

A Customized Approach for Zone Based Cycle Counting

Joseph Lenard
NCH Corporation

NCH Overview

- Privately held Texas based company since 1919
- Operates in over 50 countries around the world
- Product lines include
 - Industrial lubricants and cleaners
 - Specialty industrial supplies
 - Water treatment and remediation
 - Plumbing
 - Pet care
- More than 8,500 employees and technical representatives



NCH and Oracle

- Started implementing Oracle Applications May 2004
- Oracle Applications 11.5.10 CU2
- OPM Manufacturing, Inventory and Costing
- Worldwide implementation
- Manufacturing and distribution “live” in Canada, Czech Republic and a facility in Dallas, TX
- Financial modules rolling out to North America, Europe, Latin America, Asia Pacific
- Sales, manufacturing and distribution are following close behind



Canada's First Physical

- Go Live – May 2006
- Oracle was major change for the warehouse associates
- No cycle counting performed for the first six months after go-live
- First physical inventory – October 2006
- Use out-of-the-box OPM Inventory physical inventory screens, reports and processes



Oracle Out-of-the-box Counting

- Standard OPM physical inventory and cycle counting reports lack warehouse usability
- NCH warehouse associates
 - Use scanners
 - Need space to write if not using a scanner
 - Want fewer, better organized pages
- NCH inventory control associates
 - Want to control the amount of paper on the warehouse floor
 - Want to know an original count sheet vs. a recount sheet
 - Want a count sheet to match to an answer sheet page, by page



Inventory Counting at NCH

- ABC cycle counting attempted at NCH in the past
- Inventory accuracy fell!
- Years ago...NCH IT associates working with warehouse associates implemented Zone Based Counting
- Canada associates nervous about their first physical
- First physical inventory for Canada was standard Oracle OPM physical inventory
- First standard out-of-the-box OPM physical inventory took four (4) times longer!

Time to consider a customization!

Physical Inventory/Cycle Counting 101

- SYSTEM COUNT **equals** ACTUAL COUNT
Match or HIT!
- SYSTEM COUNT **less than** ACTUAL COUNT
Found! But still a miss.
- SYSTEM COUNT **greater than** ACTUAL COUNT
Missing!

Oracle Out-of-the-box Counting

Cycle Counting

1. Initialize the cycle count
2. Generate the reports
3. Count the stock
4. Enter the counts
5. Post the counts
6. Manage errors
7. Purge the count

Physical Inventory

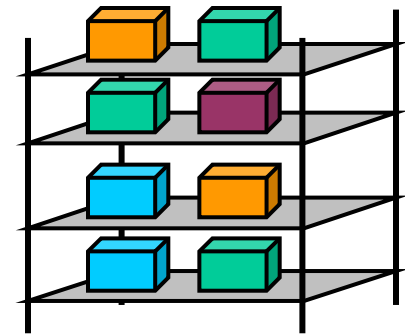
1. Initialize the physical
2. Generate the reports
3. Count the stock
4. Enter the counts
5. Post the counts
6. Manage errors
7. Purge the count

Additional setup

1. Identify ABC classes
2. Assign items to ABC classes
3. Determine count schedule

When to count??

How much ??



Zone Based Counting

ABC Counting

- Define your item classification
 - Based on value?
 - Based on sales?
 - Based on transaction volume?
- Categorize every item
 - “A” items are top 75% of volume
 - “B” items are next 20% of volume
 - “C” items are last 5% of volume
- Miss items not categorized
- Issues with seasonal items
- Issues with items pushed into neighboring stock locators

Zone Based Counting

- Cross between cycle counting and physical
- Many “mini-physicals”
- Warehouse divided into Zones
 - Raw materials – Rack 1
 - Finished goods – Rack 2, Row 3
- Every stock locator assigned to a zone
- Stock locators logically sequenced within the zone
- Locator not categorized will show up in “none” zone

