



Theta Pro2Serve Management
Company, LLC
Portsmouth Gaseous Diffusion Plant
Infrastructure Contract

**Report from the Department of Energy
Voluntary Protection Program
Onsite Review
September 14-25, 2009**



U.S. Department of Energy
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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. Furthermore, 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 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 results from the evaluation of Theta Pro2Serve Management Company, LLC (TPMC), at the Portsmouth Gaseous Diffusion Plant, during the period of September 14-25, 2009, and provides the Chief Health, Safety and Security Officer with the necessary information to make the final decision regarding TPMC’s participation in DOE-VPP as a Star site.

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ABBREVIATIONS AND ACRONYMS

AED	Automated External Defibrillator
AHA	Activity Hazards Analysis
ALARA	As Low As Reasonably Achievable
BLS	Bureau of Labor Statistics
CPR	Cardio Pulmonary Resuscitation
CTS	Commitment Tracking System
DART	Days Away, Restricted or Transferred
DOE	Department of Energy
ES&H	Environmental, Safety and Health
GET	General Employee Training
HSS	Office of Health, Safety and Security
ISM	Integrated Safety Management
ISMS	Integrated Safety Management System
MOA	Memorandum of Agreement
NAICS	North American Industry Classification System
OSHA	Occupational Safety and Health Administration
PORTS	Portsmouth Gaseous Diffusion Plant
PPE	Personal Protective Equipment
PPPO	Portsmouth Paducah Project Office
PTHR	Pre-Task Hazard Review
RCT	Radiological Control Technician
RWP	Radiation Work Permit
SAFE	Safety Awareness for Everyone
SGE	Special Government Employees
SME	Subject Matter Expert
SOMC	Southern Ohio Medical Center
STS	Safety-Trained Supervisor
Team	Office of Health, Safety and Security DOE-VPP Team
TPMC	Theta Pro2Serve Management Company, LLC
TRC	Total Recordable Case
TOP	Triangle of Prevention
USEC	United States Enrichment Corporation
USW	United Steel Workers International or Local
VPP	Voluntary Protection Program
VPPPA	Voluntary Protection Program Participants Association
WIN	Worker Involvement Network

EXECUTIVE SUMMARY

Theta Pro2Serve Management Company, LLC (TPMC), is the infrastructure contractor for the environmental management and restoration activities at the Portsmouth Gaseous Diffusion Plant. As such, they are responsible for maintaining associated roads and grounds, office and shop space, information technology infrastructure and communications networks, as well as interface with the United States Enrichment Corporation on shared-site facilities and utilities.

TPMC submitted its application to participate in the Department of Energy (DOE) Voluntary Protection Program (VPP) in June 2009. After review and acceptance of the application, the Office of Health, Safety and Security (HSS) performed an onsite review from September 14-25, 2009.

The onsite review addressed each of the five tenets of DOE-VPP. The HSS DOE-VPP Team (Team) determined that TPMC has a strong management team that has clearly demonstrated leadership and commitment to excellence in safety and health. Similarly, employee involvement is strong, with many programs focused on encouraging and improving additional employee participation in safety and health initiatives. Hazard analyses were generally performed as part of work planning, and controls selected by workers were appropriate, but the analyses were not documented and captured such that they could be reviewed and used again as part of future work planning. Hazard prevention and control used a prioritized approach beginning with elimination or substitution, then engineered controls and administrative controls, and finally personal protective equipment. Required training was clearly identified and tracked, and several optional training programs were available to help employees.

Managers and workers were adamant in their support for safety improvements, and worked effectively together to address issues. The resultant safety culture clearly demonstrates each of the five tenets of DOE-VPP, and the Team recommends that TPMC be admitted to DOE-VPP at the Star level.

TABLE 1 OPPORTUNITIES FOR IMPROVEMENT

Opportunity for Improvement	Page
TPMC and the USW local should consider additional options to provide periodic feedback to workers on their safety performance.	4
TPMC should continue efforts to refine and develop proactive goals derived from specific improvements and promotional efforts identified by the various safety committees.	5
TPMC should find ways to ensure promotional and educational efforts are publicized, recognized, and celebrated when goals are achieved to foster additional employee participation in those efforts.	9
TPMC should develop a mechanism in the hazards review process to complete the analysis before a graded approach to the work is applied.	10
TPMC should develop a formal mechanism to capture and document a thorough and consistent evaluation of the hazards within the areas required by procedure.	11
TPMC should reevaluate the Hazard Baseline Process to capture and document a thorough and consistent evaluation of the hazards contained within the areas required by procedure.	11
TPMC should consider other approaches to safety improvement, such as Behavior-based Safety and Human Performance Improvement that are available to continually improve the safety culture for TPMC workers.	12
TPMC should consider integrating the existing Baseline Exposure Assessment information into development of the analysis section of AHAs and PTHRs.	12
TPMC should review all AHAs and PTHRs for generic descriptions and the potential for miscommunication and replace with specific descriptions where required.	15
TPMC should work more closely with SOMC to establish specific employee job task or hazard analyses and use those as a basis for predetermined examination requirements, including potential for beryllium, asbestos, and lead exposures.	16
TPMC should consider adding the Safety Trained Supervisor and SGE certifications to its catalog of voluntary training programs as a means to foster greater worker knowledge and participation in safety excellence.	21

I. INTRODUCTION

The Portsmouth Gaseous Diffusion Plant (PORTS), located in Piketon, Ohio, began construction in 1952 and completed construction in 1956 as the source for highly enriched uranium materials for defense and commercial power needs. The first process materials were introduced beginning in 1954. In October 1992, the Energy Policy Act created the United States Enrichment Corporation (USEC) and transferred responsibility for production and sales of enriched uranium from the Department of Energy (DOE) to the newly formed corporation. Under that arrangement, production areas of the plant were leased to USEC with DOE retaining responsibility for environmental restoration and management areas. In 2001, USEC terminated production operations at Portsmouth although it continues to lease the process buildings while removing remaining process materials.

