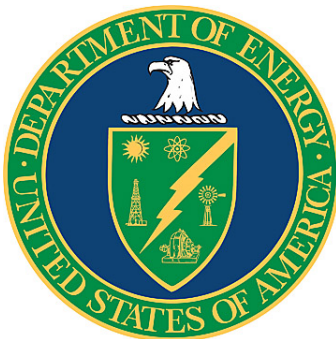


**Mission Support Alliance, LLC
Safeguards and Security
Hanford Mission Support Contract**

**Report from the Department of Energy
Voluntary Protection Program
Onsite Review
May 22-25, 2017**



U.S. Department of Energy
Office of Environment, Health, Safety and Security
Office of Health and Safety
Office of Worker Safety and Health Assistance
Washington, DC 20585

Foreword

The Department of Energy (DOE) recognizes that excellence can be encouraged and guided, but not standardized. 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's (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.

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 and employees. Requirements for the DOE-VPP participation are based on comprehensive management systems with employees actively involved in assessing, preventing, and controlling potential health and safety hazards at their sites. All contractors in the DOE complex, including production facilities, laboratories, and various subcontractors and support organizations may participate in DOE-VPP.

However, 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 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 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 Mission Support Alliance, LLC (MSA) Safeguards and Security (SAS), conducted May 22-25, 2017, and provides the Acting Associate Under Secretary for Environment, Health, Safety and Security with the necessary information to make the final decision regarding MSA SAS' continued participation as a DOE-VPP Star site.

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ABBREVIATIONS AND ACRONYMS

AJHA	Automated Job Hazard Analysis
AU	Office of Environment, Health, Safety and Security
AU-12	Office of Worker Safety and Health Assistance
BLS	Bureau of Labor Statistics
CFR	Code of Federal Regulations
CSHA	Craft-Specific Hazard Analysis
DART	Days Away, Restricted or Transferred
DOE	Department of Energy
ES&H	Environment, Safety and Health
EVOC	Emergency Vehicle Operations Course
EZAC	Employee Zero Accident Council
FTE	Field Test and Evaluation
HAMTC	Hanford Atomic Metal Trades Council
HGU	Hanford Guard Union
HSC	Hanford Safety Connect
ISMS	Integrated Safety Management System
JHA	Job Hazard Analysis
LRAD	Long-Range Acoustical Device
MSA	Mission Support Alliance, LLC
NAICS	North American Industry Classification System
NTC	National Training Center
OSHA	Occupational Safety and Health Administration
PPE	Personal Protective Equipment
PTA	Patrol Training Academy
PROFORCE	Protective Force
PZAC	President's Zero Accident Council
SAS	Safeguards and Security
SPO	Security Police Officer
TAP	Training Activity Plan
Team	Office of Environment, Health, Safety and Security DOE-VPP Team
TRC	Total Recordable Case
VPP	Voluntary Protection Program

EXECUTIVE SUMMARY

The Department of Energy's (DOE) Voluntary Protection Program (VPP) Team (Team) from the Office of Environment, Health, Safety and Security (AU) recommends that Mission Support Alliance, LLC (MSA) Safeguards and Security (SAS) continue participating in DOE-VPP as a Star site. This report documents the Team's observations, conclusions, and identifies several opportunities for improvement that MSA SAS can consider in its pursuit of excellence in worker safety and health.

MSA SAS at Hanford maintains a standardized program for all Project Hanford Management contractors relating to safeguards and security functions, and physically protects special nuclear material, classified material, government property, and the personnel located within the confines of the Hanford Site. The Hanford Guard Union (HGU) represents the uniformed security police officers (SPO), although the Hanford Atomic Metal Trades Council (HAMTC) represents a few workers.

Since the previous assessment in 2012, MSA-SAS' total recordable case rate (TRC) and days away, restricted or transferred (DART) case rate have dropped from 3.0 and 1.6 cases per 200,000 work hours, respectively to 1.1 and 1.0. MSA SAS TRC and DART rates are significantly below the averages for the comparable industry.

MSA SAS managers are committed to maintaining an effective security profile for the Hanford site while minimizing or preventing injuries. Their efforts over the past year to reach out to HGU are paying dividends; however, those efforts are also causing some unintended consequences among middle managers. MSA SAS should ensure its outreach actions include middle managers and continue working with HGU personnel to establish collaborative working relationships along the entire chain of command. MSA SAS should also identify more opportunities to reinforce correct behaviors, not just punish incorrect behaviors as a means of fostering further improvements.

MSA SAS continues to improve upon its employee involvement program. The MSA president and senior leaders initiated monthly meetings with the HGU Executive Board to improve communications with the HGU and directly address HGU worker concerns. MSA SAS continues to participate in the MSA Employee Zero Accident Council (EZAC) and President's Zero Accident Council (PZAC) committees. It has added two additional "ad hoc" committees to focus on improving communications with the Emergency Services safety representatives and administrative employees. While employees are comfortable raising safety issues, observations indicate workers do not always recognize or question at-risk practices during their normal activities.