Issues To Be Satisfied

- Need to create count zones and count sequences
- Need new reports
- Need better control of every count tag
- Need better control of the pre-posting process
- Each count should be validated — a null value does not equal a zero count!
- Items have different tolerance values for accuracy: quantity and/or value
- A recount process is necessary
- Only authorized users should be able to override a recounted tag



Zone Based Counting at NCH

Customization Overview

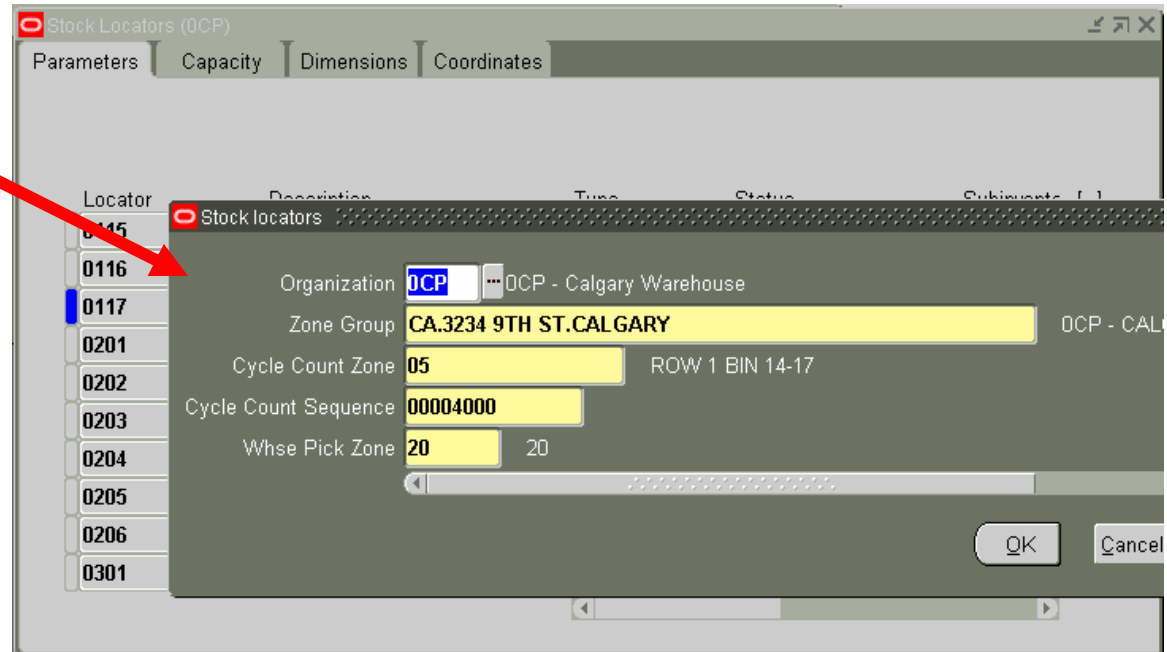
- Setup overview
- Customized Create/Initiate Screen
- New reports
- Customized tag find and tag entry
- New tag status and validation process
- Recount reports and processes
- Posting
- Inventory valuation reports
- Putting it all together – the NCH Zone Counting Process

Setup – Stock Locator DFF

Inventory Org, Context Sensitive Descriptive Flexfields - **Stock Locator**

- Zone Groups
- Count Zones
- Count Sequences

Data organization!



Custom table created for item tolerance values and seasonality index

Create/Initiate – Screen Change

Added Count Zone Group and Count Zone (screen & table)

Allowed multiple zones to be initiated simultaneously

NCH Physical Inventory

Physical: OCP 00000050 Status: Open

Description: 18FEB08_ZONE-05

Print Form: Tags

Warehouse: OCP NAC CAN CALGARY OPM

Start Date: 18-FEB-2008 00:00:00

Exclude Zero Balance:

Exclude Negative Balance:

Count Zone Group: CA.3234 9TH ST.CALGARY

Count Zone: 05

Initiate NCH Physical Inventory

Organization: OCP OCP: NAC CAN CALGARY OPM

Warehouse: OCP NAC CAN CALGARY OPM

Physical: 00000050

Description: 18FEB08_ZONE-05

Count Zone Group: CA.3234 9TH ST.CALGARY

Count Zone: 05

OK Cancel

New Reports

- New count sheet, answer sheet and recount sheet
- XML Publisher based
- Required values bar-coded
- Better sorting and grouping parameters

Submit Request

Run this Request... Copy...

