



## **West Valley Environmental Services, LLC West Valley Demonstration Project**

**Report from the Department of Energy  
Voluntary Protection Program  
Onsite Review  
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U.S. Department of Energy  
Office of Health, Safety and Security  
Office of Health and Safety  
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## Foreword

The Department of Energy (DOE) recognizes that true excellence can be encouraged and guided but not standardized. For this reason, on January 26, 1994, the Department initiated the DOE Voluntary Protection Program (VPP) to encourage and recognize excellence in occupational safety and health protection. This program closely parallels the Occupational Safety and Health Administration (OSHA) VPP. Since its creation by OSHA in 1982 and DOE in 1994, VPP has demonstrated that cooperative action among Government, industry, and labor can achieve excellence in worker safety and health. The Office of Health, Safety and Security (HSS) assumed responsibility for DOE-VPP in October 2006. Assessments are now more performance based and are enhancing the viability of the program. HSS continues to expand complex-wide contractor participation and is coordinating DOE-VPP efforts with other Department functions and initiatives, such as Enforcement, Oversight, and the Integrated Safety Management System.

DOE-VPP outlines areas where DOE contractors and subcontractors can surpass compliance with DOE orders and OSHA standards. The program encourages a “stretch for excellence” through systematic approaches, which emphasize creative solutions through cooperative efforts by managers, employees, and DOE.

Requirements for DOE-VPP participation are based on comprehensive management systems with employees actively involved in assessing, preventing, and controlling the potential health and safety hazards at their sites. DOE-VPP is designed to apply to all contractors in the DOE complex and encompasses production facilities, research and development operations, and various subcontractors and support organizations.

DOE contractors are not required to apply for participation in DOE-VPP. In keeping with OSHA and DOE-VPP philosophy, participation is strictly voluntary. Additionally, any participant may withdraw from the program at any time. DOE-VPP consists of three programs with names and functions similar to those in OSHA’s VPP: Star, Merit, and Demonstration. The Star program is the core of DOE-VPP. This program is aimed at truly outstanding protectors of employee safety and health. The Merit program is a steppingstone for participants that have good safety and health programs, but need time and DOE guidance to achieve true Star status. The Demonstration program, expected to be used rarely, allows DOE to recognize achievements in unusual situations about which DOE needs to learn more before determining approval requirements for the Star program.

By approving an applicant for participation in DOE-VPP, DOE recognizes that the applicant exceeds the basic elements of ongoing, systematic protection of employees at the site. The symbols of this recognition provided by DOE are certificates of approval and the right to use flags showing the program in which the site is participating. The participant may also choose to use the DOE-VPP logo on letterhead or on award items for employee incentive programs.

This report summarizes the team’s findings from the evaluation of West Valley Environmental Services, LLC (WVES), activities at the West Valley Demonstration Project during the period of November 9-19, 2009, and provides the Chief Health, Safety and Security Officer with the necessary information to make the final decision regarding WVES’ continued participation in DOE-VPP as a Star site.

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## ABBREVIATIONS AND ACRONYMS

ACM	Asbestos Containing Material
ALARA	As Low As Reasonably Achievable
BLS	Bureau of Labor Statistics
CFR	Code of Federal Regulations
CPR	Cardio Pulmonary Resuscitation
DART	Days Away, Restricted or Transferred
DOE	U.S. Department of Energy
DSA	Documented Safety Analysis
ECP	Employee Concerns Program
ESH&Q	Environmental, Safety, Health and Quality Assurance
HSS	Office of Health, Safety and Security
IH	Industrial Hygiene
ISMS	Integrated Safety Management System
NAICS	North American Industry Classification System
NARAC	National Atmospheric Release Advisory Center
OSHA	Occupational Safety and Health Administration
OITS	Open Items Tracking System
PM	Preventive Maintenance
PPE	Personal Protective Equipment
SMART	Safely Managing and Analyzing Routine Tasks
SOP	Standard Operating Procedure
STS	Safety Trained Supervisor
Team	Office of Health, Safety and Security DOE-VPP Team
VPP	Voluntary Protection Program
WRG	Work Review Group
WVDP	West Valley Demonstration Project
WVES	West Valley Environmental Services, LLC
WVNSCO	West Valley Nuclear Services Company

## EXECUTIVE SUMMARY

The Western New York Nuclear Service Center is comprised of approximately 3,300 acres, approximately 35 miles south of Buffalo, New York. The site, managed by the New York State Energy Research and Development Authority on behalf of the State of New York, was the home of the Nation's only commercial nuclear fuel reprocessing facility. Approximately 600 metric tons of radioactive nuclear reactor fuel was reprocessed at the West Valley facility between 1966 and 1972. In addition to the reusable uranium and plutonium that was extracted from the fuel and shipped offsite, approximately 660,000 gallons of highly radioactive liquid waste byproduct were produced and placed in underground storage tanks at the West Valley facility.

In 1980, Congress passed and President Carter signed, The West Valley Demonstration Project (WVDP) Act, Public Law 96-368. Key elements of the Act include solidification of the high-level radioactive waste that resulted from nuclear fuel reprocessing and decontamination and decommissioning of the facilities used in conjunction with the project. High-level waste solidification was completed in 2002. Work at the West Valley site is now concentrated on a Cost-Plus-Award-Fee contract awarded in June 2007, which is focused on:

(1) contaminated facility decontamination; (2) deactivation and demolition; (3) noncontaminated facility disposition; (4) waste management; (5) operation and maintenance of facilities and infrastructure; (6) safeguards and security; (7) janitorial and grounds keeping; (8) laboratory services; (9) regulatory compliance; (10) radiological monitoring; (11) administrative support services; and (12) support of other onsite Department of Energy (DOE) contractors.

In November 1999, WVDP, managed by the West Valley Nuclear Services Company (WVNSCO), was certified as a DOE Voluntary Protection Program (VPP) Star site and subsequently recertified in October 2002 and October 2005. WVNSCO was the first company awarded the Legacy of Stars recognition. West Valley Environmental Services, LLC (WVES), was formed in 2007 and is comprised of four companies: (1) URS Corporation (formerly United Research Services); (2) Jacobs Engineering Group; (3) Environmental Chemical Corporation; and (4) Parallax. On June 29, 2007, WVES was awarded a 4-year contract by DOE to continue the cleanup of facilities at WVDP. Contract transition from WVNSCO to WVES began July 1 and concluded on August 30, 2007. WVES assumed management of WVDP effective September 1, 2007.

Based upon a determination by the DOE/West Valley Project Office that the contract changes were not significant enough to require reapplication by the new contractor, the Office of Health, Safety and Security (HSS) DOE-VPP Team (Team) conducted an onsite review from June 16-27, 2008. That review determined that generally a strong safety culture had been maintained at WVDP. However, the Team was concerned about the impact of the contract change and the effectiveness of the partnership between managers and workers. The uncertainty surrounding the new contract solicitation and ensuing transition, coupled with past downsizing that occurred as the mission of the project evolved, severely strained what was in years past a model relationship between managers and employees, with both equally responsible and accountable for a record of safety excellence and continuous improvement. Because of that contract change and the change in mission from operations to decontamination and

decommissioning, it was recommended that WVES continue in DOE-VPP in a transitional status for up to 24 months.

