

SOLID WASTE MANAGEMENT



2011 ACCOMPLISHMENTS REPORT

A SUPPLEMENT TO THE ENVIRONMENTAL REPORT

OVERVIEW



Solid Waste Management (SWM) is responsible for managing several categories of waste across the Savannah River Site (SRS). These categories are transuranic, low-level, hazardous, mixed and sanitary waste.

Each day, SWM manages the volume of waste generated site-wide by safely treating, storing, and disposing of waste in the most environmentally-efficient and cost-effective manner possible.

Waste Type	Description
Transuranic (TRU) Waste	Waste contaminated with radioactive isotopes that have decay rates and activities exceeding defined levels
Low-Level Waste (LLW)	Any radioactive waste not classified as high-level or TRU waste
Hazardous Waste (HW)	Any toxic, corrosive, reactive or ignitable material that could damage the environment or negatively affect human health
Mixed Waste (MW)	Waste that is both radioactive and hazardous
Sanitary Waste	Waste that includes non-radioactive, municipal wastes and typical industrial wastes

SAFETY

Solid Waste Management Facilities (SWMFs) maintained a good safety record during 2011 with eleven (11) first aid cases and only one (1) medical treatment case.



**See something unsafe,
say something for safety.**

TRANSURANIC (TRU) WASTE



In 2011, SWM continued the use of the remediation facilities in F and H-Canyons and facilities in E-Area. The Remediation of transuranic (TRU) waste requires repackaging of miscellaneous waste containers into Waste Isolation Pilot Plant (WIPP) compliant packaging and/or the removal of prohibited items. By the end of 2011, a total of 1,103 containers were remediated through F Canyon; 74 containers were repackaged in H Canyon; and 140 containers were remediated in E-Area during 2011.

In addition, SRS disposed of 1,605 drums, 363 Standard Waste Boxes, and five (5) Standard Large Boxes (an additional 201 containers were reclassified and disposed as low-level waste/mixed waste). By the end of 2011, the SRS program had disposed of 31,498 containers. More than 1,250 of these shipments have been completed since the SRS Ship-to-WIPP program was initiated in 2001.

The excavation of Pad 1 culverts was completed. The pad contained Pu-238 waste from the Mound Site and Los Alamos National Laboratory, which was shipped to SRS in the early 1970s.

A first for Savannah River Nuclear Solutions and the DOE Complex was the first shipment using the TRUPACT-III on August 24, 2011. The TRUPACT-III is a DOT type B cask that can be used to ship one Standard Large Box (SLB). The SLB can hold approximately 6.6 cubic meters. Its large volume reduces the exposure to the SRNS workforce by reducing the amount of size reduction required.



LOW LEVEL WASTE (LLW)

At SRS, the Low-Level Waste (LLW) disposition program primarily involves the disposal of LLW at approved facilities. In CY2011, SRS safely disposed of 354,000 cubic meters of LLW which includes 192,000 cubic meters of ARRA waste. In 2011, SWM completed the disposal operation of 2,978 roll off pans of LLW into Slit Trenches from the ARRA campaigns in 105-R, 105-P, Heavy Water Component Test Reactor (HWCTR) facility and P-007 Basin with no issues or delays and no injuries. A continuous



improvement

initiative was chartered and implemented in 2011 for the LLW disposal slit trench operations, doubling the highest ever daily disposal production rate in support of ARRA missions. SWM safely disposed and grouted in place the HWCTR Reactor into a Slit Trench. SWM completed the installation of the interim operational stormwater runoff covers over Slit Trenches 1 - 4 and Slit Trench 5. SWM disposed of four (4) tall legacy Used Equipment Storage Area

boxes which have been in storage in E Area for over 10 years and after the boxes' owners, SRR and F Canyon completed the waste characterization process in 2011.



OFF SITE SHIPMENTS

MIXED WASTE

In CY2011, received into the Hazardous Waste/Mixed Waste (HW/MW) Storage facilities 24 containers (11.97 cubic meters) of Mixed Waste and shipped off-site for treatment and disposal of 55 containers (34.3 cubic meters) of Mixed Waste. In addition, HW/MW assisted the site in characterization, packaging, shipping and proper disposal of 2.55 cubic meters of SRNL/Clemson University mixed waste. Shipments resulted in Solid Waste Management (SWM) meeting the overall Mixed Waste Performance Based Incentives for FY11.

