

# TRU TeamWorks

December 4, 2003

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

## The Big Story

### H.R.2754 to usher in change

H.R.2754, signed into Public Law (PL) 108-137 by President Bush on Monday, is a significant piece of legislation for WIPP. PL 108-137 contains a host of appropriations and actions for energy and water development for fiscal year 2004, including WIPP funding.



#### 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 12/4/03 at 8:05 a.m.)

Shipments  
scheduled to arrive  
at WIPP  
this week  
16

Total shipments  
received at WIPP  
2,199



But Section 311 of the law is particularly important for WIPP operations because it directs WIPP to submit a permit modification request that, once approved, will change the way TRU waste is confirmed. One change will be the replacement of drum headspace gas sampling and analysis with repository monitoring.

**Left: Headspace gas sampling and analysis**

Since disposal operations began at WIPP, headspace gas sampling and analysis – the process of siphoning off and analyzing the gas that collects in a drum head – has been performed on a per drum basis to track the quantity of VOCs that would be present in the WIPP repository. The cost per drum is approximately \$620.

Section 311 changes will not only reduce characterization costs, but greatly increase worker safety. Elimination of headspace gas sampling is estimated to reduce worker contact with radioactive TRU waste by 375,000 hours.

"... Compliance with the disposal room performance standards of the WAP shall be demonstrated exclusively by monitoring airborne volatile organic compounds in underground disposal rooms in which waste has been emplaced until panel closure."  
-- PL 108-137

WIPP will soon submit a permit modification request to NMED to obtain state approval for the changes outlined in Section 311. Look for updates on this topic in upcoming issues of *TRU TeamWorks*.

#### In the news

 <b>Hanford TRU</b>	 <b>Transportation Checklist</b>	 <b>Storage Space</b>	 <b>Hazard postings</b>	 <b>Who needs metrics?</b>	 <b>Our team news</b>
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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](#)

### History in a barrel

TRU waste from generator sites across the country has made its way to WIPP. Though the waste is securely packaged, the containers belie the history being deposited in the WIPP mine. WIPP waste is the byproduct of defense nuclear production processes. It is interesting to consider those processes and the path that led the wastes to WIPP.

An interesting example of TRU waste history can be found in the first shipment to WIPP from the Hanford facility. That shipment contained debris waste from the site's Plutonium Finishing Plant (PFP) complex that was constructed in 1949.



**Construction progress on the PFP complex - November 1950**



**Interior view of a PFP facility, April 1951**

According to M. S. Gerber, author of *Legend and Legacy: Fifty years of Defense Production at the Hanford Site*, "Before the PFP was built, plutonium had been shipped from Hanford to Los Alamos as plutonium nitrate, a wet paste. The PFP made possible the conversion of plutonium nitrate to hockey puck-shaped plutonium metal, known as buttons."

Later, the PFP mission included stabilization of plutonium-bearing materials. The PFP production phase lasted until 1989 when the last plutonium button was produced.

**Hanford Factoid**

In 1949, Richland was strictly a government city. You had to live there if you worked in Hanford operations, and you could not live there if you were not a permanent Hanford employee.

-- Excerpted from *Legend and Legacy: Fifty years of Defense Production at the Hanford Site*

Several individual facilities comprise the PFP complex. These include:

- Remote Mechanical A Line
- Remote Mechanical C Line
- Analytical Laboratory
- Plutonium Process Support Laboratory
- Radiochemical Standards Laboratory
- Control rooms
- Scrap stabilization gloveboxes
- Plutonium nitrate feed load-in/load-out
- Plutonium storage vault, blending and storage

As WIPP progresses in its clean-up mission, it is important to recall the circumstances that led to the necessity of a national nuclear defense. WIPP employees are working to make the nation safer, much like the Hanford employees of five decades.

Stopping at the port

Before loaded WIPP shipments depart a generator site, they must first pass a stringent inspection. That initial inspection is just one of many the shipment will undergo before it arrives at WIPP. Some states conduct thorough TRU shipment inspections at their ports of entry. So what do inspectors look at?