MSA SAS has adequate worksite analysis processes and procedures in place. Hazard identification is thorough, and exceptional housekeeping was evident throughout the facilities. The conversion from the MSA automated job hazard analysis (AJHA) to a graded work planning process based on hazard analysis promises to produce appropriate, high-quality, detailed work plans and instructions. This move addresses the vulnerability identified in the 2012 VPP onsite evaluation.

MSA SAS follows the hierarchy of controls using engineered controls, administrative controls, and personal protective equipment (PPE) to minimize its workers' exposure to hazards. MSA

SAS has implemented employees' suggestions to mitigate hazards. However, despite efforts to identify, analyze, and control causes of injuries/illness and vehicle accidents, MSA SAS continues to experience unwanted events.

MSA SAS continues to maintain an effective Safety and Health Training Program. It uses the training program developed and maintained by MSA. Managers and employees are properly trained and aware of the hazards present in the workplace.

MSA has concentrated on the relationship between senior managers and HGU Executive Board members in the wake of the contract negotiations. MSA senior managers' outreach efforts to the union leaders, however, have bypassed middle managers within the protective force (PROFORCE). These middle managers remain dedicated to the mission, but need additional opportunities to work with senior managers to ensure they understand the basis for decisions and can act in a manner consistent with senior managers' expectations. MSA should also work with the SAS managers to convince them that all injuries are preventable and continue seeking training methods that meet mission requirements while reducing the risk of injury.

TABLE 1
OPPORTUNITIES FOR IMPROVEMENT

Opportunity for Improvement	Page
MSA SAS should seek an authoritative interpretation from DOE’s Office of the General Counsel to validate its practice of defining mandatory versus voluntary physical training and exercise for SPOs and using that definition to exclude some injuries as “not work related.”	3
MSA SAS should begin holding regular face-to-face meetings between MSA SAS senior managers and uniformed middle managers on a frequency consistent with its meetings with the HGU.	5
MSA SAS should identify a set of core leadership expectations and recurring training opportunities that reinforce those expectations, including approaches to identify, admit, and correct leadership errors in ways that reinforce rather than degrade the professional relationships between exempt and nonexempt personnel.	6
MSA SAS should continue working to develop and implement tactical response training that optimizes the ability to neutralize an adversary while reinforcing behavioral actions that minimize risk of injury.	6
MSA SAS should review its process for reporting results of its annual assessment and ensure personnel preparing the report include recommendations for improvements and goals in the coming year.	7
MSA SAS managers should identify approaches that reinforce correct behaviors and resist normalized deviations from requirements.	7
MSA SAS should consider formalizing the new committees and documenting the committees’ purposes in a charter to ensure the continued successes of those groups.	9

I. INTRODUCTION

MSA assumed management of the SAS mission as part of the Project Hanford Mission Support Contract in August 2009. MSA SAS maintains a standardized program for all Project Hanford Management contractors relating to safeguards and security functions and physically protects special nuclear material, classified material, government property, and the personnel located within the confines of the Hanford site. The HGU represents most of the MSA SAS workforce, although HAMTC represents a few workers.

MSA SAS originally entered DOE-VPP at the Star level in 2001. DOE's Office of Health, Safety and Security evaluated MSA SAS in 2011. Because the accident injury rates exceeded the comparable industry averages, that evaluation recommended that MSA SAS continue in the program as a Merit site. A Merit review of MSA SAS in August 2012 determined the contractor actions had reduced injury and illness rates and implemented the necessary improvements to attain Star status.

Continued participation in DOE-VPP requires a review of Star participants every 3 years, so MSA SAS was due for a reassessment in 2015. However, MSA and HGU were renegotiating their collective bargaining agreement. To avoid VPP participation becoming an issue in the negotiations, the Office of Worker Safety and Health Assistance (AU-12), within AU, postponed the assessment until negotiations were complete and the new bargaining agreement was in place. The HGU ratified the agreement in January 2016, and AU-12 scheduled the assessment for March 2016. Prior to that assessment, AU-12 met with both the MSA president and the HGU president. MSA and the HGU both identified strained relations between the HGU and MSA from the extended contract negotiations. Both parties agreed that a further delay in the assessment would allow MSA and the HGU to normalize their relationship and adjust to the new bargaining agreement. AU-12 agreed and rescheduled the assessment for May 2017 based on other competing scheduling priorities.

SAS is a part of MSA consisting of 307 people. About 230 of those personnel are members of the Hanford Patrol, of which about 150 are members of the HGU. The Hanford Patrol consists of the SPOs and exempt personnel (Lieutenants, Captains, Majors, and Commandants) in a paramilitary organization. SPOs have three levels of qualification (I, II, III) depending on their assigned duties. Each level has specific qualification and training requirements established by title 10, Code of Federal Regulations, part 1046 (10 CFR 1046). Those personnel not associated with the Hanford Patrol perform the other safeguards and security functions for the Hanford site. The HAMTC personnel consist of locksmiths and technicians that maintain alarm systems, surveillance equipment, and other security-related systems.