Under guidance issued by HSS in August 2008, WVES reviewed its previous DOE-VPP application and updated its application to reflect changes in organization, mission, and processes where appropriate. The application was reviewed by HSS and an onsite assessment was scheduled. This report documents the results of that assessment.

The Team determined that WVES managers and workers have made significant progress in repairing their partnership. WVES has reinvigorated the safety committees, emphasized the need for management visibility and presence in the field, and established more effective forums for management and labor to discuss issues and concerns as they arise. WVES has stressed and improved the participation of workers in the work planning process. Through this process, WVES has achieved over 2,000,000 man-hours of work without a lost-work-time-injury and has recently completed 12 months without a recordable injury. In October 2009, WVES completed an entire month without a first-aid case. Most importantly, WVES has significantly reduced workers' concerns about reporting injuries that were raised in the 2008 assessment. Workers interviewed by the Team were clearly willing to raise safety issues, report injuries if they occurred, and stop work when necessary to address safety questions or concerns. Although some pockets of concern remain, those are likely attributable to past actions; and the current management team is vigorously working to ensure all workers are comfortable and willing to raise safety concerns. The Team determined that the safety culture at WVDP is strong and that WVES meets the requirements of all five tenets of DOE-VPP. Accordingly, the Team recommends that WVES continue to participate in DOE-VPP at the Star level.

**TABLE 1**  
**OPPORTUNITIES FOR IMPROVEMENT**

<b>Opportunity for Improvement</b>	<b>Page</b>
WVES should provide the Safety Success Team members access to the URS Energy and Environment Division Sharepoint site as a means of identifying new opportunities to foster more effective promotions, rewards, and recommendations.	4
WVES should consider identifying and implementing training for workers and managers on how to plan for and manage change.	5
WVES should document and publish progress toward goals and commitments identified in its annual VPP self-assessment.	8
WVES should consider designating a responsible person to act as a steward for the IH program.	10
WVES should consider documenting hazards encountered at the task level.	11
WVES should evaluate the work control process for continuity of ISMS flow and decisionmaking to assure appropriate hazard identification and analysis for all work.	12
WVES should consider streamlining the multitude of hazard analyses procedures into a single, better integrated process.	12
WVES should consider enhancing its tracking and trending program by instituting a system to capture those indicators that do not meet reportable criteria, but potentially represent precursors to more serious events.	13
WVES should consider incorporating selective videos prepared during normal operations in the training material for newly hired operations personnel.	19

## I. INTRODUCTION

On June 29, 2007, West Valley Environmental Services, LLC (WVES), was awarded a 4-year contract by the Department of Energy (DOE) to continue the cleanup of facilities at the West Valley Demonstration Project (WVDP). Transition from the previous contractor, West Valley Nuclear Services Company (WVNSCO), was completed in August 2007, and WVES assumed management of WVDP effective September 1, 2007. In addition to the change of contractors, the scope of the work performed at WVDP has changed since the initial Voluntary Protection Program (VPP) application from a management and operating contract to an interim endstate Cost-Plus-Award-Fee contract focused on:

- contaminated facility decontamination;
- deactivation and demolition;
- noncontaminated facility disposition;
- waste management;
- operation and maintenance of facilities and infrastructure;
- safeguards and security;
- laboratory services;
- regulatory compliance; and
- radiological monitoring.

Continued participation in DOE-VPP requires an onsite review every 3 years by the Office of Health, Safety and Security (HSS) DOE-VPP Team (Team) to determine whether the contractor is still performing at a level deserving DOE-VPP recognition. In November 1999, WVDP, managed by WVNSCO, was certified as a DOE-VPP Star site and subsequently recertified in October 2002 and October 2005. Per DOE-VPP requirements, the triennial recertification review was due in 2008. The DOE/West Valley Project Office determined that the contract changes that occurred in 2007 were not significant enough to require reapplication by the new contractor, WVES. During the June 2008 triennial recertification, HSS determined that changes were more significant than previously determined and that WVES should take advantage of the transition process identified in the DOE-VPP program documents. Accordingly, WVES continued in DOE-VPP in a transitional status and submitted a revised application detailing the changes in mission and organization. Per the transition process, HSS scheduled this current assessment to determine WVES' eligibility to continue to participate in DOE-VPP.

The Team had contact with over 100 employees both formally and during observation of field activities. Interviews included bargaining unit, exempt and nonexempt personnel, subcontractors, supervisors, and managers. Hazards associated with WVES activities include significant radiological contamination, potential chemical exposure associated with processing activities, thermal stress and dehydration, noise, heavy equipment use, electrical hazards, elevated work, excavation, hoisting and rigging, waste handling and other industrial hazards. Work observed included deactivation and decontamination activities, waste handling, construction activity, maintenance, and mockups.

This assessment report builds on the report from the June 2008 assessment. The Team focused on the previously identified opportunities for improvement, but also looked more broadly at the five tenets of DOE-VPP, and identified some additional opportunities.



## II. INJURY INCIDENCE/LOST WORKDAYS CASE RATE

<b>Injury Incidence/Lost Workdays Case Rate (WVES)</b>					
Calendar Year	Hours Worked	Total Recordable Cases	Total Recordable Case Incidence Rate	DART* Cases	DART* Case Rate
2006	589,158	3	1.02	1	0.34
2007	532,445	8	3.01	1	0.38
2008	469,975	3	1.28	1	0.43
3-Year Total	1,591,578	14	1.76	3	0.38
Bureau of Labor Statistics (BLS-2008) average for NAICS** Code # 562			5.5		3.2
<b>Injury Incidence/Lost Workdays Case Rate (WVES Subcontractors)</b>					
Calendar Year	Hours Worked	Total Recordable Cases	Total Recordable Case Incidence Rate	DART* Cases	DART* Case Rate
2006	168,459	0	0	0	0.00
2007	189,448	1	1.06	0	0.00
2008	180,396	0	0	0	0.00
3-Year Total	552,843	2	0.72	0	0.00
Bureau of Labor Statistics (BLS-2008) average for NAICS** Code # 562			5.5		3.2

\* Days Away, Restricted or Transferred

\*\* North American Industry Classification System

**Total Recordable Case Incidence Rate, including subcontractors: 1.41**

**Lost or Restricted Workday Case Incidence Rate, including subcontractor: .28**

A review of the accident and injury statistics at WVDP over the past 3 years revealed that the rates compare favorably with the industry average. WVES has had no recordable injuries since September 2008. While reviewing the records of accidents and injuries, two cases were identified in 2008 that had not been correctly classified. One case occurred when a worker being taken offsite for a medical examination was involved in an accident. The worker subsequently developed lower back pain that was treated by the worker's personal chiropractor. Published Occupational Safety and Health Administration opinions and guidelines indicate that this treatment would require the case to be reported. A second case involved a work restriction identified by the company nurse that was overridden based on an assumption that the emergency room physician did not identify any work restrictions, although there was no record of a specific determination by the emergency room physician. The case was recorded, but not identified as a restricted-work case. These two cases were included in the table above. The Team found no evidence of intent to cover up these two cases, and WVES clearly meets DOE-VPP expectations even with the cases included.

