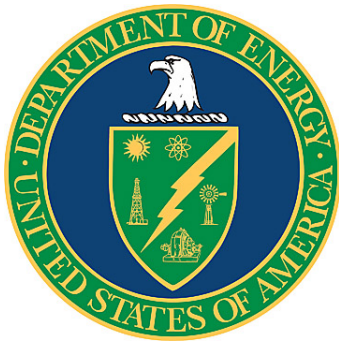


# Mission Support Alliance, LLC Safeguards and Security

**Report from the Department of Energy  
Voluntary Protection Program  
Onsite Review  
September 26-October 6, 2011**



U.S. Department of Energy  
Office of Health, Safety and Security  
Office of Health and Safety  
Office of Worker Safety and Health Assistance  
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## Foreword

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

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

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

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

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

This report summarizes the HSS DOE-VPP team's findings from the evaluation of Safeguards and Security project activities at the Hanford Site during the period of September 26-October 7, 2011, and provides the Chief Health, Safety and Security Officer with the necessary information to make the final decision regarding its continued participation in DOE-VPP as a Star site.

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## **ABBREVIATIONS AND ACRONYMS**

AJHA	Automated Job Hazard Analysis
BLS	Bureau of Labor Statistics
DART	Days Away, Restricted, or Transferred
DOE	U.S. Department of Energy
ELM	Enterprise Learning Management
EJTA	Employee Job Task Analysis
ES&H	Environment, Safety and Health
EZAC	Employee Zero Accident Council
FH	Fluor Hanford
HGET	Hanford General Employee Training
HGU	Hanford Guard Union
HGUSC	Hanford Guards Union Safety Council
HPI	Human Performance Improvement
HSS	Office of Health, Safety and Security
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
PTH	Protection Technology Hanford
PZAC	President's Zero Accident Council
RL	Richland Operations Office
SAS	Safeguards and Security
SPO	Security Police Officer
Team	HSS DOE-VPP Team
TRC	Total Recordable Case
VPP	Voluntary Protection Program
VPPPA	Voluntary Protection Program Participants' Association

## **EXECUTIVE SUMMARY**

Mission Support Alliance, LLC (MSA), assumed management of the Safeguards and Security (SAS) mission as part of the Project Hanford Mission Support Contract in August 2009. The SAS mission is to ensure appropriate levels of protection for project activities at Hanford Site facilities against unauthorized access, theft, or diversion of special nuclear material; acts of sabotage or espionage; theft or loss of classified matter; theft or loss of government property; and other hostile acts that may cause unacceptable impacts on National security, or on the health and safety of employees, the public, or the environment. Initially certified as a Department of Energy (DOE) Voluntary Protection Program (VPP) Star site in 2001 under Day & Zimmerman, Protection Technology Hanford, they were recertified in 2004, and then again in 2008 under Fluor Hanford.

As a result of the transition from Fluor Hanford to MSA, SAS is being considered as a transitional Star applicant requiring onsite verification by the Office of Health, Safety and Security (HSS). The HSS DOE-VPP Team (Team) conducted its review from September 26-October 6, 2011, to determine whether SAS continues to perform at a level deserving DOE-VPP Star recognition. The review included facilities in Richland, Washington, and at the Hanford Site. This report documents the results of the Team review and provides the Chief Health, Safety and Security Officer with the necessary information to make the final decision about its status in DOE-VPP.

Based upon discussions and interviews with approximately 100 workers, supervisors, and managers, as well as extensive observation of field activities, inspection of worksites and facilities within the project scope, and review of records, the Team determined that SAS has maintained a strong safety culture. Managers are committed to creating and maintaining a safe working environment, and employees at all levels throughout the company are well trained and actively involved in their own safety and that of their coworkers and the public. Hazard analysis is effective and hazard prevention and control efforts have been satisfactory. A significant challenge exists with respect to the accident injury rates and the current trend. In 2008, SAS adopted the tactical response force concept which increased their training requirements. SAS attributes the notable increase in injury rates to the increased physical fitness requirements of the tactical response force and encouraging of employees to report health conditions prior to and during fitness and tactical exercises. The 3-year average for SAS Total Recordable Cases (TRC) rate exceeds the Bureau of Labor (BLS) statistics rates for security forces with a significant upward trend. Conversely, the Days Away, Restricted or Transferred (DART) case rates have been declining. Per the DOE-VPP requirements, the applicant's TRC and DART case rates must be at or below the BLS accident injury rates to retain VPP Star status, or the contractor must have an effective plan in place that will reduce the rates to those levels within 5 years. SAS has not yet developed or implemented an effective plan.