Theta Pro2Serve Management Company, LLC (TPMC), is the prime contractor to DOE for management of the environmental management infrastructure at PORTS. The contract was awarded in 2005 and involves a number of services. Responsibilities include: (1) corrective and preventive maintenance of DOE nonleased facilities and grounds; (2) janitorial, computing, and telecommunications; (3) capital asset management/fleet management; (4) technical and engineering support; (5) records and document control; and (6) site security (including Cyber Security). Under the contract, TPMC manages the infrastructure scope primarily through self-performance with a portion of its scope being accomplished through subcontracts mainly with the parent companies. TPMC maintains office spaces located in the X-1000 and X-720 buildings at PORTS and shop and warehouse space in the X-700, X-720, X-735A, and X-744 N, P, and Q buildings. The current contract expires March 15, 2010, and TPMC is not bidding on the new contract. Each of the parent companies has submitted bids for the contract, and it can be logically expected that much of the existing workforce will transfer to the new contract, whoever wins the award.

TPMC's total number of employees fluctuates depending on the level of subcontractor support. At the time of this assessment there were 135 employees and subcontractors. Approximately one-third of the company's employees are bargaining unit personnel represented by the United Steel Workers (USW) International Local 1-689. Work activities include: (1) mobile equipment repair; (2) building maintenance; (3) janitorial support; (4) office renovations; (5) utility repair; (6) grounds maintenance; (7) general shop activities; and (8) office work. The principal hazards are general industry, ergonomic, electrical, and fire.

TPMC submitted its application for participation in DOE-Voluntary Protection Program (VPP) to the DOE Portsmouth Paducah Project Office (PPPO) on June 11, 2009. DOE/PPPO endorsed the application and forwarded it to the DOE Office of Worker Safety and Health Assistance, within the Office of Health, Safety and Security (HSS), for review and approval. Per DOE-VPP requirements, initial certification requires an onsite review to be conducted by the HSS DOE-VPP Team (Team). During this onsite review, the Team observed all forms of work, walked down and inspected all areas of the plant managed by TPMC, and had substantive contact with at least 55 different employees, supervisors, and managers. This report provides the results of that onsite assessment conducted September 14-25, 2009.

II. INJURY INCIDENCE/LOST WORKDAYS CASE RATE

Injury Incidence/Lost Workdays Case Rate (TPMC)					
Calendar Year	Hours Worked	Total Recordable Cases (TRC)	TRC Incidence Rate	DART* Cases	DART* Case Rate
2006	172,296	1	1.16	1	1.16
2007	156,900	1	1.27	0	0.00
2008	166,785	1	1.20	1	1.20
3-Year Total	495,981	3	1.21	2	0.81
Bureau of Labor Statistics (BLS-2007) average for NAICS** Code # 561210 Facility Support and Management Services			5.9		3.0
Injury Incidence/Lost Workdays Case Rate (TPMC Subcontractors and Vendors)					
Calendar Year	Hours Worked	TRC	TRC Incidence Rate	DART* Cases	DART* Case Rate
2006	63,755	1	3.14	0	0.00
2007	94,724	1	2.11	1	2.11
2008	92,070	0	0.00	0	0.00
3-Year Total	250,548	2	1.60	1	0.80
Bureau of Labor Statistics (BLS-2007) average for NAICS** Code # 5612 Facility Support and Management Services			5.9		3.0

* Days Away, Restricted or Transferred

** North American Industry Classification System

TRC Incidence Rate, including subcontractors: 1.34**DART Case Rate, including subcontractors: 0.80**

The accident and injury statistics above indicate that TRC rates have been level for the past 3 years. As a small organization, a single incident has a large effect on the statistical rates. The reportable and recordable injuries in the past 3 years all involved office workers. As of the beginning of this assessment, TPMC had gone 667 days without a Lost Workday, 609 days without a recordable injury, and has gone 3.5 years since the last injury to a craft worker. On average, the 3-year TRC rate for TPMC is almost 80 percent below its comparison industry rate and clearly 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-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: (1) clearly communicated policies and goals; (2) clear definition and appropriate assignment of responsibility and authority; (3) adequate resources; and (4) accountability for both managers and workers. Finally, managers must be visible, accessible, and credible to employees.

TPMC has clearly demonstrated management leadership and commitment to excellence in worker safety and health. Managers expressed a firm understanding that recognition by DOE as a VPP participant was validation of a safety and health program that went beyond compliance, and ensured that all tenets of VPP were firmly implemented. The management team has extensive experience in facility management and project management.

The TPMC Safety and Health program begins with a clearly stated safety and health policy, TPMC-52701, that commits TPMC to a safe and healthful workplace, establishes that every employee or subcontractor is responsible for participation in the program, and requires managers to support the corporate commitment. The policy is then implemented through a written safety and health plan. The written safety and health plan is detailed in establishing processes and procedures for Integrated Safety Management (ISM), as well as a variety of specific procedures that define analysis and control requirements for most of the expected hazards that workers may encounter (See Worksite Analysis and Hazard Prevention and Control).

Managers have effectively provided necessary resources to promote excellence in safety and health. Not only are safety and health professionals available on staff, but also outside expertise (such as an ergonomist) are periodically brought in for more detailed assessments. Resources to provide for training beyond that required for compliance are available and used, and in some cases, the parent companies for TPMC have provided additional funds (not chargeable to DOE) for the specific purposes of promoting safety and security. None of the managers or workers interviewed by the Team indicated any shortage of safety and health resources. During interviews, managers clearly considered resources used to improve safety and health as an investment in overall improvement. In the past year, TPMC has worked with USW Local and provided resources to establish a full-time union safety representative, integration of the USW Triangle of Prevention (TOP) process into the ISM process, and sent approximately 16 people (both hourly and salary) to be trained in the USW TOP Accident and Incident investigation process (see Employee Involvement). Several opportunities for managers to improve employee involvement exist that may require additional investment, such as participation in the Voluntary Protection Program Participants Association (VPPPA) regional and national conferences, certification of Safety-Trained Supervisors (STS), qualification of personnel as Special Government Employees (SGE) and subsequent participation in both DOE and Occupational Safety and Health Administration (OSHA) VPP assessments. All managers interviewed were supportive of these ideas, but will probably be challenged to ensure resources are made available to implement them.

Roles, responsibilities, authorities, and accountability are clearly delineated through the safety and health plan policies and procedures. Annual performance reviews for managers and salaried personnel included safety as a key element. Hourly personnel (craft) do not have an equivalent annual performance review process. Although personnel clearly understood that failure to abide by safety processes and procedures could result in termination, there was not a formal process for hourly workers to receive feedback from their supervisors. This is a condition that will require negotiation with the union to establish an annual performance review process for the hourly workers.

Opportunity for Improvement: TPMC and USW Local should consider additional options to provide periodic feedback to workers on their safety performance.