II. INJURY INCIDENCE/LOST WORKDAYS CASE RATE

Injury Incidence/Lost Workdays Case Rate (MSA SAS)					
Calendar Year	Hours Worked	Total Recordable Cases (TRC)	TRC Incidence Rate per 200,000 hours	DART* Cases	DART* Case Rate per 200,000 hours
2014	468,214	2	0.9	1	0.4
2015	483,796	2	0.8	2	0.8
2016	465,539	4	1.7	4	1.7
3-Year Total	1,417,549	8	1.1	7	1.0
Bureau of Labor Statistics (BLS-2015) average for NAICS** # 92212 (Police Protection)			6.9		3.5

* Days Away, Restricted or Transferred

** North American Industry Classification System

3-year TRC Incidence Rate: 1.1

3-year DART Case Rate: 1.0

Conclusion

When MSA SAS achieved Star status in August 2012, the TRC and DART rates were 3.0 and 1.6, respectively. Now the 3-year cumulative average for TRC and DART are 1.1 and 1.0, and are significantly below the averages for the comparable industry.

MSA SAS has a documented injury and illness information/data collection process that thoroughly investigates injuries and illnesses. MSA analyzes each injury to prevent recurrence and provides that analysis to managers and employee safety committees.

In accordance with 10 CFR 1046, *Medical, Physical Readiness, Training, and Access Authorization Standards for Protective Force Personnel*, SPOs must maintain physical readiness standards on a continuing basis. Each SPO must engage in a year-round physical training program. The rule requires a documented fitness program.

MSA SAS provides several locations for SPOs to conduct exercise and physical training and maintain the mandated physical readiness. MSA SAS also allows SPOs to use the facilities for voluntary personal fitness and has procedures delineating the difference between mandatory exercise required by 10 CFR 1046 and voluntary exercise. A review of injuries over the past 3 years identified three cases MSA determined were not work-related using the OSHA exemption for voluntary fitness programs per the MSA SAS procedure.

DOE had previously challenged this practice in 2009 prior to MSA taking the mission support contract. The Office of Safety Management (EM-61), in DOE's Office of Environmental Management, issued a report in May 2009 that included an Appendix D labeled as

“Interpretation Regarding Physical Exercise Program Related Injuries.” That appendix, however, was not a formal interpretation from DOE’s Office of the General Counsel. Further, since the practice continued through contract transition, it is clear neither the previous contractor nor MSA SAS accepted the interpretation as authoritative.

To solidify its practice of defining mandatory versus voluntary physical training and exercise for SPOs and using that definition to exclude some injuries as “not work related,” MSA should seek an authoritative interpretation from DOE’s Office of the General Counsel. If that interpretation does not support the current practice, MSA SAS should revise its recordkeeping procedures and accident statistics.

Opportunity for Improvement: MSA SAS should seek an authoritative interpretation from DOE’s Office of the General Counsel to validate its practice of defining mandatory versus voluntary physical training and exercise for SPOs and using that definition to exclude some injuries as “not work related.”

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 exceeding occupational safety and health requirements and meeting the expectations of DOE-VPP. Management systems for comprehensive planning must address health and safety requirements and initiatives. Elements of the management system 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. 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.

Senior managers within the SAS organization have improved their working relationship with the HGU primarily through regular, open communication, prompt response to concerns, and timely information regarding corrective action status. The MSA president and vice president began holding monthly meetings with the HGU Executive Board approximately 1 year ago. They had been meeting with the HAMTC chief stewards since 2015 and realized that HGU leaders did not have an equivalent opportunity to raise issues. Initially, the HGU raised many longstanding issues, which MSA resolved. Over the next few months, the number of issues dropped, and now the HGU and MSA use the meetings as a forum to work in concert to prevent problems.

Approximately 1 year ago, MSA split the responsibilities for the person serving as both the Vice President of Emergency Services and Director of Safeguards and Security. MSA promoted the Hanford Chief of Patrol to Director of Safeguards and Security. Subsequently, MSA promoted one Deputy Chief to the Hanford Chief of Patrol. This allowed the Director of Safeguards and Security to focus on the entire organization. The new Hanford Chief of Patrol was widely praised by members of the Hanford Patrol, as well as the middle managers and supervisors (Lieutenants, Captains, and Majors). The new chief has gained a reputation for listening to concerns, working collaboratively with all personnel to reach workable solutions when issues arise, and keeping all personnel fully informed of conditions, corrective actions, and expectations. Workers and managers alike frequently lauded the new Hanford Chief of Patrol for being fair and listening to everyone before making a decision, while still making quick decisions when necessary to maintain the security profile of the site. The chief uses weekly e-mail to all PROFORCE members that identifies issues and the status of those issues. The new chief also established a SharePoint site as a means of providing multi-path communications with the workforce regarding issue resolution, upcoming matters, and company plans.

