

Sandia National Laboratories UMC Initiative “The Dirty Garage Syndrome”



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Sandia is a multiprogram laboratory operated by Sandia Corporation, a Lockheed Martin Company,
for the United States Department of Energy's National Nuclear Security Administration
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Ah, the typical garage...



It starts out so nice and clean

And all too often ends up looking something like this





What Initiates the Big Clean-up?



at home.....

at Sandia National Labs.....





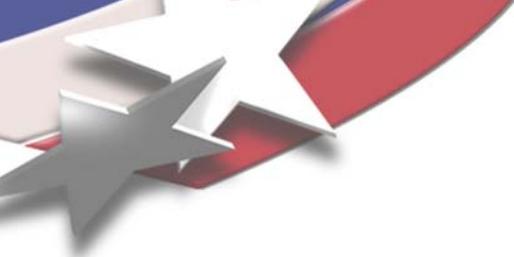
Background Info

- **Sept. 1999 Inspector General Audit report cited concern's with governance and management of unneeded materials and chemicals (UMC)**
- **May 22, 2006 – SNL received direction from DOE/SSO to complete a plan to manage UMC**
- **FY07 – SNL conducts site-wide inventory of UMC**
- **FY08-FY11 – Disposition of inventory and implementation of processes to avoid future accumulation of UMC**



DOE Definition of UMC

- **Includes materials (with or without residual activity), equipment, and chemicals that are unneeded to the mission and have no designated future use.**
 - **Scrap metals including lead**
 - **Radioactive sources**
 - **Laboratory chemicals**
 - **Non-nuclear weapons components**
 - **Explosives**



The Challenge...

Conduct site-wide UMC inventory in <6 months

–10,000 people in 10 Divisions

–700+ Buildings

–8,000+ Acres



Pre-Inventory Tasks

UMC Task Force

- **Input, awareness, support from stakeholders**
 - **Environmental Compliance and ES&H Coordinators, Waste Management, Reapplications, Procurement, Chemical Management**
- **Secure support and participation from SNL Management**

Develop a plan

- **Build UMC Team = PM + 8 team members**
- **Eliminate office spaces**
- **Site visits – indoor and outdoor storage areas**
- **Self-reporting – classified storage, chemical owners**



Site-wide Inventory

Where We Went -- Site Visits

Storage Spaces/Yards

Indoor/Outdoor -- 325





Where We “Sent” (self-reporting process)

**Chemical Laboratories--
Email requests sent to Chem Lab
Owners. Received responses from
50 with unneeded chemicals**



**Manzano Storage Bunkers –
Corporate Storage Services Data Base used to contact 122
Property Owners, about 50 had UMC items -- some are classified,
unusual, or unique**



So what did we find in our garage?



Big Things that are hard to get rid of



Jet engines acquired for tests
15-20 years ago

Rodent-infested vehicles
and storage units



Lots of little things that we put away just in case...



“Collections” that require sorting, sorting, and more sorting...



One storage space – many disposition pathways

Metal, metal, and more metal...



Things that could be re-used onsite



Deionized Water System



Solar-Powered Parking Light



Cold Storage Freezer



Grinder

Things that could be re-used offsite



Recycling Equipment



High-Speed Film



Heavy Ion
Accelerator –
circa 1960's

Things that have *never* been used and...



50 HP Motor and Pump

New Evaporative AC Unit



...things that *nobody* can use



Butt cans retired when SNL went smoke-free

FY07 UMC Baseline Inventory

Sandia National Laboratories/New Mexico UMC Inventory	
UMC Category	Totals
Metal (ft³)	223,000
Equipment (ft³)	226,000
Scrap Wood/construction Materials (ft³)	10,500
Miscellaneous (ft³)	101,000
Rad-Contaminated Items (ft³)	5,000
Beryllium-Contaminated Items (ft³)	9,400
Vehicles/Trailers/Equipment (ft³)	67,000
Chemicals (containers)	1091

The Word from the Line

Reapp won't accept it

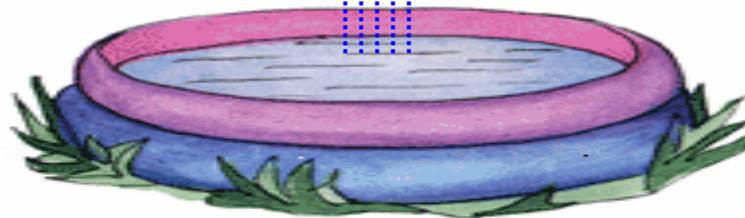
Where's the truck?

We did something like this 5 years ago and my stuff is still here

I don't have enough time or \$\$ to get rid of this stuff

I'm so glad to see you guys-- I've been trying to get rid of this stuff for years!

