



**Waste Isolation Pilot Plant,
Washington TRU Solutions, LLC
Department of Energy
Voluntary Protection Program,
Recertification Review
September 12-16, 2005**



U.S. Department of Energy
Office of Environment, Safety and Health
Office of Corporate Performance Assessment

Office of Quality Assurance Programs
Washington, D.C. 20585

September 2005

DOE/EH-0700



**Waste Isolation Pilot Plant,
Washington TRU Solutions, LLC
Department of Energy
Voluntary Protection Program,
Recertification Review
September 12-16, 2005**



U.S. Department of Energy
Office of Environment, Safety and Health
Office of Corporate Performance Assessment

Office of Quality Assurance Programs
Washington, D.C. 20585

September 2005

"...Some of us will serve in government for a season; others will spend an entire career here. But all of us should dedicate ourselves to great goals: We are not here to mark time, but to make progress, to achieve results, and to leave a record of excellence."

— George W. Bush
President of the United States
October 15, 2001
Constitution Hall, Washington, DC

Contents

Abbreviations and Acronyms iii

Executive Summary 1

I. Introduction.....3

II. Injury and Illness Rate Information and Trending.....5

III. Summary of Performance Related to VPP Tenets and Sub-elements7

IV. Outreach15

V. Strengths17

VI. Best Practices.....19

VII. Areas for Improvement21

VIII. Conclusion23

Appendix I I-1

Appendix II..... II-1

Abbreviations and Acronyms

AED	Automated external defibrillator
AJHA	Automated Job Hazard Analysis
BLM	Bureau of Land Management
BLS	Bureau of Labor Statistics
CAIRS	Computerized Accident/Incident Reporting System
CCP	Central Characterization Project
CFBO	Carlsbad Field Office
CIH	Certified industrial hygienist
CMERC	Carlsbad Environmental Monitoring Research Center
CPR	Cardiopulmonary resuscitation
CPS	Cask Preparation Station
CSP	Certified safety professional
DHS	U.S. Department of Homeland Security
DOE	U.S. Department of Energy
EH	Office of Environment, Safety and Health
EPHA	Emergency Planning Hazard Assessment
ERC	Environmental Restoration Contractor
HQ/EH	DOE Headquarters, Office of Environment, Safety and Health
ISMS	Integrated Safety Management System
JHA	Job Hazard Analysis
NNSA	National Nuclear Security Administration
OSHA	Occupational Safety and Health Administration
PAAA	Price-Anderson Amendment Act
PPE	Personal protective equipment
RF	Radio Frequency
RH	Remote Handling
S&H	Safety and health
STEP	State Training and Education Program
VPP	Voluntary Protection Program
VPPPA	Voluntary Protection Program Participant's Association
WIPP	Waste Isolation Pilot Plant
WTS	Washington TRU Solutions, LLC

Executive Summary

The DOE Voluntary Protection Program (VPP) onsite review of the Waste Isolation Pilot Plant (WIPP), Washington TRU Solutions, LLC (WTS) for STAR recertification was conducted September 12-16, 2005 at the WIPP facility in Carlsbad, New Mexico. The WIPP originally achieved STAR status in September 1994, and was last recertified in August 2002. The onsite review team (Team) found the STAR quality of performance remains strong at the WIPP. The following summarizes the review team's observations and analysis.

Management Leadership

The Team found a high degree of management commitment to safety and health (S&H) by WIPP corporate management. At the WIPP, managers at all levels are personally committed to the VPP, and such commitment is clearly demonstrated in their day-to-day interaction with the staff. Observations and interviews demonstrated that their leadership in the area of safety and health is capable, competent, and well directed. Overall, the team found that senior management's leadership of the overall safety and health program is fully executed. Information gathered during the interview process, and by actual observation, showed that managers visibly participate in safety programs. WTS has successfully implemented the Department's Integrated Safety Management System (ISMS) requirement, and the other elements of applicable DOE Orders. The WIPP management team advocates that all accidents are preventable, and they encourage a safety culture based on this "injury-free" philosophy. In addition, it is evident that the management staff considers VPP as directly complementary of the DOE ISMS requirement, as it is utilized as an effective metric to gauge the success of ISMS implementation. Overall, WTS fully meets the requirements of the Management Leadership tenet for VPP.

Employee Involvement

Employees are fully engaged in all aspects of their work environment. Employees actively participate in the development of all work control processes, from the development of the work package, identifying the hazards, developing the mitigation actions, and performing the work. Employees actively participate on a variety of committees designed to promote a safe and healthy work environment. All employees understand that they have "Stop Work" authority if an unsafe condition exists. They have no fear of reprisal, and are ready to raise a safety issue/concern through a variety of communication means. Employees continue to think in terms of each other's safety during work execution, and felt comfortable approaching other employees with a safety issue. They continue to satisfy the VPP requirements for Employee Involvement.

Worksite Analyses

The VPP onsite review team found that requirements of this DOE-VPP criterion have been satisfied. The worksite analysis processes are structured and implemented to control hazards to the workers, environment, and the public. Hazard analysis processes incorporate a variety of tools. A comprehensive baseline hazards analysis has been completed by S&H professionals for all facilities, accident investigation and lessons learned processes are developed and implemented. The site has established trending of injury and non-injury safety & health data; results are used for continuous improvement action development; results are communicated to employees. Processes remain in operation to identify, evaluate, and correct hazards. As before, these processes are based on evaluating new procedures, materials and equipment prior to their use, maintaining a baseline industrial hygiene survey, and conducting routine planned safety inspections throughout the facility. Employee-based procedures also support and encourage investigating events and sharing lessons learned. Additionally, they conduct a vigorous and comprehensive Annual Self-Assessment with a companion Annual VPP Report. The Team found that the excellent habits and methods established before the corporate transition remain in operation.

Hazard Prevention and Control

The Team found that the VIPP satisfies the requirements of Hazard Prevention and Control. It noted that ISMS remains effective and thorough, as it was before the corporate transition. Concern for meticulous job planning and execution remains rigorous. The lock and tag out procedure has been fully implemented. They continuously examine opportunities for ergonomic improvements in the workplace; this has resulted in several successful improvement initiatives.

