Honeywell Federal Manufacturing and Technologies/New Mexico

Report from the Department of Energy
Voluntary Protection Program
Onsite Review
September 8-12, 2008

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Foreword

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

DOE-VPP outlines areas where DOE contractors and subcontractors can surpass mere 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, associates, and DOE.

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

DOE contractors are not required to apply for participation in DOE-VPP. In keeping with OSHA's 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 contractors and subcontractors that have good safety and health programs, but need time and DOE guidance to achieve true Star status. The Demonstration program, expected to be used, rarely allows DOE to recognize achievements in unusual situations about which DOE needs to learn more before determining approval requirements for the Star program.

By approving an applicant for participation in DOE-VPP, DOE recognizes that the applicant exceeds the basic elements of ongoing, systematic protection of associates 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. DOE will provide the opportunity for contractors to work cooperatively with the Agency to resolve health and safety problems. Each approved site will have a designated DOE staff person to handle information and assistance requests from DOE contractors.

This report summarizes the DOE-VPP Team's findings from the evaluation of Honeywell Federal Manufacturing and Technologies/New Mexico during the period of September 8-12, 2008, 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

AFB	Air Force Base
BSAFE	Behavioral-based Safety for Everyone
BLS	Bureau of Labor Statistics
DART	Days Away, Restricted or Transferred
DOE	U.S. Department of Energy
ELMS	Electronic Learning Management System
ESAP	Environmental Self-Assessment Program
FM&T	Federal Manufacturing and Technologies
HS&E	Health, Safety and Environmental
HSS	Office of Health, Safety and Security
IH	Industrial Hygiene
ISC	Integrated Safety Committee
JHA	Job Hazard Analysis
KCP	Kansas City Plant
KCSO	Kansas City Site Office
LANL	Los Alamos National Laboratory
MSDS	Material Safety Data Sheet
NAICS	North American Industry Classification System
NM	New Mexico
NNSA	National Nuclear Security Administration
OSA	Occupational Safety Advocates
OSHA	Occupational Safety and Health Administration
OST	Office of Secure Transportation
PD	Process Description
PDA	Personal Digital Assistant
PHA	Preliminary Hazard Analysis
PM	Preventive Maintenance
PPE	Personal Protective Equipment
SNL	Sandia National Laboratories
SPSC	Safety Process Steering Commission
Team	Office of Health, Safety and Security DOE-VPP Team
VPP	Voluntary Protection Program
VPPPA	Voluntary Protection Program Participants' Association
WI	Work Instruction

EXECUTIVE SUMMARY

Honeywell Federal Manufacturing and Technologies (FM&T) is a large nationally based company, which serves as a management and operating contractor for a major Department of Energy (DOE) facility in Kansas City, Missouri, the Kansas City Plant (KCP). A division of FM&T/KCP, FM&T/New Mexico (NM) supports the DOE/National Nuclear Security Administration in its mission to support the Office of Secure Transportation and various National Laboratories (Sandia National Laboratories, Lawrence Livermore National Laboratory, and Los Alamos National Laboratory) by designing; manufacturing; and procuring electronic, electromechanical, and mechanical equipment under a prime contract between Honeywell and DOE.

FM&T/NM submitted its application to the DOE Voluntary Protection Program (VPP) in September 2003. An initial certification onsite review of FM&T/NM was conducted from July 12-15, 2004. The review team concluded that the contractor did not fully meet the requirements for DOE-VPP Star status in the management leadership and employee involvement tenets. As such, FM&T/NM was granted Merit status. A subsequent review was conducted in December 2004 by the DOE/Kansas City Site Office. Based upon recommendation from that review, FM&T/NM was certified as a DOE-VPP Star site in April 2005. Per DOE-VPP requirements, the triennial recertification review is due in 2008.

Continuation of Star status in DOE-VPP requires an onsite review by the DOE Office of Health, Safety and Security DOE-VPP Team (Team) every 3 years. The Team conducted its review during September 8-12, 2008, to determine whether FM&T/NM is continuing to perform at a level deserving DOE-VPP Star recognition. The purpose of this report is to document the results of the Team's review and to provide the Chief Health, Safety and Security Officer with the necessary information to make the final decision about FM&T/NM DOE-VPP status.

Based upon discussions and interviews with more than 100 workers, supervisors, and managers, as well as extensive observation of work activities at facilities in Albuquerque and Los Alamos, New Mexico, and review of records, the Team determined that FM&T/NM has maintained a culture of safety excellence and achieved an exemplary degree of teamwork that puts safety ahead of production. Accordingly, and having observed first hand that FM&T/NM continues to fully meet all VPP tenet requirements, the Team recommends that FM&T/NM retain its DOE-VPP Star rating.

The standard for Star status is not perfection, but rather in addition to an excellent safety record, managers and workers are dedicated to and effectively pursuing continuous improvement and excellence in safety performance. Consistent with that goal, the Team identified a number of opportunities for improvement. These opportunities reflect those areas where FM&T/NM can further improve its performance (see Table 1). While no formal action plan is required to address those opportunities, FM&T/NM is expected to consider and specifically address them in its annual status reports.

TABLE 1
OPPORTUNITIES FOR IMPROVEMENT

Opportunity for Improvement	Page
FM&T/NM should evaluate whether adding an onsite Industrial Hygienist to HS&E staff is necessary to proactively address its IH needs year round.	4
FM&T/NM should include in the respective databases what specific corrective actions were taken to resolve issues reported in the online reporting systems.	10
FM&T/NM should look for ways to expand employee participation in regional and national VPPPA conferences, workshops, and other VPPPA and DOE-VPP activities.	10
FM&T/NM should evaluate its Hazard Analysis Process to ensure a comprehensive hazard analysis is documented and open issues are addressed in a timely manner through a tracking system or other method.	14
FM&T/NM should also evaluate using JHAs for input to work control documents instead of being used as the work control documents.	14
FM&T/NM should ensure that generic control sets are not used when more specific analysis is needed.	14
FM&T/NM should determine why levels of metals are increasing given the engineered controls in place in the Craddock Facility and perform an analysis to confirm that beryllium concentrations are, in fact, a byproduct of environmental background. This analysis should include determination of a trigger level for abatement action.	15
FM&T/NM should conduct a review of all materials used in production processes to determine if any remaining unidentified hazards may be present.	15
FM&T/NM should evaluate means to access chemical inventory by site and department more readily.	16
FM&T/NM should update personnel at the next safety meeting regarding the results of the 2006 sampling data and the associated hazards with disturbing the settled dust in the Craddock Facility, particularly at elevated levels.	17
To confirm that additional controls are not required, FM&T/NM should perform personnel sampling for individuals working on elevated surfaces in the Craddock Facility, which could result in disturbing settled dust with reportable levels of metal concentrations (i.e., electrician, air-balancing technicians, etc.).	17
FM&T/NM should repeat the sampling process conducted in 2006 at the Craddock Facility to determine if the levels are continuing in an increasing trend for metal concentrations and what controls should be implemented as appropriate.	17
FM&T/NM should reiterate to all associates the dangers of hexavalent chromium and the importance of using engineered controls properly without exception to minimize exposure potential.	18

I. INTRODUCTION

The Department of Energy (DOE) Voluntary Protection program (VPP) onsite review of Honeywell Federal Manufacturing and Technologies (FM&T)/New Mexico (NM) was conducted from September 8-12, 2008. A division of the Honeywell FM&T/Kansas City Plant (KCP), FM&T/NM is headquartered in Albuquerque, New Mexico. The DOE Kansas City Site Office (KCSO) provides direction to and oversight of FM&T/NM.

