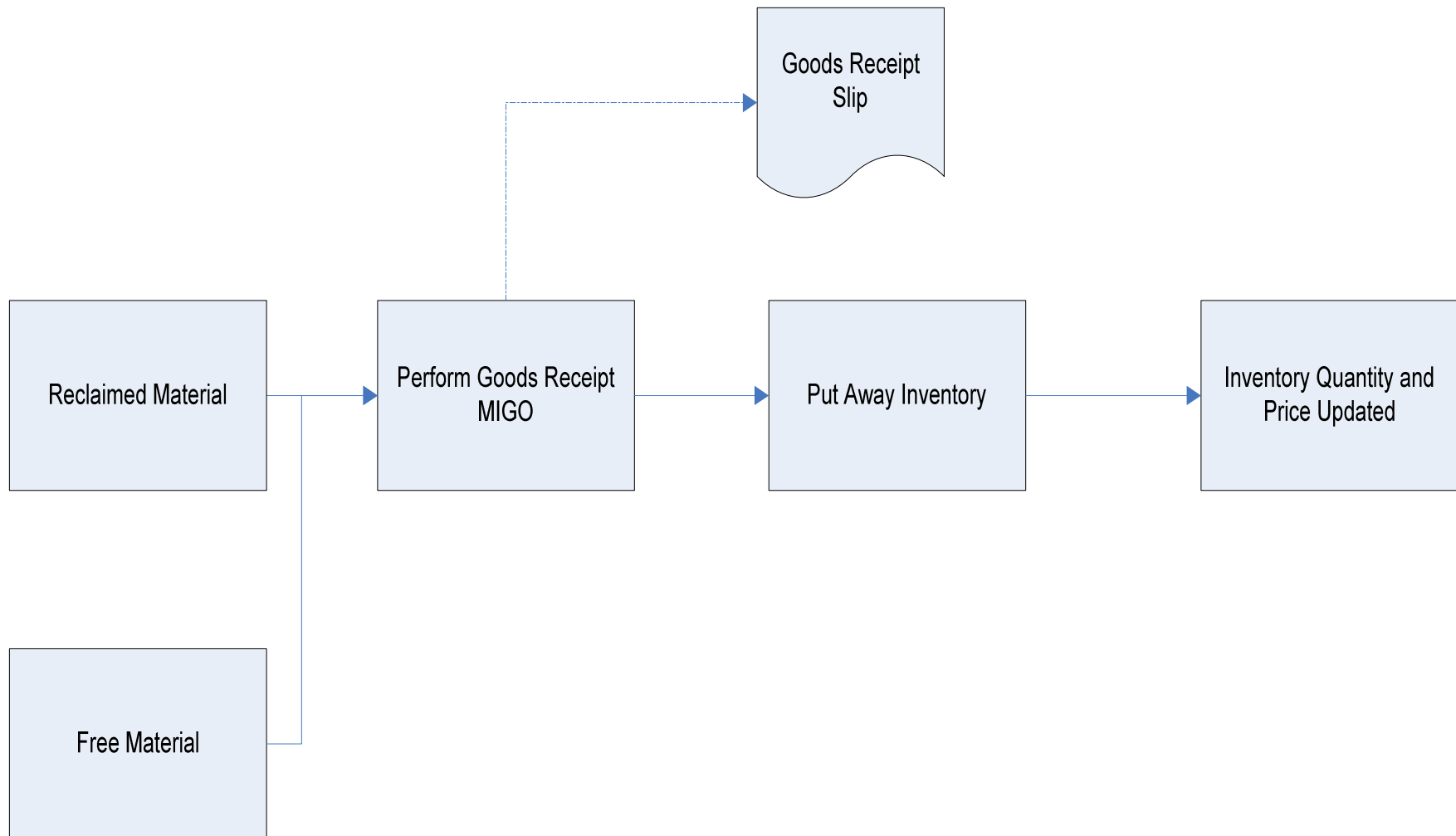
Inputs, e.g., forms

- ☉ Packing Slip

Outputs, e.g., Reports, Forms

- ☉ Goods Receipt Slip

IM008 – Goods Receipt for Free and Reclaimed Material





IM008 – Goods Receipt for Free and Reclaimed Material



Overview or Options

- ☉ This flow applies to the receipt of material where no purchase order exists
- ☉ Material is reclaimed and needs to be tracked in inventory
- ☉ Material is supplied free from an external or internal source and must be tracked in inventory
- ☉ This is a budget relevant transaction

Naming / Numbering Conventions

- ☉ Movement type 501 is for Goods receipt of this material

Role

- ☉ Agency Inventory Receiver

Integration of this data

- ☉ Material Masters representing inventoried materials.

