

Shipments expected this week: Hanford (2), LANL (3), RFETS (10), SRS (6) | NRC Officials Visit WIPP To

# TRU TeamWorks

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

September 25, 2003

## The Big Story Recertification - a work in progress



### 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](#)
- [Feedback](#)
- [Contact us with feedback or submit your e-mail address for updates. Click here to e-mail.](#)

WIPP Shipments  
(as of 9-25-03 at 7:16 a.m.)

21	Shipments scheduled to arrive at WIPP this week
2,044	Total shipments received at WIPP

Without EPA approval, WIPP could not have received the first waste shipment in 1999. In 1998, EPA cleared the way for TRU waste disposal when it certified that the WIPP repository would safely contain radioactive materials for 10,000 years. The agency based its certificate of compliance on information contained in the 110,000-page WIPP Compliance Certification Application (CCA). To ensure continued protection for WIPP workers, the public and the environment, Congress stipulated that EPA would reassess WIPP compliance every five years.

Nearly four and a half years since first waste receipt, WIPP again looks 10,000 years into the future to assure present-day operations continue to meet EPA regulations. The task falls to a team of WIPP scientists and regulatory compliance specialists headed by CBFO Performance Assessment Manager Russell Patterson.

Patterson says his team has scrutinized all scientific data generated since the original CCA, revised human intrusion and radionuclide studies, revisited modeling grids, upgraded computers and software, and, as instructed by EPA, "put our fingers on everything" that had been in the original CCA.

Gathering data to validate WIPP compliance has had scientists taking a fresh look at groundwater transmissivity fields, TRU waste containers, panel closure methods and waste inventory assumptions. The team has, in fact, conducted a full-blown performance assessment of the site resulting in a new compliance baseline.

"Coordinating all the modeling aspects and getting the right inventory figures at the right time has been a challenge," says Patterson. "The deadline for submission to DOE-HQ is near, but the process is going well." Patterson and his team plan to deliver the completed recertification package to DOE-HQ in late November for review and final signature by Energy Secretary Abraham in early 2004. The deadline for submittal to EPA is by March 26, 2004.



To facilitate the approval process, draft copies of the first appendices of the recertification package have been sent to EPA. Over the months, team leads worked in parallel with EM-1 and general counsel to resolve issues as they arose during package development.

**Left: 1996 WIPP Compliance Certification Application**

Pointing to improvements made to the recertification package, Patterson also notes there have been numerous technological advances since the CCA was submitted in 1996. "Only five hard-copy sets of the recertification package will be printed." He held up a CD and smiled.

### In the news

 Multi-port glove box system	 NRC reps tour WIPP	 Geology anchors WIPP	 Behavior-based safety bridges gap	 HUBZone roundup	 WIPP Team members news
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### Multi-port glove box system in the works for SRS



#### 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](#)

Design and fabrication of a new multi-port glovebox system is underway and under the direction of WTS Central Characterization Project (CCP) staff. Once complete, the new system will be put into operation at the Savannah River Site (SRS) - where the site is working to complete its waste remediation program by 2006.

SRS has an existing repackaging facility, but the addition of the new multi-port glove box system will ensure the deadline is met and increases safety. Lincoln Griswold, CCP senior engineer explains. "The additional repackaging system at SRS will not only improve throughput, as four gloveboxes will be added to the existing single glovebox system, but additional controls have been incorporated into the design to increase worker safety."



***Glovebox under construction at EPD***



***Part of glovebox shell being machined at EPD***

The system consists of four 45-foot "transportainers," or trailers that include a control room/office (with change room), two glovebox assemblies and a waste container staging area. Engineering controls to protect workers and the environment include nitrogen inert gloveboxes to prevent a glovebox fire and multi-stage HEPA ventilation systems to contain plutonium inside the gloveboxes. Inside the transportainers is a specialized breathing air system for the operators (who wear masks that breathe outside air), a structural design that resists earthquake and high wind and a control system that allows monitoring of activities in the transportainers. [Click here](#) to view a diagram of the system.

Though WTS has headed the project since late May, the original system design came from LANL. The two organizations have teamed up to deliver the completed system to DOE as soon as possible.

Work is proceeding at a fast pace, with different components of the system being completed at different locations. Fabrication of the gloveboxes is ongoing at Washington Engineered Products Division in Carlsbad. Transportainers are being built in Idaho and other components may be built elsewhere.

"Working together, our project team has accomplished a great deal in a short period of time," comments Griswold. "But we still have a ways to go with lots of work ahead of us. Team members such as WTS employees Roy Byrd, Doug Schoen, John Gran, Preston Harvey, Ruben Rodriguez, Mark Edwards, Peter DeBeer and Janet Miehl have been working overtime since WTS took over the project in May. We also receive excellent support from the LANL design team of Kurt Anast, Scott Hickman and Gui Lussiez. Together, we are working to complete this project in a timely manner."