While SAS managers and employees exhibit a desire to continuously improve upon and preserve the strong safety culture that exists at the Hanford Site, the Team recommends that SAS be awarded DOE-VPP Merit rating until a plan is developed and demonstrated to reverse the adverse trend in accident injury rates.

Consistent with the DOE-VPP quest for excellence in safety performance, the Team identified a number of opportunities for improvement. Listed in Table 1, these opportunities for improvement require no formal corrective action plan, but should be considered and addressed by SAS in conjunction with its ongoing efforts for continuous improvement.

**TABLE I**  
**OPPORTUNITIES FOR IMPROVEMENT**

<b>Opportunity for Improvement</b>	<b>Page</b>
SAS needs to revise SAS-7309 to remove disincentives to reporting accidents, injuries, and incidents from quarterly safety awards.	4
SAS should augment the AJHA development by documenting the logic linking the hazard, consequence, frequency, and control to its risk management model contained in SAS-7321.	10
SAS should evaluate existing data and develop new sources of data that can be used to correlate physical training practices with injury trends, and use those correlations to identify trends before injury rates increase.	10
SAS needs to identify and implement effective controls on the physical fitness program that will reduce or prevent the injuries being incurred during physical training.	12

## I. INTRODUCTION

The Department of Energy (DOE) Voluntary Protection Program (VPP) onsite review of Mission Support Alliance, LLC (MSA), Safeguards and Security (SAS), was conducted from September 26-October 7, 2011, at the Hanford Site in Richland, Washington. The Star level recognition was initially awarded to the site in 2001, when Day & Zimmerman, Protection Technology Hanford (PTH) was the safeguards and security contractor. The DOE-VPP office conducted the first onsite recertification review of PTH from June 24-29, 2004. The review assessed the nature and substance of the continuous improvement of VPP since the initial Star certification and PTH was recertified as a participating DOE-VPP Star site. PTH was subsequently replaced by Fluor Hanford (FH) SAS. In accordance with DOE-VPP requirements, the triennial recertification review was due in 2007, but was rescheduled for February-March 2008. FH SAS was recertified as a Star site in 2008. In 2009, MSA assumed the contract from FH. As a result of that transition, SAS is being considered as transitional Star applicant requiring onsite verification by the Office of Health, Safety and Security (HSS).

The mission of SAS at Hanford is to maintain a standardized program for all prime Hanford contractors relating to safeguards and security functions and to physically protect special nuclear material, classified material, government property, and the personnel located within the confines of the Hanford Site.

The HSS VPP Team (Team), consisting of safety professionals with VPP experience and expertise from the DOE complex, evaluated SAS' safety programs against the provisions of DOE-VPP. In order to ensure an appropriate balance between safety and security concerns, the Team included one member with a security background. During the site visit, the Team observed extensive work activities, evaluated relevant safety documents and procedures, and conducted interviews to assess the strength and effectiveness of SAS' health and safety programs.

The Team interviewed approximately 30 percent of the workforce either formally or during work observations. Interviews included uniformed, nonuniformed, supervisory, and management personnel. The Team had the opportunity to observe a variety of field activities, including weekly Toolbox and Safety meetings, daily plan-of-the-day meetings and Patrol lineups, weapons issue and turn-in, prejob/exercise walkdowns, prejob/exercise safety briefings, postjob debriefs, automated job hazard analysis (AJHA) development, and preventive maintenance. The Team also observed preparation for and conduct of tactical training and exercises. Safety hazards encountered during SAS work include those associated with paramilitary training and storage of weapons and explosives, vehicle and traffic operations, and the industrial hazards associated with maintenance activities. Environmental hazards, such as high winds, heat or cold stress due to extreme weather conditions, and poisonous snakes and insects, also make up a significant portion of the risk exposure. While these are the predominant hazards, workers may also encounter radiological hazards at the Hanford Site.