Interviews with workers verified that managers are frequently visible and involved in the day-to-day completion of the TPMC mission. Workers expressed confidence and trust in their managers, and considered TPMC, from the company president down through the newly hired employee, to be an excellent place to work and had no doubt their managers were committed to accomplishing the mission safely and effectively. All managers expressed an open-door policy that was echoed in interviews with employees and observed by the Team on a daily basis.

Subcontractor workers and vendors were expected to abide by the TPMC safety and health program when performing work onsite. In one recent case cited by many people, an elevator contractor had stepped outside the bounds of the authorized work by performing work on deenergized, but not locked out, electrical conductors during elevator maintenance. In that case, the work was immediately stopped by DOE and TPMC and reviewed for proper controls. Concerned that other subcontractors or vendors might have similar misunderstandings of the safety and health system, TPMC has developed a significant change to its subcontractor and vendor safety program by assigning a TPMC employee as an assurance officer to work directly with the subcontractor or vendor to ensure work is completed safely and that workers are aware of requirements prior to beginning work.

TPMC has established and used a process for performing annual evaluation of the safety and health program. This process currently consists of an employee survey for awareness and attitudes, along with specific topical area assessments performed by the quality assurance program. This process would benefit greatly from better-defined and quantified safety and health goals. TPMC has worked with USW to perform “goal charting” to establish some higher-level goals and objectives. These goals do not have strong measures of effectiveness or awareness that are tied to specific objectives. TPMC also has contract performance metrics that are agreed to with PPPO on an annual basis. Those metrics tend to be lagging indicators for safety and health, such as reportable and recordable injury rates. TPMC is performing many other actions, such as optional training, awareness promotions, and other activities. Goals and objectives for those efforts have not been established to ensure the activity or promotion is geared toward a specific desired improvement or to provide a means to determine the effectiveness of the activity or promotion. Adding these types of goals for internal tracking will help TPMC better evaluate whether promotional and training activities have been effective.

Opportunity for Improvement: TPMC should continue efforts to refine and develop proactive goals derived from specific improvements and promotional efforts identified by the various safety committees.

Conclusion

TPMC managers have clearly established excellence in safety as a management priority and committed the necessary resources to achieve it. By creating an environment of open communication and trust, and proactively working with the USW Local, they have provided opportunities for employees to raise safety concerns, make safety improvement suggestions, and become involved in establishing safety-related goals and objectives. Safety and health standards and requirements are factored into the work planning and contracting processes. The open-door policy is real, not just stated. TPMC has effectively met the expectations for management leadership and commitment.

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 individual right 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 adds value, is crucial, and welcome. Managers must be proactive in recognizing, encouraging, facilitating, and rewarding workers for their participation and contributions. Both employees and managers must communicate effectively and collaboratively participate in open forums to discuss continuing improvements, recognize and resolve issues, and learn from their experiences.

Document reviews, interviews, and work observations at TPMC reveal that TPMC has a strong interest in encouraging its hourly/salaried workers, subcontractors, and managers to get involved in workplace safety processes through work planning, hazard recognition, continuous feedback, and participation in a number of safety committees and forums. For example, the procedure on hazard review is designed to facilitate participation of workers in hazard assessments through a number of steps including prejob walkdowns, and postjob briefings. Other procedures, such as facility inspections, accident investigations, and lessons learned are also being successfully and routinely used in TPMC operations to facilitate workers' involvement.

Overall, TPMC has been proactive and effective in taking advantage of employees' unique knowledge and experiences to improve their operations and to allow the employees to better understand and deal with the hazards of their workplace. For example, when several routine Activity Hazards Analyses (AHA) were due for their annual reviews in early 2009 (annual reviews are a requirement of the hazards review procedure), managers made the decision to allow any interested personnel to attend the reviews for the purpose of providing input, seeking clarification, and observing the process. The teams, composed of hourly and salaried workers, completed the revision process successfully and developed a set of more effective and consolidated AHAs. In the process, many good comments were provided and considered. The interaction among participants representing different points of view remained productive, constructive, and effective. Based upon the value added by this effort, TPMC intends to continue AHA reviews and involvement by hourly and salaried workers.

The procedure for Suspend/Stop Work Authority is well understood and when necessary, used by the workforce. The workers interviewed are fully cognizant of their right to suspend/stop work. Workers interviewed were able to describe clearly that if, during a job, it is recognized that a change is made in the equipment used, method of accomplishment, materials required, 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 the work immediately by exercising their right without any concerns.

TPMC uses several means to communicate with employees, including monthly all-hands safety meetings on the fourth Wednesday of each month, electronic mail, required reading, multiple bulletin boards, an open-door management policy, and of particular note, the biweekly newsletter called the *TPMC Voice*. The *TPMC Voice* is an excellent newsletter that includes pertinent safety topics, along with other information that both informs and entertains. Employee articles are encouraged and rewarded (see Star points discussed later). The newsletter has been in

regular publication for the last several years, and continues to be a quality product. TPMC also publishes the *Headliners*, which is conveniently posted in all the company rest rooms.

Safety Awareness for Everyone (SAFE) is the TPMC rewards and recognition program and is intended to provide incentives and to promote safety awareness at work and at home. In this program, the employees can earn Star points by participating in defined safety-related activities that go beyond their day-to-day work responsibilities. For example, they can be given points for writing a safety-related article for the *TPMC Voice*, speaking at a company safety meeting, or participating as a member of a safety committee. In this way, TPMC encourages participation and involvement. Line managers and safety professionals may also present “on the spot” Star points for outstanding safety performances. Employees can redeem their Star points at any time for jackets, emergency road kits, smoke detectors, etc. The higher the Star point value, the more valuable the gift. TPMC has recently implemented a new housekeeping program through a monthly walkthrough by a team of hourly and salary personnel. Shops are evaluated against each other, with each shop receiving a numerical value from 1 through 10, with 10 being the best. Star points are awarded to individual members of the craft group with the cleanest shop. The shop with the highest rating for the month is displayed on the bulletin board posted outside the supervisors’ office area in the X-700 Building, and receives a free lunch prepared by the Operations and Maintenance Manager. SAFE is a successful program and has recently been enhanced by improving the quality of the awards and keeping track on how the program is used across the organization to better develop lessons learned.

