

Update 2/12/04

Shipments expected this week: RFETS (13), SRS (6)

# TRU TeamWorks

A weekly e-newsletter for the Waste Isolation Pilot Plant team

February 12, 2004

## The Big Story SEGA and MEGA exemplify science@wipp



**Topics**

- [Characterization News](#)
- [Transportation News](#)
- [Disposal News](#)
- [Safety News](#)
- [Working Smart](#)
- [Announcements](#)

**Tools**

- [Acronym List](#)
- [Back to Main Page](#)
- [WIPP Home Page](#)
- [Links](#)

**Feedback**

Contact us with feedback or submit your e-mail address for updates.

Click [here](#) to e-mail.

Scientists are exploring the origins of the universe from the relative comfort of the WIPP underground. Steve Elliott, LANL; Dongming Mei, LANL; Victor Gehman, LANL; and Todd Hossbach, PNNL, were onsite this week to continue installation of the SEGA (Segmented Enriched Germanium Assembly) and MEGA (Multiple Element Germanium Array) projects at WIPP.

It may seem ironic, but WIPP - the nation's first radioactive waste repository - is an ideal location to conduct scientific experiments that require low background radiation levels because the mine's depth provides shielding from cosmic radiation sources. The researchers are investigating double-beta decay, the extremely rare occurrence of two simultaneous beta decays from a single nucleus. The properties of the subatomic particles involved, along with the rarity of the events, make double-beta decay extremely difficult to detect and prove.



**Steve Elliott places a lead brick in the area where the SEGA detector will be located.**



**Research team members (left to right) Standing: Dongming Mei, Steve Elliott Sitting: Victor Gehman and Todd Hossbach**

WIPP Shipments  
(as of 02/12/04 at  
9:24 a.m.)

Shipments scheduled to arrive at WIPP this week  
19

Total shipments received at WIPP  
2,342

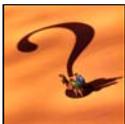
Total volume disposed at WIPP  
17,968 m<sup>3</sup>

FY04 Performance Metrics

Much work will be completed before SEGA and MEGA can begin operating. The research team began working at WIPP last fall and returned this week to continue its efforts. Elliott comments on the assistance the team has received from WIPP, "We have experienced a 'can-do' attitude while working here. Safety and operations employees are always willing to help us. Safety team members occasionally ask us to perform our work a little differently than we planned, but they always find a way for us to accomplish our tasks." Elliott notes that once in place, SEGA and MEGA will operate indefinitely, gathering data and information for many years to come. The team looks to return to WIPP this spring to install the project detectors.

DOE allows the use of space within the WIPP underground for research purposes unrelated to the project's prime mission of waste disposal. The site's operations infrastructure, depth and dry conditions are ideally suited to researchers conducting experiments in many scientific disciplines. These include particle astrophysics, waste repository science, mining technology, low radiation dose physics, fissile materials accountability and transparency, and deep geophysics. For more information visit [Science@WIPP](#) on the WIPP Homepage.

**In the news**



Where is CCP?



Traffic patterns



A+ hoist repair



Emission control



A silver lining

### Where in the country is CCP?



#### Topics

[Characterization News](#)

[Transportation News](#)

[Disposal News](#)

[Safety News](#)

[Working Smart](#)

[Announcements](#)

[Our Team](#)

#### Tools

[Acronym List](#)

[Archives](#)

[Back to Main Page](#)

[WIPP Home Page](#)

[Links](#)

At any given time, CCP mobile characterization teams are deployed at generator sites across the country. In FY03 these teams operated at three TRU generator sites: Argonne National Laboratory—East near Chicago, the Nevada Test Site near Las Vegas and the Savannah River Site (SRS) near Aiken, South Carolina. CCP was also instrumental in the cleanup of legacy TRU waste inventories at the Missouri University Research Reactor and Mound facility in Ohio. So where are the teams now? *TRU TeamWorks* takes a snapshot of the CCP program's status and focus for FY04.



#### Deployment

CCP mobile characterization teams are currently deployed at four generator sites: SRS, Hanford, Los Alamos National Laboratory (LANL) and Lawrence Livermore National Laboratory (LLNL). These assignments include complete characterization lines and team resources. In addition, CCP maintains a central project office in Carlsbad.

