
U.S. DEPARTMENT OF
ENERGY
LEGISLATIVE UPDATE
WASTE ISOLATION PILOT PLANT
FEBRUARY 9, 2021
WASTE ISOLATION PILOT PLANT
WIPP
NWP • DOE • LANL • ETAE • SNL

Nuclear Waste Partnership
An Amentum-led partnership with BWXT and Orano

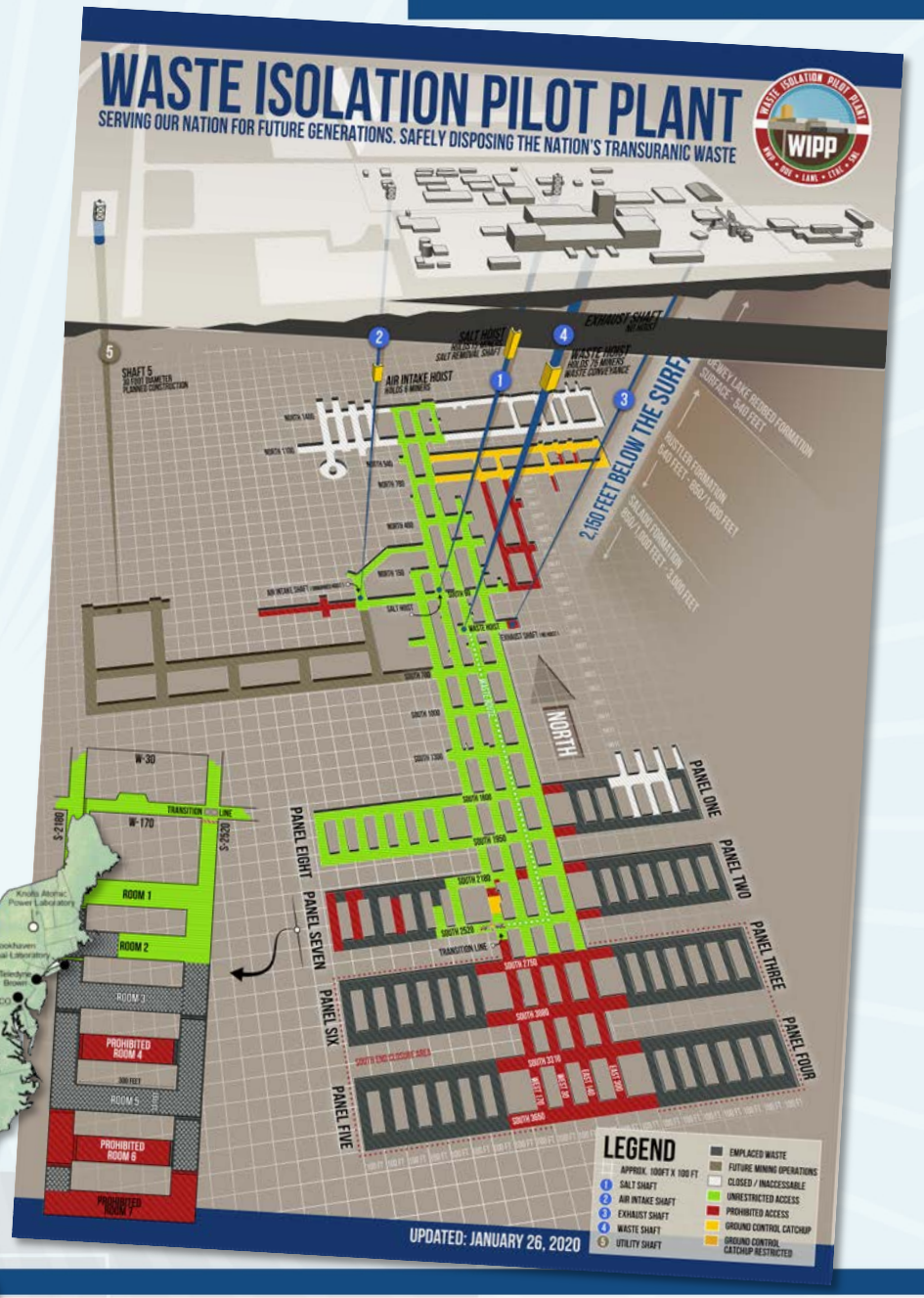
2020 WIPP YEAR IN REVIEW

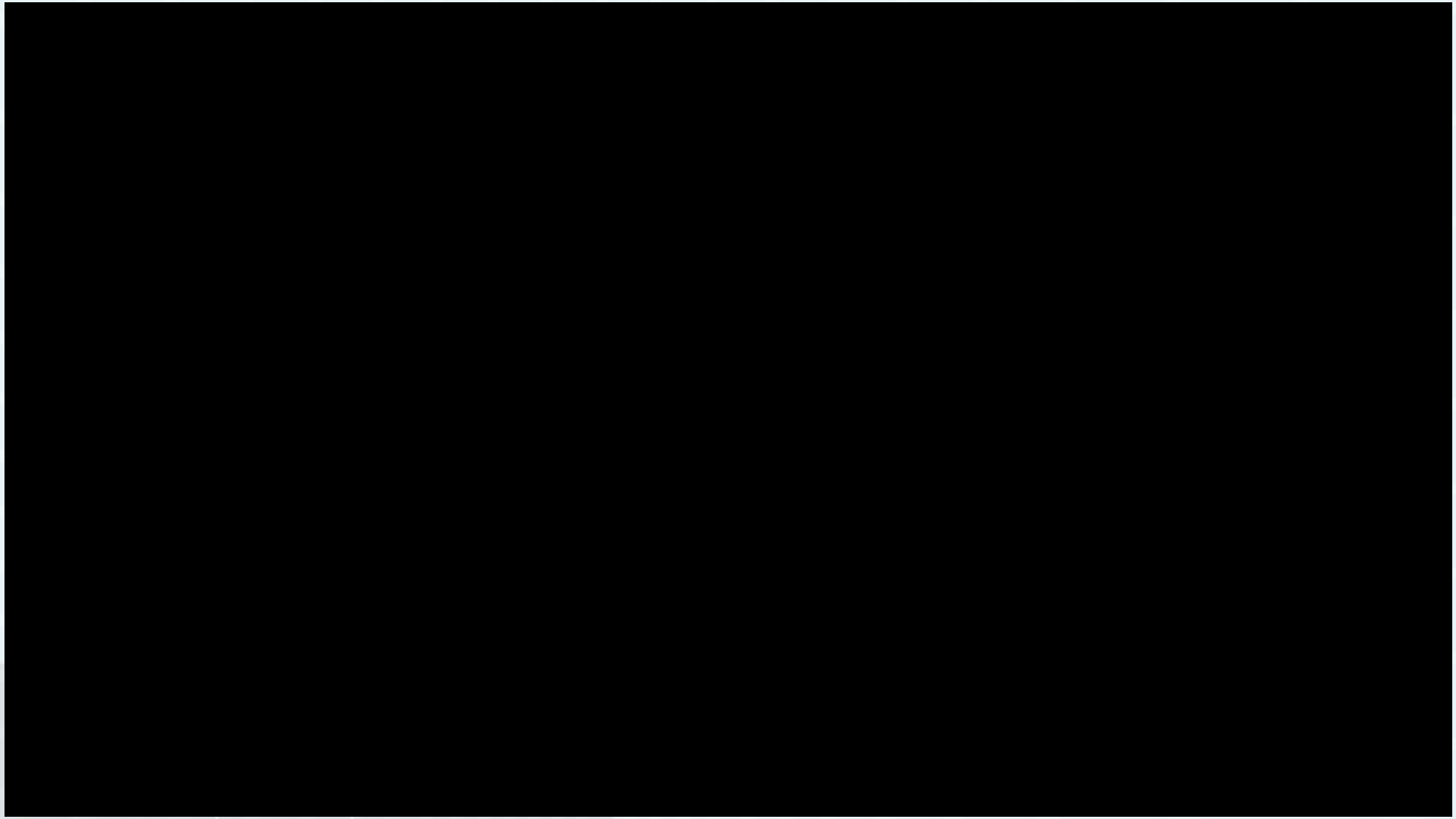
NWP President & Project Manager

Sean Dunagan

WIPP'S CRITICAL MISSION

- WIPP opened in 1999 and has now operated for more than 20 years
- Enabled clean up of 22 legacy TRU waste sites throughout the U.S.
- Remains a cornerstone of DOE's ongoing cleanup efforts
- Recapitalization and critical infrastructure upgrades are underway





2020 Accomplishments video. Click the forward button to play video

SAFETY FIRST!

SAFETY IS THE CORNERSTONE OF ALL WE DO

- 1,630,951 Hours safely worked without a lost time accident
- The VPP Star returned to WIPP in 2020
  - The Voluntary Protection Program (VPP) is a Department of Energy program that promotes improved safety and health performance through public recognition of outstanding programs
  - WIPP was the first site to earn the VPP Star designation in 1994

COVID-19 SAFETY MEASURES

PEOPLE ARE OUR BIGGEST RESOURCE

- WIPP is in Phase II
  - Maximum Telework, Essential Personnel On-Site, Oversight is limited to critical work activities

WIPP MEETS OR EXCEED CDC, DOH MANDATES

- Temperature checks
- Social distancing
- Maximum teleworking; Reduce employee density when possible
- Working with city/county/state to get vaccine in arms

ACCOMPLISHMENTS

WE CLOSED OUT A TOUGH YEAR WITH MANY SUCCESSES (CY20)