Safety and Health Training

The WIPP continues to exceed all Safety and Health Training requirements. The results of interviews with both management and staff members show that S&H training is comprehensive at this facility. It employs all forms of training techniques, including practical factors, classroom, private study, and team operations, using actual work equipment. It addresses all types of managers, workers, and subcontractors. Employees stated in interviews that the training and the associated qualification system remain consistently effective for all aspects of work tasks.

Conclusion

The Team concludes that the WIPP has satisfied the requirements for participation in DOE-VPP, and recommends their recertification to STAR.

I. Introduction

The DOE-VPP onsite review of the Waste Isolation Pilot Plant (WIPP) for recertification was conducted September 12-16, 2005 in Carlsbad, New Mexico. The WIPP is a one-of-a-kind facility that performs waste storage for the Department of Energy in Carlsbad, New Mexico. It is operated by Washington TRU Solutions, LLC (WTS). The Department of Energy's Carlsbad Field Office (CBFO), in Carlsbad, New Mexico has oversight responsibility, and provides guidance to the WIPP on a regular basis. This facility is geographically centered on a 141-acre site located in Carlsbad, New Mexico. It supports the Office of Environmental Management. WTS has approximately 660 employees, and a \$217M annual budget. The WIPP has an additional 340 workers at the site as DOE field staff, subcontractors, security, and other support. It currently is expanding its operations to other DOE field activities across the nation to prepare and package wastes for safe shipment and eventual deposit in Carlsbad. (Appendix I provides a collection of supporting documents for this audit.)

A recent event at the Lawrence Livermore National Laboratory that has been cited as a Price-Anderson violation occurred during an initial exercise of this new extension of WIPP operations into other DOE facilities. In consequence of this experience and failure, WIPP has commenced a comprehensive review of these operations, and has begun to develop and implement a disciplined approach to safely perform these additional operations. This approach has since incorporated several efforts to assure that all employees will be adequately included in the WIPP VPP, and that the standard of safety and health management remains high without regard to geographic assignment. The Team was gratified to learn of the progress achieved in this effort, and offered their further support from other VPP sites across the DOE. The Team was impressed by the attitude and the energy being applied to this new VPP-driven pioneering effort and multi-site cooperation. This responsiveness to an identified weakness is the hallmark of a very mature and effective VPP program.

Likewise, their response to the Type B accident last year, where a worker was struck by a clamp on a rope down in the mine, has now generated an exportable best practice for towing and dragging operations. The Team noted with respect to the effort to draw from this event, some values that all of DOE can share.

The STAR level of recognition was initially awarded to the site in September 1994, and last recertified STAR in August 2002. The WIPP site has approximately 1000 employees. The United Steelworkers of America, Carlsbad USW 12-9477 bargaining unit comprises about 200 of these employees.

The Team noted that the WIPP has begun a new phase of operations since the last recertification in 2002. Waste is now arriving and being deposited at a greater volume,

leading to new challenges. The hazards have changed, and their VPP has made the necessary adjustments to assure that worker safety and health protection remains effective. This facility has commenced an era of accelerated waste handling, and has started a new learning curve for operations, and has embraced this change as a pioneering process for both production operations and its companion safety and health programs. The WIPP has clearly recognized the need to apply continuous improvement in their VPP to this new adventure.

The primary observation of the Team in this audit concerned the progress of this acceleration of waste handling. The Team's concern was that the VPP remain effective regardless of productivity requirements in the future. Specifically, the Team recommended that the WIPP VPP continuous improvement effort be focused on anticipating the added strains on S&H programs of accelerated waste handling operations.

Although the present safety culture is both mature and strong, and the current VPP is effective and vibrant, the Team recognized that future productivity demands may prove a greater burden than currently anticipated. Interviews revealed that many employees are concerned that WIPP VPP is not ready to absorb these productivity changes. The Team agreed with this view, and recommends that the Employee Involvement processes receive extra attention and strengthening. Specifically, the Team recommends a thorough review of safety and health systems, procedures using the current framework of infrastructure, with an emphasis that reaches out to all employees.

The Team noted that another area, common to mature VPP, is the need to strengthen communications across the site. Employee interviews indicated that employees want more feedback and more opportunities to be influential in the exercise of their S&H programs.

The Team evaluated the safety programs of the WIPP against the Protocol for DOE-VPP Star Site Recertification of the DOE-VPP. The DOE-VPP recertification review team consisted of two safety professionals from the DOE Headquarters, Office of Environment, Safety and Health (HQ/EH), one from the DOE Richland, Washington field office, one from the local Carlsbad DOE field office, one from the DOE field office at Yucca Mountain, and a safety manager from the Federal Manufacturing & Technologies/New Mexico, Honeywell International. (See Appendix II for a roster of the Team.) During the site visit, the Team reviewed relevant safety documents and conducted interviews of approximately 210 employees (both bargaining and non-bargaining unit) and management to evaluate and verify the information necessary to perform the recertification review.

II. Injury and Illness Rate Information and Trending

A review of the Occupational Safety and Health Administration (OSHA) 200/300 logs was performed. The rates below include all WTS employees.

INJURY AND ILLNESS DATA FOR the WTS					
Calendar Year	Lost Workday Cases	Total Recordable Cases	Employee Hours	Days Away, Restricted, or Transferred Rate*	Total Recordable Case Incident Rate
2002	3	10	1,129,917	0.53	1.77
2003	4	10	1,089,672	0.75	1.84
2004	1	5	1,097,247	0.18	0.91
3-Year Avg.	2.67	8.33		0.48	1.51
Bureau of Labor Statistics (BLS) 3 yr average for NAICS 56221 was 1.4 and 0.6				4.5	7.3
WTS percent below BLS rate				95%	89%

* Days Away, Restricted, or Transferred (DART) rate replaced the Lost Workday Injury and Illness (LWDI) rate in 2004

The information on the OSHA 200/300 logs supports the data provided in the WIPP self-evaluations, the organization's first report of injury forms and other recordkeeping documents. A WTS health and safety professional is responsible for classifying all injuries and illnesses for OSHA recording, and is responsible for maintaining the OSHA log. Injury/illness data is submitted for inclusion in the DOE HQ Computerized Accident/Incident Reporting System (CAIRS). Routinely, the data output from CAIRS is checked against the actual data reported and submitted. This ensures that accurate information is being presented in the CAIRS database. The staff understands the recordkeeping requirements, including the 29 CFR 1904 recordkeeping changes that went into effect in January 2002.