In its efforts to improve the working relations with the HGU, MSA may have disenfranchised some middle managers. These middle managers are struggling to balance MSA senior managers' goal to create open dialog with the union with enforcing the rules and requirements of the bargaining agreement, procedures, policies, and maintaining discipline. Some middle managers became frustrated when workers "jumped the chain of command" using the senior managers' open-door policies. This practice of jumping several layers of command to raise an issue fosters trust and open communication, but has the unintended consequence of frustrating the middle managers who are trying to use the established systems to address issues while

equitably and fairly implementing the HGU bargaining agreement. The most often cited concern by middle managers was that they made decisions based on the rules, procedures, and bargaining agreement provisions, but higher managers sometimes reversed those decisions. The managers were particularly frustrated when they believed senior managers did not have all the relevant information or did not give middle managers an opportunity to provide additional considerations, such as individual work history.

Errors by managers and supervisors that degrade the relationship with the PROFORCE occasionally magnify middle managers' frustrations. The members of the PROFORCE, both exempt and nonexempt, are highly trained security professionals with high standards of performance for themselves and others. Consequently, personnel may be embarrassed when identifying and admitting errors. For example, during the assessment, MSA SAS conducted a rifle training class in response to a recent assessment failure after several SPOs were unable to hit the targets during performance tests for a specific weapon system. The Hanford Patrol firearms instructors believed the failures resulted from shooter (SPO) error. During the requalification class observed by the Team, it became evident that the weapon's sights were not properly adjusted for the ammunition, or "zeroed." The firearms instructor became frustrated with the students' missing of targets, then with his own failure to hit the target. He admitted that he had not zeroed the ammunition to the weapon prior to the qualification class. News of the error quickly spread among the PROFORCE, frustrating the instructor, and creating uncertainty between the PROFORCE and instructors in regards to this weapon system's reliability.

MSA SAS has provided some training classes for middle managers, but those training classes are not part of a systematic approach to training and developing leaders within the PROFORCE. In some cases, managers perceived those classes as punishment rather than developmental opportunities. Consequently, many of these middle managers must rely on their personal experience when responding to questions and concerns from the PROFORCE. For middle managers with many years of experience, the current senior management practices seem to conflict with their concept of order and discipline.

MSA SAS should develop a multi-pronged approach to counteract the frustration of the middle managers in the PROFORCE. That approach should include regular face-to-face meetings between MSA SAS senior managers and uniformed middle managers, on a frequency consistent with the meetings between MSA senior managers and the HGU Executive Board. In addition to those meetings, MSA SAS should identify a set of core leadership expectations and identify recurring training opportunities that reinforce those expectations. Those expectations should include approaches to identify, admit, and correct leadership errors in ways that reinforce rather than degrade the professional relationships between exempt and nonexempt personnel.

Opportunity for Improvement: MSA SAS should begin holding regular face-to-face meetings between MSA SAS senior managers and uniformed middle managers on a frequency consistent with its meetings with the HGU.

Opportunity for Improvement: MSA SAS should identify a set of core leadership expectations and recurring training opportunities that reinforce those expectations, including approaches to identify, admit, and correct leadership errors in ways that reinforce rather than degrade the professional relationships between exempt and nonexempt personnel.

Despite their frustrations, the middle managers fully understood that safety of PROFORCE personnel was paramount. MSA SAS is trying to maintain the appropriate balance between the need to train PROFORCE members to a high level of performance and preventing injuries during training. Those efforts have focused primarily on physical modification of the training courses to remove hazards, but that is creating a belief among some PROFORCE members that the courses no longer reflect actual conditions.

In general, managers do not believe that all accidents and injuries are preventable. This belief may prevent managers from identifying continuous improvement opportunities and thinking about tactical approaches to security (behaviors) to prevent injuries that might remove a person from a security response. PROFORCE members recognize the hazards presented by an adversary, but often take physical risks that lead to musculoskeletal injuries that would limit their subsequent response capabilities. These injuries result from typical safety errors, such as rushing, distraction, over-exertion, and over-extension. In order to help further reduce injury rates, MSA SAS should continue working to develop and implement tactical response behaviors during training that optimize the ability to neutralize an adversary while reinforcing behaviors that minimize risk of injury.

Opportunity for Improvement: MSA SAS should continue working to develop and implement tactical response training that optimizes the ability to neutralize an adversary while reinforcing behavioral actions that minimize risk of injury.

MSA SAS managers have established a process whereby PROFORCE members evaluate any changes in equipment before implementing those changes. This process ensures PROFORCE members agree the changes meet mission requirements and minimize unintended consequences (see Employee Involvement).