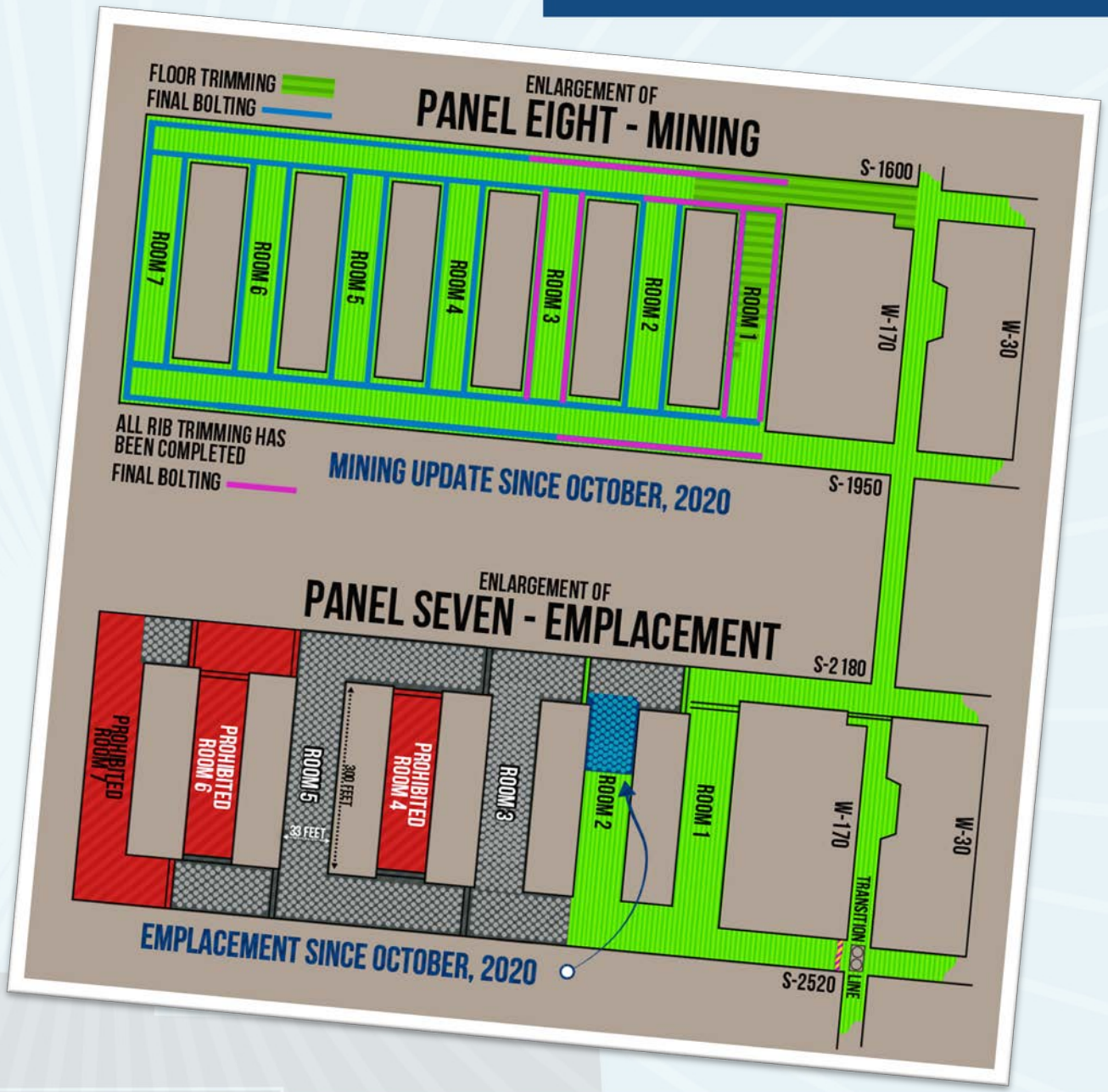
- **185,433** Containers of waste emplaced
- **192** shipments
  - Averaging **5** per week
- **15,348,149** Miles safely driven
- Rough cut mining in **panel 8** complete
- **155,300** tons of salt mined
- A Record **9,640** Bolts installed
- Through the Pandemic we lost over 200 shifts and still maintained a **1:3 safety factor** in the underground
- **VPP Star** Status
- WIPP **Bypass Road**
- Work began on the **Utility Shaft**
- **Fire Water** Tanks, Pumphouse and Mains
- **Lightning Array** upgraded
- New **Air Compressors**

SHIPMENTS

- Total shipments received since start (as of 02/03/21): **12,842**
- Total loaded miles traveled since start: **15,377,309** (through 02/03/21)
- Total CH containers emplaced since 1999: **184,640**
- Total RH containers emplaced since 1999: **775**
- Shipments received in FY20: **180**
- Shipments from LANL: FY20 **46**
- Loaded miles in FY20: **203,323**
- Shipments received in FY21 (through 2/03/21): **70**