III. Summary of Performance Related to VPP Tenets and Sub-elements

The level of management leadership, employee involvement, worksite analysis, hazard prevention & control, and safety & health training found at this site meet or exceed DOE-VPP criteria for STAR level recognition. The sub-elements of the tenets and an evaluation of the WIPP performance in selected areas are addressed and described below.

Management Leadership

The commitment of the management and staff members of the Waste Isolation Pilot Plant (WIPP) by Washington TRU Solutions, LLC (WTS) is demonstrated in the strong safety and health policy and procedural documents, in the allocation of resources necessary to support all safety and health program activities, in attention to employee identified safety and health concerns, and in active participation in safety and health activities. In addition, WTS management demonstrates its commitment to a safe and healthful workplace for all employees through the effective implementation of both the ISMS requirements and VPP. The Team noted that top-level management from WTS is clearly visible in the work place and actively participates in their safety and health program.

The team did examine the FRAM document and it is evident that the WTS management team is well organized to support its roles, responsibilities, and policies. Additionally, roles and responsibilities for employees, supervisors and managers are identified in position descriptions and in the labor agreements for those employees who are members of the bargaining unit. Accountability is demonstrated in performance evaluations for non-bargaining unit employees, supervisors and managers, as well as through the means/methods identified in the collective bargaining agreement for bargaining unit employees. Interviews and observations indicate that resources are budgeted and allocated in an appropriate manner.

An integrated framework has been established to provide a template to ensure the S&H planning process is comprehensive. The WTS self-assessment process and the subsequent VPP Annual Report are fully integrated and the WTS format includes a well-developed format that permits evaluation, commentary and trending of performance by VPP sub-tenet.

The annual program evaluations utilize VPP criteria and ISMS core functions and guiding principles; the results of annual program evaluations and other S&H trending data are used by WTS to develop improvement strategies/actions for the coming year. Employee orientations, as well as other training, including that for managers, is well developed and implemented effectively at all levels.

The WIPP fully satisfies the requirements of the Management Leadership tenet and its sub-elements as described above.

Employee Involvement

The information gathered for this portion of the report relies heavily on observations of employees in the workplace while conducting their routine duties, reviewing committee reports and on interviews of employees and committee members. Employees overwhelmingly felt management was committed to providing a safe and healthy work environment and ownership of the safety culture. Employees, at all levels, said that they would not hesitate in raising a safety issue/concern and had no fear of reprisal. Employees did, however, feel that management needs to place a higher emphasis on safety issues raised by employees and provide a more timely resolution to these issues (see “Areas Needing Improvements”). Employees in the bargaining unit feel that barriers to communication to and from management are minimal. One area identified by employees that could be improved on was feedback from the submittal of “Close Call” cards (see “Areas Needing Improvement”). Employee communications are regarded as effective.

Workers were candid and showed no fear in talking with the Team during interviews. The Team interviewed approximately 210 employees, including 9 safety committee members. All employees indicated that they understood their rights and responsibilities, and are very knowledgeable about their specific responsibilities regarding safety and health. Interviews confirmed that a strong safety culture exists at all levels, and employees felt that it was not only the right, but their responsibility to voice safety concerns. They are proud of their work site, and feel safety is a priority in performing work.

Employees stated that they could report an incident or accident.

Employees are passionate about their work, the company, their community, and their coworkers. They are mature, well seasoned, well qualified, and competent. They are aware of the hazards of their job(s) and how these hazards are mitigated. The team found that the workers at the WIPP are cooperative and ready to follow safety and health procedures and processes. All employees understand that they have “Stop Work” authority if unsafe conditions exist. They have no fear of reprisal and are ready to raise safety issues through a variety of communication means. They continue to think in terms of each other’s safety during work execution. The employee safety recognition program is continuing its expansion, and has received greater emphasis since the corporate change. They continue to satisfy the VPP requirements for Employee Involvement and had no fear of reprisal for reporting all incidents. They did voice a desire to become more active participants in the incident/accident investigation process and also to have their peers involved (see “Areas Needing Improvements”).

The WIPP fully satisfies the requirements of the Employee Involvement tenet and its sub-elements as described above.

Worksite Analysis

New or modified facility designs, operations, processes and training, are reviewed and analyzed to identify and mitigate potential hazards before work or training is started. Comprehensive baseline surveys have been completed; updates and reviews are periodic and comprehensive. Recent proposed changes to exposure limits on diesel particulate emissions has precipitated a proactive analysis program to optimize the operations of diesel engines used in the mine, including engine tuning, ventilation management, work assignment management, and comprehensive sampling.

Inspections of work areas are performed by management, workers, and various safety committees with cross functional representation from all disciplines, ensuring comprehensive attention to all issues. All results are documented and communicated.

All work is planned, using the Job Hazard Analyses (JHA). In virtually all cases, these JHAs are written and maintained by the workers themselves. In all cases reviewed, workers were fully cognizant of the relevant JHAs and the work hazards. Daily pre-work briefings are held for all employees; additional pre-job briefings are held for maintenance and installation activities.

Employees are encouraged and expected to identify and report conditions that compromise or are not in compliance with company S&H programs. In 100% of interviews, workers stated that they were comfortable reporting safety issues and stopping work. Several workers described specific examples of stopping work, and were happy with management's response. An issues management system titled "WIPP Forms" enables employees to report any issues great or small, and see them resolved. Employees are actively encouraged to participate on safety committees, and evidence shows that they actively do so.

Extensive trend analysis is performed to determine global issues perhaps not apparent from individual occurrences. A formal lessons learned program is in place. This program represents a BEST PRACTICE, and has been exported to other government entities. Trending analysis of safety & health event data is performed regularly and communicated.

A Type B accident investigation was conducted recently, and although the investigation indicated inadequate planning and some complacency, the changes resulting from the investigation indicated a robust safety system, which thoroughly evaluated the issues involved, and implemented corrective actions involving all levels of workers. This specific incident resulted in the development of a new process called "Towing and Dragging," which represents a BEST PRACTICE.

