Swift and Staley Team
Infrastructure Support Contract
Paducah Gaseous Diffusion Plant

Report from the Department of Energy
Voluntary Protection Program
Onsite Review
March 12-16, 2012

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 implementation by 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. HSS is expanding complex-wide contractor participation and 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 available to all contractors in the DOE complex and encompasses production facilities, laboratories, 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 Merit or 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 results from the evaluation of the Swift and Staley Team at the Paducah Gaseous Diffusion Plant during the period of March 12-16, 2012, and provides the Chief Health, Safety and Security Officer with the necessary information to make the final decision regarding its participation in DOE-VPP.

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ABBREVIATIONS AND ACRONYMS

AHA	Activity Hazard Assessment
ALARA	As Low As Reasonably Achievable
BLS	Bureau of Labor Statistics
CBT	Computer-Based Training
CFR	Code of Federal Regulations
DART	Days Away, Restricted or Transferred
DOE	Department of Energy
EARP	Employee Award and Recognition Program
ES&H	Environment, Safety and Health
GET	General Employee Training
HS-12	Office of Worker Safety and Health Assistance
HSS	Office of Health, Safety and Security
IER	Initial Event Report
IH	Industrial Hygiene
LEARN	Local Education Administrative Requirements Network
NAICS	North American Industry Classification System
OSHA	Occupational Safety and Health Administration
PGDP	Paducah Gaseous Diffusion Plant
PPE	Personal Protective Equipment
PPPO	Portsmouth/Paducah Project Office
SST	Swift and Staley Infrastructure Team
Team	Office of Health, Safety and Security DOE-VPP Team
TFE	Technical and Field Engineering, Inc.
TRC	Total Recordable Case
USEC	United States Enrichment Corporation
USW	United Steelworkers Union
VPP	Voluntary Protection Program

EXECUTIVE SUMMARY

The Swift and Staley Infrastructure Team (SST) is the infrastructure prime contractor to the Department of Energy (DOE) Portsmouth/Paducah Project Office (PPPO) at the Paducah Gaseous Diffusion Plant (PGDP). SST is a partnering agreement among three companies. The teaming companies consist of Swift & Staley Mechanical Contractors, Inc., URS Safety Management Solutions LLC, and Wastren Advantage, Inc. SST has 85 full-time, 15 part-time, and 10 subcontractor employees that provide safety and health, records management, computer support, utilities, roads, parking lots, snow clearing, and other infrastructure support to the operating contractor at PGDP. SST is a small business venture with a limited scope of work at PGDP and performs much of the work itself. The United Steelworkers Union Local 550 represents approximately 25 SST workers.

In October 2010, SST submitted its DOE Voluntary Protection Program (VPP) application for approval by DOE-PPPO. After addressing PPPO comments, SST resubmitted its revised application; and after approval, PPPO forwarded it to the Office of Worker Safety and Health Assistance (HS-12). HS-12 staff reviewed the application and the Office of Health, Safety and Security DOE-VPP team (Team) performed an onsite assessment March 12-16, 2012.

SST has an excellent safety record when compared to its comparison industry with total recordable case rates nearly 80 percent lower. SST has not had a days away, restricted, or transferred case in over 6 years. A review of the SST accident and injury logs did not reveal any concerns with the process to classify and report injuries. The Team did not identify any disincentives to reporting accidents and injuries.

Managers at SST are committed to ensuring every worker has a safe and healthy workplace, and are zealously pursuing DOE-VPP Star status. In their zeal, they have focused on leading the workforce by doing, rather than helping the workforce lead the effort. This approach has shifted in recent weeks, but needs additional time to mature and demonstrate effectiveness.

SST employees are fully aware of their safety responsibilities and look out for their coworkers' safety. They are fully empowered to pause or stop work without a fear of retribution. SST needs to continue improving employee empowerment in safety through the SST Safety Committee and the VPP Core Committee to achieve the excellence expected from a VPP Star site.

SST has documented processes in place to perform hazard analysis. SST, PPPO, and the Team all identified issues with the effectiveness of those processes and their implementation that SST is addressing in an ongoing improvement effort. SST should concentrate on meeting expectations contained in the DOE-VPP guidance documents and allowing the process enhancements to mature.

SST has established a good foundation for hazard assessment. It begins with a collection of routine work activity hazard assessments. Workers, supervisors, and safety personnel then select an appropriate subset of those analyses to create a broader hazard analysis for a task. SST can build upon this foundation by effectively documenting the analysis performed and assumptions made during the process. The Team saw evidence of a hierarchical approach to controls at some

work locations, but personal protective equipment tends to be the first control selected rather than elimination or substitution.

SST has a systematic training approach that appropriately trains and qualifies employees prior to performing work. The employees believe they are well prepared to perform their job safely. SST maintains training records that are accessible to the employees, supervisors, and managers. All of the employees records examined were current.

As a small organization, SST's flat management structure, experienced workforce, and routine work all provide a work environment where individuals and teams work effectively to eliminate accidents and injuries. In its effort to achieve recognition for an excellent safety record, SST's pursuit of DOE-VPP Star status missed some significant aspects of the program. SST did not perform a gap analysis against the DOE-VPP onsite review criteria. Consequently, they did not self-identify some missing aspects of its program. During the month before the onsite assessment, SST began addressing some of those gaps, particularly related to employee involvement, but was unaware of other gaps. SST demonstrates the desire and commitment to achieve Star status and now has a better understanding of DOE-VPP. As such, the Team recommends the Chief Health, Safety and Security Officer approve SST as a participant in DOE-VPP at the Merit level.

TABLE 1

OPPORTUNITIES FOR IMPROVEMENT

Opportunity for Improvement	Page
SST should consider significantly revising its procedure system, eliminating redundancy, and removing unneeded procedures not applicable to its scope of work.	4
SST should consider combining the two plan-of-the-day meetings into a single meeting at the Paducah support facility.	5
SST needs to develop, use, and demonstrate the efficacy of an annual assessment process that addresses each of the five tenets of DOE-VPP.	6
SST should continue looking for additional external education, training, and mentoring opportunities for workers.	8
SST should continue seeking additional mentoring from a VPP Star site to help it foster greater employee participation, help workers better understand their role in VPP, and accelerate SST's progress towards achieving Star status.	8
SST should consider locking the suggestion boxes and providing a means of written submission to the Employee Concerns Program as a means of protecting the anonymity of a concerned employee.	8
SST should work with both the Safety and VPP Core Committees to better define the committees' responsibilities.	10
SST should improve the hazard assessment process by using the existing appendices and attachments, developing clear instructions for using the attachments, and addressing all hazards as indicated in the DOE-VPP guidance documents.	13
SST should evaluate the current spectrum of procedures and determine their applicability, eliminate redundant procedures, and tailor procedures to its specific scope of work.	14
SST needs to create a hazard baseline, address analysis gaps, and establish a comprehensive monitoring plan.	14
SST should document its accident and incident investigation process in a procedure, and consider training specific employees, such as the Union Safety Representative, in accident and investigation techniques.	15