The primary mission of FM&T/NM is to support the DOE/National Nuclear Security Administration (NNSA) in its mission to support the Office of Secure Transportation (OST) and various National Laboratories (Sandia National Laboratories (SNL), Lawrence Livermore National Laboratory, and Los Alamos National Laboratory (LANL)) by designing; manufacturing; and procuring electronic, electromechanical, and mechanical equipment under a prime contract between Honeywell and DOE.

FM&T/NM performs work at several facilities in the Albuquerque area, either on, or adjacent to, Kirtland Air Force Base (AFB). The NC-135 site on Kirtland AFB is used for small electrical/electronic shops, painting, and administrative and office space. The Craddock Facility (located off Kirtland AFB) is a high bay manufacturing facility used for machining, sheet metal fabrication, and vehicle assembly. The Air Park Facility is used for learning technologies development, including computer-based training and knowledge preservation work. Additionally, FM&T/NM supports OST at several small sites within, or near, SNL by repairing and preparing OST vehicles for use on the road; providing engineering and manufacturing support to OST to modify escort vehicles, tractors, trailers, and special vehicles; performing vehicle maintenance; providing training aids; and maintaining an armory of weapons for training use. Finally, FM&T/NM supports various LANL projects both within LANL and at the Trinity Office where development work is done.

Recertification in DOE-VPP requires an onsite review by the DOE Office of Health, Safety and Security (HSS) DOE-VPP team (Team) to determine whether the contractor is still performing at a level deserving DOE-VPP recognition. The Team evaluated FM&T/NM safety programs against the provisions of DOE-VPP. During the site visit, the Team observed work activities, attended work planning and safety committee meetings, evaluated relevant safety documents and procedures, and conducted interviews to assess the strength and effectiveness of FM&T/NM health and safety programs.

The Team had contact with more than 100 associates, managers, and supervisors, either formally or during observation of field activities. The facilities that comprise FM&T/NM are low hazard. The principal hazards that exist at the facilities are common to general industry and include fire, electrical, production, development and nonproduction chemicals, explosives, and natural phenomena. Work observed included machining, fabrication, and vehicle assembly.

II. INJURY INCIDENCE/LOST WORKDAYS CASE RATE

Injury Incidence/Lost Workdays Case Rate (FM&T/NM)					
Calendar Year	Hours Worked	Total Recordable Cases	Total Recordable Case Incidence Rate	DART* Cases	DART* Case Rate
2005	580,785	3	1.03	1	0.34
2006	574,321	5	1.74	2	0.70
2007	512,766	5	1.95	1	0.39
3-Year Total	1,667,872	13	1.57	4	0.48
Bureau of Labor Statistics (BLS-2006) average for NAICS** Code # 334412			2.7		1.2
Injury Incidence/Lost Workdays Case Rate (FM&T/NM Subcontractors)					
Calendar Year	Hours Worked	Total Recordable Cases	Total Recordable Case Incidence Rate	DART* Cases	DART* Case Rate
2005	0	0	0	0	0
2006	0	0	0	0	0
2007	0	0	0	0	0
3-Year Total	0	0	0	0	0
Bureau of Labor Statistics (BLS-2006) average for NAICS** Code # N/A			0		0

* Days Away, Restricted or Transferred

** North American Industry Classification System

Total Recordable Case Incidence Rate, including subcontractors: 1.57

Lost or Restricted Workday Case Incidence Rate, including subcontractor: 0.48

A review of the accident and injury statistics over the past 3 years revealed that rates at FM&T/NM continue to be well below the industry average.

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, 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 associates at all levels of the organization. Elements of that management system must include clearly communicated policies and goals, clear definition and appropriate assignment of responsibility and authority, adequate resources, and accountability for both managers and workers. Finally, managers must be visible, accessible, and credible to associates.

The safety culture at FM&T/NM is strong. This includes the small development and production teams that reside at, and support, LANL. A strong commitment to safety excellence and continuous improvement is evident throughout the organization from the Director to the newest member of the workforce. The associates at FM&T/NM are involved in the pursuit of safety excellence because managers have empowered them, commit the resources, and act on employee input as a matter of priority. A strong incentives and award program is in place that encourages participation at all levels.

FM&T/NM is led by a Director who plans, controls, and is responsible for the operation of the organization. The Director is ultimately responsible and accountable for creating safety and health programs that ensure compliance and promote excellence. Delegation of responsibility and accountability for safety and health protection is documented for each component of the organization in the Health, Safety and Environmental (HS&E) Management Plan. The HS&E Management Plan outlines general responsibilities for safety and health. Line managers are responsible for communicating and enforcing their expectations with regard to HS&E performance, ensuring that workers are properly trained, use prescribed safety and health equipment, and operate in a safe manner. Additionally, line managers must ensure that equipment and facilities are designed, operated, and maintained in a manner that protects both workers and the general public. All associates, referred to as associates at FM&T/NM, are responsible for performing tasks in a manner that will protect the safety and health of themselves, their coworkers, and the general public. They are expected to know and comply with applicable safety and health requirements and to identify and assist in the correction of safety and health problems.

The Director of FM&T/NM reports to the President of Honeywell FM&T at FM&T/KCP. To date, the second level managers at FM&T/NM have reported directly to the Director of FM&T/NM. However, FM&T/NM is currently undergoing a functional transformation initiative, which substantially alters the reporting relationship. All functions and business processes at FM&T/NM are being aligned with FM&T/KCP, and local managers will report to a manager at KCP. While this alignment initiative serves to streamline processes and realize corporate organizational efficiencies, managers indicated that their challenge will be to maintain existing relationships with FM&T/NM customers and keep functional structural changes transparent to their customers. Additionally, there is a concern that the initiative could create a

distraction among the ranks and that associates may lose their safety focus. The Director and his managers are aware of this issue and are closely monitoring the situation.