## II. INJURY INCIDENCE / LOST WORKDAYS CASE RATE

The Team conducted a review of the Occupational Safety and Health Administration (OSHA) 300 logs. The table below summarizes the OSHA reportable data for SAS employees as reported by SAS.

### INJURY INCIDENCE / LOST WORKDAYS CASE RATE

<b>Injury Incidence/Lost Workdays Case Rate (SAS)</b>					
Calendar Year	Hours Worked	Total Recordable Cases (TRC)	TRC Incidence Rate	DART* Cases	DART* Case Rate
2008	865,155	12	2.77	5	1.15
2009	818,349	8	1.95	4	0.98
2010	761,000	10	2.63	3	0.79
3-Year Total	2,444,504	30	2.45	12	0.98
Bureau of Labor Statistics (BLS-2009) average for NAICS Code #561612 Security guards and patrol services			2.1		1.1
<b>Injury Incidence/Lost Workdays Case Rate (SAS Subcontractors)</b>					
Calendar Year	Hours Worked	TRC	TRC Incidence Rate	DART* Cases	DART* Case Rate
2008	18,000	0	0.00	0	0.00
2009	16,200	0	0.00	0	0.00
2010	73,549	0	0.00	0	0.00
3-Year Total	107,749	0	0.00	0	0.00
Bureau of Labor Statistics (BLS-2009) average for NAICS Code #561612 Security guards and patrol services			2.1		1.1

\*Days Away, Restricted or Transferred

**Total Recordable Case Incidence Rate, including subcontractors: 2.35**

**Lost or Restricted Workday Case Incidence Rate, including subcontractors: 0.94**

### Conclusion

SAS TRC injury rates are above the averages for the comparable industry and do not meet the criteria for participation in DOE-VPP at the Star level. The subcontractor 3-year average accident TRC and DART case rates are below the comparable industry averages and meet the criteria. Currently, SAS workplace injuries are trending upward and stand at 3.3 recordable injuries per 200,000 hours worked for 2011. However, the severity of those injuries is dropping as evidenced by reductions in DART case rates over the same period. The 2009 BLS average for security forces nationwide (most recent data) is 2.1 injuries per 200,000 hours worked. Most of these injuries are incurred during Security Police Officers' (SPO) physical fitness

activities. These are soft tissue type injuries, typically strains, sprains, and contusions, resulting from overexertion during workouts (running, treadmills, and weight lifting). While SAS is still reviewing the data, it has not yet implemented an effective comprehensive plan to reduce the injuries.

### 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; (4) accountability for both managers and workers; and (5) managers must be visible, accessible, and credible to employees.

The Team observed a strong safety culture within the SAS organization. Numerous discussions, interviews, and field activity observations indicate a commitment on the part of managers, supervisors, and workers alike to improve on their safety performance. This was evident across the organization. Since the transition to MSA, the management team has made it a priority to be more visible in the workplace and establish a stronger communication link to the workforce. This effort was in response to legacy communication issues identified in the 2008 VPP assessment.

SAS has safety recognition and incentives program to encourage maximum participation in the safety program. SPOs mentioned a safety award that their shift received for past safety performance, and they were generally pleased with the recognition. The safety recognition program outlined in procedure SAS-7309, *Safety Awareness and Recognition Program*, encourages employees to recognize other employees performing safe acts. Although intended to improve safety and recognize safe acts, that procedure also contains criteria to be met by each individual of the group in order to receive this recognition.

The following criteria must be met by each individual in the applicable group to receive this quarterly award:

- a. No "at-fault" OSHA Recordable Injury Cases (described immediately below);
- b. No "at-fault" government vehicle accidents; and
- c. No skin contaminations.