Other practices, such as new "Issues Management" program, a Conduct of Operations improvement team, and a Close Call program, indicate a safety program striving to improve.

The WIPP fully satisfies the requirements of the Worksite Analysis tenet and its sub-elements as prescribed above.

Hazard Prevention & Control

The WIPP has an impressive Safety and Health Organization, which addresses industrial safety and hygiene, radiation safety and emergency management, environmental monitoring support, and laboratory safety. There are several certified safety professionals (CSP) and certified industrial hygienists (CIH) on staff. Certified S&H personnel in a variety of areas are also immediately available from their central safety organization. They have strong safety and health rules in the hierarchy of policies, procedures, and ISM plans; safety and health rules are used to guide and enforce/reward conformance to policies and requirements.

Site policy regarding the use of personal protective equipment (PPE) is strong. PPE is made available, including gloves, boots, safety glasses, hearing protection, and respirators. Where PPE is needed, those requirements are clearly delineated in associated work permits/documents (e.g., work package, containing AJHA, Radiological Work Permit, etc.).

There is a strong emergency preparedness program in effect.

The WIPP site hazard assessment awareness from a high-level perspective is formally illustrated in the Emergency Planning Hazard Assessment (EPHA), which was revised during the period from March to June, 2004. The accident scenarios analyzed are the same as those in the previous EPHA, with the addition of a twelfth accident. The new accident is postulated to occur when a forklift and waste transporter collide in the underground, and ensuing diesel fuel fire breached several 55-gallon drums. This assessment does an excellent job in comprehensively assessing potential airborne radiological and environmental airborne hazards resulting from the twelve separate accident scenarios.

Employees are routinely involved in drills and exercises. The employees follow the requirements of “host” facilities regarding radiation protection training and program requirements. They also have a strong medical program founded on a well-established and close relationship with the Site Occupational Medicine organization. The WIPP has an established automated external defibrillator (AED) program. There are three AED instrument stations in place. The AED stations at the WIPP site are located in the underground, in the emergency response equipment bay on the surface, and there is one at the Skeen Whitlock building in Carlsbad. One hundred and thirteen employees have been formally trained in basic first aid, cardiopulmonary resuscitation (CPR), and AED operation as responders on various volunteer emergency response teams. In addition, the Office Wardens (an additional 78 employees) have offered informal training at Safety Fair booths, etc. to assist in promoting understanding and use of the AEDs as needed. The Health Services staff discussed and demonstrated AEDs at employee meetings and

offered training to any employee that desired. Policies and procedures are based on appropriate DOE contract clauses, orders, contract documents, and industry standards.

Examples of VPP Hazard Assessment and Control:

Underground Rock Bolt Ground Control Program – Procurement of New Rock Bolt Installation Machine

One of the major hazards for people in the underground operations of the WIPP site is potential falls of earth from the roof and ribs (walls) of the mine openings. When a new rock bolting machine needed to be purchased, the Procurement Organization applied both ISM and VPP in establishing a multifunctional analysis team. Working through this team, input from various organizations, including engineering and the miners who were familiar with operating characteristics of various brands of rock bolting machines was obtained. As a result of this process, the machine chosen was based on engineering and operational considerations pointed out by the employees, including overall safety, adaptability, durability, and operational efficiency.

Towing and Dragging Committee

As a result of an accident underground, this committee was established to review and evaluate all towing/dragging activities on the WIPP site. Surprisingly, the committee found there were no specific industrial standards on towing and dragging. After considerable research and hard work, the committee has created a formal Towing and Rigging Manual, based primarily on the DOE hoisting and Rigging Standard (DOE-STD-1090), which will improve safety in the conduct of such operations.

Remote Handling (RH) Bay 140/25 – The crane controls were upgraded to RF control, allowing operators better visibility and mobility when moving Road Casks and other materials within the RH Bay. The 25-Ton hoist hook is being replaced. The existing hook configuration requires a 200-lb. shackle to be repeatedly installed and removed to support the bale on the Cask Lifting Yoke. This repetitive activity provides increasing frequency for potential injury to personnel and equipment. The new hook will not require the use of the shackle to handle the bale on the yoke, significantly enhancing personnel safety.

15-Ton Hot Cell Crane – The crane controls were upgraded to Radio Frequency (RF) control, providing significantly more mobility to the operators, and increased visibility to operations inside the hot cell through limited aperture windows. In addition, the lightweight transmitters removed the requirement for pushing and pulling the large, heavy control console and performing repeated plugging and unplugging operations to support a single evolution. Redundant drives are provided to minimize impact to facility capacity in the event of drive failure.

Cask Preparation Station – A work platform called the Cask Preparation Station (CPS) was provided in the RH Bay to support RH waste handling. The addition of the CPS

removed the requirement for mobile manlifts to prepare casks, minimized or eliminated personnel contact with loaded casks during the process that prepares the cask for unloading, and provides adequate deck space to perform cask operations. The CPS has significantly increased efficiency and safety for personnel.

140-Ton Shield Door – The shield door controls will be upgraded. Previous controls required operators to initiate door motion by pressing and holding a button. When the door motion is to terminate, the operator would have to estimate when to release the button. The door would “coast” to a stop over a certain distance restrained by an end stop. Overtravel would cause the door to rebound causing equipment wear and introducing unnecessary risk to personnel and equipment. The proposed new controls provide backpressure in a controlled fashion as determined by the logic circuit when the door is a certain distance from the end of travel. The “coasting” and “guesswork” of controlling the door has been removed. The system will be much more reliable and repeatable. Expect completion by January 2006.

Powered Overhead Manipulator – Controls have been upgraded to support operator visibility and ergonomic considerations. The previous control scheme provided operator switches and buttons that were difficult to use due to position. In addition, the new scheme used a roll-around RF transmitter to provide increased visibility. Other control features were modified due to obsolete design and lack of parts support. Redundant drives are supplied to minimize impact to facility capacity in the event of drive failure.

Drop Guard – A guard ring is to be installed at the bottom of the drop guard that extends from the Hot Cell to the Transfer Cell (approximately 30 foot vertical distance) to prevent inadvertent interference between the drop guard and a cable on the lower crane block. The cable is within the confines of the Hot Cell, and when waste is present in a radiological area. If the cable were caught on the drop guard, it would be difficult to recover. The guard ring prevents the cable from catching on the drop guard.