HS&E Services is responsible for establishing and maintaining HS&E programs that ensure compliance with DOE Orders and Federal, State and local regulations. More importantly, safety is an all-hands affair at FM&T/NM. Line managers and associates are held equally accountable for safety and health performance and the communication of safety and health awareness. The HS&E staff functions as the technical resource and oversight group for safety and health. FM&T/NM health and safety program requirements are communicated to associates in the HS&E Process Descriptions (PD) and Work Instructions (WI). These documents identify compliance requirements, work controls, and responsibilities for associates and managers to conduct work in a safe manner and to effectively implement and maintain program requirements. Identified deficiencies or noncompliant safety and health items are assigned to the responsible organization for corrective action. Managers are evaluated with respect to the safety performance of their organizations. Moreover, all job descriptions incorporate HS&E responsibilities, and measurable safety and health goals are included in all associate performance appraisals. Compliance and accomplishment of safety and health goals are tracked and addressed during performance reviews.

FM&T/NM managers allocate the resources necessary to operate and maintain viable safety and health programs. In addition to the five full-time staff assigned to the HS&E services organization, resources are available for augmentation from FM&T/KCP and through local contractors. FM&T/NM is currently operating without an Industrial Hygienist. The facility receives industrial hygiene (IH) services through a subcontractor and support from KCP. The lack of an onsite Industrial Hygienist may have, to some degree, contributed to the vulnerabilities identified in the Worksite Analysis and Hazard Protection and Control sections of this report.

Opportunity for Improvement: FM&T/NM should evaluate whether adding an onsite Industrial Hygienist to HS&E staff is necessary to proactively address its IH needs year round.

In 2001, FM&T/NM implemented a behavior-based safety program called Behavioral-based Safety for Everyone (BSAFE). Managers implemented this program because results of accident investigation and awareness campaigns, while effective, had not achieved desired results to drive down incident rates, which in 2001 were above industry average. BSAFE has become the core tool in FM&T/NM efforts to proactively and continually improve safety performance. Managers established the position of a full-time facilitator for this grassroots program that attempts to anticipate accidents before they occur. Managers and associates are trained to observe work in progress and look for "critical behaviors," those behaviors known to be precursors to injury. Managers encourage participation in this program by incorporating measurable goals in associates' performance plans and recognizing associates who exceed their goals. The Team had the opportunity to observe BSAFE training, as well as participate in a work observation. BSAFE has worked very well as evidenced by overall improved incident rates since program inception. Incident rates are now well below industry average.

Another key grassroots element of the safety culture at FM&T/NM is the Occupational Safety Advocates (OSA) program. This program was instituted by managers in 2004 following the initial DOE-VPP review. Because of weaknesses in Management Leadership and Employee Involvement tenets, FM&T/NM entered DOE-VPP at the Merit level. The review had determined that while FM&T/NM was a safe place to work, managers had not empowered associates to "own" their safety. Managers actively support the OSA committee in its efforts to promote and facilitate employee participation in the FM&T/NM HS&E programs and collect ideas and suggestions from associates regarding safety concerns or improvements.

A variety of means and methods are used to communicate safety and health responsibilities to associates. FM&T/NM has an Intranet Web site, Route 66, which is updated daily and accessible by all associates. This Intranet site serves to enhance the communication of HS&E information with all associates. Included in this site are:

- Links to Job Hazards Analysis (JHA) and Command Media (performing work);
- Links to the Near Miss Reporting System (feedback);
- Links to the Ask Wally Reporting System (feedback);
- VPP information;
- Schedules, agenda, and minutes of safety meetings;
- Schedules, agenda, and minutes of HS&E committee meetings;
- Announcements of All Associates meetings;
- News articles;
- Safety Alerts;
- BSAFE program information;
- Special events and notices;
- Contacts and information sources; and
- Frequently asked questions and answers.

The HS&E Command Media system is available through the FM&T/NM Intranet and is updated weekly and as required. Contained within this system are PDs and WIs for HS&E requirements.

In its drive for continuous improvement, FM&T/NM has implemented several tools and methods. A 5-year strategic plan establishes a roadmap for the development of division, department, and individual goals. Every manager establishes nonfinancial objectives each year on a series of predetermined subjects, including health and safety, and pursues them to completion. The Safety Process Steering Commission (SPSC) meets twice monthly to guide safety and assure continuous improvement in safety for FM&T/NM, identify barriers to safety and health performance, and apply resources to overcome barriers, recognize superior safety performance, and evaluate overall program success or improvement and actively drive improvements. At least twice a year the FM&T/NM management systems, including the entire HS&E system, are subject to a comprehensive management review. The purpose of these reviews is to assess and report on the performance of the system with the senior leadership team and to ensure its continued suitability, adequacy, and effectiveness. This review includes assessing opportunities for improvement and the need for changes to management systems, including HS&E. The Environmental Self-Assessment Program (ESAP) requires each department to perform and document periodic self-assessments for health and safety compliance.

These activities are conducted by departmental personnel bimonthly, including hourly and salaried workers, as well as line managers. Results of these assessments, as well as actions planned to correct noted deficiencies, are recorded electronically. The ESAP checklists are electronic and contained in personal digital assistants (PDA) for convenient use and uploading of data.

To ensure the safety and health of new associates and visitors at FM&T/NM, a general site orientation and an information brochure are provided at the time they enter the facility or report to work. First-time visitors to FM&T/NM receive a briefing. Topics include security, health and safety, emergency evacuation routes, and general organization information. A comprehensive course, HS&E Orientation for New Associates, is provided to give newly hired associates a general overview of the existing safety and health programs and their responsibilities as new FM&T/NM associates.

Several subcontractors provide services to FM&T/NM, including facility maintenance; security; electrical; plumbing; and heating, ventilation, and air-conditioning. FM&T/NM evaluates a contractor's safety performance before a contract is issued. That is done with the Contractor HS&E Questionnaire. The subcontractor also signs an HS&E declaration stating that they understand the hazards associated with the work, have appropriate work controls in place, and have communicated the hazards and controls to the persons performing the work. In addition to their own company safety and health program requirements, subcontractors are required to follow applicable FM&T/NM rules and regulations while at FM&T/NM. Procedures are detailed in the "Contractor HS&E and Security Guidelines" handbook. Construction and service contracts are required to submit a Safety Plan if construction or services are conducted on FM&T/NM operating locations before beginning work. FM&T/NM conducts periodic inspections of the contractor's work activities to verify safe work practices. Violation of safety rules and procedures is grounds for immediate work stoppage and possible grounds for termination of the contract. For example, a subcontractor was recently found in violation of Lockout/Tagout requirements. Work was immediately stopped and the subcontractor was terminated.

FM&T/NM managers strive to effectively communicate and disseminate safety and health information and emphasize the right and obligation of each associate to report safety and health concerns without fear of reprisal. At FM&T/NM, managers provide all associates several primary avenues to report unsafe acts or conditions:

- Report directly to manager;
- Ask Wally reporting system on Route 66 Web Page;
- Near Miss reporting system on Route 66 Web Page;
- Employee Concern Program;
- FM&T/NM hotline; and
- Honeywell hotline.