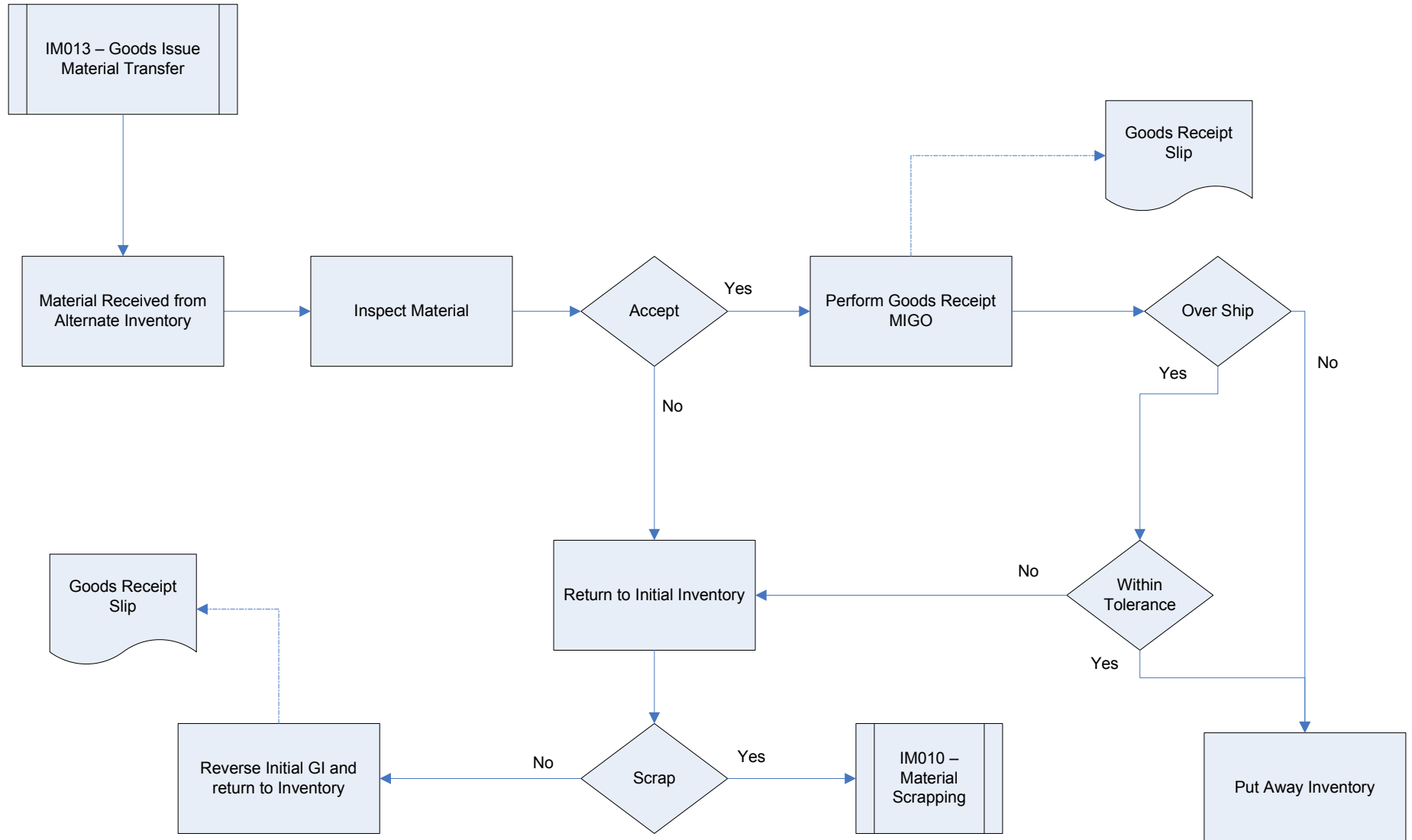
Inputs, e.g., forms

- ☉ N/A

Outputs, e.g., Reports, Forms

- ☉ Goods Receipt Slip

IM009 – Goods Receipt for Material Transfers





IM009 – Goods Receipt for Material Transfers



Overview or Options

- ☉ This flow applies to the receipt of material where transfers from other inventories have occurred
- ☉ Transfers can be Plant to Plant or SLoc - SLoc:
- ☉ Plant – Plant
 - Financial Impact
 - One or Two Step
 - May utilize a Stock Transport Order (STO)
- ☉ SLoc – SLoc
 - No Financial Impact
 - One or Two Step
- ☉ Tolerance limits for Over/Under shipments can be applied for Stock Transport Orders (STO)

Naming / Numbering Conventions

- ☉ Movement type for Goods receipt of this material is dependent on the type of transfer