SST should identify and use leading indicators directed at activities controlled by workers, supervisors, and managers to improve safety, such as participation in walkdowns, work planning, and worksite inspections, establish goals related to those indicators, and make progress toward those goals visible to the workforce.	16
SST should develop methods to help workers recognize hazards and apply prevention and control measures using the hierarchy of controls, and capture those improvements in AHAs.	18
SST should reevaluate the safety of working alone, especially in remote locations.	18
SST should evaluate occupancy requirements for underground shelters prior to moving personnel from the Kevil complex out to the site.	19
SST should consider dedicating an office or conference room as a CBT location.	21
SST should consider replacing the required reading with another form of training to ensure that the employees have actually mastered the concepts or lessons presented in the required training.	21

I. INTRODUCTION

The Swift and Staley Infrastructure Team (SST) is the infrastructure prime contractor to the Department of Energy (DOE) Portsmouth/Paducah Project Office (PPPO) at the Paducah Gaseous Diffusion Plant (PGDP). SST is a partnering agreement among three companies. The teaming companies consist of Swift & Staley Mechanical Contractors, Inc., URS Safety Management Solutions LLC, and Wastren Advantage, Inc. SST provides infrastructure support to DOE and DOE contractors at PGDP, including administrative; technical; grounds maintenance; utilities; environment, safety and health; and records management support.

PGDP is located approximately 15 miles west of Paducah, Kentucky, near the Ohio River in McCracken County. DOE property comprises 3,600 acres, 750 of which are inside the PGDP security fence. The Paducah site began operations in 1952 to produce low-assay enriched uranium for use as commercial nuclear reactor fuel. In 1993, in accordance with the Energy Policy Act of 1992, DOE turned uranium enrichment operations over to the United States Enrichment Corporation (USEC). USEC produced enriched uranium for use in the United States and abroad. DOE's primary focus is now environmental restoration of the Paducah site and managing waste generated from those activities, as well as waste generated during the period prior to the transfer to USEC operations.

In October 2010, SST submitted its DOE Voluntary Protection Program (VPP) application for approval by DOE-PPPO. After addressing PPPO comments, SST resubmitted its revised application May 11, 2011. PPPO approved the revised application on May 18, 2011, and forwarded it to the Office of Worker Safety and Health Assistance (HS-12), within the Office of Health Safety and Security (HSS), on May 19, 2011. HS-12 staff reviewed the application and scheduled an onsite assessment March 12-16, 2012.

SST is a small business venture with a limited scope of work at PGDP and performs much of the work itself. SST subcontracts specialty work (pest control, airconditioning repair, etc.) to local businesses. SST has 85 full-time, 15 part-time, and 10 subcontractor employees. The United Steelworkers Union (USW) Local 550 represents approximately 25 workers. The size of the organization gave the HSS DOE-VPP Team (Team) the opportunity to observe most current work and contact most of the personnel during work observations, interviews, and meetings. This report provides the results of that assessment and provides the Team's recommendation to the Chief Health, Safety and Security Officer regarding SST's participation in DOE-VPP.

II. INJURY INCIDENCE/LOST WORKDAYS CASE RATE

Table 2.1 Injury Incidence/Lost Workdays Case Rate (SST)					
Calendar Year	Hours Worked	Total Recordable Cases (TRC)	TRC Rate	DART* Cases	DART Case Rate
2009	163,962	0	0.00	0	0.00
2010	181,911	1	1.10	0	0.00
2011	172,046	1	1.16	0	0.00
Last 3 Years	517,919	2	0.77	0	0.00
Bureau of Labor Statistics (BLS-2010) average for NAICS** Code # 561210 (Facility Support Services)			3.6		1.9

Table 2.2 Injury Incidence/Lost Workdays Case Rate (Subcontractor)					
Calendar Year	Hours Worked	TRC	TRC Incidence Rate	DART Cases	DART Case Rate
2009	6,654	0	0.00	0	0.00
2010	12,342	0	0.00	0	0.00
2011	4,036	0	0.00	0	0.00
Last 3 Years	23,032	0	0.00	0	0.00
Bureau of Labor Statistics (BLS-2010) average for NAICS Code #561410 (Business Support Services)			1.1		0.5

* Days Away, Restricted or Transferred
**North American Industry Classification System

TRC Incidence Rate, including subcontractors: 0.74
DART Rate, including subcontractors: 0.0

Conclusion

SST has an excellent safety record when compared to its comparison industry with TRC rates nearly 80 percent lower. SST has not had a DART case in over 6 years. This is testament to the combined efforts of workers and their managers to be continually aware of surrounding hazards. A review of the SST accident and injury logs did not reveal any concerns with the process to classify and report injuries. Neither the Team nor workers identified any disincentives to reporting accidents and injuries. From a statistical perspective, SST fully qualifies for participation in DOE-VPP.

III. MANAGEMENT LEADERSHIP

Management leadership is a key element of obtaining and sustaining an effective safety culture. The contractor must demonstrate senior 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, the organization must integrate authority and responsibility for employee health and safety with its management system and must involve employees at all levels of the organization. Elements of that management system must include: (1) clearly communicated policies and goals; (2) clear definition and appropriate assignment of responsibility and authority; (3) adequate resources; (4) accountability for both managers and workers; and (5) managers must be visible, accessible, and credible to employees.

Throughout this assessment, managers demonstrated their commitment to a safe and healthy workplace for their employees. They were generally open and receptive to constructive suggestions related to safety made by workers, supervisors, and Team members. During a meeting with the local USW leadership, the union leaders were very clear in their support of SST participation in DOE-VPP. They were confident that SST was working to give workers greater opportunity to participate meaningfully in the safety program. They also clearly expressed their willingness to withdraw that support if SST failed to continue supporting greater worker involvement.

SST has an extensive system of written policies and procedures related to environment, safety and health. Policies and procedures generally address the spectrum of requirements established by title 10, Code of Federal Regulations, part 851, *Worker Safety and Health* (10 CFR 851). Those policies establish management expectations for safety and define responsibilities for managers, workers, and safety personnel. Those policies clearly state workers right and responsibility to pause or stop work for safety questions, concerns, or issues without fear of reprisal or retribution. Posted throughout SST-controlled spaces were the three irrefutable laws: (1) follow the procedure or stop the job; (2) thoroughness in everything we do; and (3) loyalty to the team.