Lid Lift Tools – 72B lid lift tools have been redesigned to contain a bale for lifting by crane, and have been reduced in weight for ease of handling by personnel. The previous design required two persons to lift safely and no crane lifting features were incorporated into the unit. Personnel safety was enhanced and process efficiency was increased through this modification.

Nut Runners – Pneumatic de-tensioning tools (nut runners) have been provided to replace the long-handled, ratchet-style torque wrenches to loosen and remove high torque bolts. These pneumatic tools will minimize strain and exertion on the part of personnel and increase efficiency.

72B lifting Yoke Storage Stand – The yoke was previously stored on the RH Bay floor on cribbing. The stand provides easy crane access to the yoke.

10-160B Vent Tool – Provides small space 10160B Road Cask internal atmosphere sampling. It provides confinement to protect the worker from potential airborne contamination.

HERE modifications – The shield plug carriage modification provides the ability to insert the shield plug into the carriage while the carriage is on the HERE. Previous design required removal of the carriage and use of slings to support the shield plug insertion. This modification provides for increased personnel safety and increased process efficiency.

Shield plug design has been revised to eliminate the use of slings for handling the plug. Fork pockets have been designed into the plug. This modification provides for ease of use, resulting in increased efficiency in the process.

72B Trailer Trunion Cap Shelf – Previous design required lifting and removal of a 55lb. piece of steel located in a limited access area. The shelf removed the lifting requirement and provides secure storage. The shelf increased personnel safety and process efficiency.

Based on these and other initiatives, the WIPP fully satisfies the requirements of the Hazard Prevention and Control tenet.

Safety & Health Training

The safety & health training processes used at the WIPP are structured and implemented according to ISM core functions and guiding principles; these processes adequately train workers, supervisors, and managers in recognizing hazards and performing work safely. All types of training tools, practical factors, classroom, private study, and equipment exercise are used. Employees who were interviewed during this review, as well as observations made by the Team, confirmed that these processes are used and understood by employees throughout the organization.

Expected operations at waste origination sites will require that these WIPP training programs are extended to assure that all WIPP employees remain safe and fully qualified for their duties without regard to their geographic assignments. Use of computer-based technologies and other approaches are presently in review by WIPP.

The WIPP fully satisfies the requirements of the Safety & Health Training tenet and its sub-elements as described above.

IV. Outreach

The WTS outreach effort at WIPP has been strong and consistent throughout their participation in the DOE-VPP as a STAR worksite. Over the past three years, the outreach has continued to be outstanding. The onsite review team identified several recent and ongoing efforts by WTS. Listed below are examples of a few of these many commendable efforts.

- Supported the Department of Interior, Bureau of Land Management (BLM) in presenting a regional Safety Fair. Provided training sessions, booths, displays, films, and guest speakers. Presentations included topics on VPP, Lessons Learned, safety compliance, general safety and other topics. In addition to BLM, National Forest Service personnel, staff members from 2 National Parks and Bureau of Reclamation personnel attended.
- The State of New Mexico Occupational Safety and Health program visited the WIPP site on several occasions to attend training sessions on VPP. Additionally, the site has assisted them in developing checklists for their VPP audits.
- Assist in the onsite review of Honeywell FM&T NM; supporting EH-HQ on the team conducting the site visit.
- Mentoring Carlsbad Caverns National Park in developing a safety program, and in developing their VPP application for entry into OSHA's VPP for Federal agencies.
- Serves as State of New Mexico coordinator for the Voluntary Protection Program Participant's Association (VPPPA) Regional organization; Region 6.
- Performed Key Outreach and Mentoring with the Department of Homeland Security (DHS) including:
 - Work with a consortium of universities (University of New Mexico, New Mexico Tech, New Mexico State University, Los Alamos National Laboratory, Sandia National Laboratory – Center of Excellence for Hazardous Materials Management, and Carlsbad Environmental Monitoring Research Center (CMERC) assisting in planning of drills and exercises, developing written materials and helping in start-up activities for a National Homeland Security Training Center.
 - Assisted the Carlsbad Environmental Research Center in developing a national “dirty bomb” training program for first responders at local, state, and national response levels based on the foundational program of WIPP's State's Training and Education Program (STEP). The STEP program is offered to responders

along the shipping corridors for response to a TRUPAC incident. Thus it includes offering training and exercises for response to hazardous material/radiological incidents. The training, approved by OSHA, is the only such training conducted in all states along the shipping corridors. WIPP offers this training upon request to communities of all sizes, including volunteer response teams, train-the-trainer courses, and offering exercises accordingly up to and including multi-state level response. Thus it provided an excellent foundation in assisting CMERC with their “dirty bomb” initiative. WTS provided the foundational training, assisted in the further development of training and related field practicals, exams, field assessment, and ensuring safety of participants during the training practicals.

- Assisted State of New Mexico and Federal MSHA on awareness for DHS related to the unique training received by the Mine Rescue Teams, that could provide key assistance for other response teams as applicable to major disasters (such as recovery activities, mapping response scenes, running communication lines, etc.).

V. Strengths

During this review, the Team noted several strengths within the WTS group at the WIPP that are indicative of a healthy and comprehensive safety culture. Notable, ISMS principles and methodologies are evident in these behaviors and practices, and this illustrates the depth and scope to which WTS has integrated the five main tenets of VPP into their overall safety and health effort. Listed below are the strengths noted by Team members during this review.

1. A very strong safety culture. Nearly everyone interviewed agreed that this site is a safe place to work. Additionally, all agreed that they could stop hazardous work activity at any time without fear of reprisal.
2. Several Current Programs:

The Electrical Safety Program – a committee of employees (the Electrical Safety Committee) undertook to oversee the implementation of National Electrical Code 70E, *Standard for Electrical Safety in the Workplace, 2004*, mainly involving issues regarding new PPE standards for electrical safety. That code has been fully implemented. In addition, the overall electrical safety program has been proven effective in that there are numerous programmatic controls to ensure safety. This has resulted in NO electrical safety incidents at the ORPS reportable level. All incidents were caught within the multiple control system long before a true incident level. With the focus throughout the DOE complex on electrical safety, such a program and record is considered a definite strength at the VPP STAR level.