### III. MANAGEMENT LEADERSHIP

Management leadership is a key element of obtaining and sustaining an effective safety culture. The contractor must demonstrate senior-level management commitment to occupational safety and health in general and to meeting the requirements of DOE-VPP. Management systems for comprehensive planning must address health and safety requirements and initiatives. As with any other management system, authority and responsibility for employee health and safety must be integrated with the management system of the organization and must involve employees at all levels of the organization. Elements of that management system must include clearly communicated policies and goals, clear definition and appropriate assignment of responsibility and authority, adequate resources, and accountability for both managers and workers. Finally, managers must be visible, accessible, and credible to employees.

As identified in the June 2008 report, the overall safety culture at WVDP remains strong. Moreover, WVES has made some significant changes over the past 16 months that have addressed the concerns raised by the previous assessment about worker involvement and their perceptions of the disciplinary process. Those concerns and perceptions were primarily attributed to poor communications between workers and managers. One key change cited by workers and managers was a shift in the management approach beginning with the previous project manager, continuing through an acting project manager, and remaining with the current project manager. That approach has been to intentionally reach out to the workforce for their input and concerns. WVES began meeting on a weekly basis with the union leadership to discuss any issues and concerns. Those meetings were cited by both parties as contributing to constructive dialog and helping to bridge the divide that had developed. Last year the union contract was renegotiated, and as a result of improved communications, the negotiations went very smoothly and an agreement was reached in “record time.” Other mechanisms implemented to improve communication and seek involvement include conducting all-hands meetings every 2 weeks, and reestablishing workers as chairs of the Safety Success Team and the Personal Protective Equipment (PPE) Committee. These actions have also addressed previous concerns identified by workers in the 2008 report regarding the disciplinary process.

The Team that conducted the June 2008 Review was concerned that the focus on monthly milestones for schedule and cost might be interpreted to promote workers sacrificing safety for schedule. Observations by the current Team did not find any evidence of undue focus on schedule at the cost of safety. Workers did identify some examples where work could have been performed in a different method that might have provided some additional margin of safety, particularly with regard to radiation dose, but they did not believe their concerns were simply ignored. WVES makes a concerted effort to establish and meet a radiation dose budget for each major task, and that budget is closely tracked. For work observed by the Team, it was apparent that work methods were used that would take additional time in order to minimize dose and contamination concerns. Additionally, work control and planning methods have been revised to increase participation by workers early in the process. This early participation has resulted in better planning efforts, improved work instructions, and greater satisfaction by the workforce that the tasks can be performed safely.

The June 2008 assessment recommended that WVES evaluate modifying its VPP application to use the construction site model in the DOE-VPP implementing documents. Elements of that model mandate the use of a worker safety committee and more frequent worksite inspections. The 2008 Team believed that more frequent work area inspections due to rapidly changing site

conditions might have added value to the project. WVES evaluated but did not adopt any of the criteria of the construction site model. The current assessment reviewed this decision. While conditions in the project may change over time, other concerns about construction projects, such as large shifts in workforce size and frequent changes in the work hazards, were not evident. Although the WVES mission includes activities that resemble construction activities, the nature of the hazards associated with the current work necessitates an intentional approach that is well ingrained in the workforce. Consequently, the Team agrees there would be little value added by adopting the construction standards under the current contract. This decision will have to be revisited at the end of the current contract when the site will shift from decontamination work into demolition work.

Resources for safety and health are generally adequate to accomplish the project mission. Safety personnel were available to assist with work planning, hazard analysis, and monitoring. In addition, resources have been provided in the form of budget and time for workers to participate in safety committees, awards and recognition, as well as additional training. For example, as a means of improving the effectiveness of safety awards, the Environment, Safety, Health, and Quality Assurance (ESH&Q) Manager gave control of the rewards and recognition budget to the Safety Success Team. WVES has achieved zero accidents and injuries for the past 12 months, but managers recognize that this record can easily come to a stop. The recurring theme among managers was concern about how to avoid complacency. One key to avoiding complacency is to ensure resources are applied to safety promotions, awards, recognition, and training that effectively reach the workers. URS Corporation, as the lead partner in WVES, has many corporate resources that WVES managers and workers can access. For example, URS Energy and Environment Division has established a Sharepoint site for its ESH&Q managers. This site provides a platform for URS managers to share ideas. Providing the Safety Success Team members access to this site could prove a viable means of helping them design and implement effective safety promotions, as well as more effective rewards.

<p><b>Opportunity for Improvement:</b> WVES should provide the Safety Success Team members access to the URS Energy and Environment Division Sharepoint site as a means of identifying new opportunities to foster more effective promotions, rewards, and recommendations.</p>
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By the very nature of the work being performed at WVDP, change is a constant stressor for the workforce. Change in site conditions and change in work locations occur on a daily basis. These changes are necessary to accomplish the project mission, but present special challenges to managers in maintaining the morale of the workers. For example, in order to reduce overhead costs and better prepare the main process building for eventual demolition, WVES is installing ground level offices that resemble steel cargo containers. These offices are located outside the fence boundary and are designed to provide temporary office space on large construction projects. Many workers at the site are concerned about this transition, including safety concerns from higher foot traffic during the winter and having to travel over icy surfaces to reach restrooms, and concerns about comfort, as well as usability of the space. WVES is aware of the potential issues and is working to resolve them. In some cases, however, the issues are simply a normal response to change. In order to help workers better deal with changes, WVES needs to find better ways to prepare workers for the changes, and effectively manage the transition process. WVES may want to consider providing specific training to managers and workers alike on how to plan for and manage these transitions.

<p><b>Opportunity for Improvement:</b> WVES should consider identifying and implementing training for workers and managers on how to plan for and manage change.</p>
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## **Conclusion**

WVES managers are clearly committed to safely accomplishing the mission at WVDP. Actions taken in the past 16 months have effectively improved workers' perceptions. Communication between managers and workers has improved significantly and is rebuilding mutual trust and respect between them. Managers are demonstrably open to workers' ideas and input and are working to continue an excellent safety record and strengthen the safety culture at the site.

#### **IV. EMPLOYEE INVOLVEMENT**

Employees at all levels must continue to be involved in the structure and operation of the safety and health program and in decisions that affect employee health and safety. Employee participation is in addition to the individual right to notify appropriate managers of hazardous conditions and practices. Field observations and interviews indicate that WVES workers have remained committed to their personal safety, as well as the safety of their coworkers and facility visitors.