Managers for the non-uniformed security personnel maintain a good working relationship with the few HAMTC personnel assigned within the MSA SAS organization. These managers are highly attuned to the personal safety of each of their workers and are helping workers identify and mitigate hazards. MSA SAS recently purchased new tools and equipment for the locksmith shop, delayed replacement of uninterruptable power supply batteries while workers and managers evaluated work methods, repaired bucket trucks used for accessing tower-mounted equipment, and ensured workers received training for elevated work.

To meet DOE-VPP expectations for annual reporting, MSA SAS prepares a supplement to the company-wide annual report that describes its activities related to safety improvement over the previous year. However, the MSA SAS supplement does not identify improvements and goals for the coming year. MSA has a corporate safety improvement plan, but MSA SAS does not identify goals that link to the goals in the corporate plan. The overall MSA Safety Improvement

Plan does not identify specific goals, but instead only establishes soft goals that include words like “increase” or “improve” without defining criteria to evaluate those goals. MSA SAS should review its process for reporting results of its annual assessment and ensure personnel preparing the report include recommendations for improvements and goals in the coming year.

Opportunity for Improvement: MSA SAS should review its process for reporting results of its annual assessment and ensure personnel preparing the report include recommendations for improvements and goals in the coming year.

MSA SAS has had difficulty reducing or eliminating some behaviors that may lead to accidents or injuries. MSA SAS relies on disciplinary action as one means of correcting procedural noncompliance. There are rewards and recognition mechanisms, but those tend to focus on the “above and beyond” actions. For example, MSA SAS still identifies vehicle-backing accidents as one of its primary issues. It expects drivers to use a spotter when backing PROFORCE vehicles, but in most cases of a backing accident, failure to use a spotter is the primary cause. In these cases, MSA SAS disciplines both the driver and the spotter. This indicates that MSA SAS has not successfully established the use of spotters as a behavioral norm (see Worksite Analysis). MSA SAS uses discipline to correct reoccurring procedural noncompliance, but the culture of the PROFORCE and the inconvenience of using the spotter outweigh the desire to avoid the possibility of discipline. Another contributor to this behavior is the previously identified high standard for performance that PROFORCE members have for themselves. They may perceive the need to use a spotter as a professional weakness in their driving ability. The result has been that although reduced, backing accidents have reached a plateau. Similarly, the Team observed two cases where personnel did not comply with PPE requirements. These conditions demonstrate normalized deviations from requirements that will contribute to accidents and injuries.

As an alternative approach, MSA SAS managers should identify approaches that reinforce correct behaviors and resist normalized deviations from requirements. For example, MSA SAS could observe PROFORCE members when they are backing (e.g., after lineup) and recognize those drivers that appropriately use spotters. Similarly, MSA SAS should find incentives for PROFORCE members to intervene when deviations occur. These practices will, over time, help remove the perceived stigma associated with using spotters or other safety practices and motivate personnel to follow requirements despite any perceived inconvenience.

Opportunity for Improvement: MSA SAS managers should identify approaches that reinforce correct behaviors and resist normalized deviations from requirements.

Conclusion

MSA SAS managers are committed to maintaining the security of the Hanford site while minimizing or preventing injuries. Their efforts over the past year to reach out to the HGU are paying dividends, but are also causing some unintended consequences with middle managers. MSA should ensure its outreach actions include middle managers and continue working with HGU personnel to establish collaborative working relationships along the entire chain of

command. MSA SAS should also identify more opportunities to reinforce correct behaviors, and not just punish incorrect behaviors, as a means of fostering further improvements. Overall, MSA SAS continues to meet the expectations for Management Leadership for continued participation in DOE-VPP.

IV. EMPLOYEE INVOLVEMENT

Employees at all levels must continue to be involved in structuring and operating the safety and health program and in decisionmaking that affects employee health and safety. Employee involvement is a major pillar of a strong safety culture. Employee participation is in addition to the right to notify 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 is welcome. Managers must be proactive in recognizing and rewarding workers for their participation and contributions. Employees and managers must communicate and collaborate in open forums to discuss continuing improvements, to recognize and resolve issues, and to learn from their experiences.

In 2016, the MSA SAS managers revitalized employee involvement among the PROFORCE union leadership and membership. The MSA president and senior leaders initiated monthly meetings with the HGU Executive Board members to improve communication with the HGU and to address HGU worker issues (see Management Leadership).

MSA SAS employees continue to participate in the MSA EZAC and PZAC. MSA SAS recently expanded the EZACs and created the Emergency Services Safety Representative Monthly Meeting and the Administrative Employee Safety Monthly Meeting. These safety meetings are “ad hoc” committees similar to the EZAC and ensure emergency services and administrative personnel participate in the MSA SAS safety program. During the review, the Team observed the Administrative Employee Safety meeting, which included representatives from the safety group and 10 administrative employees from the MSA SAS main office location. The meeting resulted in a productive conversation between the administrative staff and safety personnel. Topics discussed included emergency response assembly locations, emergency contact personnel within the building, and a video and live demonstration of the emergency stair descender equipment. After the meeting, participants expressed their satisfaction with the personal attention and appreciation for the information provided. Several attendees described how the meetings have changed their perspectives on safety, leading to improved safety away from work. At the time of the review, MSA SAS had not yet documented the mission and scope of these new committees. MSA SAS should consider formalizing the meetings’ purposes in a charter to ensure the continued successes of those groups.

