



Honeywell Federal Manufacturing and Technologies/Kansas City Plant

**Report from the Department of Energy
Voluntary Protection Program
Onsite Review
November 10-21, 2008**



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Foreword

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

DOE-VPP outlines areas where DOE contractors and subcontractors can surpass mere compliance with DOE orders and OSHA standards. The program encourages a “stretch for excellence” through systematic approaches that 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 DOE’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, include 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 results from the DOE-VPP onsite review and evaluation of Honeywell Federal Manufacturing & Technologies/Kansas City Plant during the period of

November 10-21, 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

BLS	Bureau of Labor Statistics
C.F.R.	Code of Federal Regulations
CY	Calendar Year
DART	Days Away, Restricted, or Transferred
DHA	Departmental Hazard Analysis
DOE	U.S. Department of Energy
ECM	Enterprise Content Management
EPHA	Emergency Preparedness Hazards Assessment
FM&T	Federal Manufacturing & Technologies
HEPA	High Efficiency Particulate Air
HOS	Honeywell Operating System
HS&E	Health, Safety and Environment
HSS	Office of Health, Safety and Security
JHA	Job Hazard Analysis
KCP	Kansas City Plant
KCSO	Kansas City Site Office
LOTO	Lock out/Tag out
NAICS	North American Industry Classification System
NNSA	National Nuclear Security Administration
OSHA	Occupational Safety and Health Administration
OST	Office of Secure Transportation
PM	Preventive Maintenance
PPE	Personal Protective Equipment
SCBA	Self-Contained Breathing Apparatus
SHINE	Safety and Housekeeping Implementation Needs Everyone
Team	Office of Health, Safety and Security Team
TRC	Total Recordable Case
VPP	Voluntary Protection Program

EXECUTIVE SUMMARY

The Kansas City Plant (KCP) is situated on approximately 141 acres of the 300-acre Bannister Federal Complex located within the city limits, 12 miles south of downtown Kansas City, Missouri. The plant shares the site with nine other Federal Agencies: Federal Aviation Administration, Defense Finance and Accounting Service, U.S. Marine Corps, General Services Administration, Internal Revenue Service, National Oceanic and Atmospheric Administration, and the National Logistics Support Center. KCP comprises the largest portion of the Bannister Federal Complex.

The mission at KCP is to assemble and manufacture components for national defense systems. As a key element of the National Nuclear Security Administration (NNSA) nuclear weapons complex, KCP is responsible for the production and procurement of nonnuclear components for the U.S. Department of Energy (DOE) nuclear weapons program. Parts produced and procured by KCP include nonnuclear electric, electronic, electromechanical, mechanical, plastic, and nonfissionable metal components. Additionally, KCP supports the NNSA Office of Secure Transportation by building and refurbishing transport trailers. Operations directly involving radioactive materials or explosives normally associated with nuclear weapons are not conducted at KCP. KCP also supports other Government Agencies, as well as National Laboratories, universities, and U.S. industries. The work-for-others program provides services, products, and systems for the Department of Homeland Security, the Department of Defense, and other Government Agencies. KCP provides 85 percent of the components for nuclear weapons (over 100,000 parts annually) and weapons support from concept through production and retirement. KCP does not store any special nuclear material.

KCP is managed and operated by Honeywell Federal Manufacturing & Technologies (FM&T) for DOE/NNSA. The DOE/NNSA Kansas City Site Office provides direction to and oversight of FM&T/KCP.

FM&T/KCP submitted its application to the DOE Voluntary Protection Program (VPP) in 1995 and was initially certified as a Star site in April 1996. Recertification reviews were conducted in 1999, 2002, and 2005, each of which determined that FM&T/KCP had maintained its status as a DOE-VPP Star site. Additionally, the site earned the DOE-VPP Star of Excellence award for each year from 2002 through 2007 and the DOE-VPP Legacy of Stars award for 2004 and 2007.

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 November 10-21, 2008, to determine whether FM&T/KCP continues 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 provide the Chief Health, Safety and Security Officer with the necessary information to make the final decision about FM&T/KCP DOE-VPP status.

Based upon discussions and interviews with more than 250 workers, supervisors, and managers, as well as extensive observation of work activities throughout the plant and review of records, the Team determined that FM&T/KCP has maintained the foundations of a strong safety program with a demonstrable resolve to continuously improve its safety and health performance. Despite weaknesses in four of the five VPP tenets, the Team observed firsthand that FM&T/KCP

overall meets DOE-VPP requirements and that the demonstrated desire for continuous improvement reaches across all levels of the organization. Accordingly, the Team recommends that FM&T/KCP retain its DOE-VPP Star rating.