In some cases, SST has a gap between the defined responsibilities and expectations in the policies and procedures and actual practices. The programmatic procedures are very general in their description of expectations for compliance with requirements, but contain little specific information as to how to meet those expectations. For example, a key element of 10 CFR 851 is that contractors must implement a comprehensive industrial hygiene (IH) program that includes initial or baseline surveys and periodic resurveys and/or exposure monitoring as appropriate of all work areas or operations to identify and evaluate potential worker health risks. Normally referred to as "baseline exposure assessments," managers and safety personnel were unaware of this requirement, did not have a procedure detailing how this baseline exposure assessment was performed, and were relying solely on their memory and professional judgment regarding when, where, and how to evaluate potential workplace exposures (see Worksite Analysis section).

In many cases programmatic procedures used by SST were initially implemented as "blue sheeted" procedures from previous contractors at the site. As such, the procedure system may be overly complex and confusing for an organization the size of SST with multiple procedures

assigning responsibility, but none containing the specifics on how to implement those responsibilities. The resulting system relies very heavily on individual expertise, particularly in safety and health, rather than a systematic, consistent, and documented approach. SST should consider significantly revising its procedure system, eliminating redundancy, and removing unneeded procedures not applicable to its scope of work.

Opportunity for Improvement: SST should consider significantly revising its procedure system, eliminating redundancy, and removing unneeded procedures not applicable to its scope of work.

Generally, adequate resources are available. Managers have provided resources to improve conditions in facilities normally occupied by SST. Those conditions include housekeeping, work processes, and facility condition. In some cases, managers' desire to make quick improvements has led to a lack of planning prior to implementation of improvements. Although well-intentioned, in some cases SST did not fully incorporate safety at the beginning of the project. For example, SST subcontracted construction of a new refueling station to fuel government vehicles onsite. After the station was built, several safety concerns were identified that should have been identified during the planning and design phase. The original design allowed buildup of rainwater that submerged electrical conduit installed at ground level instead of overhead. After construction, SST made modifications to allow water to drain, and installed Ground Fault Current Interrupters to preclude electrical shock. Although SST corrected the issues, the lack of planning for safety at the beginning of the project led to an increase in project cost due to rework or revision of the final installation. Resources identified in the SST contract provide for employee reward and recognition. Managers and workers were knowledgeable and complimentary of the ability to provide timely rewards for suggestions and actions to improve safety. SST is effectively using reward and recognition programs.

Accountability for nonbargaining unit personnel, both managers and workers, is through annual performance evaluations. Although SST identifies safety as one of the elements in the annual evaluation, it does not tie the safety rating directly to specific expectations, goals, or objectives. SST has a corporate safety goal of "Zero injuries, Zero incidents" that was covered in safety meetings and displayed on the electronic message board during the onsite review. SST expects each person to contribute individually to the goal by: (1) working in a safe manner; (2) having no on-the-job injuries; and (3) actively participating in the safety program. Employees put these performance expectations first in their annual Performance Review. Although these goals are well-intentioned, they are not sufficiently specific or measurable regarding individual contributions to be useful in determining progress toward the corporate goal.

As a small organization, SST has a relatively flat management structure, which provides significant opportunity for managers to be visible to the workers. Despite this flat structure, there are some barriers to visibility and open communication between managers and workers. Managers and most administrative support personnel are located in an offsite building in Kevil, Kentucky, approximately 7 miles from the support facilities at PGDP. This geographical situation contributes to a sense by some workers that managers are disconnected from the workforce. For example, the Program Manager and his direct reports conduct a daily plan-of-the-day meeting at the Kevil building. Simultaneously with this meeting, the supervisors at the support facility are conducting a plan-of-the-day meeting. Both meetings cover the same

topics at the same time with no communication between the two. SST should consider combining the two plan-of-the-day meetings into a single meeting at the Paducah support facility.

Opportunity for Improvement: SST should consider combining the two plan-of-the-day meetings into a single meeting at the Paducah support facility.

In another example, the effort to achieve DOE-VPP Star status has been largely a managerial pursuit. The managers' pursuit of recognition of what they believe to be an excellent safety program initially excluded much of the workforce. The managers' confidence in their safety and health program and a less than full understanding of the role of a VPP mentor was also a significant contributor to a decision not to seek more active mentoring or assistance from other VPP participants. In February 2012, a URS employee from the Savannah River Site visited SST for 4 days to conduct a gap analysis in preparation for the DOE assessment. One of the recurring themes from that assessment, as well as from workers during this assessment, was the need for greater employee control and leadership of the effort. Along those same lines, the SST Safety Committee, normally a primary means of fostering employee involvement, was mostly a management-driven activity for SST.

In the wake of the February 2012 gap analysis, managers have begun recognizing where some actions were hindering communication and trust. SST is implementing actions to address those areas. For example, SST has formed a VPP Core Committee consisting solely of workers. It has broached the question of the two separate plan-of-the-pay meetings, but has not yet made any changes. Managers have also begun asking workers for greater input in the work planning and control process. These efforts are notable, but need time to mature, demonstrate effectiveness, and convince the workforce of SST's long-term commitment to improvement.

Subcontractors perform very little work under the infrastructure contract. SST uses subcontractors only for specific tasks that are clearly beyond its capabilities. In those cases where subcontracts are necessary, SST uses a formal procurement process that considers the safety record of the subcontractor, provides for specific oversight of subcontractor activities by SST, and ensures subcontractors comply with the SST worker safety and health programs.

SST did not meet a significant criterion for VPP participation. DOE expects the applicant to have a process for an annual assessment report that discusses each of the five tenets of DOE-VPP and that process must be in place for 12 months. This element ensures SST performs a systematic, self-critical evaluation of its safety and health program each year. To date, SST has not performed a self-critical annual evaluation nor begun developing a process to perform that evaluation. Consequently, they have not been able to use that process to establish annual goals. SST does conduct many separate assessments throughout the year that address various aspects of its safety and health program, but the elements of Management Leadership and Employee Involvement are not covered by those assessments, and there is no collective annual evaluation of those assessments. SST needs to develop, use, and demonstrate the efficacy of an annual assessment process that addresses each of the five tenets of DOE-VPP.

Opportunity for Improvement: SST needs to develop, use, and demonstrate the efficacy of an annual assessment process that addresses each of the five tenets of DOE-VPP.

Managers use a set of performance indicators on a quarterly basis to evaluate safety and health performance. Indicators include TRC, DART cases, as well as Initial Event Reports (IER), Occurrence Reports, Corrective Action Closure (ahead, ontime, or behind schedule), Sources of Open Corrective Actions, Nonconformance Reports, and first-aid injuries. These indicators are all lagging indicators. SST should look for meaningful statistical leading indicators that measure action that leads to improved safety. The current set of indicators might actually lead to poorer safety performance by encouraging corrective action closure even when those actions were not effective, or by personnel not reporting events or injuries in order to improve statistical performance. The size of the organization makes such actions very unlikely, but SST would be more effective if they measured actions that personnel can actively control rather than passively monitor events. (For additional discussion of trending and the opportunity for improvement, see the Worksite Analysis section.)