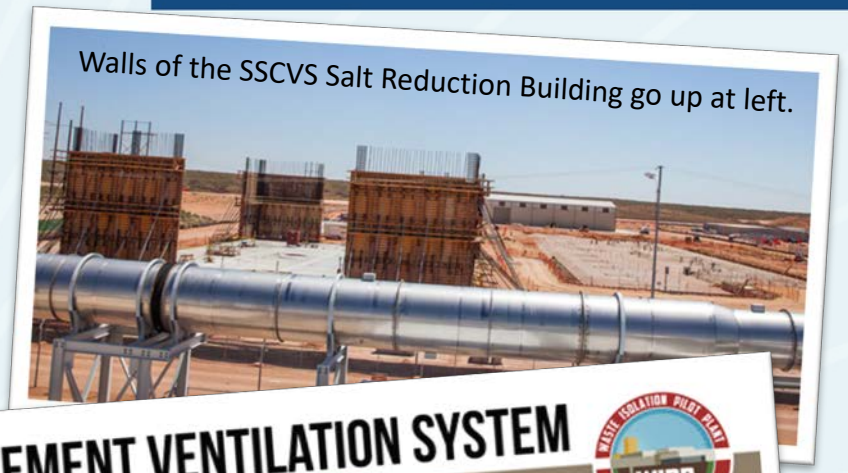
MINING UPDATE

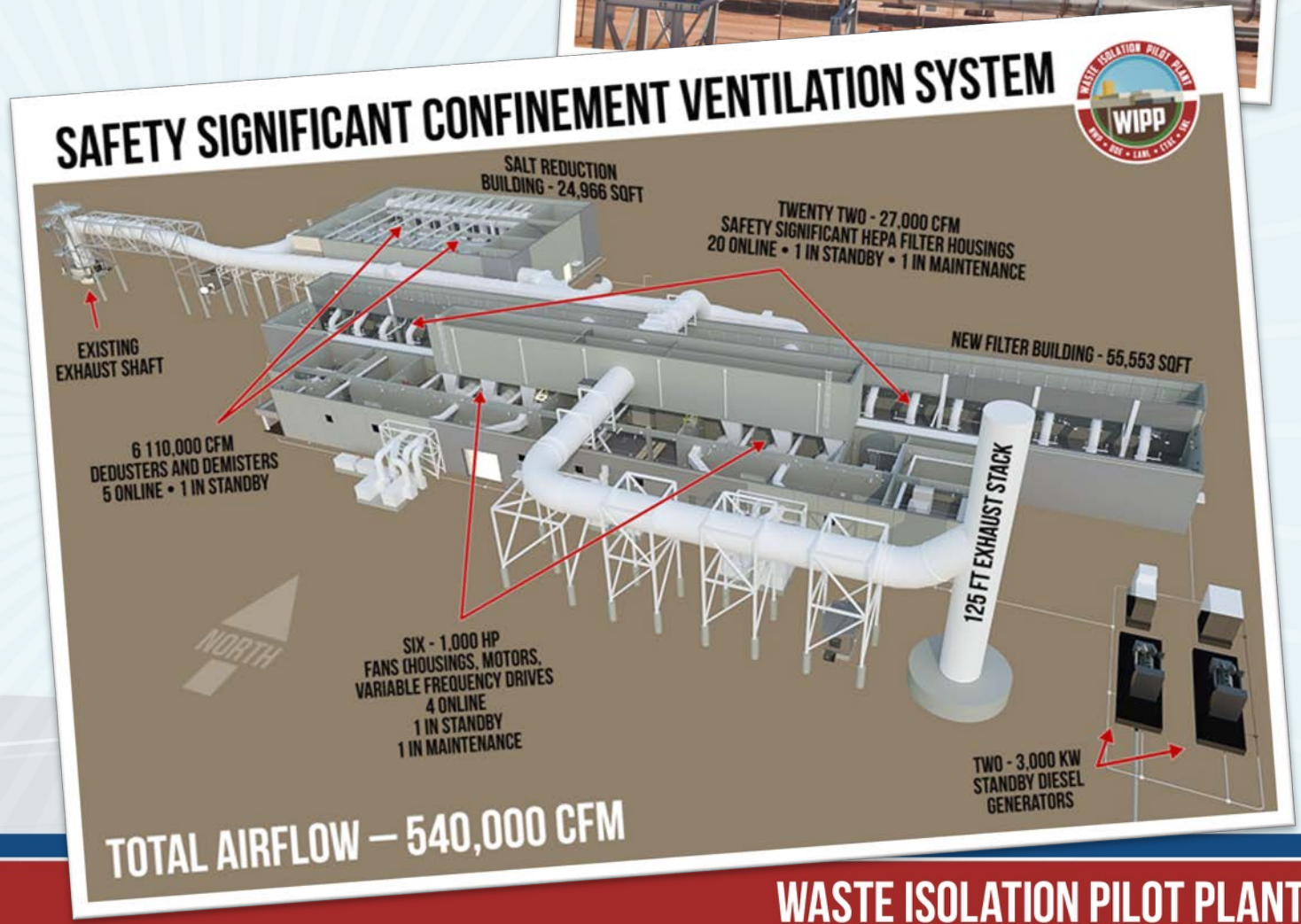
- Rough Cut and Final Rib Mining in Panel 8 is Complete
- Floor Trimming is scheduled to be complete in May 2021
- Outfitting and Certification of Panel 8 is scheduled to be completed by January 2022