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

**TABLE 1
OPPORTUNITIES FOR IMPROVEMENT**

Opportunity for Improvement	Page
FM&T/KCP should increase awareness among the workforce, including managers, of the five tenets of DOE-VPP and how the tenets interact to foster a culture of continuous improvement and safety excellence.	5
FM&T/KCP should examine resources provided for safety and health staffing and provide additional resources where possible to expand promotions, rewards, and recognition.	6
FM&T/KCP should require a more focused effort by senior managers to leverage VPP in the initiatives that are undertaken in pursuit of excellence.	7
FM&T/KCP should establish goals for managers that align with annual plant and division goals for safety, and division and department managers should establish objectives or specific tasks related to behavioral changes that will help achieve numeric goals that are in place.	9
FM&T/KCP should look for ways to share and emulate successful examples so that proactive associate involvement is institutionalized throughout the plant.	10
FM&T/KCP should review periodic focus areas and provide more probing questions that associates can use during conduct of 5S and other housekeeping inspections.	12
The VPP Steering Committee should consider posting meeting minutes on the internal Web pages and include summaries of committee activities and discussions on employee bulletin boards and newsletters to better inform the workforce about accomplishments and challenges.	13
FM&T/KCP should consider expanding membership on the VPP Steering Committee beyond the contractual requirements for permanent members to include temporary members from the hourly workforce to be assigned on a rotating basis.	13
FM&T/KCP should conduct a review of all prescribed committees, determine which are to be maintained, develop or revise charters as appropriate, and staff with volunteers accordingly. FM&T/KCP should consider a governing safety committee with a subcommittee structure to ensure more effective conduct of, and coordination between, subcommittees and teams.	14
FM&T/KCP should evaluate its hazard analysis processes to ensure a comprehensive hazard analysis is documented and open issues are addressed in a timely manner through a tracking system or other method.	17
FM&T/KCP should revise its work control process to ensure quality JHAs are developed and available for reference and ensure that controls identified in JHA are integrated into applicable work documents.	18
FM&T/KCP should ensure that generic control sets are not used when more specific analysis is needed.	18
FM&T/KCP should ensure a baseline exposure assessment is performed for all materials used in production processes to determine if any remaining unidentified hazards may be present and verify existing control sets are appropriate.	19

FM&T/KCP should standardize the requirements for signs and postings throughout the production and prototype shops.	21
FM&T/KCP should standardize the required information in production and prototype work instructions and consider including hazard control details in the work instruction rather than requiring associates to reference Safety Plans and/or JHAs to determine what controls to implement.	22
FM&T/KCP should consider the practicality of implementing a positive accountability system that requires tracking the status of each associate for emergencies.	23
FM&T/KCP should consider instituting a PM tagging system that affixes tags to equipment to indicate when PM was last completed and the next due date.	24
FM&T/KCP should consider linking hood locations to fans in Maximo to provide better information to maintenance workers and warn workers who might need to use a particular hood.	25
FM&T/KCP should clearly communicate the intent of changes in maintenance strategies to all associates, the scope of the changes, and the specifics on how these changes will be implemented.	25

I. INTRODUCTION

The U.S. Department of Energy (DOE) Voluntary Protection Program (VPP) onsite review of Honeywell Federal Manufacturing & Technologies (FM&T)/Kansas City Plant (KCP) was conducted from November 10-21, 2008. This was the fourth triennial recertification review conducted at FM&T/KCP.

KCP is geographically situated on a 141-acre site as a 3.2 million square-foot facility located 12 miles south of the city center of Kansas City, Missouri. The mission at KCP is to assemble and manufacture components for national defense systems. As a key element of the National Nuclear Security Administration (NNSA) nuclear weapons complex, KCP is responsible for the production and procurement of nonnuclear components for the DOE nuclear weapons program. Parts produced and procured by KCP include nonnuclear electric, electronic, electromechanical, mechanical, plastic, and nonfissionable metal components. Additionally, KCP supports the NNSA Office of Secure Transportation (OST) by building and refurbishing transport trailers and provides line management for FM&T/New Mexico, which primarily supports the NNSA OST. The DOE/NNSA Kansas City Site Office (KCSO) provides direction to and oversight of both FM&T/KCP and FM&T/New Mexico.

Managed and operated by Honeywell FM&T, KCP employs more than 2,500 individuals (referred to as associates), consisting of approximately 900 hourly associates and 1,600 salaried associates. Two unions represent the hourly workers: the International Association of Machinists and the International Union of Security, Police and Fire Professionals of America. The International Association of Machinists represents trades that include general machinists, tool and die makers, production fabricators, millwrights, electricians, pipefitters, sheet metal workers, material handlers, material suppliers, machinery repairmen, telemetry technicians, electronic equipment technicians, electronic assemblers, laborers, and custodial workers. FM&T/KCP produces a variety of nonnuclear items, such as electrical products, plastics, and various metal components in support of NNSA missions. To support manufacturing operations, FM&T/KCP also maintains a major engineering division that supports various research, development, and prototyping capabilities.