Since its initial review and follow-on certification at the DOE-VPP Star level, FM&T/NM has continued to proactively and aggressively improve the effectiveness of its safety program and communicate the concepts and benefits of VPP to all associates. A VPP Bill of Rights is in place and made available to associates through several means and is posted throughout the facilities.

An Integrated Safety Committee (ISC) was established since the initial DOE-VPP certification. This committee serves to integrate and organize numerous health and safety activities and initiatives at FM&T/NM. Managers and associates are equal partners in their safety efforts. When asked who owns safety, managers or associates, those interviewed responded unanimously "neither, we all do."

Honeywell administers surveys twice a year to all of its sites, which gauge employee and manager perceptions of the working environment. The Team reviewed the summaries of the results for FM&T/NM for the past few years. These results support the Team's assessment that safety at FM&T/NM is imbedded in the culture.

Conclusion

FM&T/NM leaders regard management of HS&E as a core business value and are committed to ensure compliance with all applicable government standards and regulations. HS&E is integrated into all aspects of the company's businesses as a competitive advantage in achieving profitable growth and accelerated productivity. At FM&T/NM, managers lead by example. Managers and associates have achieved an exemplary degree of teamwork that puts safety ahead of production. A culture of safety excellence and continuous improvement has been institutionalized by FM&T/NM and provides a role model for the other DOE contractors.

IV. EMPLOYEE INVOLVEMENT

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

The Team had contact with more than100 associates, managers, and supervisors who had worked at FM&T/NM for as few as 10 days and as long as nearly 40 years. Through interviews, observation of work activities, as well as document review, the Team determined that associates are proactively involved in every aspect of the safety program. When asked who owns safety at FM&T/NM, everyone that was interviewed replied "we all do." Interviewed associates indicated they are responsible for their own safety even though they are comfortable knowing their coworkers are looking out for their safety as well. Furthermore, all interviewed workers understand their right to stop work if they see an unsafe activity or simply need clarification on a process or procedure. Several examples of work stoppage to prevent or correct unsafe conditions at both Albuquerque and Los Alamos facilities were related. These included improper use of a ladder by a non-Honeywell employee and a subcontractor working on an energized circuit at the Craddock Facility.

Associates are recognized for safe behaviors and recommendations that improve safety in the workplace. A formal online recognition system is in place to acknowledge associates' involvement in safety initiatives. Positive feedback for following, as well as helping to develop or improve safety and health rules, is provided on both a formal and informal basis. Persons "doing the right thing" can be rewarded with special recognition awards or may be recognized through one of the various types of media at the organization (newsletter, closed-circuit television, etc.). Salaried associates must be provided feedback concerning their compliance with, and commitment to, safety and health rules as part of the annual performance management process. Finally, all associates are eligible to receive any of a number of substantial awards under the FM&T/NM Organization Rewards and Recognition Program.

FM&T/NM associates at the Albuquerque and Los Alamos locations are actively engaged in improving the safety culture and work environments. Examples of employee improvement activities include, but are not limited to:

- 100 percent participation by associates in the BSAFE program;
- Associates taking ownership of annual reviews of JHAs;
- Associates involved in offsite safety activities;
- Managers and associates are mentoring LANL in their pursuit of VPP; and
- Employee suggestions for tilting microscope heads, paraffin hand baths, and improvements to workspaces to address ergonomic improvements were put forward by associates and adopted by managers.

FM&T/NM conducts an annual Safety Awareness Day. The most recent one coincided with the anniversary of attaining Star status. All associates participated in this annual event and those

interviewed indicated that this is a worthwhile opportunity for everyone to focus on improving the safety environment. Topics covered in the most recent Safety Awareness Day included Safety is Personal, Avoiding Distractions, Work Planning and Control, and Stop Work Procedures.

One of the critical elements of the grassroots employee involvement that was evident across the workforce is the OSA program, which was put in place following the initial VPP review in 2004. These volunteers from each work area receive annual training to increase safety knowledge through a formal "Boot Camp" and act as first line safety advocates. Their efforts are coordinated through the OSA Committee.

Associates are actively involved in conducting workplace inspections and safety observations. All associates, managers, and supervisors have the opportunity to participate in BSAFE observations once they receive the required training. Associates indicated that they are comfortable both observing and being observed by their coworkers. Workers are also comfortable going to another employee or subcontract worker and reminding them of proper or appropriate use of personal protective equipment (PPE).

Associates have developed modifications that improve their working conditions and reduce potential for injury. FM&T/NM managers have fully supported their suggestions, and improvements are put in place without delay. One example involved a welder cart conversion that eliminated the need to manually move welding tanks during delivery. In another example, custom handles were added to the security scissor gates to eliminate pinching hazard. At the time of the assessment, an ergonomic modification was underway to enlarge and reposition these newly installed handles to better accommodate associates of varying height. Ergonomic modifications were also observed in the cable fabrication and electronic panel assembly shops. In all cases, associates reported that turnaround time from recommendation to incorporation of the respective improvement was timely.

Monthly safety meetings are conducted by each work group. Associates are expected to present topics at these meetings, and review of the minutes confirmed that they, in fact, do on a rotating basis.

A variety of communication efforts are used to support employee involvement. Examples of these efforts include posters, Health/Safety bulletins, E-mail notices, Newsletters (Porcelain Press) and distribution of safety theme calendars to all hands. Associates manage the Ask Wally Reporting System, a Web-based feedback program, which enables associates to voice concerns about safety and health issues. This complements the Near-Miss Reporting System, another online feedback system, which encourages associates to report behaviors or events that could have resulted in an injury. The Team reviewed both of these databases and noted that these are excellent tools, which are easy to use and provide all associates near-real-time status update. However, the Team also noted that while many of the issues identified in both are marked "closed," details of how the issues were resolved were not always included.

Opportunity for Improvement: FM&T/NM should include in the respective databases what specific corrective actions were taken to resolve issues reported in the online reporting systems.

Associates can, and do, participate in several safety committees at FM&T/NM. These include the ISC, VPP and OSA committees, and BSAFE. The ISC committee serves as the primary oversight body to ensure coordination and communication among all of the committees and groups. The VPP Steering Committee continues to focus on keeping VPP visibility high, as well as keeping the OSAs engaged in the VPP process. The OSAs serve as a conduit for the workforce that allows them to express HS&E concerns, make suggestions, and generally become engaged in day-to-day safety at the site. BSAFE is an employee-driven safety system that provides "no name no blame" feedback to associates on how they can perform their work safer. BSAFE also identifies and eliminates barriers to safe work behaviors by analyzing at-risk and safe behavior using data gathered from observations and developing action plans to break barriers and enable safe work behaviors. The BSAFE program recently expanded to include Associates who telecommute. These workers are trained on how to make observations of their offsite (home) workplaces.