Opportunity for Improvement: MSA SAS should consider formalizing the new committees and documenting the committees’ purposes in a charter to ensure the continued successes of those groups.

MSA formalized the Hanford Patrol Protective Force Safety Organization Field Test and Evaluation (FTE) process in a guidance document. The FTE process involves Hanford Patrol personnel in the physical evaluation, testing, and selection of all new Hanford Patrol processes or equipment. Recently, MSA SAS identified the need for an off-road capable pickup truck to meet mission requirements. In support of that need, and based on HGU input, MSA requested the General Services Administration to purchase a vehicle for Hanford Guards to evaluate. MSA SAS has used the FTE process for other security equipment modifications that improve the

security posture, enhance PROFORCE safety, and increase PROFORCE satisfaction with its equipment.

All employees understood their stop-work authority and responsibility and were not hesitant to exercise that authority for unsafe conditions. Employees consistently described their workspace as safe and their opportunities for involvement in the safety programs. No workers expressed a fear of retaliation for raising safety concerns. However, the Team observed two situations where Patrol Training Academy (PTA) Firearms Instructors were not wearing proper PPE, such as double-hearing protection, while on the catwalk during shoot house qualifications, or elbow pads and long sleeves while shooting in the prone position, and no one intervened or questioned the lack of proper PPE. These conditions may indicate that while workers are comfortable raising safety issues, they are not actively looking for at-risk practices during their normal activities. This acceptance of at-risk behaviors can create normalized deviations that eventually lead to accidents or injuries (see Management Leadership).

MSA SAS implemented a new electronic safety issues tool that allows workers to enter issues, check on the status of tracked issues, and review resolution. MSA SAS implemented the Emergency Services Electronic Safety Log. The Emergency Services Group piloted the system; and based on those results, MSA expanded its company-wide system to track and record employee safety concerns.

MSA SAS employees attend safety and health conferences and participate in both MSA SAS and other Hanford contractors' self-assessment teams. Several employees attended the Region X and National Voluntary Protection Programs Participants' Association Conferences. MSA gives SAS employees the opportunity to attend the annual Hanford Safety Connect (HSC) (formerly Safety Expo) on company time. Employees who wish to attend the HSC are granted 2 hours company and travel time to attend. While shift schedule and mission priorities do present a challenge in allowing all employees to attend, interviews indicated MSA SAS accommodates most employees using this option.

Conclusion

MSA SAS continues to improve upon its employee involvement program. The MSA president and senior leadership initiated monthly meetings with the HGU Executive Board to improve communications with HGU and directly address HGU worker concerns. MSA SAS continues to participate in the MSA EZAC and PZAC. It has expanded that process to include two additional "ad hoc" committees to focus on improving communications with the Emergency Services Safety Representatives and Administrative Employees. While employees are comfortable raising safety issues, observations indicate workers may not always recognize and question at-risk practices during their normal activities. MSA SAS continues to meet the expectations for Employee Involvement and continued participation in DOE-VPP.

V. WORKSITE ANALYSIS

Management of health and safety programs must begin with a thorough understanding of all hazards that might be encountered during the course of work and the ability to recognize and control any new hazards. Implementation of the first two core functions of an integrated safety management system (ISMS), defining the scope of work and identifying and analyzing hazards, form the basis for a systematic approach to identifying and analyzing all hazards encountered during the course of work. 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.

MSA SAS has sufficient environment, safety and health (ES&H) professionals with the requisite knowledge, skills, and abilities to analyze hazards and implement the appropriate controls when eliminating a hazard is not practical. Workers indicated that ES&H professionals and technicians frequently visit workspaces. MSA SAS safety and health professionals maintain a detailed hazard baseline assessment for security forces. They frequently evaluate workplace conditions, take industrial hygiene samples, monitor hazardous conditions, and add the results to the existing hazard baseline.

Certified armorers maintain weapons within manufacturer specifications. Armorers conduct annual inspections and preventive maintenance on every weapon. The DOE National Training Center's (NTC) certified firearms instructors manage and run range operations. MSA SAS has thoroughly analyzed all firing ranges in a range analysis that includes distances, impact zones, weapon and ammunition limits, horizontal range fan limits, and multiple range use limitations. In addition, an environmental specialist certified all ranges at the PTA for the intended weapons and ammunition.