Conclusion

Managers at SST are clearly committed to ensuring every worker has a safe and healthy workplace and are zealously pursuing DOE-VPP Star status. In their zeal, they have focused on leading the workforce by doing rather than helping the workforce lead the effort. This approach has shifted in recent weeks, but needs additional time to mature and demonstrate effectiveness. SST must develop and demonstrate an effective self-assessment process that addresses each tenet of DOE-VPP in order to achieve DOE-VPP Star status. In the Management Leadership tenet, SST is ready to participate in DOE-VPP at the Merit level.

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 involvement is a major pillar of a strong safety culture. Employee participation is in addition to the right of an individual to notify appropriate managers of hazardous conditions and practices. Managers and employees must work together to establish an environment of trust where employees understand that their participation is crucial and welcome. Managers must be proactive in recognizing, encouraging, facilitating, and rewarding workers for their participation and contribution. Both employees and managers must communicate effectively and participate collaboratively in open forums to discuss continuing improvements to recognize and resolve issues and to learn from their experiences.

The employees told the Team that they understood their right and responsibility to pause or stop work, when appropriate, without fear of retribution. Posters identifying this right, including the Kentucky Department of Labor, Occupational Safety and Health Administration (OSHA), and DOE posters, were evident in the lunch and break rooms at the SST offices at the Paducah Site, as well as at the Kevil offices. Most workers stated their preferred alternative is to pause, analyze the situation, and then find safe alternatives to complete the job. Employees encountered by the Team expressed comfort requesting a pause and then consulting with their supervisors, the safety and health supervisors, the Environment, Safety and Health (ES&H) Manager, or the Program Manager.

Many of the employees interviewed had previously worked for the former infrastructure contractor until SST won the contract in 2005. Some employees also previously worked in private industry prior to joining SST. Workers unanimously expressed that SST is the safest place they had ever worked and that SST expected them to work safely or not perform the job until they could do it safely. They believe SST has increased the emphasis on safety and that emphasis is helping them improve home safety as they take lessons learned at work, home. Many claimed they now use personal protective equipment (PPE) for household chores, such as wearing gloves and safety shoes while mowing their yard and using ladders in safe configurations. They also expressed concern for safety of their coworkers in addition to their own.

The Program Manager's open-door policy encourages all employees to bring safety issues and concerns to him or to the ES&H Manager. While the employees generally go to their immediate supervisors or the safety professionals, the commitment from the top manager empowers the employees to report safety issues and concerns. During the assessment, the Team observed many employees conversing with the Program Manager and the ES&H Manager about a variety of topics, both work and personal. Their comfort in these discussions demonstrated their willingness to talk with the senior managers. Both of these managers visit the site frequently and interact with rank-and-file employees extensively.

Most workers identified the Program Manager and the ES&H Manager as the key promoters of VPP. While this clearly shows management leadership, both of these managers recognize that

the effort needs to become more of a worker initiative in order to succeed (see Management Leadership section). To that end, they supported formation of the VPP Core Committee and are helping the chairperson of that committee take a greater role in the VPP effort. Employees are eagerly seeking additional involvement and would like greater participation, particularly in accident investigations and work planning. In order to support additional employee leadership and involvement, SST should continue looking for additional external education, training, and mentoring opportunities for workers. In particular, SST should find the resources for employees to participate in regional and national conferences conducted by the Voluntary Protection Programs Participants' Association, the National Safety Council, or other safety organizations. Further, SST should consider opportunities for workers to participate on DOE-VPP assessments at other sites to learn from other DOE-VPP participants.

Opportunity for Improvement: SST should continue looking for additional external education, training, and mentoring opportunities for workers.

As mentioned in the Management Leadership section, SST did not seek a mentoring relationship with an existing VPP participant until immediately before the onsite assessment. The mentoring consisted primarily of a gap analysis conducted over a 4-day period. A primary theme of that gap analysis was that SST needed greater employee leadership and involvement. This mentoring helped the employees, the Safety and VPP committees, and managers significantly; and SST has begun making progress. SST should continue seeking additional mentoring from a VPP Star site to help it foster greater employee participation, help workers better understand their role in VPP, and accelerate SST's progress towards achieving Star status.

Opportunity for Improvement: SST should continue seeking additional mentoring from a VPP Star site to help it foster greater employee participation, help workers better understand their role in VPP, and accelerate SST's progress towards achieving Star status.

An expectation of DOE-VPP is that employees have a means to submit safety concerns in writing, anonymously if so desired. SST employees can submit issues or concerns in writing using forms available at suggestion boxes located in the lunch and break rooms. SST also has an Employee Concerns Program that employees can call to submit anonymous concerns. However, SST may not have adequate means to protect the anonymity of a concerned employee. The employee concerns hotline requires the concerned individual to leave a voice mail message, and the suggestion boxes are unlocked. Should a worker desire anonymity, they may not be comfortable using the suggestion boxes because they might be seen submitting the suggestion, and an observer could remove and read the concern. They might also be concerned with leaving a voice message since with a small workforce their voice might be recognized. SST should consider locking the suggestion boxes and providing a means of written submission to the Employee Concerns Program as a means of protecting the anonymity of a concerned employee.

Opportunity for Improvement: SST should consider locking the suggestion boxes and providing a means of written submission to the Employee Concerns Program as a means of protecting the anonymity of a concerned employee.

SST has a formal Employee Award and Recognition Program (EARP) designed to honor and encourage employees that contribute to the company's success, including safety. The EARP Committee administers the program and consists of between six and eight nonmanagerial personnel appointed from each of the teaming partners and USW. Members serve 3-year terms, and the committee elects its chairperson. The program provides for three levels of recognition, and any employee can nominate any other employee. The first level, *Be the Best*, consists of a written note from the Program Manager. The EARP Committee approves the second level, *Commitment Award*, which consists of a framed certificate and a $50 gift card. The EARP nominates personnel for the third level, *Award of Excellence*, annually from those that received the *Commitment Award* during the preceding year. The *Award of Excellence* consists of a plaque and a $200 gift card. In addition to the selection of awards, the EARP Selection Committee monitors and evaluates EARP on a regular basis to assess its effectiveness and to obtain feedback for enhancements to the program. This award program is unique in that employees play a significant role in the selection of individual awards. All personnel interviewed by the Team knew about the program.