Role

- ☉ Agency Inventory Receiver

Integration of this data

- ☉ Material Masters representing inventoried materials

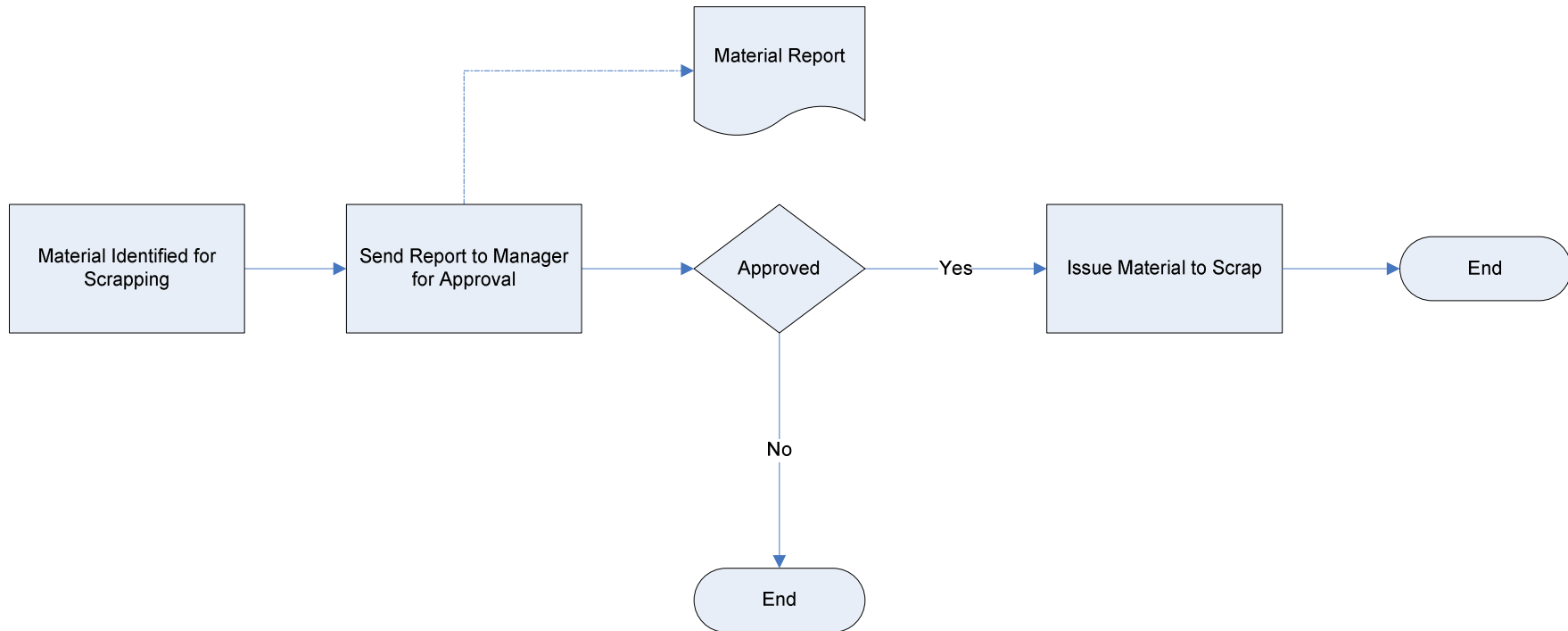
Inputs, e.g., forms

- ☉ N/A

Outputs, e.g., Reports, Forms

- ☉ Goods Receipt Slip

IM010 –Material Scrapping





IM010 –Material Scrapping



Overview or Options

- This process will be used to remove any materials from inventory that are to be disposed of
- Materials may go through the Reclamation and Disposal process.
- This will be a budget relevant transaction