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

The Team had contact with more than 250 associates, managers, and supervisors, either formally or during observation of field activities. Work observed included machining, fabrication, assembly, calibration and repair, vehicle assembly, as well as tests and inspections. The Team also observed preventive and corrective maintenance actions and had the opportunity to conduct walkdowns of several support facilities, such as the power houses and the firing range.

The facilities that comprise FM&T/KCP 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. In addition to these common industrial hazards, KCP has worked with, and continues to work with, beryllium-containing materials. At KCP, there are 100 employees identified as beryllium workers (as defined by title 10, Code of Federal Regulations, part 850 (10 C.F.R. 850)) and are included in the Beryllium Medical Surveillance program based on job duties. In addition to the required medical surveillance program, FM&T has established a “Voluntary” Beryllium Medical Surveillance program that is available for all employees – 920 employees participate in the voluntary surveillance program.

II. INJURY INCIDENCE/LOST WORKDAYS CASE RATE

Injury Incidence/Lost Workdays Case Rate (FM&T/KCP)					
Calendar Year	Hours Worked	Total Recordable Cases	Total Recordable Case Incidence Rate	DART* Cases	DART* Case Rate
2005	5,042,300	17	0.67	13	0.52
2006	4,655,784	12	0.52	7	0.30
2007	4,504,189	23	1.02	9	0.40
3-Year Total	14,202,273	52	0.73	29	0.41
Bureau of Labor Statistics (BLS-2007) average for NAICS** Code # 334412			2.9		1.2
Injury Incidence/Lost Workdays Case Rate (FM&T/KCP Subcontractors)					
Calendar Year	Hours Worked	Total Recordable Cases	Total Recordable Case Incidence Rate	DART* Cases	DART* Case Rate
2005	456,447	9	3.94	4	1.75
2006	321,209	2	1.25	0	0
2007	186,203	0	0	0	0
3-Year Total	963,859	11	2.28	4	0.83
Bureau of Labor Statistics (BLS-2007) average for NAICS** Code # 334412			2.9		1.2

* Days Away, Restricted or Transferred

** North American Industry Classification System

Total Recordable Case Incidence Rate including subcontractors: 0.83**Lost or Restricted Workday Case Incidence Rate, including subcontractor: 0.44**

A review of the accident and injury statistics at FM&T/KCP over the past 3 years revealed that rates are well below the industry average. A spike in the total recordable case (TRC) rate for 2007 is discussed in the Management Leadership section that follows. The TRC rate through October 2008 was significantly below the 2007 rate, indicating effective actions by FM&T/KCP to address the problem. A downward trend in subcontractor injury rates reflects the overall safety culture in place at KCP.

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 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.

Managers are committed to maintaining a world class safety culture at FM&T/KCP while providing their customers top quality products and services. FM&T managers have established a Vision/Mission statement for associates: *To be the most admired team within the NNSA for our relentless drive to convert ideas into the highest quality national security products and services by applying the right technology, outstanding program management and the best commercial practices.* This is clearly communicated on postings throughout the plant, Web pages, and newsletters. Interviews with managers demonstrated a keen awareness of this vision. Other mechanisms used to communicate the FM&T Operating Policy to all associates include the New Hire & Contractor Orientation, FM&T Operating Policy Badges distributed to each employee, Senior Leadership Town Hall Meetings, and the MyPortal – Health, Safety and Environment (HS&E) Home Page customized for each associate by department. Managers throughout the organization recognize that implementation of the vision/mission statement required world-class safety performance, as well as quality.

FM&T/KCP has integrated leadership commitment, safety management, and performance expectations through the Management Assurance System and Honeywell Corporate programs and requirements. FM&T/KCP establishes safety and health goals and objectives through the Honeywell Aerospace and FM&T HS&E strategic planning process. Honeywell Corporate, NNSA, and FM&T goals and objectives are integrated and incorporated into a variety of plans. Performance against these plans, goals, and objectives is then tracked and updated throughout the year as part of the Management Assurance System, Balanced Score Card, and Business Operations Reviews.

An important initiative underway at FM&T/KCP is the transition to the Honeywell Operating System (HOS). This corporate model, adopted by Honeywell, is based on quality and process improvement initiatives demonstrated by Toyota. It involves a broad spectrum of management, worker, and process initiatives and improvements. Although FM&T/KCP has not committed to the level of detail identified in the Toyota system, the approach includes a clear definition of work processes and steps, optimization of the worker interaction with the product, and elimination of waste (no value added steps and functions). HOS contains the core functions of integrated safety management; however, due to its complexity, this is not described in this report.