Name: **NCH OPM Physical Inventory Tag Listing Reports (Main)**

Parameters: **Parameters**

Language: Am

At these Times...
Run the Job: As

Upon Completion...
 S
Layout:
Notify:
Print to: not

Organization: **DCP** NAC CAN CALGARY OPM
Physical Inventory Name: **00000050** 18FEB08-ZONE-05
Zone Group:
Report Type: **Both - Count and Answer Sheet**
Count Zone:
Item from:
Item To:
Tag From:
Tag To:

Help (C) OK

"Side by Side" Reports

- More information per page
- Count sheets match answer sheets in spacing, page numbers

NCH Physical Inventory Report – Count Sheet 1
As on : 18-FEB-2008

OCP Physical Inventory
00000050

Count Zone Group : CA.3234 9TH ST.CALGARY
Count Zone :05

Location	Count	SKU	Item # Description	Lot No	SubLot No	Lot Status	Tag No.
0114 Seq 1000		DZ	10028792 LUBEMASTER SYSTEM PURGE, DZ, CN CL	03302017		ACTV	1
0114 Seq 1000		DZ	10028792 LUBEMASTER SYSTEM PURGE, DZ, CN CL	06156251		ACTV	2
0114 Seq 1000		CS	10028793 L/S EFO-1221, 12 X 16 OZ CS, CN GEN	03282037		ACTV	3
0114 Seq 1000		DZ	10028994 DIMON AEROSOL, CN NC	07022631		ACTV	4
0114 Seq 1000		DZ	10029043 LUBE TRAC AEROSOL, CN CL	07085181		ACTV	5
0114 Seq 1000		DZ	10029047 LEXPURE AEROSOL, CN NC	06356021		ACTV	6
0114 Seq 1000		DZ	10029155 NC-123 PLUS AEROSOL, CN NC	07115151		ACTV	7
0114 Seq 1000		DZ	10029752 BLUE STREAK, DZ, CN NC	07246041		ACTV	8

NCH Physical Inventory Report – Answer Sheet 1
As on : 18-FEB-2008

OCP Physical Inventory
00000050

Count Zone Group : CA.3234 9TH ST.CALGARY
Count Zone :05

Location	Count	SKU	Item # Description	Lot No	SubLot No	Lot Status	Tag No.
0114 Seq 1000	2	DZ	10028792 LUBEMASTER SYSTEM PURGE, DZ, CN CL	03302017		ACTV	1
0114 Seq 1000	1	DZ	10028792 LUBEMASTER SYSTEM PURGE, DZ, CN CL	06156251		ACTV	2
0114 Seq 1000	7	CS	10028793 L/S EFO-1221, 12 X 16 OZ CS, CN GEN	03282037		ACTV	3
0114 Seq 1000	3	DZ	10028994 DIMON AEROSOL, CN NC	07022631		ACTV	4
0114 Seq 1000	3	DZ	10029043 LUBE TRAC AEROSOL, CN CL	07085181		ACTV	5
0114 Seq 1000	9	DZ	10029047 LEXPURE AEROSOL, CN NC	06356021		ACTV	6
0114 Seq 1000	12	DZ	10029155 NC-123 PLUS AEROSOL, CN NC	07115151		ACTV	7
0114 Seq 1000	1	DZ	10029752 BLUE STREAK, DZ, CN NC	07246041		ACTV	8



Tag Table Changes

- Tag table (IC_PHYS_CNT) modified to include:
 - Recount flag
 - Previous three counters
 - Previous three counts (in both the primary UOM & secondary UOM)
 - Count zone group, count zone, count sequence
- Also includes a tag STATUS
 - NULL – nothing has happened yet with the tag
 - VALIDATED – the count on the tag fell within the tolerance of the item
 - RECOUNT – the count on the tag fell outside the tolerance of the item
 - APPROVED – the tag status has been manually overridden