Several Associates expressed a strong interest in exploring different ways to expand the FM&T/NM safety and health program through participation in offsite activities, such as participating on DOE field office and Headquarters onsite VPP assessments and attending regional and National Voluntary Protection Program Participation Association (VPPPA) conferences. However, they felt budget/resource constraints have determined their level of involvement and attendance at such activities has been minimal.

Opportunity for Improvement: FM&T/NM should look for ways to expand employee participation in regional and National VPPPA conferences, workshops, and other VPPPA and DOE-VPP activities.

The safety culture is "brought home" with associates. Several associates gave specific examples of how they use ladders instead of standing on chairs, and how they use safety glasses and other PPE at home (for example, during yard work and working in a home shop). Others gave examples of how they share safety messages with family members and neighbors.

Conclusion

Safety is an all-hands affair at FM&T/NM. Grassroots involvement is embedded at every level of the organization. Associates and managers are equal partners in ensuring the culture of safety excellence is maintained and safety performance is continuously improved.

V. WORKSITE ANALYSIS

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

The VPP review Team observed performance of work tasks and reviewed the processes that define the work scope and identify and analyze the hazards. At FM&T/NM, typical hazards are ergonomic hazards from repetitive manufacturing of electrical components, vehicle electrical hazards, machine shop and metal fabrication hazards, welding hazards, painting hazards, environmental hazards, and other standard industrial hazards. Most hazards are low level, and there are no radiological issues encountered by the workforce. The Team noted outstanding housekeeping throughout all of the facilities that were visited.

FM&T/NM has a documented process to evaluate new or significantly modified equipment, materials, and processes for potential hazards prior to use. The following processes were reviewed by the Team and are briefly described below.

- Business Reviews are performed for new businesses or work-for-others to ensure that risks are known and determined to be manageable before work is accepted. This higher level management review evaluates new work relative to facilities, legal commitments and liabilities, introduction of potential new hazardous conditions, and expenditures required for compliance.

- A Preliminary Hazard Analysis (PHA) is performed when there is a physical change in work location for the performance of work. PHA typically includes HS&E expertise, engineering, customers' representatives, and FM&T/NM associates involved in the work to be performed. For example, in the Craddock Facility, the vehicle technicians are included in new work PHAs to facilitate hazard identification and to improve work planning and execution in the design phase of new work. In another example, when the new paint shop was constructed and activities were reestablished in the new facility, a PHA checklist was performed prior to the resumption of work activities.

- FM&T/NM performs a final preoperational safety checklist prior to the use of new equipment to assure safety requirements are established and reviewed prior to use by the workforce.

- A Beneficial Occupancy Inspection is performed by HS&E disciplines for HS&E concerns prior to releasing the facility to its new occupant. Participants include Industrial Hygienists, Environmental Protection Specialists, and Safety and Fire Protection Engineers. The

inspections are conducted per Facilities Engineering request. This inspection was also part of the startup of the new painting facility at FM&T/NM.

- A Hazardous Material Review is performed when new chemicals (hazardous materials) are requested or introduced into FM&T/NM operated facilities. FM&T/NM HS&E Division is required to review new substances prior to use in the organization. If new chemicals arrive at the facility prior to review, they are stored in a cabinet appropriate for that material until the review is performed and material released for use.

- A JHA is documented for most work at FM&T/NM. The JHA document addresses job steps, hazards, and procedures/safety controls.

These processes are instilled into the culture of FM&T/NM, and all personnel interviewed were aware of the requirements or knew where to access the processes if they had questions. Also, the personnel in HS&E were available for assistance should the need arise. In addition to the processes for new or modified work scope, FM&T/NM personnel conduct routine and general worksite safety self-inspections described below.

- The ESAP utilizes associates to conduct self-assessments. The program instills employee ownership of compliance with HS&E requirements by requiring associates to assess their workspaces and work processes against these requirements on an every-other-month basis. For ease of use, the checklists for ESAP are programmed into PDAs, and the results are easily uploaded for analysis.

- A Senior Leadership HS&E Review is an inspection performed by the Director and Senior Managers. This inspection supplements ESAP inspections in two ways. It gives the senior staff visibility/accessibility to the workforce and allows staff to observe working conditions/facility status.

- FM&T/NM has instituted a BSAFE Observation Program where trained associates observe work being performed to identify safe and/or at-risk behaviors. This program was further described in Employee Involvement and Management Leadership sections.

- Construction Site Safety Inspections are performed by safety engineers as needed, depending on what construction is ongoing. No construction activities were being conducted during this site visit.

- Ventilation Reviews have been performed at FM&T/NM facilities for adequacy by IH personnel. Data for the annual ventilation system flow testing were provided for the localized welding fume removal system at the Craddock Facility as an example.

Trend analysis is used to identify safety and health program deficiencies and to facilitate development of the HS&E objectives. Trend analysis is conducted on available HS&E data, including first aid and Occupational Safety and Health Administration (OSHA) recordable injuries/illnesses and audit findings (noncompliance). FM&T/NM performs tracking and

trending across a spectrum of areas in addition to the normal Total Recordable Cases (TRC). The list below provides an indicator on the depth and breadth of its tracking and trending efforts.

- TRC and DART rates;
- Near-Miss reporting;
- Facility issues and improvements;
- Environmental issues;
- On -Time Corrective Action Closure;
- Self-Assessment Tool;
- Annual Risk Assessment;
- ESAP; and
- At-Risk Behaviors.

A trend analysis of each month's occupational injury/illness statistics is developed from the computerized database, presented monthly to general management at the HS&E Executive Committee meeting, posted in the HS&E Web site, and distributed to the respective Divisions. Incident rates as a statistical indicator for measuring and trending purposes are included. Trending is performed using cross tabulation techniques and categorized by various criteria, including occupation, injury/illness type, injury location, source of injury, and accident type.

In addition, data from BSAFE observations are regularly analyzed and reported to managers to guide decisions on safety objectives.

Associates have several methods to report hazards/concerns encountered in the workplace. Associates are protected from reprisal and encouraged to communicate observations of unsafe conditions or acts, and to identify and report their concerns. Associates can directly contact any HS&E department representative or line manager. In cases involving imminent danger, personnel are required to stop work and mitigate the situation. This might involve calling 911, HS&E (for a hazmat spill), or taking other appropriate action. Associates can utilize the online Near-Miss system that is accessible through the FM&T/NM Intranet homepage.

If associates feel their concerns are not being adequately answered, they may file a written e-mail complaint to the DOE/NNSA Employee Concern Hotline at ECP@DOEAL.GOV or make an anonymous telephone report to this hotline at 1-800-688-5713. Confidential reporting hotlines are also available at FM&T (1-816-997-3214) and Honeywell Corporate (1-800-237-5982).