Naming / Numbering Conventions

- Movement type for 551

Role

- Agency Inventory Issuer
- Agency Inventory Administrator

Integration of this data

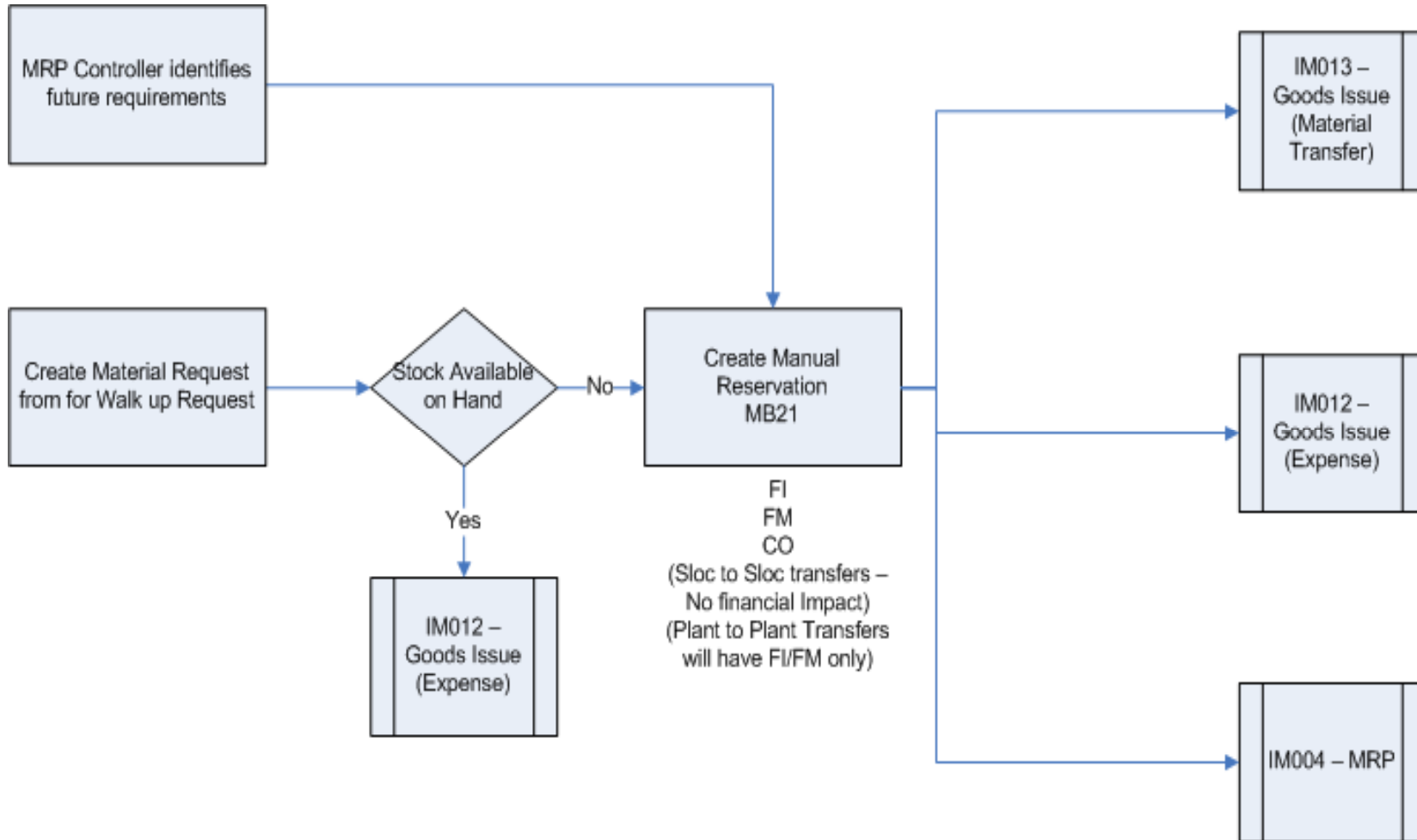
- Material Masters representing inventoried materials

Inputs, e.g., forms

- N/A

Outputs, e.g., Reports, Forms

- Material Scrap Report





IM011 – Reserve Material



Overview or Options

- ☉ SAP transaction MB21 Create Manual Reservation.
- ☉ The main purpose of this transaction is to capture upcoming demand for your own plant's inventory which is not yet defined in the system. An example of this is for projects which are not yet planned, but which will require certain materials to be in inventory. Creating the reservation will let MRP know that requirements exist, and can trigger the replenishment process with enough lead time to satisfy the upcoming demand