MSA recently revised its work management program. Procedure MSC-PRO-WC-12115, *Work Management*, defines roles and responsibilities, establishes the work management process, and categorizes the types of work based on complexity and hazard levels. To determine the hazard level for a defined scope of work, MSA SAS uses procedure MSC-PRO-WP-079, *Job Hazard Analysis (JHA)*, to analyze identified hazards. The change to the work management process included revision of the JHA procedure. MSA eliminated the AJHA process and replaced it with a multi-level activity risk-/hazard-based graded approach. The new JHA process groups work activities into four categories. The categories based on hazards and the required controls: (1) MSA General Hazard Analysis; (2) Craft-Specific Hazard Analysis (CSHA) with a Chemical Use Attachment when necessary; (3) Various Forms, Permits, or Plans; and (4) MSA JHA. During the Team review, MSA SAS was converting to the new JHA approach. MSA SAS recognized that some employees were unsure of the specifics of the new approach and is taking steps to increase worker knowledge of the new approach through increased communications. MSA SAS expects full implementation of the new JHA approach by August 2017.

Standing Post Orders define the duties, responsibilities, and actions of security guards, and cover the majority of MSA SAS' activities. MSA SAS also uses site-wide procedures for lockout/

tagout, confined space entry, excavations, and radiological work. For work involving these common site-wide activities, MSA SAS integrates these processes and procedures into its hazard analysis and work planning and control documents. This approach allows for the seamless integration of workers from other organizations outside of MSA SAS.

PTA operations observed by the Team were in accordance with DOE Order 473.3, *Protection Program Operations*. MSA SAS uses lesson plans developed by the NTC when necessary for weapons familiarization, training, and qualifications. In the event that a site-specific need arises for additional tactical training of other strategies, PTA instructors, operators, and safety professionals develop a Training Activity Plan (TAP). After review and approval, these lesson plans and/or TAPs become Category 3 work.

MSA SAS maintains the hazard baseline assessment for security forces. MSA added a new chemical hazards database to enhance the hazard baseline database. In addition to the required Safety Data Sheet, the database includes field industrial hygiene samples results, which allows for hazard analysis and trending. This new database provides information needed for the Chemical Use Attachment when work involves hazardous chemicals (e.g., CSHA-level work). MSA SAS personnel interviewed were familiar with the hazards that pertained to their specific jobs and understood how each hazard could harm them.

MSA SAS inspects PTA ranges and administrative work areas for housekeeping and industrial safety compliance on a scheduled frequency that meets the expected criteria of VPP. Safety professionals conduct regular workplace inspections with voluntary participation by MSA SAS employees.

Conclusion

MSA SAS has adequate worksite analysis processes and procedures in place. Hazard identification is thorough and exceptional housekeeping was evident throughout the facilities. The conversion from the MSA AJHA to a graded, risk-based work planning process based on hazard analysis promises to produce appropriate, high quality, detailed work plans and instructions. MSA SAS continues to meet the DOE-VPP expectations for Worksite Analysis.

VI. HAZARD PREVENTION AND CONTROL

The third and fourth core functions of an ISMS, identify and implement controls, and perform work in accordance with controls ensure that once hazards have been identified and analyzed they are eliminated (by substitution or changing work methods) or controlled using engineered controls, administrative controls, or PPE. Equipment maintenance processes must ensure compliance with requirements and emergency preparedness. Safety rules and work procedures must be developed, communicated, and understood by supervisors and employees. These rules and procedures must also be followed by everyone in the workplace to prevent, control the frequency of, and reduce the severity of mishaps.

Hazards at MSA SAS continue to be well-controlled. MSA SAS follows the hierarchy of controls using engineered controls, administrative controls, and PPE to minimize its workers' exposures to hazards. The Team saw several examples during workplace walkarounds. In one instance, fill gravel on the Range 1 shooting surface was replaced with smaller sized fill gravel, reducing the hazards presented by uneven surfaces during shoot-on-the-move qualifications. In another improvement, an employee recognized that activating target turners with personnel in close proximity risked personal injury. Using the employee's suggestion, range officers now switch target-turning motors off, then make an oral announcement to all shooters and instructors declaring the shooting line safe, allowing shooters or instructors downrange to score, move, or retrieve targets. MSA SAS installed a soft-surface running track at the PTA to help reduce injuries from running for physical training and qualification. MSA SAS added range status boards to help maintain situational awareness and coordinate live-fire operations with maintenance. Another visitor safety effort included the installation of an access control gate that controls traffic and directs visitors to sign in at the main range house. This prevents exposure of untrained personnel to hazards from range activities.

However, the Team observed two discrepancies during PTA range operations. One observation involved a situation where an instructor was shooting a rifle in the prone position, but was not wearing the prescribed long sleeves and elbow pads. The Team also observed an instance where an instructor did not use required double-hearing protection while on the shoot house catwalk while students were deploying flash bangs (see Management Leadership and Employee Involvement).