FM&T/NM personnel are required to immediately report occupational injuries/illnesses and/or property/vehicle damage incidents to their managers and HS&E. Accident investigations are conducted and documented in accordance with the risk-based approach defined in the Accident Investigation Program in the Command Media procedure. The accident/incident investigation program establishes the requirements and methodology for the investigation of Near-Miss Incidents/HS&E Concerns, First Aid Injuries/Illnesses, OSHA Recordable Injuries/Illnesses, and Property and Vehicle Damage Incidents at FM&T/NM. All incidents that are OSHA recordable, or which might have some systemic cause needing systemic correction, are reported to FM&T/KCP. All accidents/injuries and the required investigations are reviewed weekly by SPSC.

JHAs from the Craddock Facility, Mobile Electronic Maintenance Facility, and Los Alamos Facilities were reviewed by the Team. The format and content were all based on the corporate model for use and application. JHA documents did not clearly document the analysis linking the hazard to the control selection. JHAs did provide good links to additional references, and this might be an opportunity to provide a link to the documented analysis that was performed.

Opportunity for Improvement: FM&T/NM should evaluate its Hazard Analysis Process to ensure a comprehensive hazard analysis is documented, and open issues are addressed in a timely manner through a tracking system or other method.

Procedures and JHAs are both required at the work location to perform tasks. The JHA results were not incorporated in the procedure steps; this requires the worker to either use the JHA as the work control document or refer back to JHA for safety inputs. For example, at the Mobile Electronic Maintenance Facility, MP3113 Section C required the user to follow the site-specific safety requirements, which were found in JHA-100604R-2. The hazard controls should be incorporated into the work documents and steps in order to minimize the documentation distraction at the worksite.

Opportunity for Improvement: FM&T/NM should evaluate using JHAs for input to work control documents instead of being used as the work control documents.

Some JHAs contained generic procedure/safety control statements that indicate the need for further analysis as opposed to being the control. For example, JHAs commonly contained some of the following statements as the identified control:

- Use laser curtains when possible to contain beam within specified area. (The analysis should determine if it is possible.)
- Consider reducing container size, improving handles, reducing frequency of lifts, or distance carrying requirements as factors to reduce lifting strains. (The analysis should evaluate container size, handles, frequency, and distance.)
- Use proper lifting techniques if manually handling material. (The analysis should identify if material needs to be handled manually.)
- Properly contain and secure the load. (The analysis should determine the size, shape, weight of the load, and determine the proper means to secure it.)
- Travel at a safe speed. (The analysis should determine if there are applicable speed restrictions.)
- Wear gloves if needed. (The analysis should determine if gloves are needed.)
- Use proper handling techniques. (The analysis should determine the proper handling techniques.)
- Beware of floor mats, wet floors, and other obstacles. (The analysis should identify locations of floor mats, wet floors, or other obstacles.)

Opportunity for Improvement: FM&T/NM should ensure that generic control sets are not used when more specific analysis is needed.

Hazards from welding activities in the Craddock Facility had not been completely analyzed. Engineered controls and process procedures were in place and a measurement of airflow was performed and documented by IH. However, the basis for airflow rates and consequences of failure of the system had not been clearly analyzed or documented. The "analysis" provided to the Team showed measured airflow rates exceeding 300 feet per minute, which was determined by the contract Certified IH to be the minimum acceptable flow rate for a local exhaust system based on fog generation and turbulent and laminar flow patterns analysis. The Certified IH performed personnel air sampling in conjunction with airflow measurements to make this determination. There was no iterative documentation explaining the use of 1, 2, or 3 removal snorkels singularly or all on at the same time, nor any supportive analysis of concentrations if they failed. The data document did include a comment that the associates did not like the use of engineered controls, specifically the localized trunk ventilation. Discussions indicated they were not using them, and the Team could not find any analysis relating to fumes and vapors when ventilation was not used or had failed. Further, the use of the localized trunk ventilation system was depositing debris from the filtration system exhaust onto colocated workers in the sheet metal area, which was not analyzed. After this issue was identified by the Team, HS&E initiated a work order to evaluate the system and ensure the system was functioning properly.

There was an IH dust sampling report performed in 2006 that indicated the presence of beryllium, lead, aluminum, iron, magnesium, sodium, zinc, and calcium in the Craddock Facility. All samples indicated low levels (below regulatory or action levels) except aluminum. Documentation could not be found that indicated any additional controls were necessary to mitigate or eliminate aluminum exposures. The Team could find no documentation of followup sampling and analysis to support the conclusion that the beryllium was due to naturally occurring environmental background, nor documentation to determine why the levels were increasing within the facility.

Opportunity for Improvement: FM&T/NM should determine why levels of metals are increasing given the engineered controls in place in the Craddock Facility and perform an analysis to confirm that beryllium concentrations are, in fact, a byproduct of environmental background. This analysis should include determination of a trigger level for abatement action.

Additionally, there may be hazards that have not been identified with regard to other welding and production processes. Specifically, the IH analysis performed to determine the potential exposures to hexavalent chromium during stainless steel welding did not analyze the potential for other materials utilized in the welding process that could result in exposures. For example, ozone production, as a result of Tungsten Inert Gas welding on aluminum and/or the presence of higher percentages of nickel and chromium in certain welding rods that could result in potential hexavalent chromium exposures, had not been analyzed.

Opportunity for Improvement: FM&T/NM should conduct a review of all materials used in production processes to determine if any remaining unidentified hazards may be present.

During the site review, it was noted that a transition to a different online format was ongoing. Associates reported that previously, if one needed to access HS&E procedures, it was relatively simple to locate them online as they were all in one location. Some associates felt that the new system does not afford the user a convenient means to quickly locate the information desired. A request by the Team to review chemical inventory at the site was difficult, apparently due to the ongoing command media transition. Not only can this difficulty impact day-to-day HS&E activity, but also emergency response.

Opportunity for Improvement: FM&T/NM should evaluate means to access chemical inventory by site and department more readily.

Conclusion

FM&T/NM has adequate worksite analysis processes and procedures in place. Hazard identification is thorough and good housekeeping was evident throughout the facilities. FM&T/NM meets the requirements of the Worksite Analysis tenet, but a more comprehensive approach to hazard analysis will improve overall work planning and execution.

VI. HAZARD PREVENTION AND CONTROL

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

Worksite analysis and hazard prevention and control are keeping workers safe at FM&T/NM. Through work observation, interviews, and document review, the Team determined that where hazards cannot be eliminated, in general, they are mitigated through the appropriate use of controls in a hierarchical approach, first engineered controls, then administrative controls, and/or use of PPE.

