



USA-GO Materials Management

Shuttle Environmental Assurance Initiative

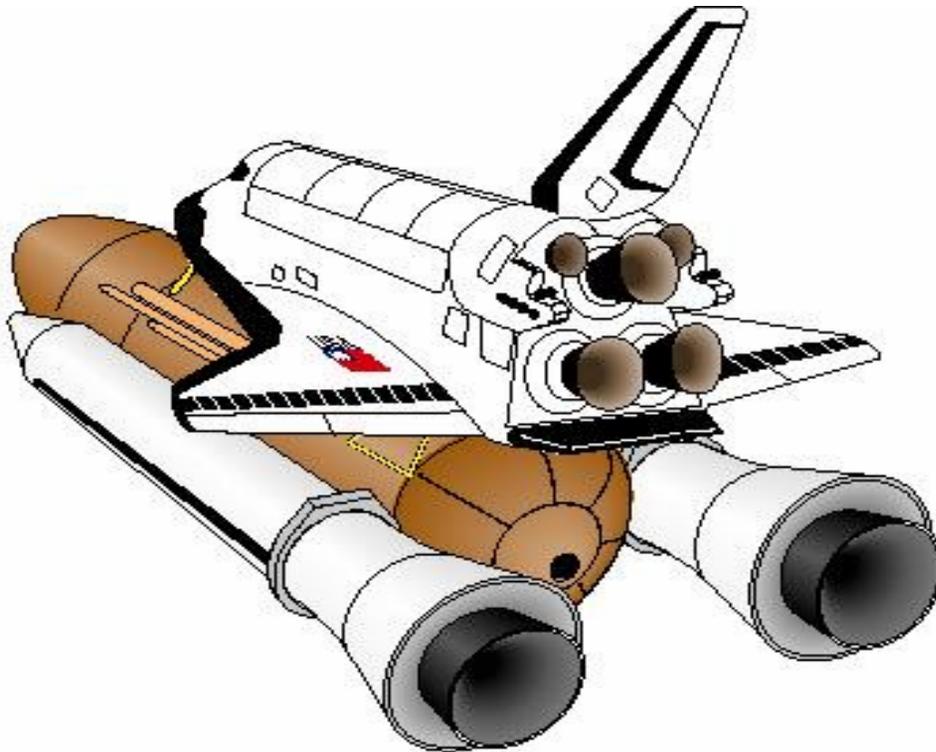
September 23, 2004

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Ground Operations

Materials Replacement / Implementation



RSRM TCA (VAB Ops)

- Specification revision
- Special repackaging effort
- Climate controlled storage

Orbiter Solvents

- TCA
- Freon 113

HFE 7100 (Wiltech/OPF)

- Field Cleaning
- Repackaging
- Implementation

RSRM Project TCA Dispensing @ KSC

- RSRM-supplied drums staged @ TPSF
- Drums placed in climate-controlled Conex
- Desiccant cartridge installed on (1) active drum
- TPSF monitors moisture content every 4 months
- Dispensed per new ATK Specifications:
 - STW4-11001 for OEM shipping container
 - STW4-11002 for in-process repackaging

Orbiter Project TCA Dispensing @ KSC

- Current stock: (4) Gallons
- Drums delivered to TPSF for repackaging into one-gallon glass bottles.
- TPSF monitors moisture content every 4 months
- Dispensed per MF0004-097 (167 ppm water) for Orbiter Project only.
- Final Frontier – Rubber to Rubber bonding

Orbiter Freon 113 @ KSC

- (5) Drums of MIL-C-81302, Ty 1 remain in stock
- Repackaging continues in MBMR (VAB)
- Sampling performed every 4 months
- HFE-7100 replacement actively in use...