Naming / Numbering Conventions

- ☉ N/A

Role

- ☉ MRP Controller

Integration of this data

- ☉ Material Masters representing inventoried materials

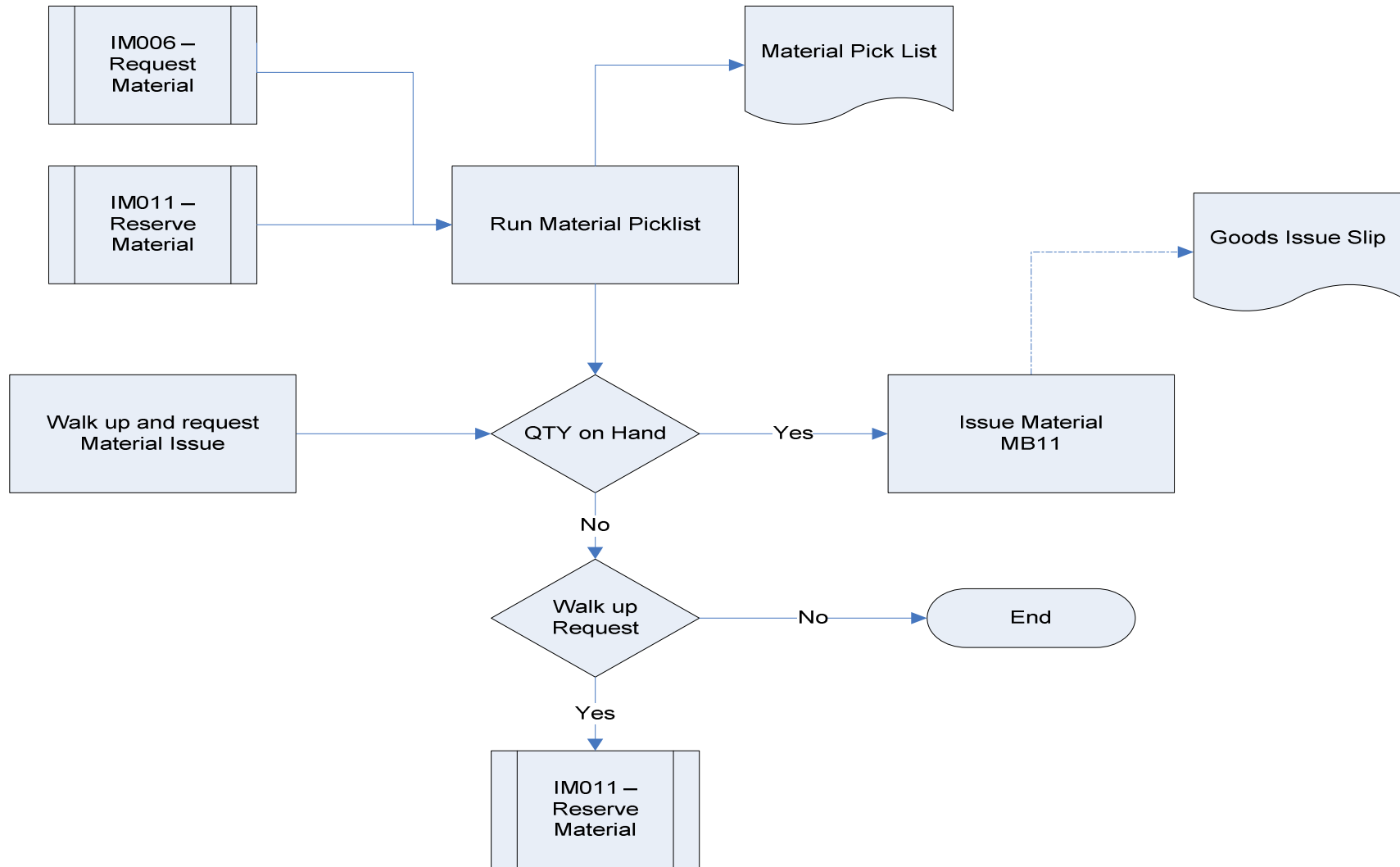
Inputs, e.g., forms

- ☉ N/A

Outputs, e.g., Reports, Forms

- ☉ N/A

IM012 – Goods Issue (Expense)





IM012 – Goods Issue (Expense)



Overview or Options

- ☉ This transaction is used to issue materials from inventories and expense them directly against cost objects
- ☉ Materials may be issued to Cost Centers, Internal Orders or Assets.
- ☉ These inventory issues will be budget relevant