The 2008 review found that despite WVES having mechanisms in place that should maximize employee involvement in all aspects of the safety program at WVDP, the level and degree of involvement had declined across the workforce. Managers, supervisors, and workers need to work together to reestablish the strong partnership that once existed at the site. This review determined that in the ensuing 16 months WVES employees are more involved in safety and health programs through site safety committee membership and participation in awareness activities. Employees have the opportunity to be involved in hazard identification, analysis and safety issue resolution processes, work package review, and the Work Review Group (WRG) discussed in the Worksite Analysis section of this report.

Standing committees have become more effective. WVES encourages workers to volunteer, and the committees are more representative of the organization. The charter for the Central Safety Committee is being revised to reflect this broader participation and changing mission of the committee. The Team had the opportunity to attend the Central Safety Committee and the PPE Committee meetings, as well as interview members. Workers interviewed said that they appreciate a manager's concern over issues raised during these meetings. Workers freely discussed safety issues during committee meetings. The meetings demonstrated excellent participation and open dialog between workers and managers. Several new safety issues were discussed by the workers, and managers committed to resolve them.

The Safety Success Team, an employee-driven committee established in 1994, acts as the umbrella for all employee safety teams. Recent changes have strengthened the committee's effectiveness by shifting the committee leadership from a manager to two employee co-chairs (an operator and the Union President) and establishing a manager as a management champion. The Safety Success Team provides awareness activities for all employees. Members of the Safety Success Team conduct Safety Team walkdowns with two workers each week, observing planned work activities, and then reporting observations back to the Safety Success Team. Since August 2009, 12 safety walkdowns have been completed. The issues identified in the walkdowns are tracked in the Open Items Tracking System (OITS). As a further improvement, the Safety Success Team is working to shift its focus to include more recognition of positive safety actions, not just identification and correction of issues.

The PPE Committee was formed just prior to the 2008 evaluation, but has demonstrated greater effectiveness in the past 16 months. Chaired by an employee with a management champion, the PPE Committee was essential in identifying new styles of anti-contamination clothing that would better meet the needs of the workers. They are continuing to solicit feedback from the workforce regarding style, suitability, sizes, and availability of provided PPE.

Several other committees exist that contribute to improved safety at WVES. The Electrical Safety Committee, chaired by an employee with a manager as champion, is effective in

reviewing and identifying issues related to electrical safety. The chair of the Electrical Safety Committee is very knowledgeable of the National Fire Protection Association electrical codes and standards and receives regular information and updates from the Energy Facility Contractors Group Electrical Safety Subgroup. The As Low As Reasonably Achievable (ALARA) Committee, chaired by a manager, reviews and makes recommendations to managers to improve work processes and minimize radiation exposure and radiological releases. This committee must review all work that exceeds established contamination or radiation dose thresholds. The Respiratory Protection Users Committee is chaired by an employee and also has a manager as champion. That committee is responsible for addressing respiratory protection-concerns, evaluating new equipment for use at WVDP, and evaluating respiratory protection-related issues. Finally, the Radiation and Safety Committee, chaired by a manager, provides objective and independent review of safety-related operations, systems, and activities. It also functions in an advisory capacity to the line organization and the WVES Project Manager.

As noted in 2008, WVES continues to provide many methods for employees to voice their concerns related to safety or to suggest improvement ideas in the area of safety. The Safety Achievers Program, the Weekly Safety Recognition Program, and the Quarterly Safety Recognition Program continue to provide a means to recognize excellence in safety.

Concerns were voiced to the June 2008 Team by workers that they had very little contribution in initial planning for new or altered processes and material and that they were no longer involved in the walkdowns of procedures due to limited manpower resources. Those concerns have been effectively addressed. The work control and planning processes have been revised to increase participation by workers early in the process. This early participation has resulted in better planning efforts and improved work instruction packages. The workers indicated to the Team that they have an opportunity to provide input in the prejob briefs, process walkdowns, and postjob briefs. They also indicated that they have access to the work planning engineer who prepared the work instruction package for clarification and revision of the work instruction due to changed conditions.

The procedure on Time-Out/Stop-Work Authority is well understood. The workers interviewed are fully aware of their right under title 10, Code of Federal Regulations (CFR), part 851, to take time out/stop work without fear of retribution. WVES and subcontractor employees told the Team that if during a job they find that a change is made in the equipment used, method of doing the work, material required, and/or scope of work, they must contact their line manager to reevaluate the activity. In cases where an imminent hazard is present, the workers are convinced that they can stop work immediately by exercising their stop-work authority without any concern of retribution.

The Employee Concerns Program (ECP) policy and procedure is outlined in WV-990. ECP provides a process for formally reporting any condition that WVES or subcontractor employees consider to be an environment, health, safety, fraud, waste, abuse, or quality concern. WVES or subcontractor employees may also use ECP if they believe that their concerns are not handled appropriately or effectively by their manager by normal interaction. The concern may be submitted verbally to the ECP representative, by sending a letter to ECP, by completing a "Report of Employee Concern" FORM WV-1473, or by calling the ECP Hotline. The employee can choose to remain anonymous. The ECP Coordinator attempts to resolve the issue by contacting the appropriate people. The issues are tracked to closure. During the past 2 years there were only two concerns, both of which have been resolved. Both were anonymous

concerns reported via the ECP Hotline. The first concern was reported on February 13, 2008, that the site parking lots and walkways were treacherous due to accumulation of snow. The ECP Coordinator contacted the Site Infrastructures Manager, the Safety Manager, and the Ashford Office Complex Facilities Manager to investigate and take appropriate action. They ensured that snow removal from the parking lots and walkways was appropriate. WVES issued an employee communication to all workers by e-mail and by posting throughout the site stating that conditions on parking lot and walkways were slippery due to snow fall and alerted the workers to watch out for the snow removal crews throughout the morning. The concern was closed out. The second concern was related to improper employee conduct and was appropriately addressed.

WVES documents its fiscal year 2010 Performance Measures, Objectives, and Commitments in WVDP-310, *WVDP Safety Management System Description*. It lists the objectives in areas, such as workplace injuries, radiation safety performance, nuclear safety performance, and emergency management. For example, in the area of workplace injuries WVES lists: less than or equal to 3 recordable injuries; less than or equal to 1 DART case; and less than or equal to 10 first-aid cases. Similar measurements are documented for the other objectives. WVES established the following goals and objectives in its annual VPP report dated April 2009: “Goals and Objectives: Our site safety goals for 2008 were to maintain our exemplary safety performance in our pursuit of “Zero” and continue improving our safety record through the VPP. WVES continues to support other DOE sites and partners with other companies to promote worker safety, such as SLR Construction, D.V. Brown & Associates, Inc., and the New York State Department of Transportation.” The goals established in WVDP-310 are published quarterly in a Performance Analysis Summary report that is routed to the WVES managers. The goals established in the VPP annual self-assessment are not similarly reviewed and tracked. WVES should document and publish those elements, goals, and commitments that contribute to continued safety improvement and support the corporate performance measures for the company.