Find and Enter Tags

- Find Tag screen and Entry screen were modified to include:
 - Count Zone Group, Count Zone
 - Status

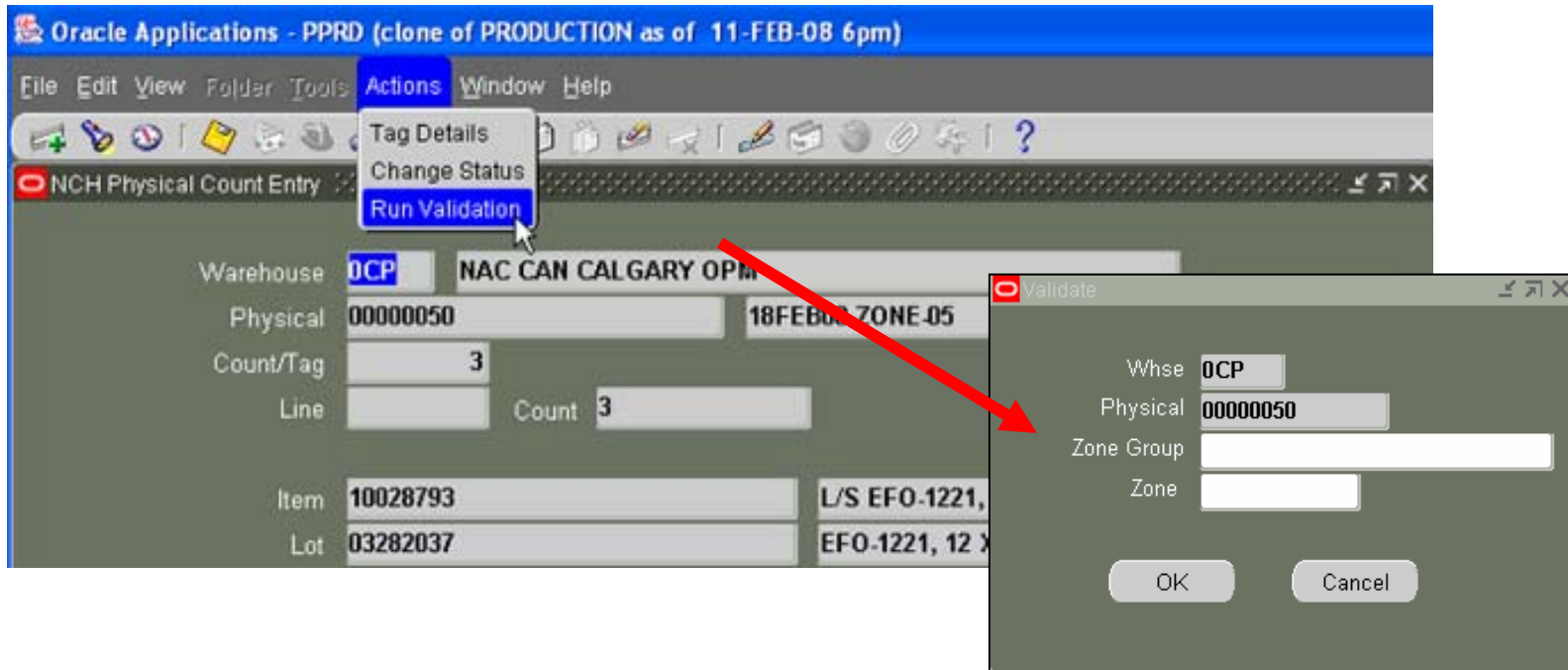
The screenshot shows the 'NCH Physical Count Entry' application window. A modal window titled 'NCH Find Physical Count Entry' is open, allowing users to search for physical counts. The modal window contains the following fields and buttons:

- Warehouse: **OCP**
- Physical: **00000050**
- Count Zone Group: (empty)
- Count Zone: **05**
- Tag #: (empty)
- Tag Status: (dropdown menu)
- Buttons: Clear, New, Find

Below the modal window, the main screen shows the 'Count Person' field with the value **JOE.LENARD** and the 'Reason Code' field with the value **0017**.