Naming / Numbering Conventions

- ☉ Movement type is dependent on Cost Object

Role

- ☉ Agency Inventory Issuer

Integration of this data

- ☉ Material Masters representing inventoried materials

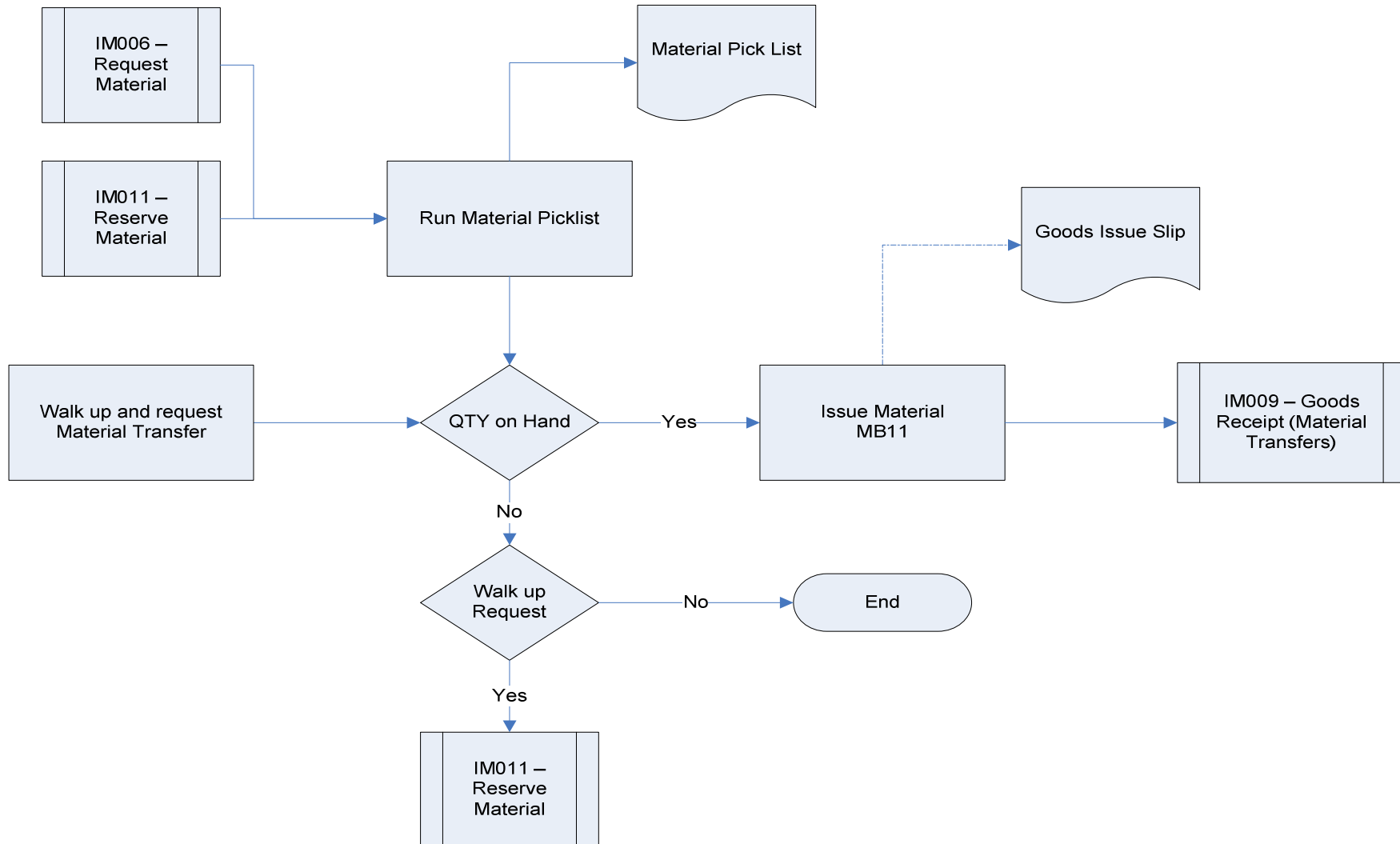
Inputs, e.g., forms

- ☉ N/A

Outputs, e.g., Reports, Forms

- ☉ Goods Issue Slip
- ☉ Material Pick List

IM013 – Goods Issue (Material Transfer)





IM013 – Goods Issue (Material Transfer)



Overview or Options

- ☉ This flow applies to the issue of material where demand from other inventories have occurred
- ☉ Transfers can be Plant to Plant or SLoc - SLoc:
- ☉ Plant – Plant
 - Financial Impact
 - One or Two Step
 - May utilize a Stock Transport Order (STO)
- ☉ SLoc – SLoc
 - No Financial Impact
 - One or Two Step

Naming / Numbering Conventions

- ☉ Movement type for Goods issue of this material is dependent on the type of transfer

Role

- ☉ Agency Inventory Issuer

Integration of this data

- ☉ Material Masters representing inventoried materials

Inputs, e.g., forms

- ☉ N/A

Outputs, e.g., Reports, Forms

- ☉ Goods Issue Slip
- ☉ Material Pick List



IM014 – Serial Number Tracking



Overview or Options

- Serial numbers will allow the State to uniquely identify individual items of certain materials.
- There are certain commodities that State agencies deem to be “sensitive items.” This functionality will provide the capability to manage and track these items by serial number
- Serial numbers can be assigned for goods receipts, goods issues, stock transfers and stock transport orders
- Serial numbers are required for all goods movements for serialized materials

Naming / Numbering Conventions

- Serial Numbers can be internally assigned by the system or assigned manually

Role

- Agency Inventory Issuer
- Agency Inventory Receiver

Integration of this data

- Material Masters with Serial Numbers

Inputs, e.g., forms

- N/A

Outputs, e.g., Reports, Forms

- Goods Issue Slip
- Goods Receipt Slip
- Physical Inventory Document



IM015 – Shelf Life Expiration



Overview or Options

- ☉ Shelf Life Expiration for warehouse stock is established when goods are received
- ☉ Stored Data includes:
 - Maximum time a material can be stored
 - Minimum shelf life a material must have available to be accepted by the system
 - Percentage of the total shelf life that must still be available if the goods are to be sent to another distribution point
 - Time unit used for the shelf life data (days, weeks or years)
 - Total number of days that the goods can be kept – from production to the shelf life expiration date
- ☉ Hazardous Materials functionality will be limited to monitoring shelf-life expiration date