<p><b>Opportunity for Improvement:</b> WVES should document and publish progress toward goals and commitments identified in its annual VPP self-assessment.</p>
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## Conclusion

Employee ownership is rooted across the WVES organization. Managers and employees are working together to develop open lines of communication to identify and promote safety and health responsibilities, goals and expectations, and eliminate potentially hazardous conditions. WVES meets the requirements of the Employee Involvement tenet of DOE-VPP.

## V. WORKSITE ANALYSIS

Management of health and safety programs must begin with a thorough understanding of all hazards that might be encountered during the course of work and the ability to recognize and correct new hazards. There must be a systematic approach to identifying and analyzing all hazards encountered during the course of work, and the results of the analysis must be used in subsequent work planning efforts. Effective safety programs also integrate feedback from workers regarding additional hazards that are encountered and include a system to ensure that new or newly recognized hazards are properly addressed. Successful worksite analysis also involves implementing preventive and/or mitigative measures during work planning to anticipate and minimize the impact of such hazards.

The design, construction, and operation of the original facility as a fuel reprocessing plant was the subject of a U.S. Atomic Energy Commission-approved Final Safety Analysis Report. In 2007, DOE awarded an Interim End State Completion contract to WVES to conduct the next phase of cleanup at WVDP. WVES has prepared a revised Documented Safety Analysis (DSA), WVDP-DSA-001, *Documented Safety Analysis for Waste Processing and Support Activities*, under 10 CFR 830, subpart B, that reduces the overall categorization from a Category 2 Nuclear Facility to a Category 3 Nuclear Facility. The revised DSA has been submitted to DOE, and WVES is awaiting the Safety Evaluation Report. The DSA contains those high-level controls relied upon by DOE for the safe operation of the facility and are mostly concerned with transuranic waste and criticality prevention until the inventory can be reduced and removed from the site. The Safety Management Programs contained within the DSA are relied upon for safe operation, such as Prevention of Inadvertent Criticality, Radiation Safety, Hazardous Material Protection, and Occupational Safety. In addition, there are Technical Safety Requirements that include Specific Administrative Controls, which provide specific controls and mitigators for site hazards.

WVES has established baselines, which form the foundation for performing hazards analysis. The Team reviewed WVDP-273, *WVDP Hazards Survey*, and samples of the Hazard Baseline Exposure documentation to understand the magnitude and scope of the workplace hazards encountered by the workforce. Most of the current work involves decontamination and decommissioning of site structures, packaging and repackaging of waste (both legacy and newly generated), and preparation for demolition of structures. The hazards are predominantly industrial safety issues associated with decontamination and control of radioactive material, contamination, asbestos removal, and radiation dose from legacy operations.

During Team interviews and review of the WVES Industrial Hygiene (IH) sampling data, several issues were identified that require further effort by WVES to ensure a sound and effective IH program. Earlier this year, WVES safety staff and IH technicians self-identified a programming flaw in the IH sampling database that has resulted in multiple instances of sampling data being compromised through unintended changes. WVES recognized the significance of the flaw and has developed a spreadsheet with administrative lockout controls to ensure new sampling data will be maintained efficiently and reliably. Unfortunately, over-reliance on the IH database as the repository for all the sampling data has allowed for the original sampling data records to be inefficiently retained and stored. Attempts to review previous years' records demonstrated the lack of a systematic process for document collection, storage, and retrieval. A systematic process for retention of all hardcopy sampling records is a requirement as stated in WVES procedure, FHS-IH-2, *IH Program – Recording, Filing, and Distribution of Personal Sampling*



*Results.* Because WVES employs a part-time IH consultant to support the IH program, a clear designee for this responsibility was not evident, and the lack of that designee contributed to the lack of a systematic process for document retention.

In addition, several elements of the IH Program procedures needed correction. For example, FHS-IH-1, *Industrial Hygiene and Safety Hazard Control Program Identification, Evaluation and Control of Health Hazards*, required all IH samples to have a minimum sample size of 200 liters for the sample to be considered valid. However, review of sampling records revealed numerous samples with less than 200-liter volume that were evaluated as valid samples. The 200-liter sampling limit was selected during a time when WVDP was operating the vitrification process, and workers' entries were longer in duration such that obtaining the 200-liter volume was not difficult. The National Institute for Occupational Safety and Health does provide for other protocols with smaller volume requirements that WVES should evaluate so that shorter sampling times can be valid. Procedure FHS-IH-2 requires that all IH sample data be stored on the IH sampling database, which for the reasons described above is no longer utilized.

WVES should consider designating a responsible person (preferably with an IH background) to act as a steward for the IH program. That individual should be responsible for developing a systematic process for all sampling record retention and storage, updating the IH procedures to reflect current practices, and overseeing the baselining activities to ensure emerging hazards are identified and included in future sampling activities.

**Opportunity for Improvement:** WVES should consider designating a responsible person to act as a steward for the IH program.

While vulnerabilities were identified in the IH program, several notable examples were discussed that demonstrated the IH programs real time effectiveness. One example was demonstrated during an asbestos remediation task performed in June of 2009. Personal sampling was performed on several asbestos removal operators during an Asbestos Containing Material (ACM) removal task in the main process building. Sample results were received within 24 hours and indicated potential high-fiber contents in the samples. Per WVES procedure, if initial ACM sampling checks meet a specified threshold, a second, more detailed analysis for actual asbestos fiber content is required. Upon receipt of the initial high-fiber sample result, all asbestos removal work was halted. Managers assembled all ACM-removal workers for an event review of the activities that resulted in the high-fiber sample. A mockup was prepared and the crafts simulated the work steps they had performed on the day of the sampling. As a result of this exercise, WVES determined that several work practice issues contributed to the increase in airborne fiber content. Subsequently, work practice expectations for asbestos removal were reviewed with the workforce and cases with high-fiber samples have not recurred.

As described in the 2008 report, the WRG is an effective tool utilized by WVES to ensure work instruction packages are complete with all issues resolved and ready to be released for work. The WRG is a multidisciplinary team encompassing various operations and support groups (including safety and health, environmental, radiation protection, and quality) and crafts, which provides input for planning work and determines that a final work package is ready for release. Its duties include reviewing the hazards screening and work instructions for adequacy and completeness. Craft involvement has significantly increased since the 2008 review and has significantly improved the quality of the work review process.

The WVES process for evaluating hazards is driven by WV-921, *Hazards Identification and Analysis*, which implements core functions 2 and 3 of the WVES Integrated Safety Management System (ISMS) documented in WVDP-310, *WVDP Safety Management System Description*. To help personnel apply consistent hazards identification and analysis, WVES developed TR791B, *A Practical Guide to WVDP Hazards Identification and Analysis*. The guide explains generic hazards, why they are important, potential consequences, and potential mitigation techniques that may be applied. The guide supports a Hazard Screening Checklist that is attached to work documents and work packages. The Hazard Screening Checklist becomes the documentation of hazards analysis for work onsite. WVES also documents evaluation of hazards and controls in an Industrial Work Permit that may also be included in the work instruction package. Additional guidance for performing and documenting hazards analysis is found in WV-989, *Job Safety Analysis Program*; WVDP-485, *Work Control*; DCIP-101, *Controlled Document Review and Approval Process*; DCIP-100, *Controlled Document Preparation Process*; and WV-128, *Work Review Group*.