SST has two safety committees, the SST Safety Committee and the VPP Core Committee. A health and safety supervisor chairs the SST Safety Committee, chartered March 16, 2010. The SST Safety Committee, comprised of one employee member from each functional manager and one bargaining unit (USW) employee, meets at least quarterly. All members are volunteers and serve for approximately 4 years. Membership on the committee rotates approximately every 5 years such that newly appointed members comprise no more than one-third of the committee members in any one year. Per the charter, "the role of the SST Safety Committee is to address the environmental, safety, and health well-being of the company and address concerns arising from SST activities." The charter specifically excludes the SST Safety Committee from performing safety inspections, but expects the committee to evaluate accidents, injuries, trends, corrective actions, safety suggestions, safety concerns, near-misses, and lessons learned. The committee plans and prepares safety promotions and luncheons associated with employee involvement and employee morale. The Team observed an effectively and efficiently run SST Safety Committee Meeting with good discussion among all the members.

SST formed the VPP Core Committee in February 2012, approximately 3 weeks prior to this assessment in response to the February 2012 gap analysis. The VPP Core Committee charter establishes membership from both union and nonunion volunteer employees from all organizational units of SST. Members serve a minimum of 6 months, and rotate on a 6- to 12-month basis. The VPP Core Committee meets weekly. While not assigned to the committee, the committee can request the ES&H manager to provide them with assistance and oversight. The Team observed a VPP Core Committee meeting attended by all of the core members. Similar to the SST Safety Committee, the meeting was efficient and provided multiple opportunities to discuss issues. The VPP Core Committee is considering a recommendation that all workers attend the 8-hour OSHA training class on general safety provided by USW.

Discussions with the SST Safety Committee and VPP Core Committee members indicate there may be significant duplication of effort between the committees, and no clear distinction between the two committees' roles. In particular, the VPP Core Committee was unsure about its role in raising, discussing, and resolving safety issues. SST should work with both committees to better define the committees' responsibilities. SST should consider using the VPP Core

Committee to focus on employee involvement, identifying and implementing safety and health promotional campaigns, and a lead role in reward and recognition programs. The SST Safety Committee would then be responsible for safety issue resolution and tracking, and analysis of safety trends. Both committees should play a role in any recommended changes to the overall safety program.

Opportunity for Improvement: SST should work with both the Safety and VPP Core Committees to better define the committees' responsibilities.

Conclusion

SST employees are fully aware of their safety responsibilities and look out for their coworkers' safety. They are fully empowered to pause or stop work without a fear of retribution. Employee involvement in the safety program has recently begun expanding, but needs more time to mature and reach the level expected of a VPP Star site. SST needs to continue improving employee empowerment in safety through the SST Safety Committee and the VPP Core Committee to achieve the excellence expected from a VPP Star site.

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 mitigating measures during work planning to anticipate and minimize the impact of such hazards.

The hazards encountered by SST workers are relatively common. Their workscope includes security, information classification, vulnerability assessments, computer and communications support, records management and control, fleet management, and surveillance and maintenance of facilities. During the summer months, the major work effort is mowing and maintaining roughly 750 acres. During the winter months, the effort turns to snow removal and maintaining the roads and walkways clear of ice and snow. Associated with these activities, workers perform vehicle maintenance and repairs in the vehicle maintenance shop. Carpenters provide support to maintain office trailers and construct walls and cubicles within the trailers for both SST and other site contractors. Electricians maintain exterior surveillance cameras and provide installation and maintenance of electrical service to office trailers. Electrical work is restricted to less than 600 volts for SST electricians. This restriction is typical across the DOE complex to differentiate between high voltage work (above 600 volts) and electrical work performed by journeymen electricians. The janitorial staff maintains office trailers, and laborers perform mowing and grounds maintenance.

SST has two industrial hygienists that support hazard identification, monitoring for hazardous constituents, and implementation of safety programs across the spectrum of SST activities. Interviews with workers confirm that their presence in the workplace is frequent and that supervisors and managers openly solicit workers' support. Examples include monitoring for carbon monoxide in the vehicle shop area in the winter and temperature monitoring in the summer to assess heat stress. Personnel interviewed by the Team believed that sufficient IH expertise was available.

SST has a documented process to address activity level hazard analysis. SST Procedure 3.2.3/R3, *Hazard Assessments*, dated 3/16/10, contains instructions and forms for conducting hazard analysis. While the instructions contained in the procedure could be improved and made more user-friendly, the forms in the appendices are relatively self-explanatory.

Attachment A to the hazard assessment procedure is a hazard identification checklist that provides a preliminary way of recognizing and documenting hazards. Hazards on the checklist include physical hazards, utility hazards, chemical hazards, radiological hazards, hazardous materials, and other considerations. It also identifies types of administrative controls and training requirements.

Attachment B to the hazard assessment procedure provides a 3-column form to document the activity steps, potential hazards, and hazard controls/mitigating actions. This is essentially the form that documents the results of the Activity Hazard Assessment (AHA).

Attachment C is the Risk Analysis form. This form documents the hazards, actions/controls, and the risk assessment code (both initial and final) based on severity and probability. A severity matrix identifies the final approval authority based on the risk assessment code.

Attachment D is a flow diagram that maps the Hazard Assessment Process.

Attachment E is an example of the AHA checklist that contains common skill of craft type activities that SST workers typically perform. These routine activities are documented in a retrievable format such that for a given workscope or work package they can be retrieved into the package without further analysis. For example, one analysis identified as "hand protection" identifies a variety of hazards and lists several standard controls.

The Team found the use of Attachment E to collect a common series of hazard analyses and controls for routine work to be an excellent means to eliminate repetitive analysis. The ability to pull a standard hazard analysis into a larger package is a good example of how organizations can continue to gain value from a single hazard analysis effort.

The Team identified several issues during the review of hazard analysis procedure. For example, SST does not use Attachment B for AHAs documented for Attachment E. While the Team agreed with the general concept of a collection of hazard analyses for routine work, there were some problems identified with the specific analysis performed. The format used for routine work identifies the potential hazard and required actions, controls, or methods of compliance, but there is no analysis documented to validate control selection, no evaluation of step sequences to assure the AHA identifies and addresses all hazards, and no documentation of assumptions. For example, an AHA identified "Slips, trips, and falls due to uneven terrain, steep inclines, deep holes" as a hazard. The "Required actions, controls, or methods of compliance" in the adjoining section states: "Covers for holes SHALL adhere to OSHA requirements and must have ES&H review and approval." There is no mention of cover size, when to use covers, or the specific OSHA requirements and standards the worker should apply. The control relies on the worker's knowledge or ability to research the specific requirements. The control section also uses generic descriptors, such as "be aware," "use caution, as required," and "approved" to convey information that should be clarified, giving specific useful information to the worker.