Management has put in place several processes that encourage reporting of injuries, including the completion of health status forms prior to exercise tests and security performance tests. Per recent OSHA guidance, these criteria could be a disincentive to report injuries, accidents, or incidents and need to be changed. The MSA corporate program is being changed to eliminate disincentives to reporting, and SAS needs to revise its procedure to align with those changes.

**Opportunity for Improvement:** SAS needs to revise SAS-7309 to remove disincentives to reporting accidents, injuries, and incidents from quarterly safety awards.

In 2008, senior SAS leaders identified communication barriers as the most significant vulnerability in an otherwise safe working environment. Since that time, a new Patrol Chief has been assigned that regularly visits with the guard force on an informal basis to get feedback on issues or solicit improvements. The Chief and his deputies have committed to building and sustaining the trust and manager-employee partnership required for a culture of safety excellence. Despite these efforts to improve communication, workers gave the Team a few recent examples where managers' intentions were not clearly understood and were subject to misinterpretation. SAS leaders should continue their efforts to provide clear, concise directions to the workers and encourage workers to talk directly with their managers when rumors arise.

In 2008, the Hanford Patrol adopted Human Performance Improvement (HPI) as a means of fostering further improvement. HPI continues to be used across the SAS organization with the full support of management. Employees and managers remain positive about HPI and its potential. SAS is improving HPI training and continuing to incorporate HPI concepts into all activities.

Consistent with the 2008 review, SAS implements and uses company-level MSA procedures in conjunction with complementary internal SAS procedures to promulgate and execute the elements of the safety and health program. Safety professionals assigned to SAS used those procedures to communicate and implement the SAS health and safety program.

SPOs, office workers, and managers know that they are accountable for their own actions, are expected to perform work in a safe manner, and have the responsibility and right to stop work when unsafe conditions exist. Policies and procedures are in place to hold personnel accountable for intentional acts, and personnel contacted by the Team did not indicate any issues with that process. Senior Managers indicated that discipline is rarely needed within SAS.

There are documented programs for ensuring all personnel, including subcontractor employees, vendors, and consultants, understand their safety responsibilities. Site orientation and training occurs during new-hire orientation, which includes the Hanford General Employee Training (HGET) computer-based course. Contractors and vendors also receive site orientation during their badging process. This initial orientation and training ensures that expectations for complying with programs and policies are fully understood and that personnel understand the accountability processes and procedures.

Multiple means remain available for communication and notification of safety-related issues. These include the MSA President's Zero Accident Council (PZAC) minutes, Employee Zero Accident Council (EZAC) minutes, Hanford Patrol Safety Council minutes, Hanford Guard Union (HGU) safety representatives, and SAS Safety Central.

Effective systems remain in place to evaluate Environment, Safety and Health (ES&H) performance across SAS. The system provides for an annual assessment and written report, including recommendations for improvements and timely followup. The evaluation assesses the effectiveness of each applicable VPP element and sub-element. For example, the most recent VPP self-evaluation done in July 2011 identified key accomplishments that included revised health and safety procedures, evaluation of new facilities for hazards, addition of a third bargaining unit safety representative, and efforts to revitalize the safety councils. The report also

identified challenges for the year that include reducing the TRC rates while increasing the rigor of the tactical response force training requirements.

## **Conclusion**

The commitment of top-level managers to occupational safety and health is clearly evident to all at SAS. Senior and mid-level managers recognize that the latent communication weakness still remains, and they are committed to continuous communication improvement expected of a VPP Star site. MSA SAS continues to meet the criteria of the Management Leadership tenet.

#### **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 is welcomed. 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.

During the 2008 review, the Team found that safety improvements were perceived by the workers as being driven down from managers. That perception has changed and improved tremendously. Employees have been empowered by managers to take ownership of VPP. While there is work to do, employees described a safety culture that has improved over the last 3 years. All employees were aware of their stop-work authority and responsibility and would not hesitate to exercise that authority for unsafe conditions. Employees consistently described how safe their workspace was and their opportunities for involvement in the safety programs.