The results of continuous improvement initiatives are evident. Managers support and encourage teaming efforts to analyze and improve safety statistics based on accident and injury statistics.

For example, FM&T/KCP identified a negative trend in TRC rate. Analyses indicated that three particular areas contributed the largest portion of injuries – lacerations, slips/trips/falls, and material handling. In response to these analyses, FM&T/KCP chartered three teams to analyze the problems and implement solutions. As a result of these efforts, FM&T/KCP has seen a significant decrease in TRC rate (0.46 cases/200,000 hours as of October 31, 2008) and expects to finish calendar year (CY) 2008 with a rate below the 2006 rate. The improved awareness as a result of these team efforts appears to be having the intended effect.

Managers are supportive of VPP but are not familiar with the specific tenets of VPP, what their leadership role is with respect to VPP, and how each of the tenets contributes to a culture of safety, excellence, and continuous improvement. Similar to employee involvement, discussed in the next section of this report, there has not been a concerted effort to educate associates on the tenets. When FM&T/KCP applied for entry into DOE-VPP in 1995, senior managers made a conscious decision to focus on the rights and responsibilities of workers to have a safe work environment with zero fear of retaliation or retribution when unsafe activities are halted. Consequently, nearly everyone interviewed during this assessment stated that VPP had given them the right to intervene and stop work when unsafe conditions existed. Very few people outside of the HS&E Division understood the full scope or expectations of the Worksite Analysis or Hazard Prevention and Control tenets or that participation in VPP engendered a commitment to go beyond compliance.

Opportunity for Improvement: FM&T/KCP should increase awareness among the workforce, including managers, of the five tenets of DOE-VPP and how the tenets interact to foster a culture of continuous improvement and safety excellence.

To encourage workers to be more active in identifying at-risk behaviors and conditions, FM&T/KCP implemented an intervention program, discussed in detail in the Employee Involvement section of this report, with active support by all managers across the plant. An “intervention” is an associate specifically submitting (via a Web page) an observation of an unsafe or at-risk condition or behavior. During CY 07, associates submitted 303 interventions and, as of November 2008, they have submitted 643. The program, managed by the VPP Steering Committee, not only promotes safety awareness, but also encourages ownership. Program requirements include tracking and status of actions to correct identified hazards with reports to HS&E and senior managers. Quarterly, the VPP Steering Committee reviews intervention submittals and selects the top ten interventions. Those top ten interventions are recognized by the VPP Steering Committee and are awarded gift certificates.

Managers also pointed to the availability of “spot awards” as a means of promoting, rewarding, and encouraging desired behaviors, including those which promote excellent safety performance. Those managers did not receive data on, nor track the use of, those spot awards within their management scope with respect to what the awards were given for or to whom. Consequently, managers were not certain that spot awards were being effectively used as a means to encourage safety excellence.

Resources for promotion and encouragement of safety excellence may not be sufficient. With regard to staffing levels, the HS&E Division had approximately 35 (including the Waste

management function – 11 full-time employees assigned consisting of a variety of safety, health, and environmental expertise. This includes three certified safety professionals and three industrial hygienists. At least one of the industrial hygienists was pursuing certification, but none of the three were certified as of this assessment. This staffing level may not be adequate to allow the health and safety staff to be sufficiently proactive, given the number of personnel employed at the plant and the variety of hazards that might be encountered. Over the past several years, FM&T/KCP managers have been focused on ensuring the overall organization is appropriately sized to accomplish its mission, but it appears that additional industrial hygiene expertise might be required.

With regard to budget resources, FM&T/KCP has only provided marginal amounts for safety promotions, rewards, and recognition. The Team agrees with the point made repeatedly by FM&T/KCP managers and VPP Steering Committee members that safety cannot be bought. However, programs to encourage and reward positive behaviors are proven best practices in the full empowerment of associates by dedicated managers at sites with an ingrained culture of safety excellence. Further, other sites have shown a positive correlation between safety promotional activities, increased employee involvement, and more efficient and effective production (quality improvement). FM&T/KCP should work with KCSO and NNSA to increase allowable funding for safety promotion and recognition. Increasing this funding will allow FM&T/KCP managers and the VPP Steering Committee to not only reward associates who find at-risk behaviors or conditions, but find ways to reward and encourage those associates who are actively looking for at-risk behaviors and conditions, as well as implementing creative and interesting safety promotions that excite and enthruse the workers.