Close Call Program – A newer program reflecting strength in continuous improvement, this program is focused on the lowest levels to ensure catching things appropriately before they become an issue. This is a near-miss type program with cards readily available around the site. All employees and supervisors are encouraged to submit “close calls” for corrective action if needed, and if no action is needed, then submit to capture the close call for trending.

Time Out For Safety – A newer program initiated to ensure employees were sufficiently aware of safety issues, had another path to submit safety issues, and were comfortable with implementing the STOP WORK policy when needed. Management and safety professionals meet monthly with a significant number of representatives from each department/organization, including bargaining unit members. The representatives change monthly to ensure everyone has the opportunity to attend, receive information, present issues, etc.

Stop, Think, Act, Review (STAR) – An awareness program to remind people to Stop, Think, Act, and then Review to determine if further change is needed to ensure safety. Training on this awareness program was offered to all employees, and posters are

located throughout the workplace as reminders. The program was developed by an employee committee called the Conduct of Operations Improvement Team.

VI. Best Practices

The Team commends the WIPP for its continuation as a STAR participant in the Department of Energy Voluntary Protection Program. The Team recognized a majority of the ES&H programs as long term assets, which provide excellent value and sufficient worker and management involvement. The WIPP ES&H programs effectively integrate and implement best practices, which have allowed employee involvement to evolve and stabilize a strong safety culture. Examples of WIPP best practice programs and processes are:

1. The WTS Lessons Learned Program. An outstanding program utilizing a committee approach to screen and ensure appropriate transfer of lessons learned. The process used has demonstrated to be a very effective approach to ensuring appropriate level of action for implementation of applicable lessons learned, and tracking actions taken to assist in continuous improvement.
2. WTS Towing and Dragging Program. As part of the response to a serious accident, WTS responded as a STAR site should by determining the cause(s) and the necessary need(s) for addressing the potential for similar events in the future. In part, they identified the lack of specific procedures/practices for the type of towing or dragging operations that contributed to this event. They formed a committee of managers and workers to investigate, review and address the situation. That group found that procedures for towing and dragging were lacking both within DOE and externally. They took on the task of developing procedures, processes, and equipment that met all DOE requirements, and would integrate with existing requirements. The end result is a new program for towing and dragging.
3. Issues Management Program. This program uses a basic one-page form called the “WIPP FORM” as a tool to report, track, schedule, and resolve issues at the WIPP. The scope of these issues may include issues of both high and low significance. Due to its simplicity for the initiators, it has proven an effective mechanism for the identification of issues that may require correction or senior management attention. The WIPP FORM is also encouraged to suggest process improvements. A committee then reviews, assigns personnel to address issues, assigns reviewers for the corrective actions (to ensure all appropriate organizations are involved in the corrective action), with the result being more effective corrective actions, and less repeat issues.

VII. Areas for Improvement

Although the Team recognizes that the WIPP has implemented many good programs and practices, as with any healthy continuous improvement program, there are areas for improvement within the safety arena. The Team noted the following opportunities for improvement:

1. **Characterization Process.** The Central Characterization Project (CCP) utilizes mobile characterization equipment and WTS/subcontractor personnel teams to deploy to DOE generator worksites across the country. These teams take with them complete characterization equipment, procedures, supplies, and other resources. The overall effort is designed to help the waste generating site characterize, certify, load, and ship their waste to the WIPP. From the standpoint of administering an effective safety and health program for WTS-WIPP employees, WTS-WIPP enters into formal agreements with the host or generating sites that describe the roles and responsibilities between CCP and the host site. Execution of these agreements has not proven fully effective as evidenced by the pending PAAA enforcement action with WTS while at the Lawrence Livermore National Laboratory. As a result of this problem, WTS-WIPP has already undertaken efforts to make their offsite characterization process much more rigorous to ensure that their employees are provided with a VPP-level of quality for all safety and health issues. Because this effort is unique, and no prior experience or expertise can be called on for improvement of the process, it is important that the WTS utilize a very deliberate process for developing new, and enhancing existing protocols, procedures and guidelines, and implementing appropriate operational oversight. It is suggested that they begin by partnering with other existing VPP STAR sites such as the Savannah River Site, and the Idaho National Laboratory prior to implementation at non-VPP worksites.
2. **Preparation for Change.** Focus continuous improvement through the strengthening of employee involvement on the necessary changes in each facet of the safety and health programs to assure that all aspects of productivity in the acceleration of waste handling do not compromise the safety and the health of all WIPP employees, managers, visitors, or subcontractors without regard to the location of performed duties.
3. **Adequacy of AEDs.** The WTS-WIPP team should formally evaluate the AED program, including numbers and locations.

VIII. Conclusion

The Team found that the WIPP continues to meet and maintain a safety and health program addressing the basic tenets of DOE-VPP. The Team recommends that the WIPP be recertified as a STAR.

Appendix I



AA:05:00759
UFC:1000.00

INTER-OFFICE CORRESPONDENCE

DATE: May 2, 2005

FROM: R. D. Raaz *[Signature]* LOCATION: General Manager's Office

TO: WTSWRES Employees ED LOCATION: Various

SUBJECT: VOLUNTARY PROTECTION PROGRAM ASSURANCE OF COMMITMENT

As you are aware, the Westinghouse Waste Isolation Division was awarded the Department of Energy's Voluntary Protection Program STAR status in 1994. WID, and then Westinghouse/Washington TRU Solutions maintained that status during subsequent re-evaluations. When changes occur at the General Manager level of the organization, the DOE Office of Security & Safety Performance Assurance determines whether the VPP STAR status can be continued. The DOE has granted Washington TRU Solutions and the new management team the right to continue in the Voluntary Protection Program in accordance with our Assurance of Commitment. This continuance does not change the recertification process. The Washington TRU Solutions program is scheduled for VPP recertification review in the fall of 2005. I would like to take this opportunity to not only commit to the following assurances to DOE but to our employees, that we, as WTS management, will maintain our focus and continuously improve on safety at the STAR level of the Voluntary Protection Program.

If you have any questions concerning this correspondence, please contact Bertha Cassingham, VPP Coordinator at Extension 8752.