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](#)



Left: WIPP trucks line up at Raton, New Mexico, port of entry waiting to be inspected. Photo courtesy: Ron Macaluso

Port-of-entry inspections can take anywhere from one to two hours while inspectors conduct a bumper-to-bumper check of the truck. Inspectors follow the North American Standard Truck Inspection Procedure (below) that includes a detailed checklist designed to ensure the truck is "defect free."

Following is the North American Standard Truck Inspection procedure:

WIPP Shipments

(as of 12/04/03 at 8:05 a.m.)

Shipments scheduled to arrive at WIPP this week 16
Total shipments received at WIPP 2,199
Total Waste Disposed Underground at WIPP
CH drums 46,687
CH standard waste boxes 2,312
CH ten-drum overpacks 552
Cubic meters 16,635

✓	Choose the inspection site	✓	Inspection Preparation	✓	Greet and prepare the driver
✓	Interview the driver	✓	Collect the driver's documents	✓	Check for presence of hazardous materials
✓	Identify the carrier	✓	Examine the driver's license	✓	Check medical examiner's certificate and waiver
✓	Check record of duty status	✓	Review driver's daily vehicle inspection report	✓	Review periodic inspection report
✓	Prepare driver for vehicle inspection	✓	Inspect front of tractor	✓	Inspect left front side of tractor
✓	Inspect left saddle tank area	✓	Inspect trailer front	✓	Check left rear tractor area
✓	Inspect left side of trailer, left rear trailer wheels, rear of the trailer	✓	Inspect right rear trailer wheels, rims and tires	✓	Inspect right side of trailer
✓	Inspect right rear tractor area wheels, rims and tires	✓	Inspect right saddle tank area, right fuel tank(s)	✓	Inspect right front side of tractor wheels, rims and tires
✓	Inspect double and triple trailers	✓	Test low air pressure warning device	✓	Check steering wheel lash
✓	Test air loss rate	✓	Inspect steering axle	✓	Inspect axle(s) 2 and/or 3
✓	Inspect axle(s) 4 and/or 5	✓	Check brake adjustment	✓	Inspect tractor protection system (this procedure tests both the tractor protection valve and the emergency brakes)
✓	Check fifth wheel movement	✓	Complete the inspection		

Level IV inspections also involve a radiation survey and an NAS inspection. It's no small wonder that port-of-entry inspections take at least an hour. It's also easy to understand why WIPP trucks are some of the safest commercial vehicles on the roads today.

WIPP to seek more temporary above-ground storage space



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](#)

Total Waste Disposed Underground at WIPP

(as of 12/4/03 at 8:05 a.m.)

CH drums 46,687
CH standard waste boxes 2,312
CH ten-drum overpacks 552
Cubic meters 16,635

WIPP will ask NMED to grant WIPP more space to store arriving TRU waste containers ([Click here](#)). Presubmittal meetings to brief stakeholders on the proposed changes have already occurred. Additional space is needed to accommodate increased waste shipments, as well as larger TRU waste packages. Since WIPP opened, waste handlers have compressed the eight hours it used to take to offload and dispose of TRU waste containers to three. Even so, as more frequent shipments come in – most during non-work hours – waste containers must be stored until crews can unload and dispose of them.

WIPP's hazardous waste facility permit specifies the number of containers/packages that can be stored aboveground, how long they can be stored, where they can be stored and the container type. To increase and change storage requirements, WIPP plans to submit a permit modification request in January.