Opportunity for Improvement: FM&T/KCP should examine resources provided for safety and health staffing and provide additional resources where possible to expand promotions, rewards, and recognition.

The HS&E Division is responsible for identifying and determining applicability of pertinent safety and health requirements, developing and assisting in the implementation of appropriate safety and health programs, assessing potential exposures to hazards, assisting in the development and implementation of necessary control measures, and participating in the assessment and continuous improvement of safety and health programs and activities. The manager of the HS&E Division reports directly to the FM&T President. This reporting relationship assures that the authority, oversight role and expectations, and technical support requirements of the HS&E function remain unbiased by line operations. The FM&T/KCP HS&E Management Description, Worker Safety and Health Program, and Electronic Command Media are used to communicate site-specific safety and health requirements to associates and establish responsibilities specific to their implementation. The effectiveness of these systems in implementing safety and health roles and responsibilities is reflected in FM&T/KCPs ISO 9001 and 14001 certifications.

HS&E programs are evaluated annually by the VPP Steering Committee in the Annual Safety and Health Program evaluation. This evaluation identifies improvement activities that have been conducted during the previous year and opportunities for the coming year. A tiered approach to continuing evaluations during the year is conducted as follows:

- Departments and divisions perform self-assessments through the Weekly Walks program.
- HS&E staff assesses performance through Safety and Housekeeping Implementation Needs Everyone (SHINE) tours and annual completion of the Honeywell HS&E Self-Assessment Tool.
- Audits of HS&E programs, as well as compliance with those programs, are performed by the internal audit group.
- HS&E programs are evaluated by KCSO through oversight reviews.
- External Audits are performed by various third parties including DOE/NNSA Headquarters, Honeywell Corporate, and contractors.

As previously described, FM&T/KCP is currently engaged in several initiatives to streamline processes, align core functions and processes with corporate business models, and realize efficiencies. This includes the Six Sigma approach, as well as adaptation to HOS. Managers have not clearly communicated to associates the intent of these initiatives and how they will impact their roles and responsibilities in the organization. Some of those interviewed viewed these programs as a distraction rather than a part of the continuous improvement for which they are intended. Managers have not encouraged the use of VPP as a means of contributing to the improvements being sought through HOS or the Six Sigma process. Moreover, senior managers need to be more specific as to how safety is integrated into HOS. For example, the guidance provided through the internal Web pages regarding HOS defined value-added activities as those that “were important to the customer, changed the product or service in some way, and must be done correctly the first time.” Since VPP efforts are focused on “going beyond compliance,” it might be possible for those efforts to be considered as “not value added” in the HOS definition. While demonstrated correlations between the promotional and excellence efforts in VPP and improvements in quality and efficiency exist, it is difficult to demonstrate a specific causal link that would show the value added under the HOS definition. FM&T/KCP must ensure that improvements made as a result of indirect activities that contribute to improvements in safety and employee participation are not lost or ignored during implementation of HOS.

Opportunity for Improvement: FM&T/KCP should require a more focused effort by senior managers to leverage VPP in the initiatives that are undertaken in pursuit of excellence.

FM&T/KCP has an effective disciplinary system. Most of the disciplinary system interventions are reminders to use personal protective equipment (PPE) or to report all injuries. A few times in the past 2 years, suspensions have been used for failure to follow established requirements and procedures, including safety requirements and procedures. There were no terminations for safety infractions during the past 2 years. The unions are supportive of the current disciplinary policy that aligns with the established union contracts. The semiannual performance evaluations of hourly workers include a notation of any safety disciplinary actions taken within the evaluation period as an explanation for a “needs improvement” score for safety.

Performance evaluations for salaried personnel do not include a specific category for safety. Inclusion of safety as an evaluation topic is at the discretion of the evaluating manager. Performance and Development Summary forms reviewed by the Team showed wide variation. For example, one made no mention of safety other than a supportive comment that the employee

implemented a weekly walks process to “meet safety and operational objectives.” That person had no identified safety-related goals. Another manager review had a *Safety and Security* goal listed with an exemplary rating, and the comments were specific in calling out that person’s contribution to electrical safety by involvement on cross-functional teams. In another case, the evaluation form was for a member of the HS&E Division, and all of the goals were safety related.

Hourly associates have a semiannual performance evaluation that includes a *Safety and Housekeeping* category. The explanation for that category includes use of safety equipment, conformance with safe work practices, safety training completion, and tidy work station. Those with an “exceeds” rating have a written explanation of the reason for this score, such as membership on a safety team, work with engineering to implement a change, performing arc flash calculations, and assuring waste management compliance. For those with a “needs improvement” score, an explanation was provided, such as “...time off for failure to follow safety procedures.” Safety performance is woven throughout the evaluation. In one evaluation, an employee scored “exceeds” for *Quality* with the explanation that the employee provides “valued discussion to address a variety of safety issues” and under *Job Knowledge*, the employee “works with engineering to assure safe operation of equipment.”