WV-921 and associated guide TR791B provide only generic binning of hazards and associated mitigations rather than driving the analysis to the task level. As an example, under “potentially hazardous situations,” section 8l, the generic question is posed: “Will the work involve hoisting and rigging activities?” No additional discussion of hazards associated with hoisting and rigging activities or the interaction with other hazards is included in the guide. The Team observed a WRG meeting that was reviewing the removal of several sections of a 14-inch water pipe from the overhead areas of the main building utility room that clearly involved additional hazards associated with hoisting and rigging. Pictures showing pipe and cut locations were provided in the package. Interviews with the mechanics scheduled to perform the task demonstrated the workers’ understanding of the controls necessary to perform the task; however, no documentation was offered relative to hazards and controls that needed to be considered at the task level for performing this work. These could include interferences (other piping or electrical), any ACM in the overhead work area, collocated work, adequate supports to “rig out” piping that was removed, size restrictions for removal of piping from the building, cutting equipment and methods to be used, potential ergonomic issues (reaching, strains), hand/foot injuries, and/or locating elevated work platforms. While workers were clearly aware of the hazards, without documenting the analysis and control decisions, that information will have to be regenerated each time a similar task is performed rather than building on the previous experience.

<p><b>Opportunity for Improvement:</b> WVES should consider documenting hazards encountered at the task level.</p>
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As indicated above, WVDP-485, *Work Control*, is a contributor to the hazards analysis process. Of particular importance to the process, the delineation of high hazard, low hazard, “skill of craft,” and routine work are defined in this procedure. These definitions play an important role in the decision-tree contained in Attachment A of the procedure. The decision-tree shows the requirements for documentation based upon the scope of work. After the scope of work is defined, the first decision is whether or not the work is already documented in a Standard Operating Procedure (SOP) or Preventive Maintenance (PM) document. These two documents would have already undergone a documented hazards analysis. For low risk, routine work the supervisor verbally assigns work with permits needed. If the work is outside SOP/PM,

Safety Managing and Analyzing Routine Tasks (SMART), or routine, then it follows the formal work scoping and hazards screening process. If the work is service request work or routine work, the documentation of hazards analysis may not occur and the work is performed to a SMART card or a routine work permit for low risk work. The Team reviewed several SMART cards during this assessment. In one example, “Preparing material for shipment” did not describe the material type; it did indicate hazards, such as cutting, straining, lifting, and hand and foot injury. The indicated required PPE was work gloves and safety shoes, but was not specific regarding the type of gloves or shoes (e.g., cut-resistant gloves, shoes meeting American National Standards Institute standard ANSI Z41.1). Another SMART card reviewed defined the work as “installation of 480V cord on eyewash station.” Hazards checked on the card indicated tripping, hand and foot injury, and power and hand tools. PPE required included: eye/face (no indication related to choices, such as goggles, safety glasses, and/or face shield); hands/arms (again no indication of choices, such as workgloves, long sleeves, rain suit); and clothing: safety vest, Cat 0, and Electrical PPE (again no indication of choice). Essentially, the SMART card is being used in lieu of other hazard analysis processes. Other sites have used a SMART card-type process more effectively by using it in combination with other hazard analysis processes as a final check or prejob briefing tool to ensure the workers are ready to begin work.

Although formalized as a process, the decision-tree for work authorization does not necessarily follow the ISMS process by allowing determination of routine or low hazard work before a hazard identification and analysis are documented. The Team agrees that evaluating an existing SOP or PM is a valid initial question after the work is defined. The issue of determining whether work is routine or low hazard cannot be determined, however, unless hazards have been identified and the work analyzed. Once the hazards and analysis occur and are documented (done once and done well), the decision can be made as to the level of risk and consequence the work presents.

**Opportunity for Improvement:** WVES should evaluate the work control process for continuity of ISMS flow and decisionmaking to assure appropriate hazard identification and analysis for all work.

The multitude of procedures described above creates a complicated web of hazard analysis. The procedures overlap in many instances, create redundant paperwork that is perceived as having little value added by the workers, and are primarily remnants of a work control process that was necessary for an operating Category 2 nonreactor nuclear facility. The current mission of decontamination and decommissioning, while dealing with significant hazards, can probably benefit from a simpler, less intertwined, and better integrated hazard analysis process. Simplifying the process would allow workers and planners more time to address the details of more routine tasks without sacrificing attention to the higher hazards.

**Opportunity for Improvement:** WVES should consider streamlining the multitude of hazard analyses procedures into a single, better integrated process.

WVES WV-121, *Integrated Assessment Program*, documents the policy to develop, implement, and maintain the integrated assessment program to comply with applicable DOE Directives, Regulations, Standards and ISMS requirements. Section 6.5 of the policy provides direction for the Performance Evaluation and Trending Program. Embedded within the policy are objectives,

such as evaluating significant trends, efficiency, extent and severity of an identified problem, problem and cause relationships, and favorable trends. OITS is the repository for collecting issues and providing a source for tracking and trending. WVES publishes a quarterly report that analyzes performance and trends for dissemination to the site. The Team reviewed the last two quarterly reports that covered April 1 through September 30, 2009. The report addresses metrics and performance for Environmental Compliance, Radiation Safety, Industrial Safety, Quality Assurance, and Conduct of Operations. Since much of the WVES work onsite deals with legacy radioactive material, WVES heavily emphasizes tracking and trending of radiological issues. WVES identified a rise in contamination cases and is working to identify means to reverse this trend.

Although the OITS database is designed to capture all issues that are reported, there remains an opportunity to improve tracking and trending with leading indicators. Those error precursors and “near-misses” (that do not meet required reporting) should be captured and evaluated.

<p><b>Opportunity for Improvement:</b> WVES should consider enhancing its tracking and trending program by instituting a system to capture those indicators that do not meet reportable criteria, but potentially represent precursors to more serious events.</p>
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## Conclusion

WVES has adequate worksite analysis processes and procedures in place. While hazard identification is thorough and controls are documented in most cases, WVES should work to document hazard controls in the work instruction packages, and to simplify and integrate the hazard analysis process. WVES meets the requirements of the Worksite Analysis tenet.

## **VI. HAZARD PREVENTION AND CONTROL**

Once hazards have been identified and analyzed, they must be eliminated (by substitution or changing work methods) or addressed by the implementation of effective controls (engineered controls, administrative controls, and/or PPE). Equipment maintenance, PPE, processes to ensure compliance with requirements, and emergency preparedness must also be implemented where necessary. Safety rules and work procedures must be developed, communicated, and understood by supervisors and employees, and followed by everyone in the workplace to prevent mishaps or control their frequency and/or severity.