BC:ys

Attachment

Attachment
AA-05:00759
Page 1 of 3

Assurance of Commitment

per DOE/EH-0433, U.S. Department of Energy Voluntary Protection Program

We are committed to doing our best to provide outstanding safety and health protection to our employees through management systems and employee involvement.

We are also committed to the maintenance of the Star Program requirements and to the goals and objectives of the DOE Voluntary Protection Programs. All requirements for DOE-VPP participation will be met and maintained.

We will notify employees about participation in DOE-VPP, including newly hired employees when they reach the site, their right to register a complaint with DOE, and their right to obtain self-inspection and accident investigation results upon request.

We agree to correct all hazards identified through any assessments, investigations, reports or maintenance in a timely manner. Interim protection shall be provided in the meantime.

We agree that control of hazards will be implemented in the following order:

- a. Process and/or material substitution
- b. Engineering controls
- c. Administrative controls
 - (1) Work rules
 - (2) Operating procedures

We will provide the results of self-audits, appraisals, assessments, and accident/incident investigations to our employees upon request.

Any employee who has safety related duties or who calls attention to safety related items will be protected from any reprisal or harassment resulting from these duties.

We agree to provide the information listed below for DOE-VPP review during the re-evaluation process. We will likewise retain comparable records for the period of DOE-VPP participation covered by each subsequent evaluation until DOE communicates its decision regarding continued approval.

- Written health and safety program
- Copies of the log of injuries and illnesses
- Injury and illness records for subcontractor employees in areas controlled by Washington TRU Solutions LLC
- Monitoring, sampling, and analysis records
- Medical records
- Training records
- Agreement between management and the collective bargaining agent concerning the functions of the safety committee and its organization
- Minutes of each committee meeting
- Committee inspection records
- Management inspection and accident investigation records
- Records of notifications of unsafe or unhealthful conditions received from employees and action taken, taking into account appropriate privacy concerns
- Annual internal health and safety program evaluation reports

In agreeing to make this information available to DOE, we understand that any materials we feel are classified, confidential, or revealing of trade secrets will be viewed by DOE on site to avoid

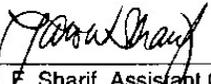
Attachment
AA:05:00759
Page 2 of 3

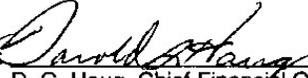
placing those materials in government files that are subject to Freedom of Information Act requests.

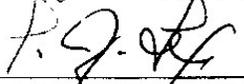
By February 15 of each year, we will provide DOE our annual injury incidence and lost workday case rates, hours worked, and estimated average employment for the past calendar year. In addition, we will provide DOE our safety and health program evaluation annually.

Signature:  Date: 5/2/2005
R. D. Raaz, General Manager
Washington TRU Solutions

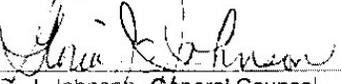
Signature:  Date: 4/28/05
D. E. Steffen, Assistant General Manager
Site Operations and Disposal
Washington TRU Solutions

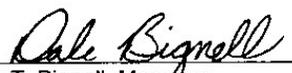
Signature:  Date: 4-26-05
M. F. Sharif, Assistant General Manager
Retrieval, Characterization and Transportation
Washington TRU Solutions

Signature:  Date: 4-26-05
D. G. Haug, Chief Financial Officer/Manager
Business Management
Washington TRU Solutions

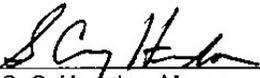
Signature:  Date: 4-26-05
T. J. Lex, Chief Nuclear Engineer & Manager
Engineering
Washington TRU Solutions

Signature:  Date: 4-30-05
W. A. Keeley, Manager
Strategic Planning
Washington TRU Solutions

Signature:  Date: 4/26/05
G. J. Johnson, General Counsel
Washington TRU Solutions

Signature:  Date: 4-26-05
D. T. Bignell, Manager
Regulatory Compliance
Washington Regulatory and Environmental Services

Attachment
AA:05:00759
Page 3 of 3

Signature:  _____ Date: 5/2/05 _____
S. C. Herndon, Manager
Safety and Health
Washington TRU Solutions

CBFO/WTS Environmental Policy Statement
DOE/WIPP 04-3310

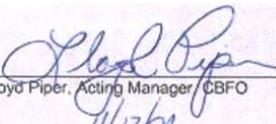
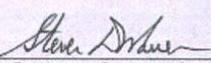
WIPP Environmental Policy Statement

The Carlsbad Field Office (CBFO) of the Department of Energy (DOE) and Washington TRU Solutions LLC (WTS), consider the protection of workers, the public, and the environment to be the highest priority of all our activities at the Waste Isolation Pilot Plant (WIPP). We are committed to achieving and maintaining high standards of environmental quality and to providing a safe and healthful workplace for our employees and communities while disposing of transuranic waste in an environmentally sound and cost-efficient manner.

Identifying and complying with applicable requirements through the implementation of an integrated safety management system (ISMS) is vital to WIPP's success. The WIPP ISMS includes an **environmental management system (EMS)** that meets the requirements of DOE Order 450.1, *Environmental Protection Program*, and the principles of the International Organization for Standardization, ISO 14001, *Environmental Management Systems—Specification with Guidance for Use* (ISO, 1996). The WIPP EMS strengthens **compliance** with laws and applicable requirements, **pollution prevention (P2)** initiatives **continual improvement** and **environmental accountability** in the decision-making process. The WIPP EMS provides a formal, organized process whereby CBFO and WTS plan, perform, assess, and improve WIPP's environmental performance. We will continue to identify goals and performance measures in order to continually improve our performance. We will use oversight and self-assessments to ensure implementation of the EMS.