Each division/department distributes safety goals specifically related to accident and injury statistics based on population and perceived hazards. For example, the Integrated Supply Chain Management Division (production) was allotted not more than four injuries for CY 2008 due to the number of people and hazards encountered. Within that division, many departments then had a goal of zero injuries. Similarly, the Facilities Maintenance and Services Division had a distributed goal of six.

The distributed safety goals are incorporated into performance evaluations. Top managers have numerical TRC and days away, restricted, or transferred (DART) goals. For them, this is their only safety-related goal, and these goals are included under various headers, such as *Deliver on Customer Commitments* or *People*. These headers are aligned with the Honeywell initiatives, *Growth* and *People*, respectively. Moving down the management chain, safety goals are categorized under *Safety* or *Maintain a Safe and Secure Workforce*, both of which are aligned with the Honeywell initiative on *People*. Specific goals include numeric TRC and DART goals and ontime training completion goals of 98 to 100 percent. Some managers have additional individual action goals, such as championship of a safety team with a measurable improvement goal. Another example was a manager’s goal of additional training and “becoming actively involved in safety and security intervention.” Further down the management chain, there are not only TRC and DART goals and training completion goals, but also goals to complete weekly walks and participate on various safety teams.

There are opportunities for improvement in establishing goals for managers that align with annual plant and division goals for safety. While the distributed goals do serve the purpose of focusing management attention to those divisions and departments most likely to receive injuries, division and department managers have not established objectives or specific tasks related to behavioral changes that will help achieve those numeric goals. For example, goals could address completion or revision of job hazards analyses (JHA), participation in hazard surveys, and the percentage of worksite inspections completed with timely corrections made.

The emphasis on numerical injury goals is a lagging indicator and does not measure leading safety performance indicators. The inclusion of safety training completion goals is exemplary.

Opportunity for Improvement: FM&T/KCP should establish goals for managers that align with annual plant and division goals for safety, and division and department managers should establish objectives or specific tasks related to behavioral changes that will help achieve numeric goals that are in place.

The HS&E Electronic Command Media system is available through the FM&T/KCP intranet and is updated on a continuous basis. FM&T/KCP is currently migrating all of its content into the new Enterprise Content Management (ECM) system. A myriad of procedures and documents are contained within the ECM system that are intended to enable associates to access the required safety information readily in support of work activities. While many associates are in the early stages of familiarization with ECM, when mature, this system could significantly enhance real-time ability to locate required data and information to support safe and efficient production.

Subcontractors are required to adhere to the same safety and health rules that all associates are required to follow. Contractors are told (pre-bid) that they will follow the Service Subcontract or Construction Subcontractor Safety Handbook as appropriate. An approved safety plan is required before notice to proceed is given. Safety orientation is required for all subcontractor associates before starting work. Warning tickets are issued as an enforcement tool; and through the warning ticket system, contractors can be removed from the site. Weekly site inspections are performed. Subcontractor associates have the right and responsibility to stop unsafe work in the same manner as all FM&T/KCP associates. The subcontractor completes safety inspection sheets and is required to report all injuries to FM&T/KCP HS&E staff.

Conclusion

FM&T/KCP leaders regard management of HS&E as a core business value. 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/KCP, managers and associates are focused on safe production. While safety is ingrained in the culture at FM&T/KCP, managers have not taken full advantage of the opportunity to educate the workforce in the tenets of VPP and apply VPP principles to the many continuous improvement initiatives that are in progress. An opportunity to build upon the safety culture exists with a more focused effort by FM&T/KCP senior managers to leverage VPP in their pursuit of excellence.

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. Associate 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/KCP workers are committed to their personal safety, as well as the safety of their coworkers and facility visitors.

The Team interviewed more than 250 hourly associates, managers, and supervisors who have worked at FM&T/KCP for as few as 3 weeks to longer than 45 years. Through interviews, observation of work activities, as well as document reviews, the Team determined that, in general, associates are involved in the safety program. However, the Team did not observe a coordinated effort across the plant to actively involve associates. In some cases, individual departments on their own initiative implemented programs to engage associates and improve the safety posture. For example, the associates of the Excess and Reclamation Department developed their own Safety and Health Plan. That plan is very comprehensive and increases associate awareness of hazards in the department by specifically providing safety and health requirements for the department, sources of safety information, and instructions for routine tasks and/or material handling.