Validate Tags

- New process created to determine if NULL and RECOUNT status tags fall within item tolerance
- Process can be executed multiple times throughout the day by different inventory control associates



Maintain Tag/Count History

- New form as part of tag entry allows inquiry of previous tag counts and previous counter
- New screen also includes tag status

The screenshot shows the 'NCH Physical Count Entry' form with the following fields:

- Warehouse: OCP NAC CAN CALGARY OPM
- Physical: 0000050 18FEB08_ZONE.05
- Count/Tag: 3
- Line: Count 3
- Item: 10028793
- Lot: 03282037
- Sublot:
- Location: 0114
- Grade:
- Count Date: 18-FEB-2008 22:14:02
- Quantity: 8
- Count Person: JOE.LENARD
- Reason Code: 0017 Physical Inve


The 'Tag Details' pop-up window contains the following information:


Tag Details			
Tag Number	3	Tag Status	
	Primary UOM	Secondary UOM	Counted By
1st Count			
2nd Count			
3rd Count			
CurrentCount	8	0	JOE.LENARD

Recount Process

- Recounts are determined based on item/organization tolerances against the current actual count and the system count
- Recount sheets are automatically generated following the validation process
- All “finds” automatically require a recount

NCH Physical Inventory Report – Recount Sheet 1
As on : 18-FEB-2008

OCP


Physical Inventory
 00000050


Count Zone Group : CA.3234 9TH ST.CALGARY
 Count Zone :05

Location	Count	SKU	Item # Description	Lot No	SubLo
0114 Seq 1000		DZ	10028792 LUBEMASTER SYSTEM PURGE, DZ, CN CL	03302017	