In some cases, results of hazard identification either did not include the analysis to determine whether controls were necessary and what they should be or, when the need for controls was indicated, did not result in identification and implementation of the control(s). For example, an IH survey conducted in 2006 (discussed in the Worksite Analysis section) revealed that settled dust in the elevated areas of the Craddock Facility contained various metals, including beryllium, lead, aluminum, iron, magnesium, sodium, zinc, and calcium. With the exception of aluminum, all levels were low, and without a detailed analysis, the presence of beryllium was attributed to background levels from the soil. The 2006 survey indicated increasing levels from the previous survey. As of this assessment, no further analysis had been done since 2006 nor had controls been implemented to ensure workers were not exposed to potentially hazardous levels of these metals. It was not clear that workers were aware of the results of this survey.

Opportunity for Improvement: FM&T/NM should update personnel at the next safety meeting regarding the results of the 2006 sampling data and the associated hazards with disturbing the settled dust in the Craddock Facility, particularly at elevated levels.

Opportunity for Improvement: To confirm that additional controls are not required, FM&T/NM should perform personnel sampling for individuals working on elevated surfaces in the Craddock Facility, which could result in disturbing settled dust with reportable levels of metal concentrations (i.e., electrician, air-balancing technicians, etc.).

Opportunity for Improvement: FM&T/NM should repeat the sampling process conducted in 2006 at the Craddock Facility to determine if the levels are continuing in an increasing trend for metal concentrations and what controls should be implemented as appropriate.

In March 2006, FM&T/NM completed an IH survey in response to OSHA's significant reduction of the permissible exposure limit for hexavalent chromium, a hazard associated with welding on stainless steel. This study also included sampling in the paint booth during mechanical removal of paint from trailers. The Team reviewed the results of the survey, which indicated that with the use of local ventilation in the welding shop, levels were well below the action level. The survey also noted, however, that workers preferred to weld without the local ventilation in operation. Interviews confirmed that this was the case, and the JHA for welding in the Craddock Facility only specified use of general ventilation rather than specifically requiring the use of the localized engineered ventilation as intended. This generalization contributed to the confusion and subsequent decision of welders to discontinue use of the localized ventilation. When asked why they preferred to weld without the exhaust ventilation in operation, welders indicated that the system blows dust and debris from its duct exhaust terminal into the sheet metal workers' area and that the system may not be performing properly as it has been the source of loud popping, snapping sounds.

Opportunity for Improvement: FM&T/NM should reiterate to all associates the dangers of hexavalent chromium and the importance of using engineered controls properly without exception to minimize exposure potential.

Opportunity for Improvement: FM&T/NM should reevaluate the ventilation configuration for welding operations and ensure the engineered welders' local exhaust system is maintained properly.

With respect to mechanical paint removal from trailers in the paint shop, the 2006 survey revealed hexavalent chromium levels above the action level and indicated that engineered controls would be required. However, as of this assessment, the controls had not been established. When queried as to why not, managers and HS&E staff indicated that there had not been any work of this type since the survey. While there was no such work planned in the near term, managers indicated that it was possible that there would be in the future.

Opportunity for Improvement: FM&T/NM should ensure processes are in place to establish and implement engineered controls in a timely manner when hazard analysis determines the need for controls to mitigate potential hazard exposure.

PPE is last in the hierarchy of control measures used at FM&T/NM. Engineered controls, including substitution, are the primary method of choice followed by administrative controls. PPE may be used if these are not feasible, or while they are being installed, or under emergency or other nonroutine circumstances. Under certain circumstances, PPE may also be used to supplement one of the preferred control methods, or when requested by an associate (even though documented evaluations of the potential hazard do not necessitate its use).

Requirements for the distribution and maintenance of PPE differ depending on the type of PPE as follows:

- Safety Hazards: Requirements for PPE for protection against potential safety hazards are outlined in the HS&E Command Media PDs and WIs. Types of PPE include eye and face protection, electrical protective equipment, foot protection, fall protection, head protection, hair coverings, rain gear, and hand protection.

- Health Hazards: PPE requirements for health hazards are addressed in various sections of the HS&E Command Media PDs and WIs. Pertinent PDs and WIs include Chemical Carcinogen Control, Confined Spaces, Respiratory Protection, Laser Safety, Laboratory Safety, Noise Control and Hearing Conservation, and Chemical Protective Clothing and Equipment.

The Team observed that overall workers were very knowledgeable of PPE requirements. However, not all JHAs were sufficiently detailed with respect to hazards and required PPE. For example, the JHA for paint application in the paint booth listed tyvec suit while nonwoven paint suits were actually used. Moreover, JHA did not list the specific P100 respirator cartridge to be used.

Opportunity for Improvement: FM&T should conduct a review of JHAs to ensure they are sufficiently detailed with respect to hazards and required PPE.

FM&T/NM contracts with a local care provider, Concentra, for services to evaluate and treat occupational injuries and illnesses, conduct initial and recurring medical surveillance and monitoring, and provide preventative and wellness programs to help associates achieve and maintain the best possible general state of health.

The HS&E Organization provides an emergency management program appropriate for the hazard level of the facility. The program was developed based upon the results of the FM&T/NM Organization Hazard Survey, which was last updated in March 2008. The Hazard Survey is an examination of the features, processes, and characteristics of the facilities to identify potential emergency events and conditions, and their potential impacts. The results comprise the spectrum of conditions that must be addressed by the DOE Comprehensive Emergency Management System as implemented at FM&T/NM. The Hazard Survey also identifies key components of the Operational Emergency Base Program necessary to provide the foundation of basic emergency management requirements and an integrated framework for response to serious events involving health, safety, environment, and security. The Hazard Survey used a hazardous material screening process, which determined that further analysis of the hazardous materials in an Emergency Planning Hazards Assessment is not required.

Emergency Response at FM&T/NM consists primarily of an Emergency Management Specialist, and an Emergency Action Team. FM&T/NM conducts emergency management and evacuation training for new associates with an annual refresher. The focus of the training is a review of the emergency management program, emergency evacuation procedures, and associates' responsibilities during an emergency. Evacuation drills are conducted to reinforce emergency management/evacuation training and identify areas for improvement. Lessons learned from all drills are documented.

FM&T/NM has a staff of five full-time HS&E professionals who have the education, training, and experience to provide support to the organization population. Resources are available from FM&T/KCP to augment as required. FM&T/NM contracts with outside services to supplement in-house capabilities. Appropriate selection criteria are developed and applied to ensure that all subcontractors hold the appropriate accreditations, licenses, certifications, or other prerequisite qualifications. Services include:

- Asbestos abatement;
- Industrial hygiene exposure assessments;
- Safety training;
- Instrument and equipment calibration and repair;
- Laboratory services (IH);
- Ophthalmologic consultation;
- Safety eyewear (particularly prescription lenses);
- Occupational Medicine services; and
- Ergonomic evaluations.