In another example in which associates play a leading role in their safety, Department 060 initiated and implemented a structured associate involvement process that empowers the workers to own and manage their department and its work areas. Each associate has the opportunity to lead departmental meetings and contribute to their content, including sharing their personal safety experiences and that of their coworkers. The department head has instituted a program called "Book of Knowledge," which poses a question to all departmental associates, administered through the intranet portal and correctly submitted answers qualify for a prize drawing. Associates who answer correctly are rewarded with a candy bar and a ticket for a monthly drawing for items such as gift cards. However, the greatest benefit resulting from this activity was the program's effect on opening the lines of communication for all topics related to shop activities and the associates.

Senior managers, HS&E staff, and members of the VPP Steering Committee were not aware of these individual efforts to improve safety performance. However, they were unanimous in their assertion that these were good examples from which to launch a more effective, plant-wide associate involvement campaign.

Opportunity for Improvement: FM&T/KCP should look for ways to share and emulate successful examples so that proactive associate involvement is institutionalized throughout the plant.

All interviewed workers understand their right to stop work if they see an unsafe activity or simply need clarification on a process or procedure. Many described how they are involved in the safety program. Employee concerns may be reported through the 3181 Concerns Line. During this assessment, personnel were particularly aware of and concerned about the potential

for dangerous winter weather conditions. Consequently, many workers told the Team about the dedicated phone number to report icy conditions (ICEY (4239)). The security patrol was specifically reminded of this number in a staff meeting observed by the Team.

The most visible form of associate involvement is the intervention program. Associates who observe and report an unsafe condition or who suggest a safety improvement may submit their action to the intervention program for a chance to win an award. This program is administered by the VPP Steering Committee, who evaluates the submissions and selects the top ten that are considered the most exemplary. The committee reviews each submission and rates them. The top submissions are voted upon to select the month's winners. During October and November 2008, 177 submissions have been logged. The VPP Steering Committee members noted that the quality of the submissions has been improving over time. Many submissions are systemic in that they are not limited to one specific work area, but may apply across the plant. For example, based on an intervention submission, the VPP Steering Committee recommended replacing all extension and step ladders with new fiberglass ladders. This eliminated unsafe, older ladders, as well as all wood and metal ladders. Another intervention identified aging hardhats. Most manufacturers recommend replacing hardhats at some periodic interval, but FM&T/KCP does not have a periodic inspection program. Many hardhats in use in the plant are aged, and the VPP Steering Committee is working on a program to inspect and replace outdated protective headgear. Other submissions involved notifying a manufacturer or vendor of a problem that could apply to other purchasers of their products and resulted in the vendor making changes. The list of interventions is made available through the plant intranet.

Most associates are empowered to directly submit a work order ticket to the Maximo system (described in detail in the Hazard Prevention and Control section of this report) to correct unsafe conditions. Sometimes associates form informal groups to evaluate a problem and devise a solution. One example cited in interviews was a broken floor tile recognized as a tripping hazard that the group decided to submit to Maximo. Several associates reported that their work tickets into Maximo resulted in a same day or next day inspection by maintenance and often correction at the same time. A laboratory employee reported calling in a ticket to Maximo for a malfunctioning ventilation hood, and it was fixed that day. The same employee also submitted a Maximo ticket for a leaking roof, which resulted in immediate response with buckets, and the employee understood that the repair would not be instantaneous. There was an overall positive perception that Maximo work orders were taken seriously and acted upon in a timely manner. A contractor employee reported that she could not directly input tickets into Maximo, but that she had reported burned-out lights to area supervisors who submitted a ticket for her. She felt very confident about her ability to report her concerns.

While there is little evidence that workers are involved in the initial preparation of work packages, the process for analyzing hazards when there is a physical change in work location, new work process, or change in the existing work process does provide for participation by associates who will perform the work. This is discussed in the Worksite Analysis section.

Many associates reported that their annual reviews of HS&E documents offer an opportunity to suggest revisions to work procedures that may improve safety. One new associate gave an example of someone bringing up a question during a review regarding legacy chemical contamination on a shared piece of equipment. Because of this question, it was replaced. A

newly hired associate reported requesting a fatigue mat, a rubber mat that workers can stand on to reduce worker fatigue when standing for long periods, and it was provided within the week. Seeing this mat in use, several other associates are requesting and obtaining them. More notable than the corrections made, is that newly employed associates perceive their input is significant and are readily utilizing available tools to enact improvements.

Associates participate in a variety of plant-wide programs that are designed to promote high standards of housekeeping and maintenance. Many associates conduct 5S (Sort, Store, Shine, Standardize, Sustain) workplace inspections. These inspections are one of the elements of the conversion to the HOS. Others participate by performing weekly eyewash inspections, monthly fire extinguisher inspections, or other safety equipment inspections. Associates may participate in Weekly Walks and SHINE inspections depending on their department. One production fabricator reported that he and a coworker had full responsibility to periodically clean out their work area, and they had recently sent out ten baskets of excess materials.