While positive reinforcement is used to promote safety, there are times when discipline results from unsafe behavior. The majority of employees who were interviewed about disciplinary actions reported that safety is a way of life at SAS and that there are few instances of employee violations of safety rules. Employees indicated that most SPOs are actively engaged in preserving and improving the safety culture. Positive reinforcement was an essential element of peer interaction, supervisor involvement, and manager walkarounds.

As described in the 2008 review, all employees have the opportunity for involvement and participation in a multitude of SAS safety programs. These include, but are not limited to, participation in accident/incident investigations, conduct of scheduled workplace inspections, development of job hazard analyses, and participation in safety and health committees. Two safety councils meet monthly: Hanford Guards Union Safety Council (HGUSC) for both A/B and C/D shifts and the EZAC. The Team reviewed council meeting minutes and attended one of the HGUSC's monthly meetings. There is strong management representation and participation on each of the councils. The councils take prompt action on safety issues and are responsible for developing, promulgating, and tracking the respective Safety Improvement Plan. The Team observed the HGUSC during this review. The meeting was conducted in a professional manner with input from each safety representative and presentations by managers on several topics.

Workers have multiple methods to communicate safety issues. In the Hanford Patrol organization, there is a dedicated HGUSC member on each of the shifts to capture, address, and elevate safety issues and provide feedback. Workers can communicate issues through e-mail, shift turnover, their shift supervisor, or their HGU safety representative. Electronic safety databases are used regularly. Employees indicated that the informal discussion with supervisors is frequently used to raise issues. SAS has a formal suggestion program, as well as an avenue to

submit concerns anonymously. The HGU safety council, EZAC, and PZAC are also available to present issues for resolution. All employees stated that SAS was a safe place to work.

Worker input is included in most aspects of the safety and health program. Employees and their supervisors annually review the Employee Job Task Analysis (EJTA) documents. Monthly and quarterly walkthrough inspections are completed with worker participation. Managers communicate the importance of worker involvement, and there is evidence of early employee involvement in improvement initiatives. For example, the SPOs were instrumental in devising a system to store equipment in Patrol vehicles to prevent that equipment from becoming a missile hazard if the vehicle came to a sudden stop. SPOs conduct a walkdown of the obstacle course with instructors prior to qualifying to identify potential hazards. During the 2008 review, an employee suggested heated sidewalks which were piloted with success and installed to minimize slips, trips, and falls during the winter. Also during the 2008 review, the rubberized asphalt track was suggested by employees and completed to minimize injuries while running. Employees requested treadmills, which were installed in workout areas, to use during inclement weather or during extreme heat. SPOs that previously ran alongside the road as part of their physical fitness program can now use the track or the treadmills, exposing them to a far lower risk than running alongside the roads.

SAS employees attend safety and health conferences and participate in both SAS and other Hanford contractors' self-assessment teams. Several employees, including Safety Council members, attended the Regional Voluntary Protection Program Participants' Association (VPPPA) Conference, and all employees have the opportunity to attend the annual Hanford Safety Exposition on company time. Several officers also attended the VPPPA National Conference and described the experience as extremely beneficial.

## **Conclusion**

SAS has a positive safety culture that allows employees to participate in the safety program and help resolve safety issues. Communication and employee involvement have improved significantly since the 2008 assessment. SAS continues to meet the expectations of the Employee Involvement tenet of DOE-VPP.

## V. WORKSITE ANALYSIS

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

SAS has sufficient ES&H professionals with the requisite expertise to analyze hazards and implement the appropriate controls when elimination is not practical. They are frequently in the workspaces advising employees, taking samples, and providing input to AJHA development and work plans.

SAS safety and health professionals developed and maintain a detailed, hazard baseline assessment for security forces. They are in the field frequently evaluating conditions and taking samples that add to the existing baseline. SAS has augmented the MSA hazards analysis process MSC-PRO-079, *Job Hazard Analysis*, with SAS-7321, *Hazards Analysis Procedure*, to more succinctly address the particular hazards associated with security forces. SAS uses the AJHA as required by MSC-PRO-079.

