

# TRU TeamWorks

December 11, 2003

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

## *The Big Story* Standardization - a cost saving innovation



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### WIPP Shipments (as of 12/11/03 at 7:47 a.m.)

Shipments  
scheduled to  
arrive at WIPP  
this week  
16

Total shipments  
received at WIPP  
2,212

Last month DOE Assistant Secretary for Environmental Management Jessie Roberson approved an innovative process to ready small-quantity sites (SQS) for waste characterization. In a letter to DOE field managers, Roberson directed implementation of the *Basis for Interim Operations (BIO) and Technical Safety Requirements for WIPP CCP Mobile Waste Characterization and Loading Units (MCUs)*.

The BIO and its accompanying documents are products of innovative thinking by WIPP personnel with the goal of accelerating SQS closures. Each TRU generator site must develop safety basis documentation before MCUs can operate at that site. Safety basis development is costly and time consuming. Many SQSs do not have the infrastructure to support this requirement. Enter the BIO.

The BIO, Technical Safety Requirements (TSR) and an application guide provide a universal template for safety basis development for MCU waste characterization. Regardless of site location, the requirements, equipment and operators remain the same. BIO takes advantage of these constants (while allowing for site variables) to standardize the safety basis development process. SQSs that meet BIO and TSR requirements, and follow the application guide, can be authorized by DOE to perform MCU characterization, certification and loading operations without additional safety analyses.

The BIO is a first-of-its-kind document that, when implemented, will result in substantial cost and time savings for SQS generators throughout the DOE complex. "A standardization method of this magnitude brings about consistency throughout the DOE complex," notes John Soares, WSMS principal engineer and project manager. "The BIO was conceived by a WIPP team and immediately supported by Dr. Triay. It opens the door for more innovative advances in how DOE work is performed. Other waste processes can be standardized in this manner."

The effort to develop the BIO was as groundbreaking as the documents themselves. A team of subject matter experts from several generator sites was assembled and headed by Soares and Dae Chung, senior technical advisor, EM-5. They completed the task in just four months.

"This team was pulled together to complete a product that has complex-wide ramifications. All of the project participants fully understood the WIPP objective and wanted to make the BIO a reality. The aggressive schedule for completion was self-imposed and all team members supported it completely," said Soares.

The BIO, TSR and application guide will be controlled and maintained by CBFO. The process will be implemented at a SQS to be determined in the near future.

### In the news





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## The Proposed waste confirmation process

The passage of H.R.2754 into Public Law (PL) 108-137 could soon translate into waste confirmation system changes. The new law directs WIPP to submit a permit modification request to the New Mexico Environment Department (NMED) to replace headspace gas sampling and analysis with repository monitoring.

If the permit modification request is approved by NMED, the proposed waste confirmation system would follow the process outlined below:

**Venting** – drums removed from storage are vented to remove gases and prevent subsequent gas buildup.

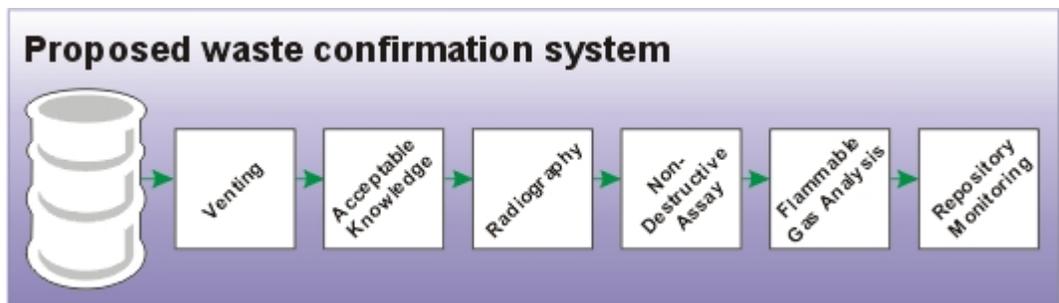
**Acceptable knowledge** – confirmation of waste contents through the use of documented waste stream knowledge.

**Radiography** – drums are X-rayed to confirm the absence of prohibited items, such as liquids and aerosol cans.

**Non-destructive assay** – confirmation of the types and amount of radioactive elements within the drum.

**Flammable gas analysis** – analysis of drum contents to verify that flammable gas levels are within transportation limits.

**Repository monitoring** – real-time monitoring in the WIPP underground to verify that volatile organic compounds (VOC) and flammable gases are within regulatory limits.



CBFO and WIPP contractor personnel are developing the proposed permit modification for submittal to NMED. Watch *TRU TeamWorks* for future updates on this topic.

**It's a heavyweight and a whole lot more**



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**WIPP Shipments**

(as of 12/11/03  
at 7:47 a.m.)