There are two designated TRU waste storage areas at WIPP: the CH Bay inside the Waste Handling Building (WHB); and the parking area south of the WHB referred to as the Parking Area Unit (PAU). Specifically, WIPP will ask the state for:

- Word changes in the permit related to Type B shipping containers. The permit currently specifies TRUPACT-II and HalfPACT as the only shipping containers to be used for WIPP shipping and temporary storage. The revised permit would use the term *contact-handled packages* approved by the NRC for transporting TRU waste. The broader term paves the way for future use of horizontally-loaded shipping containers and rail shipments.
- Permit revision to delete references to 55-gallon drum, standard waste boxes, TDOP and other Type A waste containers, referencing instead *payload containers* (including large payload containers such as boxes) that comply with DOT shipping regulations.
- Increased storage capacity and allowable waste volume in the CH Waste Handling Bay Unit equivalent to six *CH packages*, 34 loaded facility pallets and one SWB of derived waste. WIPP also proposes storage space in Room 108, as well as the CH Bay.
- Increased storage space and permitted capacity in the PAU. PAU expansion would include two rail spur areas south of the WHB, added storage space south of Room 108 and the WHB airlocks, creating space for 119 *CH packages* containing waste.

TRU Teamworks will keep you up to date as progress is made.





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](#)

## Hazard recognition through underground postings

Postings in the WIPP underground are of paramount importance when it comes to notifying personnel of conditions and activities that may pose a hazard. Many activities occur in areas that underground employees normally access. As such, postings are set on bi-folds to alert personnel traveling through high-activity areas and list restrictions or requirements necessary to proceed into those areas.



Example of one of many postings underground to alert personnel to potential hazards.

Site personnel are trained to observe all postings at WIPP. A pervasive safety culture has developed at WIPP as a result of employee attitudes, training and observation of postings and directly attributes to the number of safety awards the site has received. The awards and recognition for safety can only be earned when every employee works safely every day. In addition to the attention we pay to our work, employees must also maintain awareness of the conditions surrounding daily activities.

Postings are designed to provide information needed to ensure work continues safely. Personnel who encounter a posting in the underground are advised to contact an Underground Operations manager or “proceed with caution.” Where mining, bolting or maintenance activities are taking place, personnel entering those areas should notify the work crew of their presence through using audible or visual communication (i.e., speaking with the individuals or using one’s miners lamp to signal the work crew). Below are some common examples of activities and correlating postings:

**Mining** - Mining activities normally occur in a panel area, but may occur anywhere in the underground. These areas will be posted and require personnel to request permission from the Underground Mine manager for entry. Requirements in panel mining areas include restrictions for access with electric carts. This additional posting will be encountered at the entry to the mining area to prevent vehicle congestion and enhance the safety of the working environment.

**Bolting** - Underground Operations personnel continually perform bolting operations in all areas of the underground. Postings alerting personnel to their presence and activity will indicate bolting operations are in progress in the area.

**Changing Ground Conditions** - The underground environment is dynamic. Any area where changes in ground conditions have been identified are posted to alert personnel. Barriers are set up to protect personnel from potential ground control hazards.

**Shaft Inspection in Progress** - Shaft inspections pose an unseen hazard to personnel in the underground. Shaft crews working above the station level intentionally clean material from the shaft walls by knocking it loose and letting the material fall to the station level or the bottom of the shaft. During this activity, barriers are placed around the shaft station areas and posted to prevent injury to personnel and damage to equipment.

**Radioactive Material Areas** - These areas are normally encountered in an active disposal panel. Requirements for access to an active disposal panel (beyond the barriers) are posted.

**Intrusion Detection System** – Security areas are continually monitored. Such areas are posted to alert personnel they must receive permission from Security before entering.

**Smoking Restrictions** – Several areas in the underground are posted as “No Smoking” areas. They include battery-charging stations, oil and fuel bays, vehicle lubrication and shaft areas.

## Who needs metrics?



### 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](#)

In today's show-me-results business world, we can all use what we call *performance metrics* or just *metrics* to drive achievement of a compelling goal, verify results and gauge performance over time.