#### Shipments

CCP is currently only shipping certified waste from SRS. The SRS program team is maintaining the six-shipments-per-week rate necessary to complete site cleanup by FY06. CCP's Mobile TRUPACT-II Loading Team completed seven shipments last month from the NTS and has plans to complete some inter-site shipments for DOE in the next few months.

#### Certifications

The CCP programs at LANL and LLNL are undergoing operational readiness review processes. This is a standard phase prior to characterization startup at a new site. Operational readiness reviews ensure all aspects of the program are functioning to meet requirements before the certification audit. LANL recently discontinued shipments and is now teaming with CCP to start up a new characterization program and should resume shipping in a few months.

The CCP program at Hanford is characterizing waste, but not shipping, pending CBFO certification of the process there. Waste characterized by Hanford's on-site program is being shipped to WIPP.

#### Performance

FY04 performance for the program is on track. Cumulative numbers as of January 31 include a total of 85 shipments. The cumulative total number of drums certified by CCP for FY04 is 2,630.

"Like any technical program, we deal with issues everyday in CCP," notes J. R. Stroble, manager of the CCP Project Certification group. "The CCP world is always interesting, but we always keep our focus. The program is ready to meet DOE's goals for this year."

**Sharing the road**



- Topics**
- [Characterization News](#)
- [Transportation News](#)
- [Disposal News](#)
- [Safety News](#)
- [Working Smart](#)
- [Announcements](#)
- [Our Team](#)

- Tools**
- [Acronym List](#)
- [Archives](#)
- [Back to Main Page](#)
- [WIPP Home Page](#)
- [Links](#)

Hazardous materials shipments travel the highways of America on a daily basis. According to federal statistics, approximately 800,000 of these shipments occur daily in the U.S. WIPP shipments are just a fraction of this statistic.

On January 7, one such shipment was making its maiden voyage from the Nevada Test Site to WIPP. The shipment generated both public and media attention that started in California and ended in New Mexico.

What made this shipment different from the other 799,000 on the road that day? Nothing, if you were to ask the WIPP drivers or site personnel. The shipment traveled safely - as did several that week - and arrived at WIPP as scheduled. New-route shipments historically receive attention. Stakeholders who are familiar with TRU waste cleanup efforts and WIPP's safe transportation record express support, while others may be apprehensive.

While I-40 in New Mexico was attracting attention, most WIPP shipments continue to enter northern New Mexico from Colorado on I-25 without fanfare.

**Right: the number of shipments that will eventually travel down each New Mexico highway.**



It is projected that WIPP will receive a total of 19,411 shipments over the life of the project from a number of generator sites scattered across the U.S. From the total, approximately one percent of them will travel along I-40 as compared to 77 percent of the shipments that will enter the state on I-25.

**Left: A WIPP shipment makes its way on U.S. 285 between Carlsbad and Artesia.**

WIPP trucks are recognized as some of the safest on the roadways today. They undergo a rigorous CVSA Level VI inspection before they are allowed to depart any facility and are operated by highly qualified drivers.

### WIPP crews excel



#### Topics

[Characterization News](#)  
[Transportation News](#)  
[Disposal News](#)  
[Safety News](#)  
[Working Smart](#)  
[Announcements](#)  
[Our Team](#)

#### Tools

[Acronym List](#)  
[Archives](#)  
[Back to Main Page](#)  
[WIPP Home Page](#)  
[Links](#)  
[Hoist Schedule](#)

WIPP crews were given another opportunity to excel during a recent waste hoist shutdown to replace a faulty control cable. "We had exceptional cooperation from everyone," says Norm Siepel, WTS hoisting system cognizant engineer.

In late January, indicator lights on the hoist control panel alerted operators to a problem in the hoist system – panel indicators are much like "check engine" lights on a vehicle dashboard. Because the hoist conveyance is equipped to fail safe under such conditions, the conveyance – which was not in use at the time – "parked" at the underground hoist station.