The hazard assessment procedure uses the terms hazard and risk interchangeably within the procedural instructions. SST needs to clarify the procedure to differentiate between the two to be accurate and useful. In addition, the procedure states, "A graded approach [for hazard analysis] should be used based on the complexity of the work to be performed and the potential hazards involved." This approach attempts to implement a graded approach to hazard assessments rather than using hazard analysis to grade the controls necessary to mitigate the hazard.

Discussions with the workforce indicate that workers and the planners rarely collaborate to prepare the work instruction. This may be because most work is repetitive, the workers have

been at the site for a long time, workers and planners understand the hazards, and previous AHAs document the work.

SST could improve the hazard assessment process by using the existing attachments to the AHA procedure and developing clear instructions for using the attachments. SST did not have any examples of a completed Attachment B. Neither Attachment B nor the form used to document the analyses for Attachment E provide a column or space to document the analysis, associated assumptions, or justify why the control selected is adequate for the hazard identified. SST should improve the hazard analysis process by addressing all hazards as indicated in the DOE-VPP guidance documents.

Opportunity for Improvement: SST should improve the hazard assessment process by using the existing appendices and attachments, developing clear instructions for using the attachments, and addressing all hazards as indicated in the DOE-VPP guidance documents.

SST developed ESH.0001/R6, *Worker Health and Safety Plan*, dated January 2012, in accordance with requirements from 10 CFR 851. The plan describes the hazards and controls identified by SST. These include noise, temperature extremes, dust control, ergonomics, indoor air quality, asbestos, hazardous chemicals, inorganic arsenic, lead, cadmium, and bloodborne pathogens. The plan also describes the Chronic Beryllium Disease Prevention Program and the IH exposure monitoring and references the specific SST procedures implementing those programs.

Generally, the Health and Safety Plan for SST addresses the hazards encountered by the workforce. The plan contains commitments to identify, evaluate, and monitor for hazardous chemicals, conditions, or circumstances. SST documents implementation of those commitments in the SST procedures and AHA process. For example, the SST Lockout/Tagout requirements are contained in SST Procedure 3.1.4, *Instructions for Lockout/Tagout.* AHAs address those hazards identified at an activity level, such as elevation of extension cords to preclude tripping and falling.

In 2011, PPPO identified that SST procedures were not adequate, and SST was not following those procedures. SST is currently in the process of reviewing the procedures and was reviewing the Quality Assurance procedures at the time of this review. In addition, SST may be maintaining procedures that do not apply or are not required for its scope of work. For example, according to the manager of the safety organization, SST personnel do not encounter asbestos or beryllium hazards. Historically, the only facility containing beryllium at PGDP was the smelter that is no longer onsite. He also stated that since other contractors control the facilities containing asbestos, SST workers do not go into those facilities or perform asbestos work. In concert with the effort to address inadequate procedures and procedural compliance, SST should evaluate its current procedural needs, eliminate procedures that do not apply to its workscope, and modify and tailor procedures required to meet its contractual obligations.

Opportunity for Improvement: SST should evaluate the current spectrum of procedures and determine their applicability, eliminate redundant procedures, and tailor procedures to its specific scope of work.

Although SST uses the industrial hygienists to identify hazards related to potential exposures, it has not yet compiled a comprehensive Baseline Exposure Assessment, or used that assessment to develop a systematic and comprehensive Industrial Hygiene Plan in accordance with the expectations in DOE-VPP. As discussed earlier, workers and managers believed the IH resources were adequate, but without this plan, SST cannot adequately determine if appropriate IH expertise and resources are available or if they identified all commonly encountered hazards.

SST did not identify or analyze potential hazards or establish effective controls for material movement although it performs these activities almost daily. SST has had several minor injuries related to material handling. SST has not documented an AHA for material handling hazards and has not specified required controls. As a result, injuries occurred because workers were not adequately controlling the hazards or wearing appropriate clothing or PPE. None of the reviews of those injuries identified the need to perform a material handling hazard analysis.

In order to identify and analyze all hazards, SST needs to create a hazard baseline. That baseline should identify hazards across its workscope (including construction activities), collect any existing IH monitoring data, and evaluate it to determine if it adequately addresses the range of potential exposures. Further, SST should identify analysis gaps, then develop and maintain a comprehensive monitoring plan that addresses those gaps. Finally, SST should use that plan to determine IH resource needs.

Opportunity for Improvement: SST needs to create a hazard baseline, address analysis gaps, and establish a comprehensive monitoring plan.

The DOE-VPP guidance documents provide expectations for participants that, in many cases, include evidence of an adequate system in place for at least 12 months. SST has not met these expectations in several cases. Examples include:

- SST worksite surveys are not systematic or comprehensive;
- Worksite inspections are not documented;
- Worksite inspections are not scheduled to occur monthly such that the entire worksite is inspected at least quarterly;
- SST could not demonstrate preuse or prestartup analysis effectively used for at least 12 months;
- SST does not have effective written guidance for performing inspections; and
- SST does not include employee participation in inspections (although improvements have begun).

Based upon Team observations and discussions with workers, the system of policies and procedures for SST has been in place for more than 12 months. SST inherited the processes and procedures from the previous contractor and adopted (bluesheeted) the procedures for use by SST. PPPO previously questioned the effective implementation of that system and compliance

with procedures and policies. The Team also found discrepancies with procedural implementation that indicate some procedures are not effective.

The DOE-VPP Onsite Review Criteria documents include an expectation for an accident/incident investigation system that includes written guidance. SST relies on IERs, the DOE Computerized Accident Injury Reporting System, and the DOE Occurrence Reporting System to document accident and injury reports. These processes require a determination of root cause and corrective actions through investigation of the event. SST has not developed its own procedure documenting how to perform investigations or how investigators are trained, qualified, and assigned. The application simply states, "The ES&H staff have extensive experience or have been trained in accident investigation. SST will draw upon its own internal subject matter experts or call upon other corporate experts as necessary to investigate incidents." SST calls the Union Safety Representative to participate in any investigations related to safety, and the investigation does not start until he is available. SST has not experienced any major accidents or injuries, so the Team could not evaluate the effectiveness of this process. Although most DOE-VPP participants find that active employee participation in the investigation is beneficial, SST has not trained either the Union Safety Representative or other employees in accident and incident investigation techniques. SST should document its accident and incident investigation process in a procedure and consider training specific employees, such as the Union Safety Representative, in accident and investigation techniques. SST can practice using this process (or parts thereof) when performing postjob reviews or when investigating less serious events.

Opportunity for Improvement: SST should document its accident and incident investigation process in a procedure, and consider training specific employees, such as the Union Safety Representative, in accident and investigation techniques.