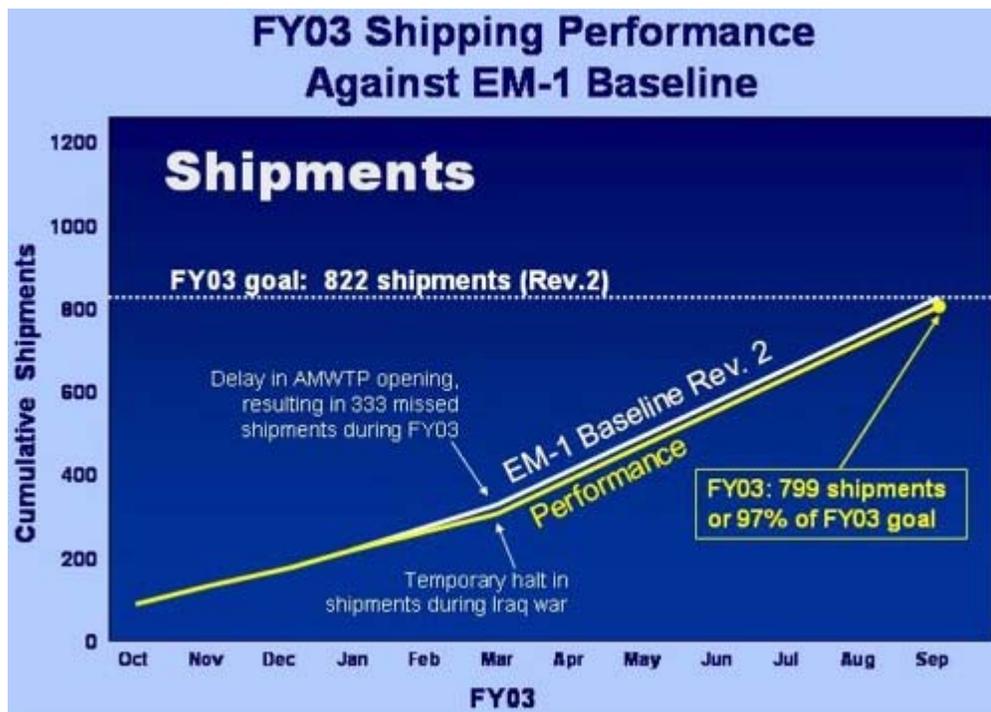
Metrics are simply a standard of measurement. Performance-based management is the foundation of the 1993 Government Performance and Results Act requiring all government agencies to deploy a strategic plan, set performance targets and measure performance. Quality metrics include 1) a realistic goal and 2) performance tracking over time. Metrics tell us where we are *now* in reference to our goal. They keep us zeroed in on the goal line.

WIPP and the National TRU Program (NTP) define appropriate goals, metrics, targets, schedules, data collection processes and analysis procedures with a variety of metrics. The Department of Energy's recent top-to-bottom study of Environmental Management and the 35-year WIPP project baseline are both prime examples of how DOE tracks goals with metrics.

In step with this strategy, the WIPP website ([www.wipp.ws](http://www.wipp.ws)) soon will feature a variety of project-specific performance metrics available to all users for presentations, reports, illustrations, accountability, etc. These highly effective, up-to-date graphics are proven successful with a cross-section of stakeholders. Available metrics will detail our performance in core areas of waste management: characterization, transportation and disposal.

## Working Smart

*Good metrics have two key elements: 1) a realistic goal and 2) track performance to the goal over time. Use metrics to map a path to your goal with simple graphics that make tracking your progress easy.*