Change Status

Physical

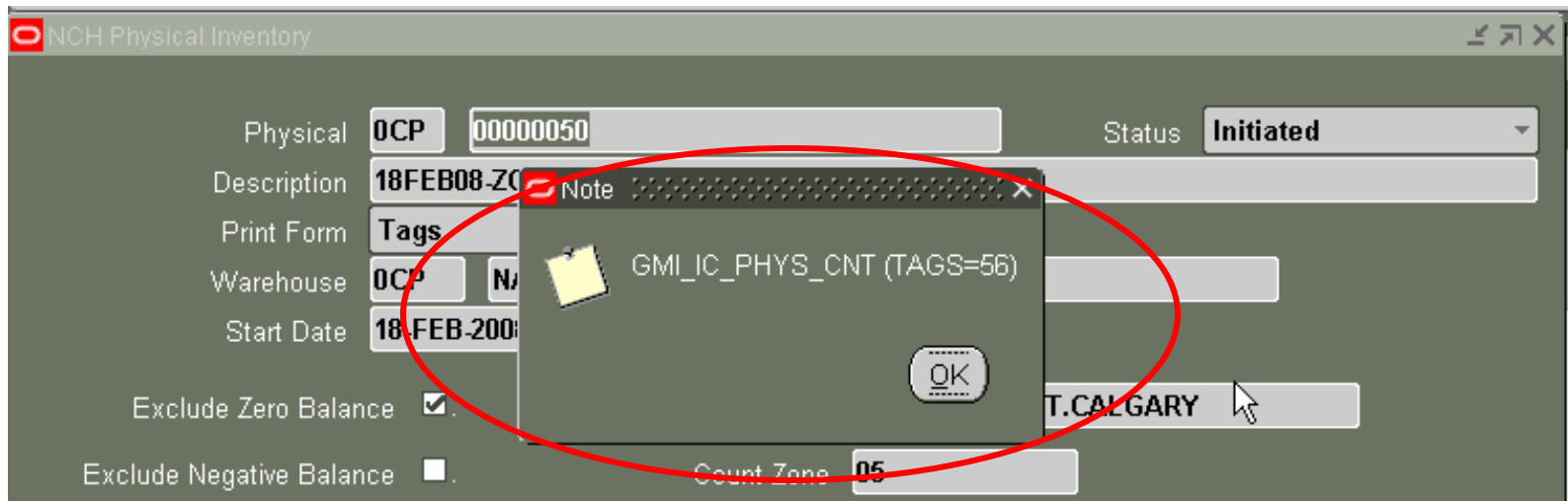
Tag Number

Current Status

Change Status To

Pre Posting Personalization

- No change was made to the standard posting process
- Personalization added to execute before posting can occur
- Personalization validates that all tag statuses within the defined count are VALIDATED or APPROVED
- User can not post until all NULL and RECOUNT status tags have been addressed



New Inventory Valuation Reports

- Final piece of the NCH Zone Based Counting process
- Two part process
 - Extract out counting data – calculate hits & misses based on item totals
 - Generate report – XML Publisher
- Reports to be used while the counting is occurring
- Parameters include
 - Specific page breaking value (e.g., item category: raw materials)
 - Hits only, misses only, all
 - Monetary variance (e.g., over \$400)
- Includes count statistics (e.g., 98.55% Hits)

New Inventory Valuation Reports

Submit Request

Run this Request...

Name: **NCH OPM Physical Inventory Extension Report**

Parameters: _____

Language: **American English**

At these Times...
Run the Job: **As Soon as**

Upon Completion...
 Save all On

Layout: **NCH OPM P**

Notify: _____

Print to: **noprint**

Help (Q)