Statistics

Date	Description
02/17/2011	MW LDR/PCB shipment to Energy Solutions - Completed (20.86 cubic meters)
03/16/2011	MW LDR/PCB shipment to Perma-Fix - Completed (2.47 cubic meters)
9/22/2011	MW LDR/PCB Shipment to Perma-Fix - Completed (0.8 cubic meters)
09/28/2011	Mixed Waste at Clemson University - Completed (2.55 cubic meters)



HAZARDOUS WASTE

In CY2011, received into the HW/MW Storage facility 27 containers (5.51 cubic meters) of Hazardous Waste and shipped off-site for treatment and disposal 26 containers (5.3 cubic meters) of Hazardous Waste. In addition, packaged and shipped off-site over 3,000 individual containers of chemicals (11.08 cubic meters) as Lab packs for treatment and disposal and assisted the Waste Solidification Building (WSB) Construction activities in the last minute disposal of one (1) 85 gallon drum of paint material preventing a regulatory violation by a Subcontractor. Shipments resulted in SWM meeting the overall Hazardous Waste Performance Based Incentives in FY11.

Statistics

Date	Description
02/08/2011	Labpack Shipment - Completed (6.05 cubic meters)
06/14/2011	HW LDR/PCB Shipment #2 - Completed (1.8 cubic meters)
08/17/2011	WSB Construction Waste Shipment (1 - 85 gallon drum) - Completed (0.32 cubic meters)
09/08/2011	HW LDR/PCB Shipment #3 (13 Containers) - Completed (2.63 cubic meters)
09/14/2011	Labpack Shipment (34 Containers) - Completed (5.03 cubic meters)



OFF SITE SHIPMENTS

HAZARDOUS GAS CYLINDERS

HW/MW supported the cleanout of aged gas cylinders across the site, by conducting the second shipment of hazardous cylinders off-site for treatment and proper RCRA disposal. Over 277 cylinders were packaged and shipped by July 2011.

Statistics

Date	Description
07/20/2011	Direct Shipment CMC Cylinders (277 Cylinders) - Completed (8.4 cubic meters)



PCB TRANSFORMER AND OCB



Thirty-five oil-filled circuit breakers, consisting of three breaker cans each for a total of 105 breaker cans, were dispositioned. In addition, 198 oil-filled circuit breaker bushings were dispositioned and shipped as regulated waste to the Clean Harbors Facility. Also, 12 transformers were dispositioned, four of which required downsizing to avoid oversize load shipments. Transformer housings were shipped directly to a metal recycler; cores and coils were shipped as non-regulated waste to the Coffeyville Clean Harbors Facility for preparation prior to recycle, and 12 transformer bushings were shipped as regulated waste to a Clean Harbors Facility for treatment prior to reclamation. In summary, approximately 21,400 gallons of PCB oils (4 tanker trucks) and 364,000 pounds of scrap metal were recovered with material savings offsetting subcontract costs. The project was completed ahead of schedule, under budget and with no regulated material release, incidents or injuries, allowing the Site's Infrastructure Services Organization to meet their PBI for the disposition of the legacy OCBs and transformers and saving the U. S. Taxpayers approximately \$100,000.