Employees, managers, and subcontractors are invited to participate in Environmental, Safety and Health (ES&H) committees to provide new ideas and to move the safety and health program beyond a Subject Matter Expert (SME) and management-driven program. To facilitate employees’ participation, TPMC has established a number of safety and health committees, including those discussed in the following paragraphs.

TPMC has established an Integrated Safety Management System (ISMS) Steering Committee that is jointly chaired by the TPMC ES&H Manager and the USW Safety Representative. The ISMS Steering Committee is the umbrella committee for all ES&H programs and committees. The ISMS Steering Committee also allows workers and their elected representatives to participate in the development of the worker protection programs, goals, and performance metrics. ISMS goals are developed and redefined annually from the feedback and input solicited from the workers and their elected union representatives.

The Worker Involvement Network (WIN) Health and Safety Committee is the primary worker-management committee for receiving, reviewing, tracking, and managing employee health and safety suggestions and concerns. The committee is comprised of hourly, salaried, and subcontractor employees and is chaired by a TPMC senior manager. Since its inception, WIN has received, prioritized, and assigned advocates for nearly 90 safety and health issues. All issues have been entered into the TPMC Commitment Tracking System (CTS), and most of these issues have been successfully resolved. Employee interviews noted that employee concerns are normally addressed in a timely manner. Some issues, particularly shared-site issues, were perceived by workers as “taking a long time.” This perception comes from workers not having sufficient information regarding the reasons for delay. As part of a new initiative to improve communications regarding WIN safety issues, the TPMC USW Safety Representative provides a brief status report on WIN issues received, as well as those issues that have remained open, during the monthly all-hands safety meeting that all employees are required to attend. TPMC

should consider additional, more frequent updates through other venues, such as articles in the *TPMC Voice*, to better describe difficulties delaying closing specific issues. Such steps would further improve communications and enhance the manager/employee relationship.

In addition to the WIN Committee, there are other avenues for reporting ES&H concerns and unsafe practices and conditions. Employees are encouraged to report ES&H concerns directly to their line manager or to a member of ES&H and finally through the DOE Employee Concerns Program. When concerns are reported through TPMC programs, they are entered into and tracked in CTS.

The VPP Steering Committee encompasses a cross section of TPMC managers, workers, and subcontractors to promote and recognize safety excellence. Two vice presidents and five department managers are members of the VPP Steering Committee, along with the USW Safety Representative. Their participation integrates safety into business strategy, provides top-level support for safety and health initiatives, and ensures strategic goals are sustained. Specifically, the VPP Steering Committee is chartered to promote the VPP concepts, plan events for employee involvement, identify and implement improvements, and increase worker involvement. The committee charter also requires the VPP Steering Committee to perform self-assessments to identify weaknesses and opportunities for achieving excellence in safety. Office workers and salaried employees have strong participation in a variety of safety programs initiated by the VPP Steering Committee. For example, managers in each office are responsible for periodic office inspections using a checklist developed by TPMC. The employees of each organization participate in inspection of their workplace and identify safety issues. Monthly facility/office walkdowns with support from office workers are also performed by the company and cover a broad range of safety areas, such as ergonomics, electrical safety, and housekeeping. An imaginative approach used by TPMC organizations and their employees is for each TPMC organization to “adopt” an area, such as a sidewalk leading to one of their buildings, and take all appropriate actions necessary to ensure that the adopted area is safe for use by other employees. This approach mimics the “Adopt a Highway” program used in many States.

There are a number of other employee involvement opportunities provided by TPMC, including the Walking Club, the Charitable Donation Committee, annual Wellness Fair, and the Operations Security Committee.

TPMC and USW have established a positive working relationship. To improve this relationship, TPMC and USW (TPMC, USW Local, USW International, and Steelworkers Charitable Educational Organization) signed a Memorandum of Agreement (MOA) in January 2009 and agreed to several program enhancements. Under the MOA, TPMC agreed to the assignment of a full-time USW Safety Representative. TPMC also agreed to an annual goal charting session, including both the ISMS Committee and the USW Local leadership, intended to lead to more meaningful, specific, and measurable goals for the company, as well as joint training initiatives and incident investigations based on USW approach (TOP) to prevent major occurrences through better analysis and identification of root causes of accident and incidents and full integration with ISMS.

At the time of this VPP evaluation, an Incident Investigation Team comprised of several hourly and salaried employees had been established and trained to perform incident investigations using the USW TOP approach. Two subteams consisting of a salaried and an hourly employee had recently completed their investigations of two incidents and had identified and published reports

describing the contributing and root cause of the events. Similar activities are being organized to better analyze, understand, and prevent future events.

Even though the overall picture of employee involvement at TPMC is positive and significant, progress has, and is, continuing to be made. Opportunities for improvement exist to foster additional employee involvement and gain additional value from the existing efforts. Many of the current promotional activities lack visibility among the workforce. For example, the “adopt an area” program previously discussed does not always include visible signs or postings in the area indicating the group that has adopted the area. The walking program is tracking the total miles walked by the participants, but updates on the total distance are only provided during monthly all-hands meetings. A goal of the walking program is to walk to the west coast and back before the end of the contract, but that goal is not clearly publicized. First Aid, Cardio Pulmonary Resuscitation (CPR) and Automated External Defibrillator (AED) training is available, but there are no visible signs or indications for people that have completed these programs, and no goals have been established for numbers of workers completing them. Greater visibility of these and other programs will further enhance an already strong culture of employee participation and involvement.

Opportunity for Improvement: TPMC should find ways to ensure promotional and educational efforts are publicized, recognized, and celebrated when goals are achieved to foster additional employee participation in those efforts.

Conclusion

Overall, the Team confirmed that at TPMC employees are involved in a variety of safety-related programs that encourage individual and group participation. The Team observations indicate that TPMC workers are committed to their personal safety, as well as the safety of their coworkers. They also believe that TPMC managers are genuinely interested in their participation in matters involving safety and in improving the workers safety posture across their operations. The trust of the hourly workers in TPMC leadership is aided significantly by a very positive relationship between TPMC management and USW. TPMC has met the requirements for the Employee Involvement tenet.

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.