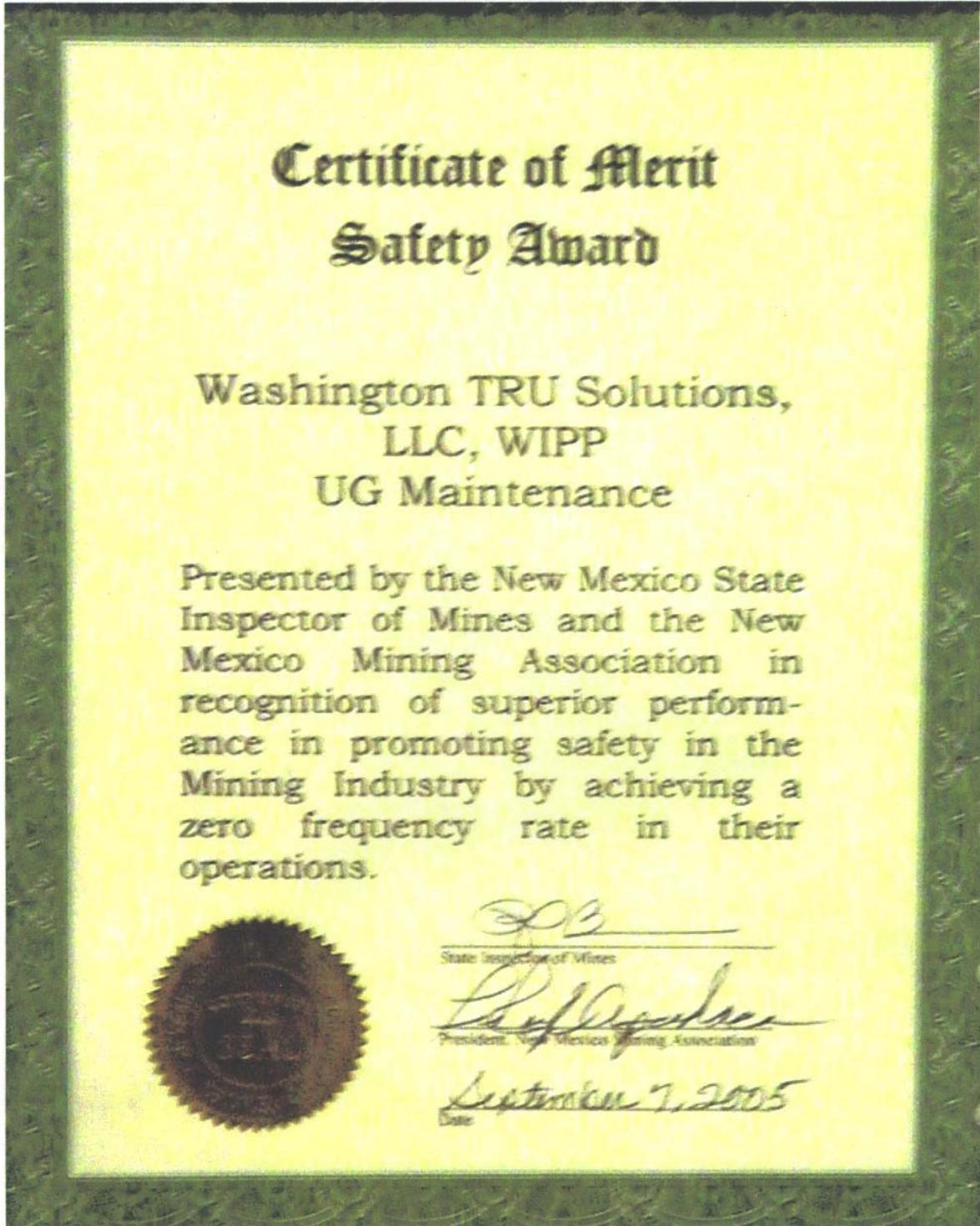
- Our **environmental requirements** and goals will be identified and, when appropriate, incorporated into contracts to ensure protection. We will comply with environmental requirements applicable to the operation of WIPP through the implementation of programs, plans, practices, and procedures.
- We will seek to achieve **pollution prevention** through safe, responsible, and cost-effective methods. We will use environmentally preferable products in our processes and services when feasible. We will strive to diminish our consumption of natural resources through reuse of materials, use of recycled materials, and conservation of energy and water. We will work to reduce our emissions and effluents by employing operational controls, by diligently monitoring operational indicators to determine when corrective actions are needed, and by implementing corrective and preventive actions whenever necessary.
- We will be an **environmentally responsible neighbor** in our communities by working with stakeholders to address mutual environmental concerns related to WIPP operations and acting to correct incidents or conditions that endanger health, safety, or the environment. We will seek out public input and respond to stakeholder views when making decisions. We will minimize harm to endangered species, habitats, ecologically sensitive areas, and cultural resources.

We will communicate this policy to others who work in the WIPP program to ensure their actions are conducted in a manner consistent with this policy.

Approved by:  Lloyd Piper, Acting Manager, CBFO	Approved by:  Steven D. Warren, General Manager, WTS
Date: <u>11/17/04</u>	Date: <u>11/17/2004</u>











**Certificate of Merit
Safety Award**

Washington TRU Solutions,
LLC, WIPP
UG Services

Presented by the New Mexico State
Inspector of Mines and the New
Mexico Mining Association in
recognition of superior perform-
ance in promoting safety in the
Mining Industry by achieving a
zero frequency rate in their
operations.



[Signature]
State Inspector of Mines

[Signature]
President, New Mexico Mining Association

September 7, 2005
Date

Appendix II

Name	Contact Information	Organization	Areas of Responsibility
Rex J. Bowser	301-903-2641 rex.bowser1@hq.doe.gov	DOE/EH - 31	Team Leader Safety and Health Training
David M. Smith	301-903-2641 david.smith@hq.doe.gov	DOE/EH - 31	Asst. Team Leader: Management Commitment
John E. Cavanaugh, Jr.	509-373-9625 John_e_jr_cavanaugh@rl.gov	DOE/RL	Hazard Prevention & Control
James Pollard	James_pollard@ymp.gov	DOE/RW BSC ¹	Employee Involvement
David Hutton	dhutton@kcp.com	NNSA Honeywell/NM ²	Worksite Analysis
Richard Farrell	505 - 234 – 8318 richard.farrell@wipp.ws	CBFO	observer

¹ BSC is Bechtel SAIC Company, LLC and it is the Operating & Management Contractor for the U.S. Department of Energy, Office of Civilian Radioactive Waste Management (RW) at the Yucca Mountain Project.

² Honeywell/NM is Honeywell International, Federal Manufacturing & Technologies (FM&T/NM) and they are the operating contractor for certain U.S. Department of Energy and National Nuclear Security Administration (NNSA) operations and facilities in and around Albuquerque, NM