<p>Shipments scheduled to arrive at WIPP this week <b>16</b></p>
<p>Total shipments received at WIPP <b>2,212</b></p>
<p><b>Total Waste Disposed Underground at WIPP</b></p>
<p>CH drums <b>46,883</b></p>
<p>CH standard waste boxes <b>2,328</b></p>
<p>CH ten-drum overpacks <b>561</b></p>
<p>Cubic meters <b>16,747</b></p>

If you see what appears to be an oversized barbell being trailered through our state, it might be the CNS 10-160B cask. The 10-160B is a NRC-certified cask used for hauling radioactive and hazardous materials.

DOE is considering the 72,000-pound cask as a possible alternative for shipping defense-generated remote-handled (RH) TRU waste to WIPP should NMED approve the modification request for WIPP to dispose of RH-TRU waste.



***CNS 10-160B in RH-bay for 2002 performance demonstration.***

The distinctive white CNS 10-160B was fabricated in Canada for Duratek, a South Carolina-based firm with a long record of shipping nuclear materials. Of the seven casks manufactured to date, the Navy uses three 10-160Bs to transport low-level radioactive waste, and two belong to the Ontario Power Company, a Canadian nuclear electric utility. DOE also purchased one in November 2001. The remaining 10-160B is available for lease.



***The 10-160B holds two five-drum pallets.***

The cask is a single confinement vessel fitted with two interior pallets, each holding five 55-gallon drums. Cask and trailer must be permitted as an overweight load. In addition to the 10-160B shipping cask, the primary shipping cask for shipping RH-TRU waste to WIPP is the RH-72B. Both casks were certified by NRC after meeting stringent safety standards.

To date, DOE has completed five RH-TRU waste shipments from California and Ohio to the Hanford Site in Washington using the 10-160B cask.



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CH drums 46,883
CH standard waste boxes 2,328
CH ten-drum overpacks 561
Cubic meters 16,747

**A shift to filtration**

Have you noticed the birdhouse-looking stations posted around WIPP's perimeter? They house air monitoring devices: part of WIPP's warning and containment system in the unlikely event of a release of radiation.

Federal regulations governing WIPP set radioactive discharge limits to a fraction of the natural background radiation limit (approximately 300 millirems per year). To protect workers, public health and the environment, WIPP employs a vast system of sensors, fans, air locks and dampers designed to prevent or minimize an off-site release.

***In the Underground***

In normal or bypass mode, two of three surface exhaust fans, called 700s, pull 425,000 cubic feet of air per minute into the mine from the Air Intake, Salt and Waste shafts. Air flow is controlled by a series of air locks, louvers, overcasts and dampers. It travels through the mine, up the Exhaust Shaft and is dispersed to the atmosphere.

A shift from normal to filtration mode is triggered when continuous air monitors (CAMs), placed near TRU waste handling and disposal areas, detect airborne radiation. Updated CAM readings are sent to the Central Monitoring System at a rate of one per second. CAM alarm points are precision-set far below the regulatory release limit, yet high enough to prevent frequent alarm trips and subsequent shifts to filtration caused by background radiation.

Should the shift to filtration alarm sound, an automated sequence of events provides containment:

- 700 fans shut down and connecting dampers close over a 90-second interval. The gradual decrease in air pressure minimizes an underground shockwave, much like that of a door slamming at home when a window is opened
- Dampers to the HEPA filters open
- A 235 hp exhaust filter fan starts up and connecting isolation dampers open
- Doors and louvers in the underground bulkheads close to isolate mine areas
- Air is routed from waste handling and disposal areas, forced down the exhaust drift – normally unoccupied due to restricted entry – upward to the Exhaust Shaft and through a bank of high efficiency particulate air (HEPA) filters designed to trap minute airborne radioactive particles

***In the Waste Handling Building***

CAMs are also installed in the Waste Handling Building, which is equipped with its own ventilation control and HEPA filter system.



An off-site release would be detected by perimeter air monitors, enabling health physicists and emergency response personnel to protect workers and develop recovery plans.

Just under 50,000 waste containers have been disposed at WIPP since 1999. There has been no release of radioactive materials.



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## Sandia stands down for security

Sandia National Laboratories - Carlsbad Programs Group (SNL-CPG) conducted a security stand-down November 24-25. The event was the latest in a series of initiatives to improve security. The objective of the stand-down was to increase staff awareness of security-related issues.

“Our nation places a great responsibility in our hands each day, based on trust that has been painstakingly earned by more than 50 years of exceptional service,” says Sandia President and Lab Director C. Paul Robinson. “It is imperative that we maintain that trust by ensuring security at our labs remains uncompromised.”