TPMC performs maintenance activities (preventive and corrective) for onsite contractors at the Portsmouth site. For activities beyond the expertise of site employees, TPMC employs offsite vendors and subcontractors to perform the work. TPMC uses two separate processes to evaluate work at the Portsmouth site: an AHA; or a Pre-Task Hazard Review (PTHR). These processes are described in the hazard review procedure (TPMC-2704). The procedure defines which process should be used based on the type of work to be performed and the anticipated hazards. Specifically, according to this procedure PTHR is indicated for prejob walkdowns and low-risk work (e.g., routine work for which hazards are clearly identified). PTHR also requires that a work scope statement include: (1) who is performing the work; (2) what work is being done; (3) where the work is being performed; (4) when it is being performed; (5) how the work is being performed; and (6) why it is being performed. AHA is used for: (1) work where the sequence of performing the steps is critical; (2) work that could involve significant potential for injury or illness; (3) work that may involve new equipment or new hazards that have not been previously addressed; or (4) nonroutine work that involves many steps. Once the process is determined, the user applies form TPMCF-2707 for the PTHR process, or form TPMCF-2708 for the AHA process.

The TPMC hazard review process allows a graded approach in selection of the hazard analysis method based on preliminary assumption of complexity or risk of the work to be performed. Complexity and risk are more effectively determined by a careful hazard analysis process rather than assumption. A more effective approach would be to perform a detailed activity hazard analysis for all TPMC activities and maintain sufficient documentation for the workers to determine if an AHA for identical or similar work already exists and use that AHA as a starting point for their work planning. In this approach, the investment made can continue to add value over a long period of time, shorten the subsequent work planning cycle for routine work, and provide a means to continually improve the AHA as changes are identified.

Opportunity for Improvement: TPMC should develop a mechanism in the hazards review process to complete the analysis before a graded approach to the work is applied.

The structure of the TPMC hazard analysis process does not ensure that the analysis performed is appropriately captured, recorded, or that sufficient justification for selection of effective control is provided. By pregrading the work, a missed opportunity to adequately evaluate hazards is embedded by procedure into the TPMC system. While the Team was at the site, a meeting was held to review a work package that was prepared prior to the Team's arrival. Since the basis for hazards analysis was not adequately captured, it was difficult to recreate the rationale for control

selection. Effective hazard analysis and documentation is essential in establishing clear link between identified hazard and control selection. Such an approach would provide a more effective basis to determine the information that should be highlighted for prejob briefings and allow better evaluation of future work based upon prior performance and assumptions.

Opportunity for Improvement: TPMC should develop a formal mechanism to capture and document a thorough and consistent evaluation of the hazards within the areas required by procedure.

The team reviewed the baseline exposure assessments performed earlier this year by a subcontractor. The assessment identified over 200 chemicals that were risk-ranked based on the specific chemical, usage, exposure potential, and potential to exceed guidelines. This process provided a basis for developing a sampling strategy to validate the risk assignment and exposure potentials. As of this site visit, TPMC has performed and documented sampling of approximately 10 percent of the 200 chemicals of interest. TPMC might benefit from a review of the list, and based on usage and quantity, a determination whether the risk potential is valid. For example, cyclo-hexane is a hazardous material found in an adhesive used by the carpenters. It represents approximately 30 percent by weight of the material. A good AHA would drive the need for sampling based on how and where the work is performed.

Opportunity for Improvement: TPMC should reevaluate the hazard baseline process to capture and document a thorough and consistent evaluation of the hazards contained within the areas required by procedure.

TPMC performs self-inspections both in administrative areas and shop/work areas. These inspections are performed by managers, safety professionals, workers, and other SMEs. For administrative areas, an office safety checklist has been developed to help identify conditions needing improvement or corrective action. Examples include inspection of file cabinets, electrical cords, emergency exit sign illumination, fire extinguishers, chairs, space heaters, and work station ergonomics. Employees also have access to an ergonomist via direct request or by submitting their request to the safety professional during onsite safety inspections. Shops and work areas receive at least a monthly walkdown by managers and employees.

The TPMC safety organization is tracking and trending information gathered from safety walkdowns, monthly safety meetings, first-aid cases, and employee surveys. This information is used to develop safety campaigns and promotions. For example, the Safety Department developed a chart that showed the percentages of first-aid injuries to various areas of the body over the last 4 years. Sprains and strains were the most common with 8 cases representing 24 percent of total first-aid cases. This was prominently posted in the shop break area. In 2008, seven vehicle accidents were recorded of which six were caused by TPMC employees. The company conducted a safety standdown, safe driving reorientation, installed safety placards, and issued a requirement that vehicle operators sound their horns prior to backing up. As of August, there were no vehicle accidents onsite involving TPMC employees in 2009. In the majority of these cases, the information used represents lagging indicators. It was suggested that perhaps a leading indicator, such as “close calls” might help identify error precursors that could benefit the company. Behavior-based Safety and Human Performance Improvement tools are

designed to improve the safety culture and can provide valuable “leading indicators,” which could enhance the trending process.

Opportunity for Improvement: TPMC should consider other approaches to safety improvement, such as Behavior-based Safety and Human Performance Improvement that are available to continually improve the safety culture for TPMC workers.

Generally, within the shop areas the AHA or PTHR is an effective tool to identify hazards and controls based upon the generic nature of the particular craft. For example, generic hazards in the carpenter shop include adhesives, caulk, drills, saws, and sanders that are used by craft personnel to fabricate items to support construction customer requests. The AHA or PTHR captures these hazards and documents the controls, and craft workers are solicited to provide input into the development of the shop AHA or PTHR. All personnel entering, either to work or observe, are required to read and review the AHA or PTHR. TPMC has not integrated the results of the Baseline Exposure Assessments, discussed earlier, into AHAs or PTHR. This would make it easier for workers to locate and understand the associated hazards and identified controls.

Opportunity for Improvement: TPMC should consider integrating the existing Baseline Exposure Assessment information into development of the analysis section of AHAs and PTHR.

All employees interviewed in the shop complex were knowledgeable of the routine hazards within their work area and how to appropriately use the chemicals and tools. They clearly were able to identify controls, such as ventilation when using certain chemicals within the shop complex, use of hearing protection, or use of safety glasses. Signs clearly indicated the requirement for hearing protection when machinery was in use. As discussed in the Hazard Prevention and Control section, improvements for eye protection signs should be considered. Eyewash stations are provided in the shops along with first-aid kits. The TPMC procedure for maintaining the eyewash stations addresses both eyewash stations and safety showers that are engineered into the facility water system, as well as portable eyewash stations. In some cases, TPMC has replaced the showers and eyewash stations with commercially supplied permanently mounted eyewash stations. The procedure has not been updated to reflect inspection requirements for these new stations. When the question was posed to the safety organization, they agreed the inspection requirements needed to be clarified in the upcoming review of the procedure. The updated procedure should verify the solution used is current and that the system is operable. First-aid kits were inspected regularly, and all showed current inspections and tamper tape was intact.