The FM&T/NM preventive maintenance (PM) program is implemented through Command Media PD 14.01.05.00. The individual responsible for the equipment is responsible for identifying PM requirements and schedules based on the equipment manufacturer's recommendations, equipment maintenance history, and process knowledge. PM is documented and maintained in MAXIMO, a computerized maintenance management system administered by the Facility Services Maintenance Planner. The system includes equipment identification, preventive maintenance requirements and schedules, hazard information and controls, and maintenance records. Interviews and records review indicate that the PM program is adequate with minimal backlog. Managers reported that the PM program philosophy is considered to be run to fail; however, no PMs have been removed from the system. Instead, the program is evaluating on a case-by-case basis whether component replacement is cost effective in view of the plans to move to a new facility in 2 to 3 years.

The Associate Handbook, available to all associates on the Human Resources Web Page, states that everyone "must follow HS&E regulations and work rules." Site-specific HS&E rules and regulations are documented and communicated to all associates. PDs and WIs are maintained in the FM&T HS&E Manual located in Command Media.

When a violation of a safety or health rule occurs, the preferred method for addressing the situation is to provide timely feedback to the individual. This feedback typically includes a discussion of the violation, what the safety or health rule requires, and how to prevent recurrence. This interaction may come from anyone in the facility, but it most often will be initiated by the individual's immediate line manager.

Under circumstances where an individual demonstrates repeated inappropriate behavior or commits a serious or willful violation of a safety or health rule, disciplinary action may be necessary. All associates are informed of this possibility through several means, including the Associate Handbook. A progressive discipline methodology is used to encourage individuals to recognize the consequences of their actions and to understand their responsibility and accountability. It is the position of FM&T/NM managers to emphasize the benefits of

complying with safety and health rules, relying on disciplinary action as the least desirable course of action. The Associate Handbook contains specific information on acceptable behavior and rules related to HS&E.

Conclusion

FM&T/NM has the processes and procedures in place to mitigate hazards and minimize employee exposure. While meeting the requirements of the Hazard Prevention and Control tenet, improvements, which link hazard identification through comprehensive analysis to the appropriate controls, will enhance the safe working environment at FM&T/NM.

VII. SAFETY AND HEALTH TRAINING

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

Team interviews included recent hires (10 days) to "veteran" associates (+25 years). All felt that their HS&E training continues to adequately prepare them for hazard identification for their respective work environments and conditions and gives them the tools to keep themselves and their coworkers safe. Associates who work at the Los Alamos facilities receive training in both FM&T/NM HS&E and LANL worker safety and health program requirements.

FM&T/NM provides a variety of training opportunities for its associates. HS&E training continues to be delivered through several different formats, including formal classroom and computer-based instruction, as well as informal means (i.e., on-the-job training, safety shares, newsletters (such as the Porcelain Press)), and required and suggested videos and safety meetings. Examples of HS&E training at FM&T/NM include the OSHA “Boot Camp” training provided to OSAs, preventing back injury training, cardiopulmonary resuscitation/automated external defibrillator and first aid training, emergency evacuation training, BSAFE foundations training for new hires, safety leadership training for new hires, and hazard specific training, such as electrical safety and Lockout/Tagout, forklift safety, heat stress, hearing conservation, and respiratory use training.

Managers and associates receive training commensurate to their level of responsibility. Training is provided onsite by HS&E staff or by subcontracted trainers. HS&E training is driven by programmatic requirements such as regulations, DOE orders, and corporate initiatives. Orientation training for new associates is extensive and includes all general HS&E training that is necessary for the individual to safely perform his/her job assignment. On-the-job training concerning risks specific to the job takes place at the departmental level. This training is performed prior to the associate being exposed to a specific hazard. Before associates are transferred to new assignments with different training requirements they must receive the pertinent training prior to assuming their new responsibilities. The new line manager is responsible for ensuring training requirements are met.

Training requirements for each associate have been identified and documented in the organization-wide database, the electronic learning management system (ELMS). Course attendance is also documented in ELMS. This is done both manually by designated training representatives, who administer the training database, and automatically when associates log on to online computer-based training. The database can be accessed for checking course enrollment, viewing training records, identifying training requirements, and running training reports. The ELMS database allows a cross-check of required versus attended safety and health training and ensures complete documentation of requirements for each associate to do his/her job safely and effectively.

FM&T/NM managers share the responsibility with their associates to understand the potential hazards related to an activity and how to mitigate those hazards. Qualification and training requirements are established for each manager and documented in the ELMS database. Managers receive much of the same HS&E training as do the associates. If there is a recognized need for training that goes beyond the boundaries of the course for associates, managers receive an expanded version of the course. Managers become familiar with the specific hazards of a job by being directly involved in the planning of tasks and work instructions, by assisting in the development and update of JHAs, and by performing departmental self-assessments.

When a new safety or health requirement is established, a determination is made concerning which portions of the organization are affected. Often new requirements include specific roles and responsibilities for managers of the affected departments. The subject matter experts in HS&E determine if formal or informal training is necessary. If formal training is deemed appropriate, a course is developed and presented. If informal training is more appropriate, the subject matter experts in the safety and health organization work with the managers to ensure proper delivery. If the managers themselves are expected to train their direct reports, subject matter experts typically conduct train-the-trainer sessions to qualify the managers to meet their responsibilities.

Managers are expected to combine their involvement in HS&E training with their intimate knowledge of the work performed in their area to enable them to help assess the effectiveness of training, and to take the lead in ensuring that the training is properly applied. Written requirements and work instructions incorporate the information and work practices covered in the training sessions. When managers enforce compliance with these work instructions, they reinforce the tenets from the HS&E training.

One of the key training responsibilities for managers is ensuring that their direct reports are thoroughly familiar with the applicable sections of the Emergency Plan. This includes, but is not limited to, knowledge concerning emergency notifications, evacuation and inside sheltering routes, and the telephone numbers to call for reporting of emergency situations.

Conclusion

The Team found that safety and health training continues to be a top priority at FM&T/NM. Workers are very proud of their worksite and indicated that the HS&E training, as well as the genuine commitment of all associates at FM&T/NM to improve safety performance, has made a positive impact on their safety at work, at home, and in the community.

VIII. CONCLUSIONS

FM&T/NM has a strong safety culture and continues to benefit from its participation in DOE-VPP. Since initial entry into the program as a Merit site in July 2004, senior leaders redoubled their efforts to instill a sense of ownership and proactive involvement across the entire workforce. Managers and associates are equally committed to maintaining the safest possible working environment and to improve on their safety performance. The degree of teamwork achieved by managers and associates is exemplary. Safety has been clearly put ahead of production. The Team observed firsthand that the desire for continuous improvement is real at FM&T/NM and that this desire is manifested by institutionalized grassroots safety programs that involve all hands. These efforts to improve safety performance are ongoing and effective. While some opportunities for improvement were identified, the overall climate at FM&T/NM is one of safety excellence and total ownership by managers and associates alike. The Team recommends that FM&T/NM retain its DOE-VPP Star rating.

Appendix A

Onsite VPP Audit Team Roster

Management

Glenn S. Podonsky
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Office of Health, Safety and Security

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