The AJHA is effectively used by Hanford Patrol, the Patrol Training Academy, and the Technical Services organization for planned work activities. A series of hazard analysis/safety plans have been developed for the SPO I, SPO II/III, POC/CAS/SAS, K9, and the Armorer. Identified hazards and applicable controls are incorporated into work documents, where appropriate, and communicated to workers through pre-job briefings or lineups prior to beginning work.

The SAS procedure states: "Determine if the work is skill based. When work does not meet the criteria in MSC-PRO-079, Appendix B, *Initial Hazard Analysis Determination Criteria*, the hazards shall be analyzed and documented using a thorough and systematic hazard analysis process tailored to the risk of the activity." After preparing the AJHA, SAS-7321 requires the use of a risk matrix to evaluate whether the residual risk is acceptable. When the Team reviewed a sampling of AJHAs for SAS, the analysis of consequence and frequency to support that risk determination was not clearly documented. The individuals responsible for development of the AJHA and resulting work plans are extremely competent and understand the hazards and risks associated with Patrol activities, but they are not documenting their analysis of the hazards in the AJHA where it can be challenged or validated. The Team reviewed several work plans for SAS, which were very thorough and effectively identified the hazards and controls, but did not clearly document the linking analysis. SAS should consider capturing more of the expert knowledge in the AJHA to support the risk determination.



**Opportunity for Improvement:** SAS should augment the AJHA development by documenting the logic linking the hazard, consequence, frequency, and control to its risk management model contained in SAS-7321.

Workers, supervisors, and ES&H professionals, as well as representatives from functional support groups, continue to be engaged in conducting workplace inspections and surveillances to ensure that health and safety standards are being met. SAS conducts inspections and reviews and maintains the records in accordance with SAS-7307, *Safety and Health Inspection Process*. Inspection findings or issues are communicated to affected workers and are tracked for proper disposition. Trained teams of managers, professionals, bargaining unit members, and nonexempt employees conduct scheduled ES&H inspections. Safety concerns are communicated with the Building Administrator and, when possible, are corrected on the spot. A written document of the results is tracked through completion. SAS employees may view these reports and the results of any safety issues at the Safety Central Web site through the ES&H Issues database. In addition to scheduled safety inspections, many SAS activities incorporate an inspection component prior to the conduct of work.

Trend analyses are conducted for all data accumulated under the health and safety program (including injury and illness experience, inspections, and employee reports of hazards) to help identify systemic problems that may not be noticed if only isolated incidents are considered. SAS injuries, accidents, and other pertinent safety performance data elements are tracked and trended using statistical process control methods and charts. SAS continues to use charts that provide information on a number of issues (e.g., age/experience on the job, body part, cause, day of week, hour of occurrence, job type, organizations, and type of injury). The compilation of data is extensive. Although the data is extensive, SAS has not yet effectively been able to use that data as a means of predicting or preventing accident and injury trends. For example, SAS might consider the use of individual physical training plans and tracking individual performance against those plans. Such data could provide SAS with correlations between training practices and injury susceptibility, and intervene before injuries occur.

**Opportunity for Improvement:** SAS should evaluate existing data and develop new sources of data that can be used to correlate physical training practices with injury trends, and use those correlations to identify trends before injury rates increase.

EJTA documents are prepared for all employees and identify the hazards applicable to specific job assignments. The procedure calls for an annual review, as well as updates when the job description changes. The EJTA is reviewed with the employee by the supervisor and then reviewed by ES&H. Most of the employees who were interviewed stated that their EJTA had been recently reviewed.

A system for initiating and tracking hazard correction in a timely manner is in place and functioning. It allows employees, without fear of reprisal, to notify managers in writing about conditions that appear hazardous and to receive timely and appropriate responses. The system may also include oral notification by employees, but in all instances must include written tracking of responses and hazard corrections. Workers at all levels were knowledgeable of processes for reporting identified issues and felt that the system was highly effective.