MSA SAS tracks and trends injuries, illnesses, and accidents, and has attempted to use the data to focus on its hazard control efforts. Managers, safety committees, and employees receive regular data analysis information to provide the greatest level of performance awareness. As was identified in the previous VPP onsite evaluation, these efforts have met with mixed success. Injuries, illnesses, and vehicle accidents have increased during the past year. The recent conversion from the AJHA process to the graded, four-level risk-/hazard-based procedure for work planning, if implemented effectively, can help reverse this negative performance trend.

MSA SAS maintains detailed procedures for the safe conduct of drills and exercises that protect the realism of the scenario, while maintaining the safety of the players and actors in the scenario. MSA SAS uses a rigorous process to brief personnel, sanitize weapons, train observers and evaluators, and follows strict rules and requirements. One example provided to the Team exemplifies MSA SAS' dedication to protecting workers during drills. When a recent active

shooter drill included use of a Long-Range Acoustical Device (LRAD) X100, the MSA SAS Safety and Health group conducted a mockup sound study in the areas where PTA staff intended to use the LRAD X100 speaker. After completing the study, MSA SAS Safety and Health issued guidance to drill participants and observers to mitigate hazards from the acoustical device. Hearing protection, limiting equipment settings to reduce hazardous energy levels, and specific direction about how and where participants could use the equipment permitted a successful and safe drill scenario. MSA SAS uses several other controls in its drill and exercise program. MSA SAS uses strict segregation of engagement simulation systems from live-fire ranges at the PTA to prevent comingling of engagement simulation systems and live firearms. It limits shoot house stay times to avoid heat stress. It also revised its drill and exercise procedure to clarify that the Shift Commander has the ultimate authority to cancel a drill or exercise should other activities occur that might distract personnel from ongoing security activities.

Conclusion

MSA SAS follows the hierarchy of controls using engineered controls, administrative controls, and PPE to minimize its workers' exposures to hazards. MSA SAS has implemented employees' suggestions to mitigate hazards. Although MSA SAS continues to experience some unwanted events, its efforts to prevent and minimize those events meets DOE-VPP expectations for Hazard Prevention and Control.

VII. SAFETY AND HEALTH TRAINING

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

The 2011 onsite assessment determined that supervisors and managers understand and carry out their responsibilities. These responsibilities include understanding the hazards associated with a job and the potential effects on employees; understanding how to ensure, through teaching and enforcement, that employees follow the rules, procedures, and work practices for avoiding or controlling exposure to the hazards; and knowing how to make sure that everyone understands what to do in emergencies.

MSA SAS uses the Hanford Site-wide Enterprise Learning Management System managed by MSA to manage and track training requirements for managers, supervisors, and employees alike. First-line managers ensure that employee training is current. Employee Job Task Analysis and training records revealed no issues relating to lapsed or incomplete safety and health training requirements. The MSA SAS Chief of Patrol continues to determine the security training requirements for the SPOs. The security training needs are determined based on the SPOs' assignments, MSA SAS mission requirements, and Federal regulations. The PTA conducts all security response training and qualifications.

As in 2011, the employees interviewed indicated that they receive extensive safety training. The Team interviewed a wide range of workers in different locations and all were satisfied with the level of safety and health training. Employees feel that the level of safety and health training they receive has made them aware of the hazards they may encounter during their work activities. They are knowledgeable about the safe work procedures in place to protect them from potential hazards. The PTA conducts the SPO training program, which is certified by DOE NTC. All PTA instructors maintain their SPO qualifications and carry NTC certifications in their areas of expertise. Hanford Patrol members receive yearly Emergency Vehicle Operations Course (EVOC) training to ensure that they can safely handle emergency driving situations. In an effort to improve driving skills across the company, the PTA now offers the EVOC training to all MSA employees upon request. Currently, three portions of the EVOC course are available to all employees: (1) "Skid Monster" skid control training; (2) Backing course; and (3) Obstacle course. The course can also have additional lessons or activities to address specific vehicles or tasks required by groups. MSA generally reserves the high-speed portion of the course for law enforcement and specific patrol activities.

Conclusion

MSA SAS continues to maintain an effective Safety and Health Training Program. It uses the training program developed and maintained by MSA. Managers and employees are properly trained and aware of the hazards present in the workplace. MSA SAS continues to meet the Safety and Health Training expectations for continued participation in DOE-VPP.

VIII. CONCLUSIONS

MSA has concentrated on the relationship between senior managers and HGU Executive Board members in the wake of the contract negotiations. MSA senior managers' outreach efforts to the union leaders, however, have bypassed middle managers within the PROFORCE. These middle managers remain dedicated to the mission, but need additional opportunities to work with senior managers to ensure they understand the basis for decisions and can act in a manner consistent with senior managers' expectations. MSA should also work with the SAS managers to convince them that all injuries are preventable and continue seeking training methods that meet mission requirements while reducing risk of injury. MSA SAS demonstrates the continuous improvement in safety and health expected for continued participation in DOE-VPP. The Team recommends that MSA SAS continue to participate in DOE-VPP as a Star site.

Appendix A: Onsite VPP Assessment Team Roster

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