**Topics**

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

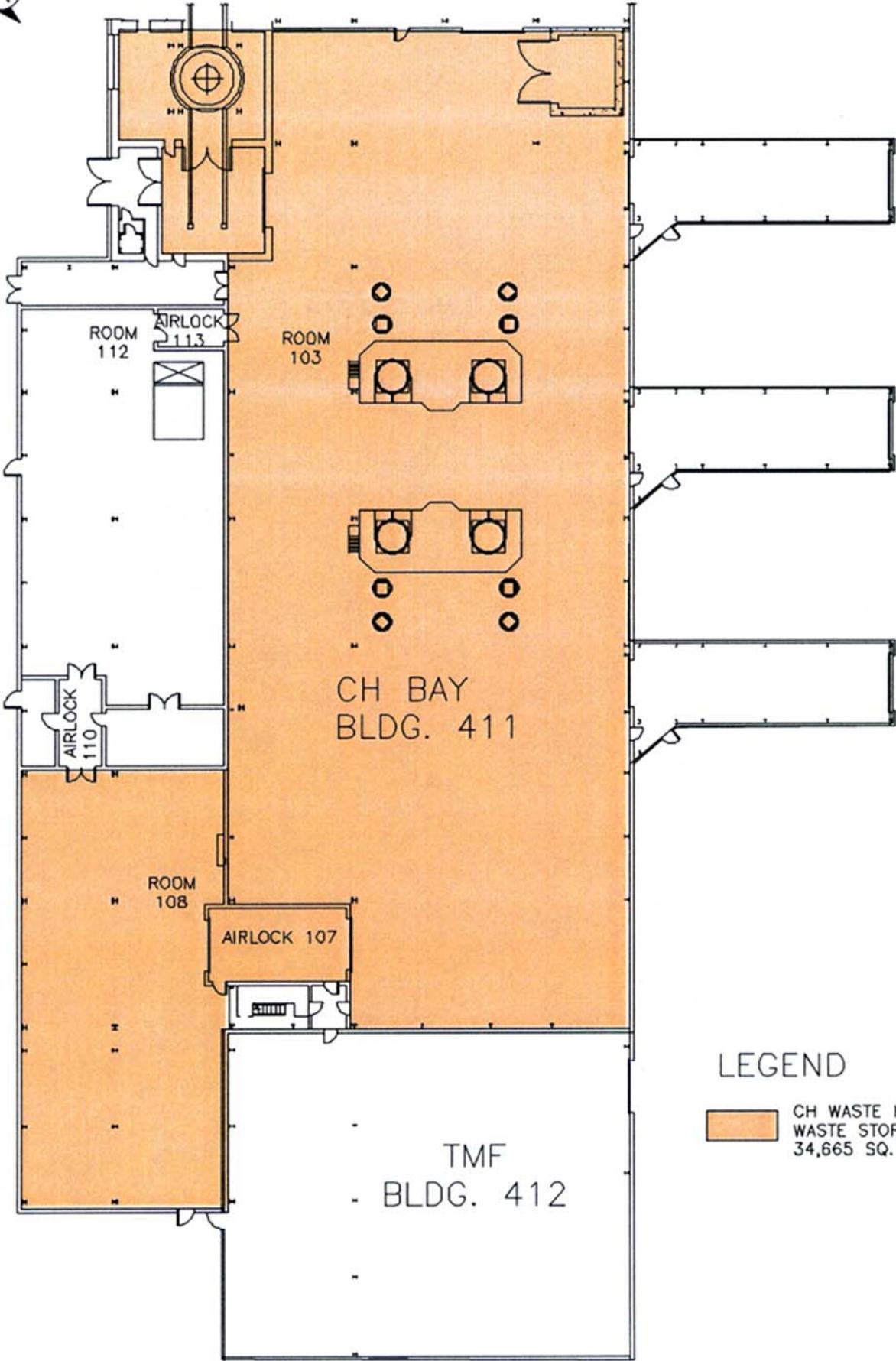
**Sharif leaving WIPP**



Effective immediately, Farok Sharif, WTS NTP manager, will be leaving WIPP to accept a position on the West Valley project in New York. Sharif led the central characterization project through its startup and on to many successes. He will be greatly missed. Tim Hedahl, NTP deputy manager, has been named acting manager for the program.