SAFETY SIGNIFICANT CONFINEMENT VENTILATION SYSTEM (SSCVS)

- The SSCVS will increase HEPA filtered air to the WIPP underground, increasing worker safety throughout the mine
- Underground utilities installed
- Fabrication building completed
- Support trailer complex completed
- We are currently starting to receive long lead items
- Resuming pouring of slab walls





UTILITY SHAFT

- Why shaft #5 is needed
- Sinking of the shaft is currently on hold
- Focusing on approval of the Class III Permit Modification Request (PMR)
- Working to complete the installation of the plenum, associated ductwork and the completion of the shaft liner to the underside of the temporary collar
- The Exhaust Stack at the Air intake Shaft (AIS) will continue

INFRASTRUCTURE PROJECTS

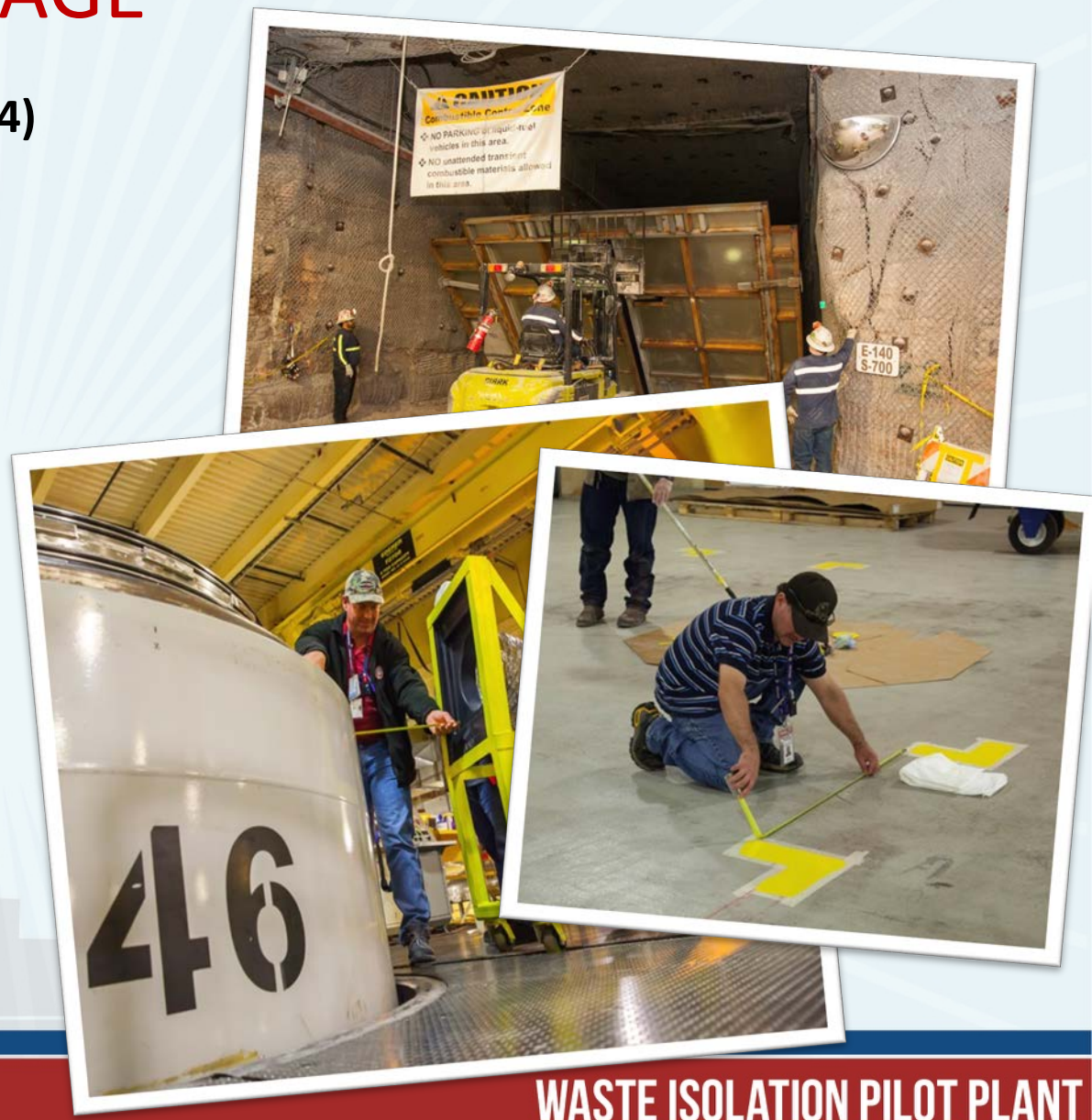
Numerous General Plant Projects (GPP) are underway to upgrade WIPP infrastructure and plant systems