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OFF SITE SHIPMENTS

TRANSFORMER AND OCB

Statistics

Date	Description
06/20/2011	1 st Shipment to Clean Harbors - (36 Bushings - 9,798 kilograms)
06/22/2011	2 nd Shipment to Clean Harbors - (30 Bushings - 8,160 kilograms)
06/23/2011	3 rd Shipment to Clean Harbors - (26 Bushings - 7,098 kilograms and 10 Drums - 540 kilograms)
06/27/2011	4 th Shipment to Clean Harbors - (30 Bushings - 8,160 kilograms)
06/28/2011	5 th Shipment to Clean Harbors - (20 Bushings - 5,440 kilograms)
06/29/2011	6 th Shipment to Clean Harbors - (27 Bushings - 7,344 kilograms)
07/14/2011	7 th Shipment to Clean Harbors Drum - (Oil/Drum Small Capacitors/23 Drums Bushing Current Transformers/29 Bushings - 10,092 kilograms)
07/18/2011	8 th Shipment to Clean Harbors - (2 OCBs K-6566180 and K-6566180 - 13,263 kilograms)
07/19/2011	9 th Shipment to Clean Harbors - (1 Tanker of Non-Regulated Oil and 4 tanks - 58,200 kilograms/5,800 Gallons)
07/25/2011	10 th Shipment to Clean Harbors - (4 Transformers - 28,553 pounds)
07/27/2011	11 th Shipment to Clean Harbors - (21 Radiators - 13,000 pounds)
07/28/2011	12 th Shipment to Clean Harbors - (27 Radiators and Miscellaneous Parts - 13,000 pounds)
08/01/2011	13 th Shipment to Clean Harbors - (5065973 and 5066726 Transformer Tanks - 30,000 pounds) (5065973 Transformer Core and Coil - 36,000 pounds) (5065973 and 5066726 Transformer Bases - 20,000 pounds) (5066726 Transformer Core and Coil - 36,000 pounds)
08/02/2011	14 th Shipment to Clean Harbors - (5065973 and 5066726 Transformer Tanks - 30,000 pounds) (5065973 Transformer Core and Coil - 36,000 pounds) (5065973 and 5066726 Transformer Bases - 20,000 (pounds) (5066726 Transformer Core and Coil - 36,000 pounds) (5066725 and K9E1021 Transformer Bases - 18,000 pounds) (5066725 and K9E1021 Transformer Tanks - 20,000 pounds)
08/03/2011	15 th Shipment to Clean Harbors - (2 totes of Non Regulated Oil and 12 Regulated Bushings - 4,141 kilograms) (Core and Coil from Transformer K9E1021 - 27,000 pounds) (Core and Coil from Transformer 5066725 - 36,000 pounds) (Roll off of Miscellaneous Items from 5065973, 5066726, 5066725 and K9E1021 - 10,000 pounds)



OFF SITE SHIPMENTS

MIXED WASTE ACCELERATED TRU TO MIXED LOW LEVEL WASTE

HW/MW made eleven (11) shipments of formerly TRU waste to a TSD Vendor for treatment and disposal, as Mixed Low Level Waste (MLLW). A total of 330.241 cubic meters was sent in CY11, representing 26% of the total volume of waste disposed in CY11 toward the site's overall PBI of disposing 5,000 cubic meters of legacy TRU waste.

Statistics

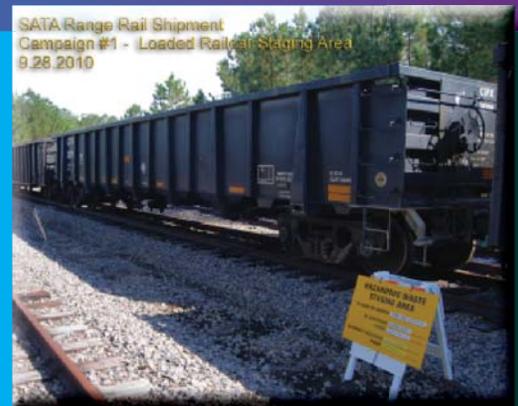
Date	Description
01/20/2011	TRU/MLLW Shipment to Perma-Fix (14 Containers) - Completed (25.21 cubic meters)
02/24/2011	TRU/MLLW Shipment to Perma-Fix (6 Containers) - Completed (10.8 cubic meters)
03/31/2011	TRU/MLLW Shipment to Perma-Fix (13 Containers) - Completed (23.4 cubic meters)
04/28/2011	TRU/MLLW Shipment to Perma-Fix (11 Containers) - Completed (19.8 cubic meters)
05/26/2011	TRU/MLLW Shipment to Perma-Fix (10 Containers) - Completed (18 cubic meters)
06/09/2011	TRU/MLLW Shipment to Perma-Fix (11 Containers) - Completed (19.8 cubic meters)
06/29/2011	TRU/MLLW Shipment to Perma-Fix (11 Containers) - Completed (24.63 cubic meters)
07/28/2011	TRU/MLLW Shipment to Perma-Fix (15 Containers) - Completed (49.04 cubic meters)
09/07/2011	TRU/MLLW Shipment to Perma-Fix (12 Containers) - Completed (17.62 cubic meters)
09/08/2011	TRU/MLLW Shipment to Perma-Fix (15 Containers) - Completed (44.74 cubic meters)
09/15/2011	TRU/MLLW Aerosol Can Shipment to Perma-Fix M&EC (23 Drums) - Completed (5.04 cubic meters)
10/27/2011	1st TRU to MLLW shipment to Perma-Fix (4 Containers) - Completed (18.6 cubic meters)
12/15/2011	2nd TRU to MLLW shipment to Perma-Fix (9 Containers) - Completed (16.25 cubic meters)



OFF SITE SHIPMENTS

SATA RANGE HAZARDOUS WASTE

HW/MW supported the closure of the Small Arms Training Academy (SATA), 661-G by loading and dispositioning the final 5,867.88 Tons of Lead Contaminated Soil in railroad cars through an off-site TSD Facility. In total, 158 railroad cars (approximately 15,380 tons) of contaminated soil was shipped, treated and properly dispositioned to meet all Federal and State Regulations. The completion of this project contributed to meeting the Site's American Recovery and Reinvestment Act PBI for Overall Footprint Reduction (FPR-7).