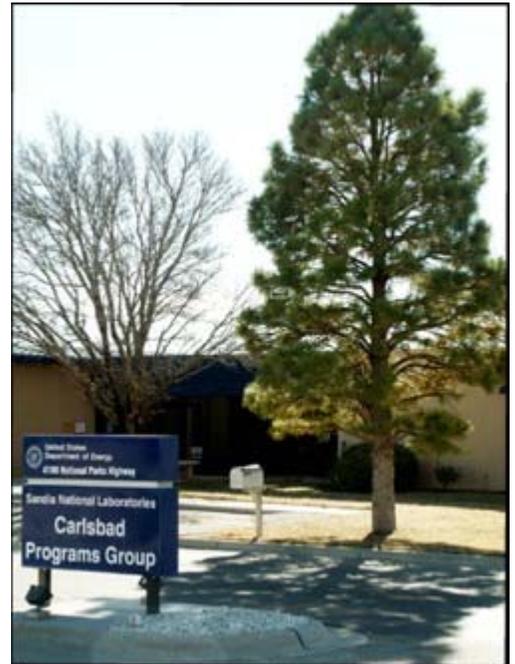
The stand-down included instruction in the handling of sensitive and classified information, computer security and password protection, site physical security protection and security infraction reporting and procedures.

Other initiatives have included:

- Appointing a new Sandia vice president to oversee security
- Hiring additional security guards
- Creating a corrective action team to identify cultural, structural, and operational issues that have given rise to security problems
- A new corporate policy defining management’s responsibility to respond to security concerns
- Mandating training of all management to improve how issues are handled

Additionally, Sandia has increased oversight of its security operations, the latest of which is a comprehensive audit of security practices by DOE’s Office of Independent Oversight and Performance Assurance (OA). Although the draft classified report acknowledges Sandia for its recent security improvements, it also outlines areas for improvement. The OA report is one of several internal and external reviews over the past year to assist Sandia in improving security operations.

“While we have made major progress in our security performance, problems still exist,” says Robinson. “We cannot fulfill our missions if we are perceived to be less than 100 percent vigilant in the protection of our classified assets. This is a responsibility shared by all Sandians.”



## WTS nominates Carriaga Machine for subcontractor award



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The votes are in at WTS Procurement. The nominee for the annual Small Business Administration (SBA) Subcontractor of the Year is Carriaga Machine.



LaDon Carriaga, who owns the precision-machining business, was overwhelmingly nominated by WTS buyers, requisitioners and engineering staff at WIPP. She took the initiative 15 years ago to learn the qualifications to be a subcontractor for WIPP organizations. In addition to managing Carriaga Machine, LaDon recently completed a bachelor's degree at College of the Southwest in criminal justice. She continues working part-time as a chair-side assistant at a Carlsbad orthodontics office.

Carriaga Machine is ISO9000-compliant, finalizing certification to commercial quality assurance standards. The small business has HUBZone certification for federal contracting and is pursuing the NQA1 nuclear industry's quality assurance standards. Expansion is on the horizon. Carriaga Machine has purchased property at Carlsbad Industrial Airpark to construct a new building, LaDon advises.

Her spouse, Mike Carriaga, continues his work in Underground Maintenance Operations at WIPP, where he's been employed since 1984. Mike moonlights in the family business. Carriaga Machine completes occasional jobs for Sandia and Los Alamos National Laboratories.

The nomination will be submitted this week for regional SBA competition in Fort Worth, Texas. Regional winners compete for the national SBA award, which is presented in Washington, D.C. at the national conference in the spring.

"Because of the high quality of the responses we received, we look forward to making the requisitioning community a part of this process every year," says Bob Prentiss, WTS Small Business Program Coordinator. "The responses were well-documented. People really gave this some thought."

The small business, located in Otis, received a key contract through WTS for WIPP, based on their ability to provide a quality product, explains Prentiss. They also sell industrial supplies. Carriaga has supplied WIPP with TRUPACT-II transport container tools and gauges; the current contract calls for 500 tie-downs used to secure the containers on the transport trailer. From engineered prototypes, Carriaga Machine fabricates other precision tools and accessories for mining equipment, such as drill bits, collars and other parts.



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***Dave Lauriski, Assistant Secretary of Labor for Mine Safety and Health, took the opportunity to tour WIPP December 4. Lauriski was in Carlsbad to present the Sentinel safety award to neighboring mine, Mississippi Potash Inc. Pictured from left to right: Eddie Lopez, South Central District Manager, Mine Safety and Health Administration, Dallas, Texas; Lauriski; Subhash Sethi, WTS Repository Development Project Manager; and Mike Oliver, CBFO Office of Safety and Operations, Systems and Engineering Manager.***

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**Executive Order Closes Executive Departments and Agencies of the Federal Government on Friday, December 26, 2003**

By the authority vested in me as President by the Constitution and the laws of the United States of America, it is hereby ordered as follows:

Section 1. All executive branch departments and agencies of the Federal Government shall be closed and their employees excused from duty on Friday, December 26, 2003, the day after Christmas Day, except as provided in Section 2 below.

Sec. 2. The heads of executive branch departments and agencies may determine that certain offices and installations of their organizations, or parts thereof, must remain open and that certain employees must report for duty on December 26, 2003, for reasons of national security or defense or other public need.

Sec. 3. Friday, December 26, 2003, shall be considered as falling within the scope of Executive Order 11582 of February 11, 1971, and of 5 U.S.C. 5546 and 6103(b) and other similar statutes insofar as they relate to the pay and leave of employees of the United States.

GEORGE W. BUSH, THE WHITE HOUSE, December 9, 2003.