After several hours of troubleshooting, maintenance personnel and hoist engineers determined that the faults were in the shaft control cable. Hoist maintenance crews quickly set plans in motion to fix the problem and minimize the impact to waste handling operations. An inoperable waste hoist can back up waste handling operations, reroute man trips and cause work-arounds.

The recovery plan was comprehensive. Word from management was "all work will be performed using WTS processes and procedures." Repairs would be thorough and preventive maintenance measures completed before hoist operations resumed.



**Tommy Dodson, WTS Operations, ensures the Waste Shaft conveyance operates smoothly.**

Underground and surface electricians, hoist engineers and hoist operators worked in shifts throughout one night removing circuits from the faulty cable and reconnecting them to alternate conductors.

The following week, shaft crews ascended the shaft on the conveyance under a work bonnet, methodically detaching the 2,200-foot-long cable from shaft wall brackets. The cable was cut up and brought up in pieces.

On Friday, January 23, waste handling crews worked late into the night to accommodate weekend shut-down plans.

On Saturday, January 24, crews installed a new cable. The cable was reconnected on Sunday and electricians ran a series of tests to ensure electrical continuity and proper insulation.

The cable system was tested again on Monday and hoist personnel completed final preoperational checks. The repaired waste hoist was up and running by 10 a.m.

The job was accomplished safely and ahead of schedule thanks to exemplary teamwork, good planning and safe work practices. Congratulations to all involved.

### 30 CFR 57.5060 - new law regulates underground emissions



#### Topics

[Characterization News](#)  
[Transportation News](#)  
[Disposal News](#)  
[Safety News](#)  
[Working Smart](#)  
[Announcements](#)  
[Our Team](#)

#### Tools

[Acronym List](#)  
[Archives](#)  
[Back to Main Page](#)  
[WIPP Home Page](#)  
[Links](#)

A new law regulating diesel emissions in the underground went into effect July 19, 2002. The regulation requires WIPP to limit total concentrations of diesel particulates in the underground to 400 micrograms per cubic meter. Air quality samples taken prior to inception of the new law showed that WIPP was essentially meeting the 400 microgram per cubic meter limit.

Work planning and ventilation control in the underground will ensure that WIPP continues to meet the new requirement. Since July 2001, WIPP has undertaken a major effort to monitor underground emissions. More than 85 personal and work area samples have been taken thus far to verify compliance with the new regulation.



***Kenny Padilla and Jimmy Neatherlin, WTS Waste Handling Operations, stand in front of a 41-ton diesel-powered forklift.***

Personal air samples are recorded using small sample pumps with 37 millimeter impactor cassettes mounted on workers' belts. At the end of the shift, cassettes are collected and sent to an off-site American Industrial Hygiene Association-certified laboratory for analysis.

The new law was prompted by MSHA concerns about diesel particulate emissions and worker safety in the nation's mines.

On January 16, 2006, a new MSHA requirement will take effect requiring WIPP to maintain airborne diesel disintegrations per minute (DPM) particulate levels beneath 160 micrograms per cubic meter (160 ug/M<sup>3</sup>). A microgram is one, one-millionth of a gram.

In order to meet the 160 microgram standard, WIPP will likely install diesel particulate abatement equipment, similar to an automotive catalytic converter, on most or all underground diesel-powered machinery. An abatement device is currently being tested on one of the load-haul-dump vehicles in the underground.

"I believe that WIPP will meet the new requirement by January 2006," says John Doherty, WTS industrial hygienist. "Underground Maintenance is watching the performance of the unit currently in service before committing to a specific technology or manufacturer. WIPP will continue to address the issue in the most efficient and effective way possible."

### This job calls for a giant leak protector

How do you line a massive, 12-foot-deep evaporation basin to prevent leakage? Roll out two layers of heavy-duty plastic over 2.8 acres in huge strips with a forklift.

That's how the Salt Pile Infiltration Controls (SPIC) System team completed its first milestone for an estimated 15-month comprehensive, storm water control project at the WIPP site in January. Safely isolating a 40-foot-high pile of mined salt from the surrounding environment demands ingenious engineering, lots of hard work and is complete with leak-detection system.

"It's a mitigation project to prevent more salt from getting into the subsurface or any additional recharge to the groundwater under the site," says Kent Aveson, WTS Special Projects manager. Aveson describes it as a comprehensive effort, involving the lining of all storm water collection basins and capping the salt pile.