HFE-7100 Implementation

- Largest user is Field Cleaning at the CRCA (Wiltech)
- Repackaging HFE 7100 for hand-wiping process currently at Wiltech
- Larger rinsers scheduled to accommodate higher volume usage

Ground Operations Materials Issues



Common Materials Initiative

Chemical Reutilization Program

Program Results

OPF Plans for Blasting & Painting

Targeted for OPF Low Bay 3

Aerosol Can Reduction/Elimination Team

CHEM Track System Integration

Common Materials Working Group (CMWG)

- Status of the CMWG
 - Three packages have been approved/implemented
 - Zinc Chromate
 - Water
 - Tetra-Etch
 - Five washer packages are currently in work (Industry Standard specifications)
 - NAS1587
 - AN960
 - NAS 620
 - MS15795
 - MS35338

USA's New Reutilization Program

- Kaizen Team created OP USA004788, “Chemical Commodity Reutilization Procedure” in 2003
- USA ARF facility established as collection site
- Coordinated by USA Environmental Management
- Off-site Partnerships
 - Port Canaveral Fisherman’s Association
 - Aviation-related small businesses

USA's New Reutilization Program - Results

- Over \$600,000 worth of chemicals have been reutilized since Nov 2002
- Averaging a 94% reutilization rate
- Cost savings from disposal avoidance estimated at \$60,000
 - Over 12,000 kg of hazardous waste avoided
 - Over 16,000 kg of non-reg waste avoided
- Over 137 users have benefited

OPF Plans for Blasting & Painting

- Orbiter OMDP activities driving a need...
 - Dome Heat Shields
 - Wing Leading Edge
 - Rudder Speed Brake Panels
- Plastic Blast Media Blasting
- Primer and top coat spray application
- C of F planning for dedicated facility in Low Bay 3

Aerosol Can Reduction/Elimination Team (ACRE)

- Cross-functional team effort
- (9) Aerosol can line items targeted
 - Deep Woods Off 2441
 - Flying Insect Killer 1917
 - Tri-Flow Dry Lubricant 1829
 - Clarity Glass Cleaner 1382
 - PB Penetrating Fluid 897
 - WD-40 Lubricant 752
- Pump spray options eliminated first (5)
- Repackaging option planned for PB & WD-40 lubricants

The CHEM Track System

- ❖ Existing network – minimal expenditure outlay
- ❖ All records generated from HMRR database
- ❖ New label integrates business systems



The CHEM Track Label

MANUF DUPONT		STAMP / DATE 	
NAME GREASE, KRYTOX 240 AC			
UPN 915000K043535			
MPN KRYTOX 240 AC			
H HEALTH 1	LOT NO. 1081	SKIN IRRITANT EYE IRRITANT LIVER TOXIN RESPIRATORY TOXIN	
	CATEGORY FLIGHT		
	TSRS NO. 02166		
SPEC COMMERCIAL			
EXP. DATE 2011-11-11			
R REACTIVITY 0	EXP. TIME 24.00.00	CMSAR NO. U500143	
F FLAMMABILITY 0	STORAGE REQ. 50 - 90 DEGREES F		
STORAGE CODE POL		CMS 1 MMSN425A100 CMS 2 99601-0010 CMS 3 39-6090-70010 CMS 4 FACILITIES/GSE (20Z) CMS 5 FACILITIES/GSE (80Z) CMS 6	
CMS 1 MMSN425A100			
CMS 2 99601-0010			
CMS 3 39-6090-70010			
CMS 4 FACILITIES/GSE (20Z)			
CMS 5 FACILITIES/GSE (80Z)			
CMS 6			

THIS MATERIAL MUST BE RETURNED TO STORAGE OR PROPERLY DISPOSED OF IMMEDIATELY UPON COMPLETION OF TASK.

KSC FORM 29-1066 (REV. 6/00)

CHEM Track System Enhancements

❖ **Standardized labeling format**



❖ **Centralized hazard communication**

❖ **Immediate access to MSDS**



❖ **Clear identification of correct material**

CHEM Track System Enhancements

❖ **Accountability for container location**

❖ **Accurate shelf life monitoring**

❖ **Consolidation of common materials**

❖ **Proper storage requirement on label**



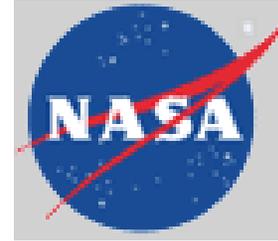
Receiving Inspection Labeling



The “Solvent Pharmacy”



Pollution Prevention and Hazardous Waste Minimization



Kennedy Space Center, FL