**NRC officials visit WIPP**

Several key officials of the Nuclear Regulatory Commission are on-site today to get a firsthand look at how the transportation packages they regulate are used. The NRC oversees design, testing and approval of shipping containers used to transport radioactive materials over U.S. highways. Today's visitors have worked closely throughout the years with WIPP transportation personnel in the development and deployment of WIPP waste packages.



**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](#)

Three NRC officials began their rounds last week at Rocky Flats Environmental Technology Site (RFETS) in Colorado, where they met up with CBFO Transportation Manager Marc Italiano. At Rocky, officials witnessed the loading of a TRUPACT-II shipping container in preparation for shipment to WIPP. This week they join other NRC members for the WIPP facility tour.



***NRC representatives pictured from left to right: Antonio F. Dias, Larry Camper and Meraj Rahimi.***

Casey Gadbury, CBFO National TRU Waste Logistics team leader; Mike Brown, CBFO Transportation/Packaging manager, and Marc Italiano will lead the tour. NRC members will be on-hand to watch WIPP waste handlers remove waste containers from TRUPACT-IIs loaded at RFETS. The group's visit includes a tour of the Remote-Handled (RH) Bay and an overview of the RH-TRU waste handling process by Tod Burrington, WTS Waste Operations manager (A permit modification to allow WIPP to receive RH waste is pending approval with the New Mexico Environment Department). The visitors will then tour the underground facility and disposal area.

**WIPP Shipments**

(as of 9/25/03 at 7:16 a.m.)

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2,044	Total shipments received at WIPP

The NRC is an independent agency whose primary mission is to protect public health and safety, and the environment from the effects of radiation from nuclear reactors, materials and waste facilities. They also regulate nuclear materials and facilities to promote the nation's common defense and security.



***In this file photo: WIPP waste handlers remove CH-TRU waste from this NRC approved TRUPACT-II transportation container. NRC officials will watch a similar operation today.***

**When Mother Nature talks - geotechs listen**



**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](#)

**Total Waste Disposed Underground at WIPP**  
(as of 9/25/03 at 7:16 a.m.)

44,762	CH drums
2,080	CH standard waste boxes
403	CH ten-drum overpacks
15,124	Cubic meters

From the beginning, it was geology that anchored WIPP. The thickness of the salt formation, the depth, the distance from petroleum and potash boreholes, fresh flowing water and the absence of it, all prime considerations for Oak Ridge and Sandia National Laboratories as they probed southeastern New Mexico to site WIPP.

Geotechnical observations of the WIPP site now span four decades. Understanding ground movement at WIPP is as critical today as it was during the siting period, and data gathering methods are even more sophisticated. It is the WIPP Geotechnical (Geotech) group's job to "listen" to Mother Nature.

Pre-WIPP geologists based assumptions about salt behavior on empirical and historic data gathered from area potash mines. WIPP geologist Norbert Rempe says, "extractive mining data is more practical in nature, and we learned a lot from it." Nevertheless, more definitive information was needed to ensure the long-term operational and environmental safety of WIPP.

The first geotechnical monitors were installed in the shafts in 1982. Shortly thereafter, the Site and Preliminary Design Validation (SPDV) program began to test scientific assumptions. Four underground rooms were mined at the north end of the repository and outfitted with extensometers and radial convergence points to determine the rate of salt closure nearly one-half mile down. No wire mesh or roof bolts hindered the natural dynamics of rock salt movement or creep.

As sensors relayed data to aboveground data loggers, geotechs accrued a wealth of information about nature's pace. Geotech engineers learned that SPDV rooms closed twice as fast as previously assumed.

***At right and below: Rick Whiteley (WTS) reads a tape extensometer (measuring convergence) in the WIPP underground.***



The results of geotechnical studies, coupled with data collected between 1982 to 1996, formed the basis for WIPP's performance assessment (PA), or how the WIPP repository would behave over a period of 10,000 years. The PA was a key component to WIPP's compliance certification application package, a 110,000-page document submitted to EPA in 1996 to confirm that WIPP would safely contain radioactive materials throughout the millennia.

Now, regulatory compliance personnel will once again rely on geologic data for EPA recertification.

Geotechnical monitoring expands whenever new openings are mined. Today there are more than 1,000 underground instruments used to sense, chart and measure repository rock movement. Long-time Geotech engineer, Rey Carrasco, says, "Our primary purpose is to make sure the mine is behaving itself. We look closely for signs of accelerated closure."



Geotech Manager John VandeKraats takes it a step further, "We try to be the 'eyes' for Mine Operations. By continuously monitoring the repository, we're able to foresee ground conditions that may require remediation. Coordinated efforts between Geotechnical Engineering and Mine Operations ensure the continued safety of underground operations."

## Behavior-based safety



### 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](#)

Behavior-based Safety (BBS) is a system for continuous improvement, using scientific analytical methods and employee involvement.

Positive reinforcement is the BBS method to change unsafe behavior. The system is employee-based so that tasks and hazards are analyzed to identify critical safety behaviors, on-the-job behavior is observed and feedback is given for safe performance as reinforcement.