Naming / Numbering Conventions

- ☉ N/A

Role

- ☉ Agency Inventory Issuer
- ☉ Agency Inventory Receiver

Integration of this data

- ☉ Material Masters

Inputs, e.g., forms

- ☉ N/A

Outputs, e.g., Reports, Forms

- ☉ Goods Issue Slip
- ☉ Goods Receipt Slip



IM017 – Bar Coding



Overview or Options

- ☉ Bar Coding systems can be interfaced to SAP to perform following:
 - Goods Receipts
 - Goods Issues
 - Stock Transfers
 - Physical Inventory Counts
- ☉ Existing Bar Code systems will only be interfaced

Naming / Numbering Conventions

- ☉ N/A

Role

- ☉ Agency Inventory Issuer
- ☉ Agency Inventory Receiver

Integration of this data

- ☉ Material Masters

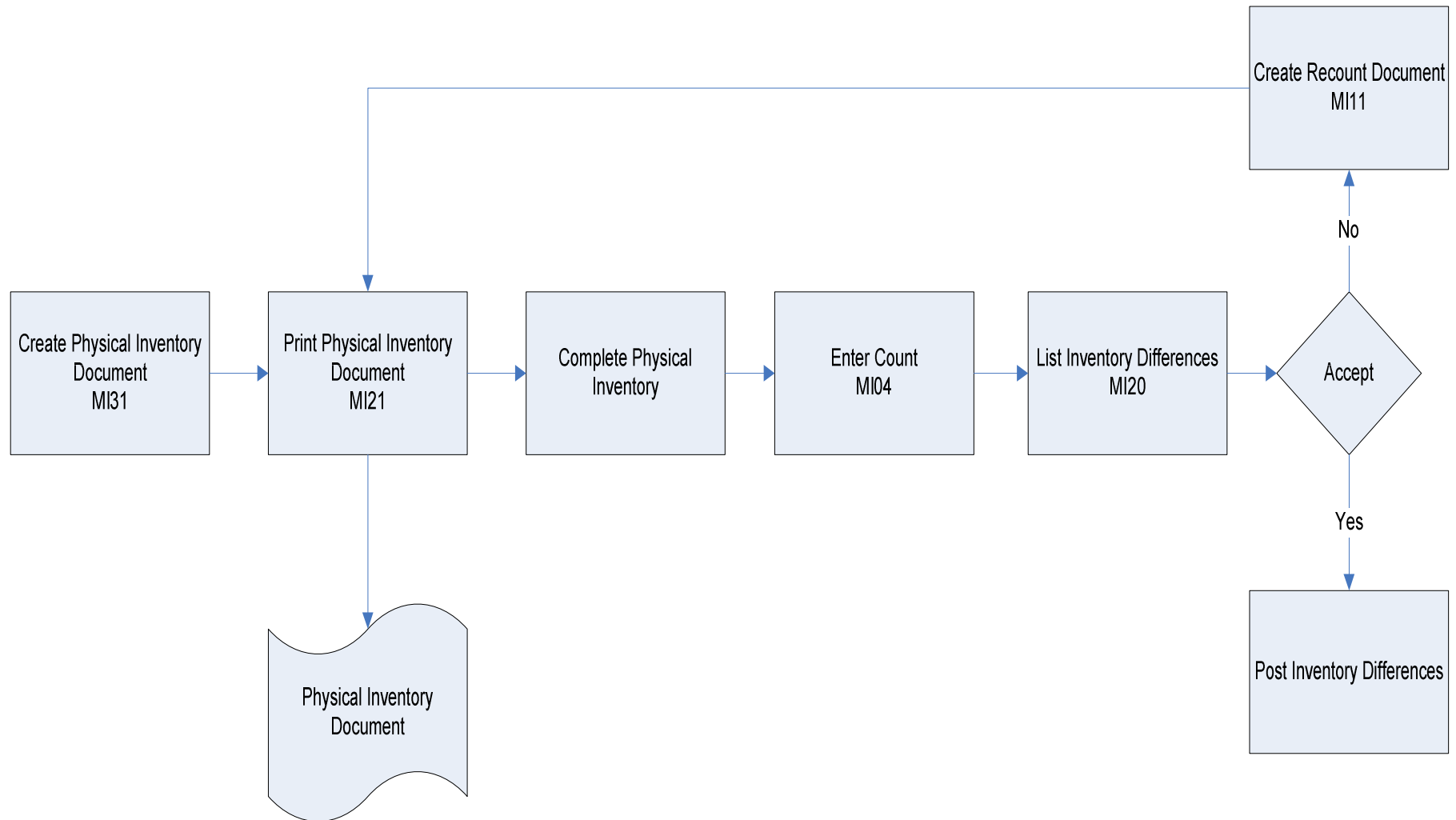
Inputs, e.g., forms

- ☉ N/A

Outputs, e.g., Reports, Forms

- ☉ Goods Issue Slip
- ☉ Goods Receipt Slip

IM019 – Physical Inventory





IM019 – Physical Inventory



Overview or Options

- ☛ This process will be used to schedule and create the monthly physical inventory for the Storerooms.
- ☛ Several options for document creation are available
 - ☛ Plant
 - ☛ Single Plant
 - ☛ A list of plants
 - ☛ Range of plants
- ☛ The document creation criteria may be saved as a variant and ran manually or scheduled as a batch run
- ☛ Write-Ons and Write-Offs are both Budget Relevant