Observations and interviews confirmed that prejob briefings are attended by all employees involved with the work package field work. The prejob briefing is given by the job supervisor who relays hazards and unusual circumstances relating to the work (heat/cold stress, chemical hazards, physical conditions, etc.) and each person's responsibilities. This also provides employees the chance to ask questions about anything they do not understand, as well as an opportunity to provide insights into work steps. The prejob briefings observed by the Team were very thorough and effective. Prior to complex hazardous or high radiation/contamination work, or at the request of employees performing a task, a mockup may be used to familiarize personnel with procedures, the process, equipment, and the interfaces within the phases of the task. While the use of mockups has decreased over the past few years, WVES still uses mockups extensively.

During the 2008 review, some employees expressed the concern that there was inadequate storage space for PPE, as well as an inadequate supply of PPE coveralls for work activities. Employees attributed the supply issues to the ineffectiveness of the Min/Max procurement system. In response, WVES initiated several corrective actions. The PPE review group solicited input from the workforce to determine what PPE-related items were in short supply or not consistently available for crafts. In addition, the work control group was tasked with identifying essential PPE supplies and developing a daily report from the Min/Max system to identify the "burn rate" of those items in a consumable rate report. That report was reviewed on a daily basis to identify increases in usage of those identified PPE critical supplies. The Min/Max supply reserves were adjusted to reflect increasing or decreasing consumption rates for those items. While vendor issues have still resulted in some minor delays, the new process by the work control group has significantly improved the previous conditions. Two examples of PPE equipment shortages were identified during the Team observations of several prejob briefings. In one case, the workers had enough cooling vest hose and hose clamps for the morning entry, but would need to curtail entries in the afternoon unless the warehouse could expedite the procurement. The warehouse successfully expedited that order and work continued as planned. The two items in question, the cooling vest hose and hose clamps, had not been identified or tracked in the consumable report. The work control group continues to seek information from the project leaders to proactively identify new tasks or projects' resource requirements for PPE supplies. These efforts have not yet been fully effective. WVES should continue to improve project planning to ensure additional resource demands are identified in time to support the project work.

Due to the nature of decontamination activities, there is a heavy dependence on the use of PPE in highly contaminated areas to mitigate the contamination hazard. In the previous review, the Team noted the effective use of unique engineered controls to mitigate hazards in high radiation or contamination areas. The June 2008 assessment identified the use of the remote-controlled Brokk<sup>®</sup> with a manipulating arm to facilitate decontamination activities in high radiation areas,

the application of grout on a highly contaminated cell floor, and the application of fixative to working surfaces at the end of the workday as good engineered controls. These methods continue to be used. During this review, the Team noted additional examples where WVES has effectively continued its use of engineered controls to minimize radiation exposures. For example, one of the primary ventilation systems recently failed its Poly-alpha Olefin Aerosol test for flow. When the system was evaluated by the infrastructure maintenance group, it was believed the failure was a result of the system's High Efficiency Particulate Air filters. However, the filters in question represented a high dose exposure (300 mR/hr) and due to the multiple mechanical issues surrounding the successful changeout of those filters, WVES determined the work to change those filters out would result in too high an exposure to workers from an ALARA perspective. As a result, the decision was made to eliminate the use of that system and to install a new supplemental ventilation system to the Hot Acid Cell in lieu of performing the corrective maintenance. This decision resulted in an initial greater cost to the project, but significantly reduced worker exposure and the potential cost of maintaining an aging system for the duration of the project.

As an element of the interim decontamination contract, WVES needs to decontaminate the main process building so that it will be ready for the next contract phase, which will include demolishing the facility. In order to meet that goal, WVES needs to reduce contamination levels throughout the main facility's process cells. In the past, WVES utilized the A-MAX system, a pressurized scouring process that introduced an aqueous solution into the cells during the decontamination process. That process generated additional waste that would require further treatment, as well as possible Resource Conservation and Recovery Act concerns. To reduce the volume of waste and remove those concerns, WVES is installing a new system called Nitrocision.<sup>®</sup>

The Nitrocision<sup>®</sup> system has proven to be an effective decontamination tool in the nuclear industry. The system uses liquid nitrogen applied in a gaseous form at extremely low temperatures. During high pressure application, the nitrogen evaporates immediately after contact with the contaminated surface, eliminating any additional waste stream. Nitrocision<sup>®</sup> tooling has been integrated with a criticality-safe, vacuum-capture system allowing the contamination to be removed from the surface and captured in one simple step. Nitrocision<sup>®</sup> can be deployed manually with hand-held tools, or remotely with the use of robotics to reduce worker exposures during incell decontamination activities. Specific applications are expected to include the cleaning and decontamination of gloveboxes, process piping, ducting, tanks and tank annuluses, concrete, glass, plastics, facilities, and equipment. The truly unique characteristics of the Nitrocision<sup>®</sup> system include: eliminates secondary waste streams, such as water-from-water jet blasting and chemicals from chemical etching processes; is inert and nonflammable, making it safe to work in flammable or explosive environments; is compatible with chemicals and organics; and is not a moderator. WVES has already sent several craft personnel to train on the system at the vendor's facility in Idaho. Based on interviews with involved craft personnel, the vendor has been very supportive and has even provided customized features and operating procedures for the WRG to adapt to WVES procedures.

Other examples of effective engineered controls observed included the use of portable ventilation units during decontamination activities to maintain negative pressure on systems being removed, the use of tents and glovebags, and the use of ALARA paint and fixative to minimize potential contamination to workers.

WVES has also initiated the use of 3-D imaging technology in its work packages and as a tool in the prejob briefings to better identify work progress and to identify components to be removed in the next work steps.

The WVES Radiation Protection Program implements the requirements of 10 CFR 835, *Occupational Radiation Protection*, via the Radiation Protection Plan, WVDP-477, *West Valley Environmental Services Documented Protection Program and Plan for Title 10, Code of Federal Regulations, Part 835*. WVES faces a unique challenge in that it must control transuranic contamination and manage high dose rates from fission products in the same environment. WVES uses combinations of engineered controls and PPE to allow work with contact-handled waste. Typical activities consist of repackaging waste for future shipments or packaging newly generated radioactive waste generated from decontamination efforts. For remote-handled radioactive material, work is done with manipulators or robotics. Interviews with the Radiological Safety Manager and technicians indicate that the tenets of VPP are strong, especially with respect to employee involvement and communication. The Radiological Safety Manager, as part of his daily routine, can be found in the workspace conversing with his technicians and helping to solve issues before they become problems. In addition, the Radiological Safety and Operations organizations have teamed to reduce friction and work together to promote a solution-oriented goal for radiological issues and concerns. The Radiological Safety organization also takes advantage of the videotaping of waste repackaging. By reviewing those tapes, the organization takes advantage of a learning opportunity to improve processes and techniques for control of radioactive material.