The Team reviewed the employee concerns program and observed the monthly safety meeting where all open safety items were discussed and updates provided for open items. The forms utilized for written input for safety issues appeared current and available at all work locations. Interviews with employees and fieldwork supervisors indicated that there is a free flowing exchange of information between the workforce and management. Most workers indicated that the preferred route of exchange was verbal. Managers and supervisors often used the WIN forms to document issues presented to them verbally. Typically, most personnel interviewed indicated satisfaction with responses to concerns, and there was no indication of issues resulting from lack

of managers' response to concerns that were raised. There are numerous instances of rewarding workforce individuals for bringing up improvements and safety issues.

Accidents and incidents are investigated in accordance with the TPMC written procedure for accident investigation and causal analysis. The investigation team produces a written report that is available to all employees and where required, corrective actions and the tracking to completion of action items. Currently, 15 percent of TPMC employees have been trained to the USW TOP process for accident/incident investigation. TPMC has set a goal of 100 percent of TPMC employees trained to an additional safety module, Systems of Safety, by December 2009. An hourly employee interviewed by the Team commended the company for providing the training and opportunity to participate.

Conclusion

TPMC has effective processes and procedures to ensure proper identification of hazards in the workplace. Workers were clearly aware of the hazards present in their workspaces. Housekeeping in shop areas in the 700 building was excellent. A more rigorous and documented analysis of the hazards should ensure appropriate control selection based upon the hazards without exception, and reduce the effort expended on repeatedly performing the same analysis for routine activities.

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 Personal Protective Equipment (PPE)]. Equipment maintenance 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. These rules/procedures must also be followed by everyone in the workplace to prevent mishaps or control their frequency/severity.

TPMC uses elimination and substitution as the preferred methods to reduce the hazards workers may encounter during performance of their daily work activities. One of the safety organization's many tasks includes reviewing requests for new chemicals. When the need arises for a new chemical, there is a process required prior to receipt of the new chemical that includes a review by safety professionals and an evaluation of less hazardous substitutes. The procurement of less hazardous substitutes was very evident when the Team interviewed the janitorial staff. The staff has reduced the number of hazardous cleaners and utilizes more environmentally friendly chemicals to perform the same type of work.

TPMC employs engineered controls as the primary method to limit employee exposure to hazards. This was evident in the visits to the shop areas and grounds maintenance facility. If engineered controls are not viable, administrative limits are instituted to manage hazards. As a last resort, TPMC provides PPE as required for the job being performed. Some examples include safety shoes, arc-flash and electrical protective clothing, respirators, hearing protection, face shields, safety eyewear, hardhats, and gloves. Evaluation and approval of PPE with input from workers for nonradiological hazards is determined by ES&H staff, and for radiological hazards, by the Radiological Control Manager. During the Team's visit, a suggestion was made to the safety organization to evaluate signs in the shop areas for consistency. Signs requiring hearing protection indicated that within 4 feet of the machinery hearing protection was required. Similar signs were not evident for use of safety glasses within a prescribed distance of operating machinery or when safety glasses were required. The shop did, however, indicate "safe areas" where safety glasses were not required by different colored paint on the walkways.

During the site visit, the Team reviewed AHAs and PTHRs from 2007 and 2008. The Team identified several PTHRs and AHAs for routine work that utilized generic descriptions for hazards and controls and lacked the specifics needed to ensure effective communication of hazard to the workforce. Typical examples of generic descriptions are work gloves, thin work gloves, heavy work gloves, chemical exposure (no specific chemical identified other than read the Material Safety Data Sheet, use suitable methods, or ensure proper footing). Generic descriptions often depend on worker knowledge and experience to ensure that appropriate hazard controls are employed. The Team did identify some good examples of specific hazard control instructions, such as wear leather gloves over nitrile gloves or wear neoprene gloves during concrete-mixing activities.

Opportunity for Improvement: TPMC should review all AHAs and PTHRs for generic descriptions and the potential for miscommunication and replace with specific descriptions where required.

Employees are trained in the proper use, maintenance, and limitations of PPE during General Employee Training (GET) and Radiological Worker II Training. The PPE requirements for a specific task are documented in the radiological work permits (RWP) or the AHA. Prior to issuing respiratory protection to an individual, the Respiratory Protection procedure, TPMC-2406, *Respiratory Protection Program*, requires the issuer of PPE to verify medical evaluation date, respiratory protection training, and fit test date. Discussions with the Industrial Hygiene technician who issues respirators revealed that TPMC has issued respirators for only two jobs in 2009.

TPMC complies with title 10, Code of Federal Regulations, part 835, *Radiation Protection*, and documents its required Radiological Protection Plan in TPMC/PORTS-194/R1. Radiological Control Technicians (RCT) identify and measure radiological hazards at the site. RCTs perform periodic, routine radiological surveys in radiological areas to ensure that radiation dose rates and surface contamination are within regulatory and administrative limits. Routine surveys are also used to identify changes in radiological conditions. As required by the applicable RWP, RCTs provide initial, intermittent, or continuous coverage of work. This coverage consists of dose rate and contamination measurements and air sampling for radioactive particulates. During the site visit, planning for a roof job was observed. RCTs had surveyed the roof and determined that no radiological hazards exist. However, as portions of the roof are removed, RCTs will survey to verify their initial evaluations are correct or if the conditions have changed.

TPMC maintains procedures and plans to define and describe work activities and roles and responsibilities. Most of the procedures reviewed were appropriate and sufficiently detailed to accomplish their purpose.

The TPMC Occupational Medicine Program is described comprehensively in a March 2007 program plan. The plan defines the program activities for medical evaluations, managing injuries and illnesses, emergency care, medical restrictions and return to work. Other program elements, such as employee assistance, wellness and substance abuse testing, and medical recordkeeping, are also described in this plan. The occupational medical services described in the plan are provided by the Occupational Medicine Department of the Southern Ohio Medical Center (SOMC), an OSHA VPP Star organization. The Team visited the SOMC facility and interviewed the Occupational Medicine Department staff and lead physician, a Board-certified, Occupational Medical Director. TPMC has an effective relationship with the medical service provider. For example, the lead physician attends selective WIN Committee meetings and is well aware of the safety concerns raised by TPMC employees and how these concerns are being addressed. The lead physician has also toured TPMC facilities, made presentations to the employees on selective health issues, and reviewed the goals of the Walking Program to ensure conformity with age-appropriate health maintenance approaches.