Naming / Numbering Conventions

- ☛ N/A

Role

- ☛ Agency Inventory Issuer
- ☛ Agency Inventory Administrator

Integration of this data

- ☛ Material Masters representing inventoried materials

Inputs, e.g., forms

- ☛ N/A

Outputs, e.g., Reports, Forms

- ☛ Physical Inventory Document



Existing Reports



Report Name	Report Description
Commodity on Hand	This report will show a quantity on hand of a commodity or a listing of commodities by agency and by location.
Commodity Consumption	This report will show the consumption of a commodity or listing of commodities by cost center, date and quantity.
Commodity Shelf Life	This report will show the defined shelf life of a commodity or a listing of commodities that may be about to reach their shelf life.
MSDS	This report will list commodities that have a MSDS (Material Safety Data Sheet) associated with them.
Commodity Shipping	This report will list commodities that are planned to be shipped out by customer, quantity, date and location.
Commodity Receiving	This report will list commodities that are planned for receipt by vendor, quantity, date and location.



Reports



Report Name	Report Description
Zero Balance	This report will list commodities that have a zero quantity balance on hand by location.
Field Returns	This report will list commodities that have been returned by quantity, date, location and reason.
Damages	This report will list commodities that have been damaged by quantity, date, location and reason.
Vendor Returns	This report will list commodities that have been returned by vendor, commodity, date, location and reason.
Inventory Adjustments	This report will list all inventory adjustments by commodity, quantity, reason and value.
Backorders	This report will list commodities that are on backorder by vendor/customer, date and quantity.
Demand Rates	This report will list commodity activity over a period of time.



Reports



Report Name	Report Description
Charge Backs	This report will list commodity charge backs by quantity, date and responsible cost center.
Reorder Points	This report will list commodities and their reorder points by location.
Ad-hoc inventory report	This is the ability to execute generic queries against inventory transactions within the system.
Turn In Document	This report will identify all the inventory items that have been turned into State Surplus by commodity, quantity, date, location and value.



User Roles



User Role Name	User Role Description
Central Material Master Data Maintenance	The Central Material Master Data Maintenance users will maintain the Material Master within the SCEIS solution. They will be responsible for creating, changing and deleting of the Material Master record and ensuring the Material Masters conform to the agreed standards. They will work closely with the Agency Material Master Liaisons to ensure that the respective agency needs are met for the creation and update of Material Masters.



User Roles



User Role Name	User Role Description
Agency Material Master Liaison	The Agency Material Master Liaison will work with Central Material Master Maintenance users to ensure that the Agency needs are met for classifying inventory items with the NIGP coding structure. Each agency will need to work with their liaison to help set up their initial list of NIGP codes and for and subsequent additions that are required to run the business.
Agency Inventory Issuer	The Agency Inventory Issuer will be responsible for issuing goods out of inventory
Agency Inventory Receiver	The Agency Inventory Receiver will be responsible for receiving goods into inventory



User Roles



User Role Name	User Role Description
Agency Inventory Administrator	The Agency Inventory Receiver will be responsible for all the inventory functions within an agency. They will have the ability to receive, issue, perform physical counts, perform inventory adjustments and run reports.
Agency Inventory Display	The Agency Inventory Display user will have the ability to display all inventory transactions and run reports for their agency.
MRP Controller	The MRP Controller will be responsible for the setting and maintenance of Material Re-order parameters. They will also be responsible for converting the planning proposals generated via MRP to requisitions or reservations.



User Roles



User Role Name	User Role Description
SRM Shopping Cart User	This is any user that will be requesting items to be procured through the online shopping cart. This does not create Purchase Orders. It will generate and save a shopping cart that will be reviewed and if approved will create a Purchase Requisition or Material Reservation.



Next Steps



- ① Establish a Central Master Data Team
- ① Finalize standards for Material Master Descriptions
- ① Establish a Central Repository of Material Masters for X-Reference
- ① Identify all Material Masters in Legacy Systems
- ① Finalize Inventory Design
- ① Configure and Test System
- ① Perform Training
- ① Data Cleansing and collection
- ① Perform Data Conversions



Questions