- Original design – plant expected to operate for 30 - 35 years beginning in late 1980's so many systems are the near end of their planned service life
- In order to accomplish WIPP's mission, modernization is needed

ANNUAL MAINTENANCE OUTAGE

97 planned work activities for the outage (Feb 15- April 14) including:

- Underground
  - Bulkhead inspection and replacements
  - Leveling of waste station rails
  - Supplemental Ventilation maintenance
- Surface
  - Electrical maintenance and repair
  - Painting
  - Contact Handled Bay smoke testing, ventilation testing & balance
  - Airlock Door replacements



ECONOMIC BENEFITS

Subcontract dollars awarded to New Mexico Businesses

	Base Operational $	Capital Project $	Total Awarded FY20*
NE New Mexico	$154,945.87	$145,178.98	$300,124.85
NW New Mexico	$9,590,601.29	$596,165.30	$10,186,766.59
SE New Mexico	$15,043,559.17	$45,891,639.81	$60,935,198.98
SW New Mexico	$195,000.00	$0.00	$195,000.00
	$24,984,106.33	$46,632,984.09	$71,617,090.42

*Total subcontract award dollars obligated during Fiscal Year 2020 (Oct 2019 – Sept 2020)

Small Business Support

During Fiscal Year 2020, NWP awarded $76,528,319 to small businesses

NEW MEXICO PURCHASES

- Industrial Supplies
- Electrical Components
- Computer Hardware and Software
- Construction Services
- Fire and Safety Equipment
- Bottled Gases
- Fabrication Hardware
- Pharmacy Services
- Tire Repair and Replacement Services
- Temporary Staffing Services
- Acceptable Knowledge (AK) Waste Characterization Services

COMMUNITY INVOLVEMENT

- Over $500,000 in financial contributions
- More than 3,500 volunteer hours
  - Events include
    - STEM days at area schools
    - Volunteering at area organizations including Boys & Girls Club, Rotary, Literacy Center, United Way, Transitional Housing, Night to Shine and many more
    - Scholarships
    - Local Education Grants

U.S. DEPARTMENT OF ENERGY

2021: A LOOK AHEAD

U.S. Department of Energy,
Carlsbad Field Office Manager
Reinhard Knerr

Budget FY19-FY21

	Base Operational $	Capital Project $	Total
Budget FY19	$318,275,000	$85,212,000	$403,487,000
Budget FY20	$304,045,000	$102,554,000	$406,599,000
Budget FY21	$320,066,000	$100,000,000	$420,066,000

ECONOMIC CONTRIBUTIONS TO THE STATE

	FY19	FY20	FY21
NMED	$ 395,003.00	$ 1,484,164.20	$ 1,484,164.20 est.
EMNRD	$ 1,058,472.00	$ 1,306,273.00	$ 1,306,273.00 est.
CEMRC	$ 1,300,000.00	$ 2,925,085.00	$ 1,000,000.00
Total	$ 2,753,475.00	$ 5,715,522.20	$ 3,790,437.20
Tesque	$ -	$ 50,964.16	$ 50,964.16 est.
San Il	$ 50,000.00	$ 50,000.00	$ 50,000.00
Poj	$ 50,000.00	$ 57,246.11	$ 57,246.11 est.
Nambe	$ 50,000.00	$ 50,000.00	$ 50,000.00
Total Tribal Govts	$ 150,000.00	$ 208,210.27	$ 208,210.27

CONTRACTORS at WIPP

- CTAC – Currently Northwind Portage
  - November 2015 – April 2021
  - $51.8 million
- M&O – Currently Nuclear Waste Partnership
  - April 2012 – September 2021 – 2, six month options available through September 2022
  - $2.8 Billion
- DOE TRANSCOM Tech Support Services– currently Aleut Aerospace Engineering, LLC
  - July 2019 – May 2022
  - $9 million
- TRANSPORTATION – Currently CAST Specialty Trucking
  - June 2017 – August 2024
  - $112 million

2021 PRIORITIES

- Protecting people and the mine
  - Ground Control activities
  - Routine Safety
- Completion of the Salt Reduction Building structure
- Begin mining to the west of the current mine
- LANL Office of Environmental Management - Los Alamos Shipments
- WCS shipments
- 700-C fan restart
- Complete Panel 8 Floor trimming and outfitting
- Increase routine and steady waste shipments to meet generator site cleanup goals


Utility shaft headframe and Galloway work platform.