UMC Pool of Knowledge





UMC Disposition Challenges

- **Changing a “can’t do” attitude to “can do”**
 - Previous bad experiences, failed attempts
 - Old habits die hard
- **Budget/resources for disposal of chemicals, rad-contaminated items**
 - Current chargeback rates encourage hoarding
 - Budget cut-backs – fewer \$\$, fewer people
 - No time to pursue additional disposition options
- **Current processes perceived as too difficult or time consuming – more awareness/education needed**
- **Nothing in place to encourage use of excess first**



FY08 Disposition Progress



Strategy for Disposition of Inventory

- **Non-Chemical Items**

- Identify and remove “Low-Hanging Fruit” (existing, no/low-cost disposition path)
- Update inventory to reflect items reapplied/disposed by owner
- Target items that help us reach our FY08 goal
 - Storage areas that do not require much sorting
 - Selected large items
- Identify high cost/challenging items and develop long-term plan for disposition



Strategy for Disposition (cont.)

- **Chemicals**
 - Update inventory for items disposed/used by owner
 - Advertise chem inventory internally
 - Query procurement database for potential onsite users
 - Assist with transfer logistics
 - Work with WM for disposal cost/plan
 - Calculate costs to dispose unplaced chems
 - Provide support and guidance for chems not placed by end of FY08



Re-use Onsite and Recycling

Before...



Facilities Storage Yard Clean-up – 6,200 ft³ sent to Reapp



...After

Chemicals Reapplied



- **6 Drums of Thermite sent to Idaho Nat'l Labs**
- **9 Containers of high-cost powder (tantalum pentoxide) returned to manufacturer**
- **Large quantity of lubricants transferred to SNL Facilities**



Recycling -- Before and After



**SNL Sled Track
200,000 ft³ scrap
metal recycled**



Before and After – Re-use Offsite



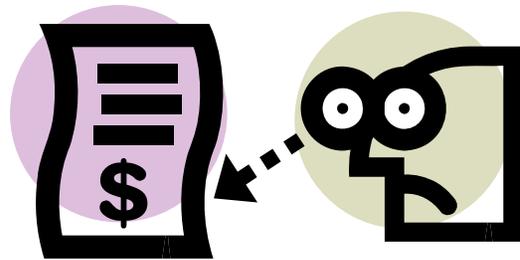
Tire Bale Donated to
Valencia County for Erosion
Control

UMC Goals – Remove 60% of UMC Inventory in FY08 and 100% of Chemical Inventory

Percent Complete in FY08 as of May 20, 2008

UMC Category	Material Removed (ft ³)	UMC Estimated Volume (ft ³)	Percent Complete
Metals	201,000	223,000	90%
Equipment	53,000	226,000	24%
Scrap Wood/Construction Materials	4,900	10,500	47%
Miscellaneous	50,000	101,000	50%
Rad-contaminated items	4	5,024	0%
Be-contaminated items	100	9,404	1%
Vehicles/Trailers/Equipment	8,358	66,979	12%
Total	317,763	642,160	50%
Chemicals	314 containers	1091 containers	29%

420,000 pounds of metal recycled = \$40,000 revenue to be used to assist with chem waste disposal costs



Big Ticket Items.....



Metals Moratorium Metals



Estimated cost to dispose ~10,000 ft³
as solid waste is \$25-\$30,000
(\$1,300/roll-off)

Rad-contaminated Material Disposal



3500 ft³ of Rad-contaminated materials
Estimate for disposal through
SNL's Rad Waste Facility = \$4.5 Million

D&D Project at Solar Tower Facility



Estimated cost
\$140,000

Keeping our Clean Garage Clean!

Endstate Vision of Material Management

What a Member of the Workforce sees:



Simple, user-friendly, one-stop shopping and disposal

Acquire Materials and Chemicals through Procurement



Use



Transfer Unneeded Materials and Chemicals through the Get Rid of It! website

Material Management Tools

Get Rid Of It

One-stop shopping for workforce for info on disposition of materials and chemicals

Links provided to Chemical Exchange, UMC Inventory Sheets, Reapplications, P2, and Environmental Compliance Coordinators for unique waste items



Chemical Exchange Program (CEP)

Goal is to reduce the amount of usable chemicals disposed as waste

Since Roll-out in July 2007:

797 chemicals received

591 chemicals have been reapplied for an est. cost savings (acquisition/disposal) of ~\$76,000





Funding Request for “Pre-App” Program Development

- **Virtual material exchange system**
- **Unneeded items entered in database for 2 weeks prior to pick-up**
- **Teaser items advertised in Sandia Daily News – link to inventory spreadsheet/photo provided**
- **Potential onsite customers shop and acquire desired items -- direct transfer from one onsite owner to another**



Thank you for attending!

Questions?

