



Session 2C

Starting a CMS Program:

Caterpillar builds the case at an international site

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Caterpillar: A Global Leader

- Nearly **500 locations** in 50 countries
- 102,000+ employees
- 2009 sales of **\$32B**
- 181 dealers worldwide



MAKING PROGRESS POSSIBLE

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MAKING PROGRESS POSSIBLE

Products and Services



Summary

- Why did Caterpillar consider CMS?
- Baselineing chemical management costs and activities
- Lessons learned

Why improve chemical management at CAT?

PEOPLE: Improve safety, environmental performance, and reduce risk

VELOCITY: Improve production efficiency

- Reduce material use
- Redeploy resources to value-added activity in the value stream

QUALITY: Improve Quality

- Global performance based specifications

COST: Reduce the cost of chemicals and managing them

- Address increasing local and global chemical regulations

Caterpillar worked with CSP under a grant from Yorkshire Chemical Focus to conduct the assessment in the United Kingdom.

Project Methodology

Objectives

- Calculate chemical purchase and management costs for one CAT facility in the United Kingdom
- Evaluate current chemical management practices at CAT
- Assess potential of alternative management strategies to reduce costs and risk to CAT

Activities

- Analyzed 2008 and 2009 chemical purchase data
- Interviewed key process owners at 3 facilities to identify chemical management practices and costs
- Developed summary presentation of findings and recommendations

The Chemical Lifecycle

The team captured baseline information on CAT chemical management across the entire chemical lifecycle



Types of Chemicals Used at CAT (2009)

Oils & lubricants

- Cutting & grinding fluids
- Biocides
- RPs
- Hydraulic oils
- Maintenance – lubes
- Heat treat – quenchant
- Maintenance – cleaning

Paints & adhesives

- Paint
- Cleaner
- Pretreatment
- Thinner
- Booth coating
- Assembly aids

Janitorial

- Hand cleaner
- Degreaser
- Disinfectant
- Floor cleaner

Water treatment

- pH adjust
- Cooling water
- Boiler
- Power

Strengths Observed

- CAT already recognizes that chemical management is not a core competency and hires qualified vendors to fulfill chemical management needs, creating efficiencies
 - Long term, performance-based contracts reward vendors for good performance
 - CAT has clear visibility into its chemical purchase costs and volumes due to its vendors' tracking systems
- Very few chemicals are purchased on credit cards, allowing visibility and chemical gate-keeping

Opportunity Areas Observed

- Numerous vendors manage CAT chemical activities
 - Opportunity to consolidate?
- Vendors could be tapped for more engineering assistance
- Delivery time (to point of use) could be improved
- Process improvements are slow to be implemented
- Service provider expertise is not fully utilized

Facility #1 As-Is

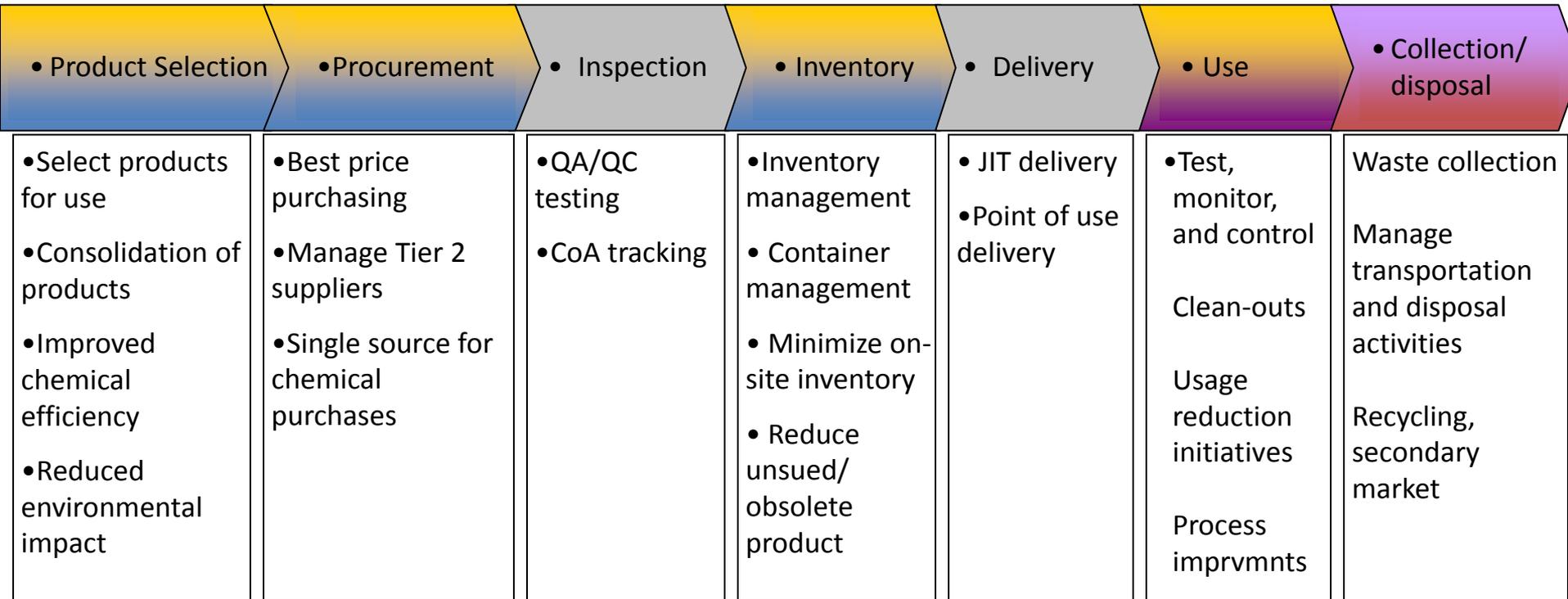
■ = Supplier #1

■ = Supplier #2

■ = No activities conducted

■ = Supplier #3

■ = Supplier #4



EH&S

Usage reporting

MSDS maintenance and compliance

Training- MSDS, COSHH

Facility #1 To Be

■ = Supplier #1

■ = Supplier #2

■ = No activities conducted

■ = Supplier #3

■ = Supplier #4

Product Selection	Procurement	Inspection	Inventory	Delivery	Use	Collection/ disposal
<ul style="list-style-type: none"> • Select products for use • Consolidation of products • Improved chemical efficiency • Reduced environmental impact 	<ul style="list-style-type: none"> • Best price purchasing • Manage Tier 2 suppliers • Single source for chemical purchases 	<ul style="list-style-type: none"> • QA/QC testing • CoA tracking 	<ul style="list-style-type: none"> • Inventory management • Container management • Minimize on-site inventory • Reduce unsued/ obsolete product 	<ul style="list-style-type: none"> • JIT delivery • Point of use delivery 	<ul style="list-style-type: none"> • Test, monitor, and control Clean-outs Usage reduction initiatives Process imprvmnts 	<ul style="list-style-type: none"> Waste collection Manage transportation and disposal activities Recycling, secondary market

EH&S

Usage reporting

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Training- MSDS, COSHH

Lessons Learned

- Chemical spend was a small cost center, but vital to operations
- The chemical value chain is complex and the knowledge largely resides with the facility staff
- Cat realized that the chemical lifecycle should include the product selection step
- Resistance to change is high, so working with a third party helped to diffuse initial resistance

Solution: Caterpillar is working with one of its preferred vendors to expand their capabilities to provide additional services for chemical management