2021 PRIORITIES

- **Protect our workforce**
  - COVID-19 Safety Protocols
  - Continued Worker Safety Focus
- **Continuation of SSCVS construction**
  - Complete the Salt Reduction Building and place the 6 Salt Reduction Units
  - Complete the New Filter Building slab-on-grade and start to place the walls for the building
  - Complete all 22 HEPA Filter Units, staged and ready to ship to the WIPP Site
  - Complete the six, 1000 hp Exhaust Fans, staged and ready to ship to the WIPP Site
- **Resume work on Utility Shaft**
  - Complete the Plenum Installation
  - Complete the Utility Shaft concrete liner from 115 feet below ground bottom of the collar
- **Continue infrastructure upgrades**
  - Safety Significant Fire Suppression System Construction
    - Complete the pump house, water storage tanks and underground fire water piping
  - Electrical Substations - Complete the design and fabrication of the new substations 1 & 3
  - Underground substation and & transformer replacements - turn over to Operations
  - Design Authority Waste and Salt controller Upgrades
- **Bring on a 2nd backshift for mining and ground control**

700-C Fans

- The 700-C series fans were the primary ventilation fans prior to going into HEPA ventilation mode in 2014
- Bringing the 700-C fan online will increase airflow in the WIPP underground during non-waste handling operations
  - Increased Safety to our workforce
  - The 20+ year old fan is a bridge that will help operations and shipments continue until the SSCVS is online
- We have successfully conducted the initial 4 hour startup test
- Preliminary data shows that our calculations were accurate, we are currently awaiting the results of our detailed analysis
- Bringing the fan back online after sitting idle for seven years has been a tremendous effort by a large team of people
- Next Steps…

SHIPMENT PROJECTIONS

Projected Shipments through January 2022

Site	Projected Shipments (up to)
INL	165
LANL	80
ORNL	28
SRS	18
LLNL	5
ANL	4
WCS	Potential of up to 25

GENERAL INFRASTRUCTURE PROJECTS

Completed in FY21

- Central Monitoring Room (CMR) Improvements
- CMR was upgraded from old technology to a modern system with a large video monitoring wall and computerized workstations that will tap into a faster fiber-optic network
  - New ergonomic workstations
  - Video wall with multiple viewing options
  - Fiber-optic network upgrade
  - New monitor area/screens for SSCVS ventilation system

Targeted Completion in FY21

  - Higher-capacity (66% increase) Fire Water Loop with expanded site coverage
  - Upgraded Waste Handling Building fire suppression system
  - Replace aging Surface Electrical Substations 1&3
  - Replacement of aging Underground Substation & Transformer

Construction of the new Fire Water Tanks for the Fire Water Loop System

GENERAL INFRASTRUCTURE PROJECTS

Targeted Near Term Completions (2021)

- Replace aging Electrical Substations 2, 4 & 6
- Public Address System upgrade for total site coverage
- Construct New Changeroom Facility

Longer Term Initiatives FY22 and beyond*

- Install Surface Electrical Substations
- Waste/Salt Hoist Controllers Upgrade
- Site IT Network Upgrade
- Repurpose SSCVS Fabrication Building to Environmentally controlled warehouse

* Targeted for acceleration due to SSCVS delay

REGULATORY ACTIVITIES

Outlook

- Focus on completing key regulatory initiatives vital for moving the Project forward
  - Permitting Shaft #5
  - Renewing the Discharge Permit
  - Renewing the Hazardous Waste Facility Permit
  - Completing NEPA for replacement Panels
  - Responding to EPA questions regarding Compliance Recertification Application-2019
- **Identify long-lead regulatory changes needed to complete mission**
  - Future disposal space for DOE waste inventory
  - Future packaging for DOE waste inventory

Challenges

- Timely re-initiation of Shaft #5 construction activity
- COVID-19 has impacted all aspects of the regulatory process
- Possible three public hearings in the next year – all likely to be virtual
- Managing strong stakeholder interest in future plans

STAKEHOLDER INTERFACE

A number of diverse stakeholder groups monitor the WIPP project.