The Maintenance Implementation Plan is current and in good standing. The PM Program has been comprehensively reviewed, with unnecessary PM tasks removed. All remaining PM tasks are continuously reviewed for effectiveness as a result of the new mission scope. Maintenance crafts are effectively used to recommend elimination of PMs deemed unnecessary for the current mission. WVES has adopted a "Run to Failure Initiative," and the initiative has been well thought out with craft involvement to assure appropriate emphasis on necessary components essential to completing the new mission.

Onsite medical care continues to be provided by a registered nurse. The nurse is available to workers for health questions or concerns. The nurse acts as the liaison between the site and Healthworks, the contracted occupational medical services provider. Annual physical examinations are provided by Healthworks for all bargaining unit workers and are based on the workers' job descriptions. In addition to those duties, the nurse also provides Red Cross Certified Cardio Pulmonary Resuscitation (CPR) training classes to workers. WVES paid for the nurse to complete the training to become a certified CPR instructor and also purchased the necessary equipment to provide that training. The nurse also coordinates with Healthworks to schedule and provide seasonal flu shots. This year, after it was recognized that Healthworks did not order sufficient vaccine for the site, the nurse worked to identify other sources of vaccine, as well as provided workers with schedules and locations where the vaccine was available. The nurse has also taken on duties associated with fitness-for-duty programs, such as random drug testing.

Emergency preparedness and management for the site is adequate for the size and nature of the site. Regular drills and exercises are conducted. Fire protection and emergency response is provided by the local volunteer fire department. The site maintains an initial response capability that includes providing first aid and lifesaving activities, placing operating systems in a safe

mode, hazard mitigation, incipient stage firefighting, confined space rescue techniques, and emergency equipment operations as prescribed by existing procedures. The West Valley Project Office recently completed an assessment of the WVES Emergency Management Program. That assessment resulted in three findings related to review of procedures, conduct of the annual self-assessment, and software quality assurance for consequence assessment codes. Additionally, there was a comment regarding procedures for communication and interface with the National Atmospheric Release Advisory Center (NARAC). Several additional comments were provided to further improve the WVES program. Each of the findings has been addressed, as well as establishment of procedures for interface with NARAC.

## **Conclusion**

WVES has effective means to prevent and control hazards in the facilities at WVDP. The hierarchy of hazard elimination, engineered controls, administrative controls, and PPE was clearly evident. Team observations of work, attendance at various planning meetings, and formal and informal interviews of employees and managers confirmed that WVES continues to meet the requirements of the Hazard Prevention and Control tenet.



## VII. SAFETY AND HEALTH TRAINING

Managers, supervisors, and employees must know and understand the policies, rules, and procedures established to prevent exposure to hazards. Training for health and safety must ensure that responsibilities are understood, that personnel recognize hazards they may encounter, and that they are capable of acting in accordance with management expectations and approved procedures.

The June 2008 review determined that personnel were well trained at WVDP. The training provided a solid foundation for maintaining a safe working environment, including worker awareness of their rights under 10 CFR 851. Workers knew and understood the policies, rules, and procedures established to recognize and prevent hazards they encountered. As of this review, that conclusion remains valid. Personnel continue to participate in initial qualification, on-the-job training, and a continuing training program in accordance with T-65, *Continuing Training*.

WVES has been a strong supporter of the Safety Trained Supervisors (STS) program. This program provides supervisors with a third party certification by the Board of Certified Safety Professionals through the Council on Certification of Health, Environment, and Safety practices. STS establishes a minimum competency in general safety practices. To achieve the certification, candidates must meet minimum safety training and work experience and demonstrate knowledge of safety fundamentals and standards by examination. Those holding STS certification must renew it annually and meet recertification requirements every 5 years. WVES has encouraged its supervisors to become STS-certified. A significant number (66) of WVES personnel, including most supervisors, are already STS-certified while 8 more are in the process of taking the STS examination. Several senior managers have also completed the STS program.

As previously discussed, WVES utilizes mockup training to reduce exposures for certain evolutions or to increase proficiency prior to entry into high-dose or contamination areas. Examples observed during this assessment included the mockup of remote assembly of tools for Nitrocision® for cleaning of hot cells, and mockup of tools and approaches for spraying fixative foam into a large waste box.

Until recently, most of the workers at WVDP had been working for many years and as such only required refresher training courses, which were generally computer-based training. However, as a result of the American Recovery and Reinvestment Act, 67 new WVES jobs were created since May 2009. To train a large number of new workers, WVES revamped the courses and provided classroom training. Presently, only General Employee Training, Radiological Worker I & II Training, Criticality Safety Training, and Department of Transportation Training are provided via computer-based training. WVES provides training not only to its employees but also to subcontractor employees. The training courses are taught by the training specialists located in the Training Department, others by WVES subject matter experts, and on a limited basis, by outside vendors. For example, Asbestos Recognition and Abatement, Electric Arc Flash, and Scaffold training are provided by outside vendors.

The new hires undergo training for nearly 2 months of the 4-month probationary period. A formal training review instrument is provided to managers by the Training Manager for each new hire. The managers use this instrument in the 2-month review for each newly hired worker. This training review is also a factor in the final probationary review at the end of 4 months. This

action provides incentive to new hires to take their training seriously. In addition, all new hires have been teamed with experienced workers in a mentoring role. Interviews revealed many new hires were still working closely with their assigned mentors.

WVES videotapes many of its operations in its normal course of business. These videotapes are used for critiquing what went right, what went wrong, and how the operations can be improved. These videos can be a great training resource for newly hired operations personnel.

<p><b>Opportunity for Improvement:</b> WVES should consider incorporating selective videos prepared during normal operations in the training material for newly hired operations personnel.</p>
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## **Conclusion**

WVES provides adequate safety and health training to its employees, supervisors, and managers. Workers generally know and understand the policies, rules, and procedures established to recognize and prevent hazards they encounter. They clearly understand their rights under 10 CFR 851. WVES meets the requirements of the Safety and Health Training tenet of DOE-VPP.

## **VIII. CONCLUSIONS**

WVES has taken notable actions to address the opportunities for improvement that were identified during the onsite review conducted in June 2008. The equal partnership between managers and employees has been reestablished and lines of communication are open and effective. Employee involvement in the safety and health programs across the site has been reinvigorated as a result of the renewed trust demonstrated at all levels of the workforce. While there are still opportunities for further, continuous improvement as outlined in this report, the Team determined that the safety culture at WVDP is exceptionally strong and that WVES meets the requirements of all five tenets of DOE-VPP. Accordingly, the Team recommends that WVES continue to participate in DOE-VPP at the Star level. While no formal corrective action plan is required to address the opportunities for improvement detailed in this report, WVES is expected to consider and specifically address them in its annual status report. To that end, HSS stands ready to provide assistance as requested.

## Appendix A

### Onsite VPP Audit Team Roster

#### Management

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