While TPMC does provide generic information to SOMC regarding job tasks and hazards, they do not provide specific job hazard analyses based on worker classification. When workers are sent for medical examination, TPMC staff complete a work order that specifies those tests and

examinations that are being requested. The medical staff at SOMC may request additional tests based on its review of the patient history, but those additional tests must be approved by TPMC. TPMC staff does not maintain a record of what tests or examinations are requested for each individual or job classification. TPMC and SOMC have not established specific employee job task or hazard analyses to use as a basis for predetermined examination requirements, including potential for beryllium, asbestos, and lead exposures. Such an approach would ensure a consistent approach for a worker's examination, as well as ensure SOMC medical expertise is integrated before the worker arrives for his/her examination.

Opportunity for Improvement: TPMC should work more closely with SOMC to establish specific employee job task or hazard analyses and use those as a basis for predetermined examination requirements, including potential for beryllium, asbestos, and lead exposures.

TPMC provides regular first-aid and CPR training classes on a voluntary basis, and the classes are well attended. Approximately 35 percent of TPMC employees have had first-aid or CPR training. Additionally, TPMC maintains several AEDs around the site. While training is recommended for their use, it is not required, as the machine is designed to be used without training.

TPMC participates in the site emergency preparedness activities, which are initiated by USEC. Sitewide alarm tests are conducted regularly, and each site area typically has two drills each year. Drills may include evacuation, take-cover, or personal injury scenarios. TPMC performs company emergency drills in addition to site exercises initiated by USEC. These drills include shelter-in-place exercises to validate capacity ratings. TPMC also has instituted a system to advise all employees of road conditions or weather delays. Employees provide a phone number and that number is called to inform the recipient of the plant conditions, road conditions, or weather delays. Typically, the system is tested twice per year.

TPMC employs a number of individuals with professional certifications, who are located at the site and perform a wide variety of functions throughout the project. The professional certifications include three Certified Safety Professionals and two Certified Industrial Hygienists. These onsite professionals work to review and implement a comprehensive safety and health program for the TPMC operations, maintenance, and construction activities.

Shop areas visited by the Team were organized, clean, and well kept. Clearly the workforce takes pride in housekeeping. Appropriate machine guarding was in place and all the equipment was well maintained. Waste storage areas were identified and orderly. Workers interviewed demonstrated a good understanding of the concepts of ISMS and VPP tenets. The grounds maintenance personnel were also engaged and aware of ISMS/VPP tenets. There were several issues identified to the safety manager and facility manager for improvements in the grounds maintenance areas that were well received and acted upon. These included smoking signs, storage of foods in close proximity to lubricants, combustible loading, and drip pans in storage areas for gas powered tools.

TPMC uses a graded approach to ensure that the resources expended for maintenance are commensurate with the facility's hazards. Maintenance and inspection programs are implemented to maximize reliability during the life of the facility. Scheduled maintenance is defined in maintenance procedures or work instructions. Drawings are used to determine how to

isolate the component to ensure the safety of the worker and prevent equipment damage during maintenance activities. As Low As Reasonably Achievable (ALARA) evaluations and appropriate engineering reviews are incorporated as deemed appropriate by the Maintenance Supervisor or Operations Manager into the procedures and instructions.

Before performing system maintenance, an activity hazard analysis is used to determine the hazards presented by the work and the specific subsystem or component to ensure safety issues are identified and addressed. USEC, Los Alamos Technical Associates Parallax, and TPMC share a single lock and tag program that establishes continuity and consistency across all activities. This is especially important since TPMC performs maintenance for multiple customers across the Portsmouth site. Hazardous energy sources are isolated, and the system is flushed, depressurized, drained or blown down before breaching hazardous or radioactive system piping. Power sources are isolated before working on, or near, unguarded rotating equipment or before performing electrical work, except for testing, which may require the equipment to be energized.

TPMC uses both preventive and corrective maintenance to optimize expenditure of resources and minimize risks. The type of maintenance performed is based on a determination of whether the costs of preventive maintenance are offset by improved equipment reliability, availability, safety, and the potential costs of corrective maintenance. TPMC uses a commercial maintenance management software system called SOMAX to schedule, track, and control maintenance activities. The Team reviewed the preventive maintenance program during the site visit. TPMC provided the Team with the current schedule of routine tasks that are performed to prevent equipment failure. The scheduling and frequency of these tasks are based on contract and regulatory requirements, manufacturers' recommendations, equipment performance specifications, systematic analysis through preventive maintenance, ALARA considerations, and engineering recommendations. The program can be revised as history and trends indicate.

Corrective maintenance consists of actions performed to restore failed or malfunctioning equipment to service per the current design, and ensure that the condition that caused the failure is identified, corrected, and documented. Analysis is performed, as needed, to determine the cause of failure and the corrective action to be taken, including feedback into the preventive maintenance programs, and maintenance training and qualification programs. The establishment of priorities for corrective maintenance is based on TPMC mission and the relative importance of the equipment. The Team observed a planner and worker developing a work package to correct a leak in the piping of a Heating, Ventilation Air Conditioning system. The planner pulled up a previous work package for similar work and the worker was providing constructive step-by-step input to describe the work steps. After the package was drafted, it went out for review by required managers and safety representatives prior to performance of the activity.

TPMC personnel are required to follow all safety and health rules, safe work practices, and procedures that are provided in GET, the contractor safety handbook, *Worker Health and Safety Program*, work instructions, activity hazard analysis, procedures, manuals, and plans applicable to their workplace. Safety rules were observed by the Team and were reinforced periodically through Daily Turnover Meetings, PreJob Briefings, Monthly All-Hands Safety Meetings, and training.

Conclusion

TPMC maintains an appropriate balance of elimination, engineered controls, administrative controls, and PPE to control workers' exposures to hazards associated with facility operation. Processes to maintain equipment are in place and effective. Safety rules and work procedures are developed, communicated and understood by supervisors and employees, and followed by everyone in the workplace. TPMC has effectively met 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 Team reviewed the TPMC Training Program as defined in TPMC 1400. The Team also reviewed training plans, training records, course curricula and reports, and interviewed a number of workers and managers. In general, managers understood their responsibilities and salaried, hourly, and subcontract employees interviewed or observed in performing work knew the hazards of their work and believed that they had been adequately trained and prepared for the hazards and conditions they might encounter in their activities.