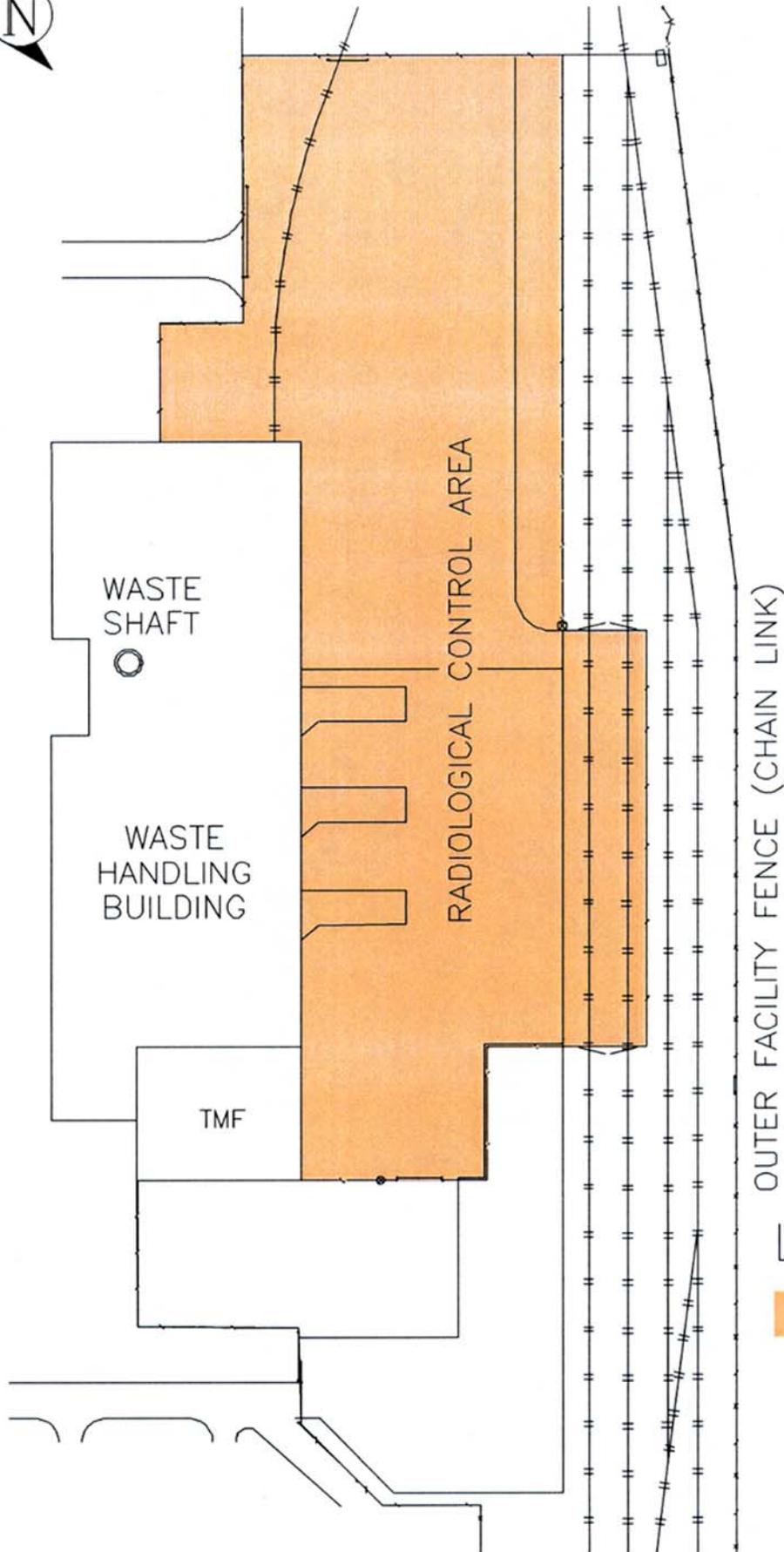
**Tools**

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



LEGEND

 CH WASTE HAZARDOUS WASTE STORAGE AREA 34,665 SQ. FT.



## LEGEND

-  PARKING AREA PACKAGE STORAGE UNIT  
147,663 SQ. FT