The SST Quality Assurance organization tracks and trends information garnered from accident injury reports and project performance. Most indicators used by SST are lagging indicators. The current guidance from SST-0006 R/4, *Paducah Performance Indicators,* dated 3/16/10, states that, "SST shall identify, develop, and maintain "Critical Few" performance measures, as appropriate, for key activities. The President and Program Manager or designee shall establish these measures to promote improvement and to develop/analyze performance information that focuses on improvement. These "Critical Few" performance measures may include key indicators for SST mission, program, quality, security, and environmental, safety, and health." The critical few include: Corrective Actions, IERs, Noncompliance Reports, Occurrence Reports, Computerized Accident and Injury Reports, Incidents of Security Concerns, and TRC and DART cases. All of these are lagging indicators, as they are the result of events reported after the fact. SST should identify and use leading indicators directed at activities controlled by workers, supervisors, and managers to improve safety, such as participation in walkdowns, work planning, and worksite inspections, establish goals related to those indicators, and make progress toward those goals visible to the workforce.

Opportunity for Improvement: SST should identify and use leading indicators directed at activities controlled by workers, supervisors, and managers to improve safety, such as participation in walkdowns, work planning, and worksite inspections, establish goals related to those indicators, and make progress toward those goals visible to the workforce.

Conclusion

SST has documented processes in place to perform hazard analysis. SST, PPPO, and the Team all identified the effectiveness of those processes and their implementation as an issue that SST is addressing in an ongoing improvement effort. SST should evaluate performance indicators to include those worker participation attributes that SST has been recently working to improve. In the Worksite Analysis tenet, SST should concentrate on meeting expectations contained in DOE-VPP and allowing the process enhancements to mature. Several components of the DOE-VPP Worksite Analysis tenet have not been in place for at least 12 months and have not yet matured to the level of effectiveness expected of a DOE-VPP Star participant.

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, or PPE). Equipment maintenance processes to ensure compliance with requirements and emergency preparedness also must be implemented where necessary. Safety rules and work procedures must be developed, communicated, and understood by supervisors and employees. Everyone in the workplace must follow these rules and procedures to prevent, control the frequency of, and reduce the severity of, mishaps.

SST has several recent examples where they applied the hierarchical approach to hazard controls. Interviews with employees indicated many examples where hazards were substituted, eliminated, administrative controls used, and/or PPE employed. In the summertime when mowing and grounds maintenance are the predominant tasks, employees suggested the replacement of rear glass in the tractor cabs with Lexan® to prevent objects thrown by the mower from breaking the glass and injuring the driver. The replacement of petroleum-based grease to vegetable-based grease in the vehicle shop reduced both hazards to workers and the environment. SST replaced lighting in the shop area with energy-efficient, low mercury lighting. Workers installed a battery charging box in the vehicle maintenance shop to mitigate the effects of a potential battery explosion during charging, replaced polyvinyl chloride compressed air lines with galvanized metal to prevent potential ruptures, and installed airline reels in the shop to eliminate tripping hazards. Industrial hygienists evaluate exposures to heat and cold stress and ensure workers follow the work-rest regimens.

SST administrative employees can request an ergonomic evaluation of their workstation. Interviews with employees found some employees who had requested evaluations and the changes were beneficial, some employees who were satisfied with their workstation and did not voice any issues, and other employees who were interested in having an ergonomic evaluation performed. SST fully supports the evaluations to preclude latent ergonomic issues from becoming injuries.

In some cases, SST uses PPE as a default control without first trying to eliminate the hazard or substitute less hazardous methods. The February 2012 gap analysis also observed this, and the Team validated this observation. For example, workers performing janitorial work frequently strip and wax floors. Janitors identified this work as one of the more hazardous jobs they perform, and SST permitted the workers to identify ways to reduce the hazard. The workers identified slip-resistant shoe covers (PPE) to minimize slipping on wet or waxed flooring. There was no indication that workers questioned the frequency of the work or evaluated other methods to reduce or eliminate the hazard (e.g., mechanical stripping and waxing machines rather than mop and bucket).

In some cases, SST did not identify and implement adequate controls. For example, workers did not bond a welding table in the vehicle maintenance shop to the building, relying solely on the ground through the welding machine. Qualified electricians interviewed by the Team agreed that it should be bonded, but they did not review the use and installation of the welding table prior to this assessment. Further, workers used the welding table for other tasks, such as mechanical part rebuilds that was leaving grease or other materials on the table, which could present a

flammability hazard during welding. The AHA for the vehicle maintenance shop did not address these issues. The Team observed another example during carpentry work to refurbish an office space. In that case, workers laid extension cords across the floor rather than stringing them above and out of the way with hooks or other devices. When mentioned, the workers immediately moved the extension cords and rearranged their work to protect the cords, but the AHA for this activity did not identify this hazard or control. SST should develop methods to encourage workers to continually look for and recognize hazards, apply prevention and control measures, and capture those improvements in applicable AHAs.

Opportunity for Improvement: SST should develop methods to help workers recognize hazards and apply prevention and control measures using the hierarchy of controls, and capture those improvements in AHAs.

The primary hazards faced by workers outside offices include machinery, animals, insects, or poisonous plants while mowing or removing debris from drainage ditches. Workers at SST frequently work in pairs. If a partner is not available, they are required to carry two-way communication at all times. This approach provides little protection for a lone worker that becomes injured or disabled because of an equipment accident or malfunction, or suffers a debilitating medical condition (e.g., heart attack, serious allergic reaction to bites or stings) in a remote area. SST should reevaluate the safety of working alone especially in remote locations. Improvements to consider might include requiring a partner when working in remote areas (rather than recommending a partner), use of Global Positioning System locator transponders, and more frequent status checks on the radio for remote workers.

Opportunity for Improvement: SST should reevaluate the safety of working alone, especially in remote locations.

The SST Emergency Management program follows the requirements of DOE Order 151.1-C, *Comprehensive Emergency Management System.* SST did not conduct any drills during the Team review. SST provides training and employees participate in periodic drills. SST trains employees when they are initially hired and may require additional training when changes to the site emergency plan occur. SST provides a folder that contains the area-specific Emergency Action Plan for visitors to controlled areas. The action plan contains phone numbers, what to do in a fire or explosion, chemical release response, earthquake response, severe weather response, bomb threats, and the primary emergency evacuation point.

SST installed underground tornado shelters throughout its current site office complex when they were a subcontractor to Bechtel Jacobs. While the shelters are clearly an excellent means of ensuring workers in the trailers are able to seek adequate protection from severe weather, SST has not compared the capacity of the shelters with the population of the site. Personnel that participated in recent sheltering activities (due to tornadoes in the area) did not identify any problems with shelter capacity, and everyone at the site was able to find space in a nearby shelter. SST is considering a plan to move personnel from the Kevil administrative complex out to the SST-controlled area onsite. SST should evaluate occupancy for shelters prior to the move.

Opportunity for Improvement: SST should evaluate occupancy requirements for underground shelters prior to moving personnel from the Kevil complex out to the site.