Parameters

Warehouse: **DCP** NAC CAN CALGARY OPM

Report Name: **DCP-FEB/18/2008-18FEB08-ZONE-05**

User Item User: _____

Break Value: _____

Item Number: _____

Hit & Miss: **ALL** Hit's and Miss's

Monetary Variance: **250**

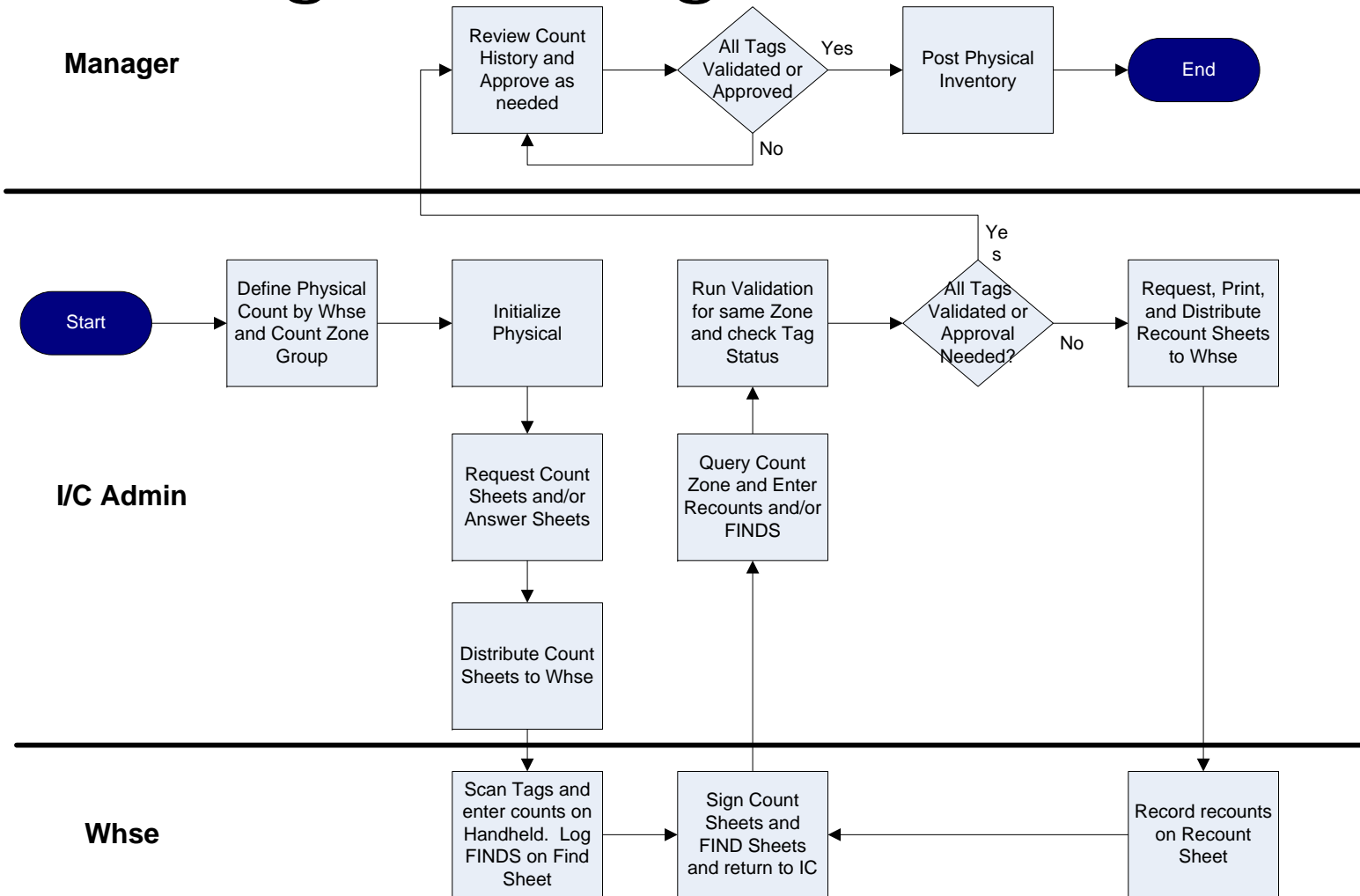
Sort by: **Item, Tag, Location**

NCH OPM Physical Inventory Extension Report

Report Date: 18-FEB-08
Page: 4 of 5

Item	Tag	Description	Lot / Sublot	UOM	Physical Qty	Physical Value	Book Qty	Book Value	Unit Cost	Qty Variance	Monetary Variance	Count Tolerance	Hit / Miss
Item Type : MFG													
Break : GEN													
10061889	285	PREMALUBE XTREME GREEN #1, (324J), 17 KG (POLY), GEN	0204 07134371	DM	3.00	97.33	7.00	93.77		-4.00	3.56		
					Total for Item : 10061889	3.00	97.33	7.00	93.77	-4.00	3.56	1.00	M
10066653	293	PREMALUBE XTREME GREEN (325J), 17 / KG / 35 LB (POLY), GEN	0204 07176381	DM	3.00	95.08	7.00	98.52		-4.00	3.44		
					Total for Item : 10066653	3.00	95.08	7.00	98.52	-4.00	3.44	0.00	M
10066655	112	PREMALUBE XTREME GREEN #2, (325J), 54 KG / 120 LB, GEN	0110 07187171	DM	12.00	54.88	10.00	52.40		2.00	2.48		
					Total for Item : 10066655	12.00	54.88	10.00	52.40	2.00	2.48	0.00	M
10066656	113	PREMALUBE XTREME GREEN #2, (325J), 180 KG / 400 LB, GEN	0110 07197441	DM	2.00	98.88	2.00	98.88		0.00	0.00		
114	0110	07218581	DM	1.00	33.44	2.00	66.88			-1.00	33.44		
					Total for Item : 10066656	3.00	90.32	4.00	93.76	-1.00	3.44	0.00	M
					Total for Break : GEN		47.61		78.45		30.84		
					Total for Item Type : MFG		364.97		354.54		10.43		

Putting it all together....



Summary

- First physical inventory with NCH Zone Based Counting was more efficient and performed faster than legacy
 - Better counting reports
 - Validating every tag
 - Previous recount values stored
 - Allowing inventory valuation reports to execute during the count
 - Posting only after every tag has been addressed
- Lesson learned:
 - Customizations are bad!
 - But sometimes very necessary!



Questions?

Joe.Lenard@NCH.com