The groups represent a wide range of interests in the role WIPP has in the Office of Environmental Management's overall cleanup of the DOE

- At the state and local level CBFO/WIPP engages in the following routine stakeholder outreach activities, some of which include

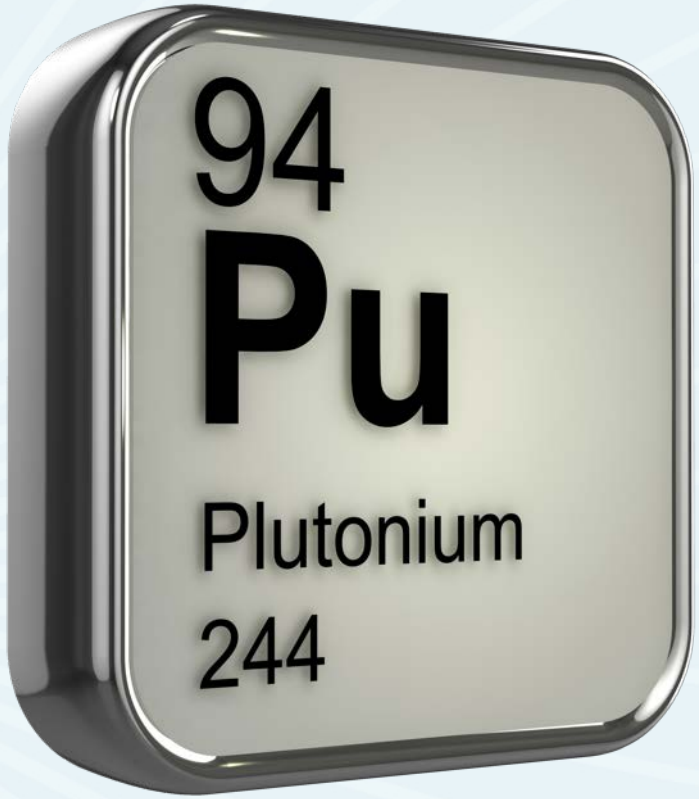
- Mayor's Nuclear Task Force – monthly
- Local Townhall Meetings
- LANL/WCS Waste Disposition - monthly
- NMED Tag-Up - Quarterly
- NM WIPP Program / NTP Tag-Up - Quarterly
- **Legislative Breakfast - Annual**
- Legislative Water and Natural Resources Committee Report - Annual
- Legislative Radioactive & Hazardous Materials Committee Report - Annual
- NM DOT Commission Briefing - Annual
- NM NTP WIPPTREX Exercises - Annual
- NM Public Safety and Emergency Management Conferences - Annual
- Traveling Transportation roadshows
- MERRTT training to local responders.
- Regular updates using social media/websites
- Regular COVID status updates
- Stakeholder tours of the WIPP facility
  - Virtual tours during the pandemic
- 700-C fan restart updates.
- Carlsbad Department of Development
- Carlsbad Chamber of Commerce
- Regulator briefings

Seeking public input in the near future:

- Supplement Analysis on replacement disposal panels
- Input about WIPP's future

PLUTONIUM (Pu) DISPOSAL

- There has been stakeholder interest in the diluted Plutonium that is heading to WIPP
- It should be noted that much of the waste already emplaced at the WIPP site contains Plutonium
- All waste destined for WIPP undergoes strict characterization requirements, including any diluted Plutonium
- In the end, its all TRU Waste and meets Waste Acceptance Criteria guidelines



SSCVS/US/700C

- SSCVS will pull 540,000 cubic feet per minute of filtered air through underground, vast increase over current maximum of 146,000 cfm
- Utility shaft provides higher-capacity (26 feet diameter) air intake for SSCVS system
- 700C fan bridges need for more air until start of SSCVS with 240,000 cfm for non-emplacement activities
- Air is lifeblood of the WIPP underground. Diesel equipment has strict air requirements, and a lack of airflow limits operation of mining machines, excavators and haul trucks
- SSCVS allows simultaneous mining, rock bolting, emplacement and other activities while increasing worker safety by cooling the underground, reducing heat stress and pulling away exhaust fumes from equipment

LWA vs WIPP CAPACITY vs ATWIR

Key Factors

- **LWA is the WIPP Land Withdrawal Act**
  - Defines type of waste (transuranic waste from defense activities)
  - Defines maximum amount of waste (6.2 million cubic feet of TRU waste)
- **WIPP CAPACITY is defined in Permits and Authorizations**
  - Amount of physical repository space needed to dispose the LWA authorized volume of waste
  - Accounts for containers that are not full (due to shipping or other restrictions)
  - Accommodates variety of container shapes and sizes
- **Annual Transuranic Waste Inventory Report (ATWIR) is DOE's annual assessment of the amount of TRU waste in the system**
  - Impacts the amount of waste that goes into facility planning and permitting bases
  - Impacts the amount of time needed to complete the mission (year when emplacement ends)

Challenge

- Balance projected volumes, container types, generator site work-off rates with available WIPP infrastructure improvements, future disposal capacity, and disposal throughput


Questions?