Statistics

Date	Description
01/27/2011	6 th Rail Car shipment to Clean Harbor - Completed (1,664.8 tons)
02/03/2011	7 th Rail Car shipment to Clean Harbor - Completed (2,984.81 tons)
03/15/2011	Final Rail Car shipment to Clean Harbor - Completed (1,218.27 tons)

PAR POND PCB TRANSFORMER

Thirty-five oil-filled circuit breakers, consisting of three breaker cans each for a total of 105 breaker cans, were dispositioned. In addition, 198 oil-filled circuit breaker bushings were dispositioned and shipped as regulated waste to the Clean Harbors Facility. Also, 12 transformers were dispositioned, four of which required downsizing to avoid over-size load shipments. Transformer housings were shipped directly to a metal recycler, cores and coils were shipped as non-regulated waste to the Coffeyville Clean Harbors Facility for preparation prior to recycle, and 12 transformer bushings were shipped as regulated waste to a Clean Harbors Facility for treatment prior to reclamation. In summary, approximately 21,400 gallons of PCB oils (4 tanker trucks) and 364,000 pounds of scrap metal were recovered with material savings offsetting subcontract costs. The project was completed ahead of schedule, under budget and with no regulated material release, incidents or injuries, allowing the Site's Infrastructure Services Organization to meet their PBI for the disposition of the legacy OCBs and transformers and saving the U. S. Taxpayers approximately \$47,000 and contributed to meeting the Site's American Recovery and Reinvestment Act PBI for Overall Footprint Reduction (FPR-7).

OFF SITE SHIPMENTS

PAR POND PCB TRANSFORMER

Statistics

Date	Description
08/04/2011	PAR Pond Transformer shipment to Clean Harbors (2 Tankers of Non Regulated Oil, 5067076, K9E1020, C858611, C858612, 788789290 and 4495430) - 33,320 kilograms / 9,800 gallons)
08/08/2011	PAR Pond Transformer shipment to Clean Harbors (1 Tanker of Non Regulated Oil from Transformer D203257 - 14,280 kilograms / 4,200 gallons), (15 Radiators and Miscellaneous transformer pieces from D203257, 567067 and K9E1020 - 21,5000 pounds), (4 Transformers C858611, C858612, 788789290 and 4495430 - 4,543 kilograms)
08/11/2011	PAR Pond Transformer shipment to Clean Harbors (11 Radiators and Miscellaneous transformer pieces from D203257, 567067 and K9E1020 - 7,000 pounds)
08/16/2011	PAR Pond Transformer shipment to Clean Harbors (Transformer Core and Coil K9E1020 - 27,000 pounds), (Transformer Core and Coil D203257 - 26,500 pounds), (Transformer Tanks for 5067067 and K9E1020 - 20,000 pounds), (Transformer Bases for 5067067 and K9E1020 - 15,500 pounds)
08/17/2011	PAR Pond Transformer shipment to Clean Harbors (8 Transformer Bushings and Scrap Material - 2,252 kilograms), (Transformer Base and Tank for D203257 - 16,000 pounds), (Miscellaneous Structure / Debris from Transformers D203257, 5067067 and K9E1020 - 15,000 pounds), (Transformer Core and Coil 5067067 - 37,500 pounds)



CLOSURE OF N-AREA HW/MW STORAGE FACILITIES

Consolidated HW/MW operations from N-Area to E-Area and achieved RCRA Closure of the 645-N HW/MW Complex. Closure allowed the facilities to be turned over to SRNL for future missions and contributed to meeting the Site's American Recovery and Reinvestment Act PBI for Overall Footprint Reduction (FPR-7).



DUO DISPOSAL PROJECT

In 2011, Solid Waste Management (SWM) completed shipments of depleted uranium oxide (DUO) drums from SRS. 391 shipments totaling 9,366 drums of DUO left the Site.



Soft sided containers loaded on trailer and covered with a tarp.



Soft sided containers placed in the NNSS burial trench.

CONTRIBUTING AUTHORS

**DON SINK
JOSEPH SHAPPELL
LEE FOX**

**DESIGNED BY
TARESSA BARNES**