The SST Procedure 4.7.1/R4, *Radiation Protection Program*, implements 10 CFR 835, *Occupational Radiation Protection*. Aspects of the program reviewed by the Team demonstrated that the program adequately protects workers, limits spread of contamination, and maintains exposures to the workforce as low as reasonably achievable (ALARA). Workers, including subcontractors, are trained to the radiation worker requirements that include donning and doffing PPE while in contaminated areas. Conversations with the radiation protection manager indicated that typical concentrations of radionuclides are at very low levels. Typical work activities include surveying for low levels of contamination associated with previous uranium process activities at the site.

Due to the relatively small number of SST employees at the site and the nature of the work conducted, SST does not provide onsite medical services. Occunet, a commercial medical provider in Paducah, Kentucky, provides the medical services for SST. They provide respiratory protection and fit testing, hearing testing, physicals, drug screening, and health care information to employees, such as Body Mass Index and health risk appraisals. They have a mobile unit that visits the site periodically from which they can perform hearing tests, respirator fit testing, and random drug screening.

Conclusion

SST has implemented some hazard controls through the hierarchy process. SST's system, using a collection of routine work AHAs and selecting and including them in a broader hazard analysis, is an effective foundation that SST can build upon by documenting the analysis and assumptions. The Team saw evidence of a hierarchical approach to controls at some work locations, but PPE tends to be the first control selected rather than elimination or substitution. Opportunities for improvement in hazard control must start with effective and comprehensive hazard analysis and include elimination or substitution as part of the hazard analysis. Addressing the opportunities for improvement will help SST become more consistent and strengthen its performance in 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, personnel recognize hazards they may encounter, and are capable of acting in accordance with managers' expectations and approved procedures.

Based on a review of learning plans, training rosters, qualification lists, personnel interviews, and work observations, SST has an effective training and qualification program. Personnel generally understand the hazards they face on a daily basis, and are capable of implementing appropriate controls.

SST identifies specific training needs for employees and then subcontracts to Technical and Field Engineering, Inc. (TFE), to develop and provide that training. TFE, through its contract with SST, is responsible for providing mandatory courses to all DOE contractors at PGDP. Courses provided by TFE include Paducah General Employee Training, Consolidated Annual Training (Fire Extinguisher, Cyber Security, and Integrated Safety Management), Radiological Worker Training, and a host of other available training courses. TFE conducts classroom training in the TFE Training Room in its Kevil offices, at the PGDP site, or at the USW Union Hall in Paducah, Kentucky. TFE also provides SST with the Local Education Administrative Requirements Network (LEARN) to help SST manage training and qualification records for all contractors at the site. This approach allows SST to use its training resources more efficiently without hiring and maintaining a large staff of training personnel.

The Team observed the practical demonstration for Radiological Worker II Training at the TFE Training room. This exercise is required by 10 CFR 835 for radiological workers to demonstrate their ability to properly don PPE, review a radiological work permit, perform a task in a radiological area using ALARA concepts, and then remove the PPE without spreading contamination. The testing facility provides a well-designed, realistic training environment and effective training aids. The instructor supplemented the exercise with questions that helped the student avoid making mistakes and encouraged the student to be thorough in his demonstration.

All new hires are required to take General Employee Training (GET) in a classroom setting before they can perform any work activities. Subcontractors and visitors to the site can complete an online GET module prior to arriving at the site. Completion of both the classroom and computer-based training (CBT) requires an 80 percent passing grade on a written examination. The Team reviewed the GET modules that include security, Integrated Safety Management System, safety, health, and 10 CFR 851 requirements.

The functional supervisor, training manager, ES&H manager, and other subject matter experts collaborate to identify position-specific training requirements, and document those requirements on the Position Assignment Form. SST maintains records in the LEARN system, including scheduling and completion of those training requirements. Based on the Team review of selected records, SST is maintaining training records accurately and effectively; and employees, supervisors, and the training manager can easily access those records. Daily plan-of-the-day meetings observed by the Team discussed any upcoming training requirements and delinquencies.

Supervisors receive additional training in order to comply with various laws. Specific supervisory courses include Confined Space/Supervisor training, Department of Transportation training, and Respiratory Protection/Supervisor training.

Most training provided by TFE required for work at PGDP is CBT, with some select classroom training. For hourly workers, SST provides terminals in lunch and break rooms for employees to access e-mail or complete CBT. These rooms tend to be high traffic areas during the day, detracting from the learning environment. In order to ensure an effective learning environment free from distractions, SST should consider dedicating an office or conference room as a CBT location.

Opportunity for Improvement: SST should consider dedicating an office or conference room as a CBT location.

About 25 percent of workers' training is required reading. Required reading programs typically present greater difficulties ensuring workers actually read the material and comprehend the lessons. SST should consider replacing the required reading with another form of training to ensure that the employees have actually mastered the concepts or lessons presented.

Opportunity for Improvement: SST should consider replacing the required reading with another form of training to ensure that the employees have actually mastered the concepts or lessons presented in the required training.

A strength noted by the Team is that SST provides Fitness-for-Duty/Drug Awareness training to all workers, supervisors, and managers. Since managers and supervisors are generally required to evaluate and determine when an employee may not be fit for duty, other VPP participants typically provide this training only to managers and supervisors. SST believes that an impaired worker is a hazard to all other workers and provides all employees with the training to recognize possible impairment. This training assists workers in identifying and intervening when an employee may be putting themselves or others at risk.

Conclusion

SST has a systematic approach that appropriately trains and qualifies employees prior to performing work. The employees believe they are well prepared to perform their job safely. SST maintains training records that are accessible to the employees, supervisors, and managers. All of the employees records examined were current. SST meets the requirement of the Safety and Health Training tenet of DOE-VPP at the Star level.

VIII. CONCLUSIONS

SST has an excellent safety record over the past several years. The small organization, flat management structure, experienced workforce, and routine work all provide a work environment where individuals and teams work effectively to eliminate accidents and injuries. In its effort to achieve recognition quickly for an excellent safety record, SST's pursuit of DOE-VPP Star status did not address some significant aspects of the program. SST did not establish an effective mentoring relationship with another DOE-VPP Star participant until very recently, and did not perform a gap analysis against the DOE-VPP onsite review criteria. Consequently, they did not self-identify those missing aspects. The month before this onsite assessment, SST began addressing some of those gaps, particularly related to employee involvement, but was unaware of other gaps. SST should use the opportunities for improvement in this report to close those gaps and build on an already firm safety foundation. SST demonstrates the desire and commitment to achieve Star status, and now has a better understanding of DOE-VPP. As such, the Team recommends the Chief Health, Safety and Security Officer approve SST as a participant in DOE-VPP at the Merit level.

APPENDIX A

Onsite VPP Assessment Team Roster

Management

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