#### Topics

[Characterization News](#)  
[Transportation News](#)  
[Disposal News](#)  
[Safety News](#)  
[Working Smart Announcements](#)  
[Our Team](#)

#### Tools

[Acronym List](#)  
[Archives](#)  
[Back to Main Page](#)  
[WIPP Home Page](#)  
[Links](#)

#### SPIC Team Members

Team members from WTS are Suzanne Byrd, Design Engineering cognizant engineer;  
 Jill Farnsworth, Mine Engineering;  
 John Kowalski, Design Engineering;  
 Russ Rose, Mark Davis and Beck Anderson, Quality Assurance; Billy Sherrell, Construction Management person-in-charge; Mark Friend, Procurement; and  
 Doug Ripley, Safety.

Parrish Roush and Doug Lynn are participating from WRES Environmental Compliance.

Constructors, Inc. is project general contractor, completing earthwork and excavation.

Snow Company of Albuquerque installed the polyethylene liner.



*Suzanne Byrd and Russ Rose inspect the basin liner.*



*Wide-view of the basin liner project in progress.*

The just-finished 2.8-acre evaporation basin will collect storm water runoff from a new new 11-acre salt storage area to be completed next. "One of the keys is to get the new storage area completed, so they can continue mining, while we rework and cover the old salt pile," says Aveson.

Capping the existing Salt Pile will prevent salt from leaching into groundwater by preventing surfacewater from infiltrating the salt pile, seeping underground and altering the environment. "Everybody is working very well together to be safe, do quality work and get it done on time. It's been fun," says Aveson.

CBFO's Don Galbraith of the Office of Safety and Operations expressed his appreciation for the team's work in a message to Aveson: "My congratulations to your team and you for completing the first engineered controls milestone as scheduled. Your SPIC System team's performance demonstrates that project planning and effective management practices at all activity levels translate into achieved results."

The existing salt pile will be rounded off, capped in dense plastic, sealed, covered with two feet of soil and reseeded with native grasses to complete reclamation of 17 acres on the site's north side. The former salt pile basin will be reworked and lined along with three other storm water ponds. The project is scheduled for completion in December.

**Announcements****Topics**

[Characterization News](#)  
[Transportation News](#)  
[Disposal News](#)  
[Safety News](#)  
[Working Smart](#)  
[Announcements](#)  
[Our Team](#)

**Tools**

[Acronym List](#)  
[Archives](#)  
[Back to Main Page](#)  
[WIPP Home Page](#)  
[Links](#)

**Security alert - unsolicited fraudulent activity e-mails**

DOE has recently experienced an increase in the receipt of Advance Fee Fraud (AFF) e-mails. The most common forms of these fall into one of the following categories:

- Disbursement of money from wills
- Contract fraud (C.O.D. of goods or services)
- Purchase of real estate
- Conversion of hard currency
- Transfer of funds from over-invoiced contracts
- Sale of crude oil at below market prices

DOE's Office of the Chief Information Officer has established an e-mail address to handle these types of messages. Forward such incoming e-mail to [mail-abuse@hq.doe.gov](mailto:mail-abuse@hq.doe.gov), and the CIO Office will block future messages from the sender and take any other appropriate action.

---

**Sandia National Laboratories (SNL) works to address homeland security threats**

The September 11, 2001, terrorist attacks on the U.S. focused national attention on the need to harness science and technology for homeland security and counterterrorism purposes.

To address some of our nation's biggest threats to homeland security, SNL is building on its expertise in systems engineering. This is not a new endeavor; years before September 11, Sandia was developing scientific methods and technology to fight terrorism worldwide and to meet the nation's homeland security needs. Sandia takes a systems approach to scientific research and technology development, resulting in fully integrated solutions.

"Our primary mission always has been to ensure the safety, security and reliability of the nation's nuclear weapons stockpile. Now many of the technology capabilities we developed for weapons and nonproliferation programs can support our mission of defending against terrorist threat," T. J. Allard, director, Sandia Homeland Security Office.

Click [here](#) to enter the Sandia Homeland Security Web site.