The reporting of safety issues or concerns is supported and encouraged by managers, and workers do not feel any fear of reprisal for reporting these issues. During the Patrol Safety Council meeting several safety issues were brought up and commitments for resolution were discussed. Previous suggestions and improvements were also discussed and updated. Workers and supervisors of all departments were familiar with reporting mechanisms, including notification of line managers or their respective safety representatives. SAS maintains an ES&H Issues database for entering and tracking issues for resolution. The Safety Council agenda includes time each month to share reports on open and delinquent safety issues. Also, the weekly meetings conducted by senior managers review these reports as part of the respective meeting agenda. The Safety Central Web site is still used to track hazards to completion and provide easy access by employees.

The investigation system observed in the 2008 review is still in place and used. The process includes written procedures or guidance; requires written reports of findings, hazard correction tracking, and identification of causes; and provides for identification of, and followup for, preventive and/or corrective actions. The system includes provisions for a narrative report, suitable for dissemination to all employees, that contains root causes, analysis, and lessons learned. SAS employees and managers comply with MSC-PRO-077, *Reporting, Investigating and Managing Health, Safety and Property/Vehicle Events*. Accident investigations and related reports are completed by appropriately trained and qualified workers, supervisors, and managers. Information from these investigations and reviews is shared with SAS employees in an effort to improve organizational performance. SAS personnel use Safety Council meetings and other communication techniques (Toolbox meetings, lineups, electronic reports, e-mail, Safety Central Web site, etc.) to share the results of investigations.

A system is in place to track first-aid cases, injuries, accidents, and other incidents and investigations. This system includes written procedures that document the initial notification, case summary, hazard correction tracking, and identification of causes, followup, communication, and interviews with medical facilities and appropriate personnel. This is followed up with a peer review by case managers to determine the injury classification (e.g., reportable, first aid). For Hanford Patrol, the initial notification of the incident is usually listed in the Patrol daily log. Management has put in place several processes that encourage reporting of injuries including the completion of health status forms prior to exercise tests and security performance tests. As evidenced by the 23 percent increase in injury reports for 2011, employees are clearly willing to report injuries and notify their managers.

## **Conclusion**

SAS has adequate worksite analysis processes and procedures in place. Hazard identification is thorough and good housekeeping was evident throughout the facilities. The use of the MSA AJHA and the SAS process that augments it produces high quality work plans and instructions. Its risk-based approach follows the OSHA model although the documented logic from hazard to risk needs improvement. SAS continues to meet the requirements of the Worksite Analysis tenet of DOE-VPP.

## VI. HAZARD PREVENTION AND CONTROL

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

SAS demonstrates an ongoing commitment to hazard prevention and control. Examples of recently installed hazard controls include the following:

- Installed a rubberized quarter-mile running track at the Patrol Training Academy, reducing the need to run on roadways or to drive extra distances to a local school;
- Installed treadmills for inclement weather or during high heat days;
- Identified specified routes along roadways as the safest running routes for Hanford Patrol;
- Installed heated sidewalks at Patrol headquarters in 200 E Area to mitigate snow and ice buildup to reduce slip and fall hazards;
- Installed compartments in vehicles to prevent equipment from becoming missiles during a sudden stop;
- Installed bollard extensions to prevent vehicle accidents while backing; and
- Installed lighting in poorly lit areas frequented by Patrol.

The prevention of workplace injuries during physical training should be a top priority for SAS. The availability of physical fitness trainers along with the engagement of the workforce provides an excellent forum for improvements, such as individualized training plans, monitoring of progress toward annual fitness exams, and changing the paradigm regarding injuries while engaged in physical conditioning. Managers and SPOs alike indicated a common belief that minor injuries due to physical training could not be completely avoided. SAS might benefit from using the activity-based approach contained in the OSHA pamphlet-3071, *Job Hazard Analysis*, for analyzing hazards and applying that approach to physical training. This approach is similar to the AJHA approach used by the Hanford Site. As discussed above in tracking and trending, SAS should also consider using an individualized approach to physical conditioning to ensure each SPO has a tailored plan to achieve the desired state of physical fitness that will help them prevent incurring injuries.

**Opportunity for Improvement:** SAS needs to identify and implement effective controls on the physical fitness program that will reduce or prevent the injuries being incurred during physical training.