TPMC has established and maintains a safety and health training program that addresses initial and new employee training, as well as training to maintain competencies. At TPMC, the required training for each position is documented in a training plan. The plan is developed by an employee supervisor using the Training Requirement Matrix developed collaboratively by the Operations and Maintenance organization, the Training Department, and the SME for various functional areas. The question sets in this matrix and the list of available courses for each functional area, which include mandatory training (e.g., access training and GET), record management, safeguard and security, ES&H and emergency management, are designed to help managers determine required training for each position/employee. In addition to managing the training needs of employees, the Training Department also ensures that TPMC subcontractors have appropriate training commensurate with their activities.

The Training Department provides classroom instruction, Web-based training, and other training methods, such as on-the-job training and required reading. The majority of training courses (approximately 80 percent) are provided online. The Training Department also maintains an examination database and the capability to administer tailored tests to verify students meet the objectives of the course. At TPMC, the training requirements and completion information, including records of attendance, exams/tests scores, course evaluations, and approved lesson plans are kept in an automated database. The system is managed centrally by the Training Department, which is responsible for developing and delivering training using qualified trainers and a formal and systematic approach to training. The automated database is the primary tool for documenting and tracking the status of required training for each TPMC and first-tier subcontractor employee.

Training modules at TPMC are reviewed and revised annually or sooner when necessary, such as when safety programs like lockout/tagout and fall protection are modified in response to assessment results or other events and incidents. In performing these activities, the Training Department involves the safety professionals and craft personnel to thoroughly evaluate each training module and ensure that the most current information is used to help employees recognize and effectively deal with the hazards of their work and their work environment. The Training Department also ensures that lessons learned from other activities and locations are integrated into the lesson plans.

The Training Department provides 30-60-90 training status reports to all employees. Employees are responsible to ensure that their required training is current. The 30-60-90 training information, as well as the training database, is readily available to TPMC managers and supervisors allowing them to determine whether or not the training of individuals under their management is up to date. When training requirements for a given task are not met, managers are responsible for placing their personnel on formal work restriction and remove such restriction only after all training requirements have been met. The 30-60-90 training status report is an effective process for the Training Department to schedule and present courses based on upcoming training needs.

TPMC supervisors who provide direct oversight/supervision of hourly employees receive the same ES&H training as the hourly workers in areas, such as scaffold and fall protection. Depending on job assignments they may receive additional training, such as lockout/tag-out issuing authority, confined space supervisory, and hazard communication for supervisors when appropriate. Also, the supervisors are required to attend a daily prejob crew briefing, and read lessons-learned applicable to their activities.

TPMC managers attend supervisory and leadership courses. For example, in the fall of 2007, the training department of a local state college presented a supervisory course to 18 TPMC supervisors/managers and/or potential supervisors on how to deal with the challenges of the supervisory role. TPMC also required all its senior managers to attend a safety management course focusing on the supervisor's areas of influence, such as the indirect costs associated with an accident. Also, selected TPMC Managers attended the 30-hour OSHA course presented by the USW trainers. The 10-hour course was attended by the WIN Committee members.

TPMC evaluates the effectiveness of the training program through routine Quality Assurance self-assessments. Assessment records reviewed by the Team were found to be adequate. In a special study to thoroughly explore on-the-job effectiveness of the training program for hourly workers, the Training Department administered a 50-question test covering a broad range of areas to a large number of hourly workers. To accommodate better participation, the workers taking the test were allowed to remain anonymous. The analysis of the test results revealed that the workers' level of knowledge needed improvements in areas where training was provided once, and/or infrequently, with no followup. The training program is being adjusted to rectify this weakness. At the time of this evaluation, the Training Department was planning to apply a similar approach to assess the training effectiveness for salaried employees.

TPMC managers and supervisors were not aware of the STS certification program operated by the Board of Certified Safety Professionals through the Council on Certification of Health, Environmental and Safety Technologists. Programs are offered for the construction, general, and petrochemical industries. Designed for managers, supervisors, or potential supervisors with safety responsibilities in connection with other duties, other VPP participants have used this program with great success to ensure a cadre of well-qualified supervisors and managers is available that understands essential safety programs.

TPMC does not currently have any qualified SGE. SGE training qualifies an individual to serve on OSHA-VPP certifications, and is an excellent way for managers, supervisors, and workers alike to become more familiar with VPP efforts at other sites. SGE training classes are often offered in connection with VPPPA regional and national conferences. SGE training has proven to be an excellent steppingstone for greater participation in safety improvements.

Opportunity for Improvement: TPMC should consider adding the Safety Trained Supervisor and SGE certifications to its catalog of voluntary training programs as a means to foster greater worker knowledge and participation in safety excellence.

Conclusion

Overall, TPMC has established an effective training program for its managers, supervisors, salaried and hourly workers, and subcontractors. The program has the appropriate level of rigor and has been successfully implemented to ensure that assigned responsibilities for ES&H are adequately understood, and that workers have appropriate training to recognize and deal with the hazards of their work and their work environment.

VIII. CONCLUSIONS

Since beginning operations as the infrastructure contractor at PORTS, TPMC has successfully established a safety culture that includes managers, supervisors, salaried and hourly employees, subcontractors, and vendors. A theme repeatedly heard in interviews with both employees and managers was that workers at the site considered TPMC to be a premier job assignment. Job postings by TPMC normally resulted in many applications, clearly demonstrating the reputation. TPMC managers have effectively used the available resources to build a positive working relationship with the local union. Managers and employees are working together on a daily basis to build a 24/7 approach to safety that encourages taking safety home. All personnel interviewed by the Team were receptive to new ideas to further improve safety. Opportunities exist to build a more robust hazard analysis process that will add long-term value and further support a culture of safety excellence. Although at the time of this assessment, TPMC had only 5 months left on the existing contract; the safety culture that has been established will no doubt provide a firm foundation for the next contractor as much of the existing workforce will probably transfer to the new contract. As such, TPMC has clearly demonstrated all the required assurances for participation, as well as each of the five tenets of DOE-VPP. The team recommends TPMC be admitted to DOE-VPP at the Star level.

Appendix A

Onsite VPP Audit Team Roster

Management

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