A diverse team of WIPP representatives examined the most successful methods of applying BBS at WIPP. The team drew three conclusions: (1) WIPP is already applying many of the key principles associated with BBS, (2) if employees embrace an observational approach, then one should be implemented at WIPP, and (3) managers should perform observations.

Using the BBS approach, WIPP managers performing observations have identified many safe behaviors (i.e., employees using the appropriate personal protective equipment while working) and some at-risk behaviors (i.e., climbing stairs without using handrails).

BBS is also a component of the Integrated Safety Management System (ISMS) and is consistent with the five ISMS core functions.

The DOE VPP recognizes and promotes safety and health program excellence based on management leadership, employee involvement, worksite analysis, hazard prevention and control, and safety and health training.

For more information about BBS, click on this link <http://tis.eh.doe.gov/bbs/> to view the U.S. Department of Energy's Behavior Based Safety Program Web site.

### Six BBS Safety Principles

1. Behavior is the cause of accidents.
2. Consequences motivate behavior.
3. What gets measured gets done.
4. Feedback is essential to improvement.
5. Quality is built in early in the process.
6. Conversations change organizations.

## Find a match made in heaven at the HUBZone



### 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](#)



**Budwine employees work in the WIPP underground.**



**An SFPS employee (left) performs a security check, while a WIPP radcon tech (right) measures for external radiation at the WIPP site gate.**

### Working Smart

*People and organizations prosper when they stay alert to seize growth opportunities within their expertise.*

Bob Prentiss is a busy matchmaker. If all goes well, he's counting on 10 successful matches this year, with another six in the works.

Prentiss, WTS Small Business Program coordinator, is busy partnering with local small businesses to help them take advantage of new opportunities available in the HUBZone Certification Program.

Prentiss and the entire Procurement Services team work continuously to match southeastern New Mexico small businesses with WIPP product and service needs. These "matches made in heaven" are mutually beneficial. Currently, 10 successful matches have produced over \$3.5 million purchases with local suppliers. WIPP wins; the contractor wins. Buyers steadily increase regional purchases. Project goals are met and exceeded. Local businesses expand.

Santa Fe Protective Services (SFPS) and Budwine Service Electric Company are examples of small, local businesses that found a perfect match doing business with WIPP. Procurement officials emphasize vast opportunities to do business with government all over the world from right here.

Because of our socioeconomic status, regionally based small businesses are eligible for expanded contracting opportunities with federal and state agencies. SFPS and Budwine are WIPP contractors with HUBZone certifications. SFPS is one of the largest, providing security services; Budwine was among the first WIPP contractors to qualify, providing contracted electrical construction services.

Eddy, Lea and Chaves counties are part of a regional HUBZone (Historically Underutilized Business Zone) designated by the Small Business Administration (SBA), based on the ratio of population to regional business volume. WTS introduced the opportunity at a May small business fair. To date, 10 businesses are certified; six more are currently submitting applications.

State and federal agencies spend millions of dollars on products and services purchased from private enterprises. This region includes agencies such as Bureau of Land Management, National Park Service, Department of Labor, DOE and WIPP partners Los Alamos National Laboratory and Sandia National Laboratories, among many.

During the 2003 fiscal year, Procurement Services purchased more than \$3.5 million products/services from area HUBZone-certified suppliers. That's nine percent of WIPP purchases; more than double the four percent goal, explains Prentiss. SBA requires federal organizations to have an approved small business program.

### Online HUBZone registration

HUBZone certification isn't complicated. Business applicants must meet a few specific requirements, obtain a Dun & Bradstreet business registration number, and complete the application online in SBA's Pro-Net database (<http://pro-net.sba.gov/>). Procurement staff can answer questions and provide help.

"If a business is physically located in a HUBZone and 30 percent of its employees reside in that HUBZone, the business can be certified," Prentiss explains. "The whole point of the effort is to put a business into a HUBZone to build up that area." Forms can be completed in a few hours if pertinent company information is readily available. SBA responds within six to eight weeks.

SBA requires federal agencies and prime contractors to meet procurement goals in each small business category, including small businesses, woman-owned and/or minority-owned small business, veteran and/or disabled veteran-owned small business, as well as HUBZone-certified suppliers.

**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](#)**SRS 200th Shipment**

The 200<sup>th</sup> shipment of waste from SRS left the nuclear reservation Friday, September 20 and arrived at WIPP on Saturday September 21. The site now averages 24 shipments each month.

**Flu Shots**

Employee flu shots will be available soon. Mark your calendars for October 8 (WIPP Site) and October 9 (Skeen-Whitlock Building).

**Mobile Equipment Keys**

All mobile equipment keys controlled by Surface Maintenance Operations will be signed out at the toolcrib. Please return the keys when finished using the equipment. If you have any questions, please contact the toolcrib at Extension 8957.

*"My compliments on TRU TeamWorks. This 'magazine' provides an easy to read format that allows me to look at what I want and need to see. Thanks for this format."*

*Tom Goff*

# Repack Layout