Currently, members of Hanford Patrol are very concerned about the unsafe driving they have observed at the Hanford Site. Many officers have observed or been part of near-misses on the roads. Their concerns have been voiced to the senior managers and the Richland Operations Office (RL). Currently, senior managers and RL are planning to implement a phased approach to traffic safety that includes information campaigns, increased presence of Benton County

Sheriff's Deputies, and other initiatives that are designed to cause drivers to slow down and adhere to traffic rules.

The medical program is managed by CSC Hanford Occupational Health Services, a nationally accredited, ambulatory health care organization. It provides medical exams, walk-in medical services, return-to-work and fitness-for-duty services, health education, ergonomics, emergency preparedness, and worksite visits. For injuries, CSC Hanford Occupational Health Services only provides first-aid treatments, and then refers the worker to their private physician or other emergency care as appropriate. In some instances, this arrangement causes delays for SAS to be aware that an injury has become reportable. For example, during this assessment a case manager received new information from December 2010 relating to a soft tissue injury to an SPO. This issue is discussed in more detail in the MSA VPP report.

## **Conclusion**

SAS has the means to prevent and control hazards in the training facilities, Patrol stations, and workspaces. The hierarchy of hazard elimination, engineered controls, administrative controls, and PPE was clearly evident. Team observations of work, attendance at various planning meetings, and formal and informal interviews of employees and managers confirmed that SAS is actively engaged in hazard prevention. The prevention of soft tissue injuries during physical training continues to be a challenge for SAS. To meet the requirements of the Hazard Prevention and Control tenet of DOE-VPP, SAS should develop a plan to reduce soft tissue injuries and reverse the current trend.

## **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 managers' expectations and approved procedures.

Supervisors and managers understand their responsibilities and carry them out effectively. 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.

SAS uses the Enterprise Learning Management System (ELM) to manage and track training requirements for managers, supervisors, and employees alike. First-line managers ensure that employee training is current. A sampling of employee EJTA and training records revealed no issues relating to lapsed or incomplete training requirements. Managers receive additional safety training that is tracked and managed through ELM. SAS managers support the safety program and are proactive in identifying additional training opportunities.

Across the board, the employees interviewed indicated that they receive a high level of safety training and know that their managers fully support requests for additional training. The Team interviewed a wide range of workers in different locations. Most workers were highly complimentary of the safety awareness training received. Through training and reinforcement, 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 of the safe work procedures in place to protect them from potential hazards. The Patrol Training Academy conducts the SPO training program, which is certified by the DOE National Training Center (NTC). All Patrol Training Academy instructors maintain their SPO qualifications and carry NTC certifications in their areas of expertise. Hanford Patrol members receive yearly Emergency Vehicle Operating Course training to ensure that they can safely handle emergency driving situations. Safety briefs are given before each hazardous activity. The instructors maintain a good interaction with employees and ensure their awareness of all dangers associated with the activity.

### **Conclusion**

Personnel are well trained at SAS. The training from HGET to more tailored functional training provides a solid foundation for maintaining the safe working environment that exists. SAS continues to meet the requirements of the Safety and Health Training tenet of DOE-VPP.

## **VIII. CONCLUSIONS**

SAS continues to exhibit a strong safety culture as indicated by the continued reduction in DART cases. However, minor injuries are on the rise. Managers and workers are acutely aware of the adverse trend in soft tissue injury rates. Both are actively engaged in determining the cause of these minor events and committed to reversing the trend, but those actions have not yet been effective. The commitment by managers to make SAS the safest possible working environment for its workforce and improve its safety performance is clear. Some communication barriers in the Hanford Patrol organization remain, but communication has improved significantly since the 2008 VPP review. Efforts to build and sustain the trust and manager-employee partnership required for a culture of safety excellence are ongoing and improving. While some opportunities for improvement were identified, the overall climate at SAS is one of safety excellence and a desire for continuous improvement. The Team recommends that SAS be rated at the Merit level until a plan is developed and demonstrated to reverse the trend in soft tissue injury rates.

## Appendix A

### Onsite VPP Audit Team Roster

#### Management

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