Observation of the checklists used during these inspections, as well as employee interviews, indicated that personnel performing the inspections are not being challenged to perform more in-depth inspections. In some cases, equipment located in spaces was not being adequately inspected, and it was not identified on any weekly walkdowns. For example, fire extinguisher inspections had previously been performed by Fire Department personnel. During January 2008, FM&T/KCP eliminated fire fighting capabilities. Inspection, maintenance, and testing of fire protection systems were maintained by qualified Fire Operations personnel. The monthly inspection of portable fire extinguishers was transferred to the line organization. Some department managers were not aware that responsibility for the monthly inspections was now within their scope of responsibility. Currently, FM&T/KCP does not provide sufficient depth in focus areas to be included in the inspections. For example, encouraging associates to ask if there is a JHA that covers each of their activities and requiring associates to ask more detailed questions about that hazard analysis (e.g., are there associated limits identified and has there been any sampling or monitoring that demonstrates that the limits are not exceeded?) will further improve this aspect of associate involvement. Another focus area might be an annual check of safety equipment, such as self-contained breathing apparatuses (SCBA), first aid kits, and fire extinguishers to ensure required inspections and tests are performed.

Opportunity for Improvement: FM&T/KCP should review periodic focus areas and provide more probing questions that associates can use during conduct of 5S and other housekeeping inspections.

Employee involvement in plant-wide or division-wide safety committees is limited. Only two divisions have employee safety committees. The contractor-operated Industrial Wastewater Pretreatment Facility has a safety committee that meets weekly. There is strong involvement by associates in departmental weekly or daily meetings. Some departments have an employee safety coordinator who presents safety shares, and other department managers start their meetings with a safety share. Observations of some meetings showed considerable employee participation in a group discussion of the safety topic. Feedback from interviews is generally positive regarding the usefulness or outcomes of these discussions. A recap or discussion of recent safety concerns is often included in some departmental meetings. A few associates from

the production departments mentioned past participation in a safety committee or a safety task group. The production safety committee was disbanded in 2006.

One plant-wide participation opportunity was the Safety and Security Day held in June 2008. Associates planned activities, and everyone had opportunities to visit the displays, pick up promotional items related to safety, and participate in learning activities. Another opportunity was *Take Your Child to Work Day* in April 2008. Associates planned activities for the children and reviewed all areas to be visited. Nearly 600 children visited the facility, and the event was deemed a resounding success.

Safety focus teams, including a mix of management and labor, are formed to solve specific safety problems. Examples for 2008 include teams for lacerations: slips, trips, and falls; and material handling. The laceration team takes credit for a better than 50 percent reduction in laceration incidents this year. Their accomplishments include an online glove guide, identification and purchase of new lightweight, cut-resistant gloves that offer better dexterity, and modification of the Weekly Walks form to target potential areas that could cause lacerations. Additionally, the team is preparing a video. The Slips, Trips, and Falls Committee promoted an awareness campaign last winter and identified, and incorporated hazard types into the Weekly Walks. The Material Handling Committee performed injury trending and prepared training materials for managers to share with their staff.

The VPP Steering Committee is the official labor management safety committee and is required under the union contract. The contract also specifies the membership. Members demonstrate a deep knowledge of the plant and of safety issues. Labor members devote approximately 2 hours per week to the committee, and managers support their participation on the committee. Meetings are held weekly and minutes are prepared, but the Team could not find any that had been posted. One recent exemplary activity was their self-evaluation completed in February 2008. They evaluated the five major tenets of VPP and collected evidence to support their findings and provided recommendations for improvement. On an ongoing basis, the committee participates in 10 C.F.R. 851 reviews, development of the Worker Safety and Health Program Plan, and analysis of safety metrics.

Opportunity for Improvement: The VPP Steering Committee should consider posting meeting minutes on the internal Web pages and include summaries of committee activities and discussions on employee bulletin boards and newsletters to better inform the workforce about accomplishments and challenges.

Members of the VPP Steering Committee are generally assigned long-term, and membership is limited to three HS&E staff and four hourly associates. Many of the associates interviewed expressed a desire to participate on this committee, but felt that it was not possible given the way membership was determined.

Opportunity for Improvement: FM&T/KCP should consider expanding membership on the VPP Steering Committee beyond the contractual requirements for permanent members to include temporary members from the hourly workforce to be assigned on a rotating basis.

Other teams are longstanding and of diminished effectiveness. For example, the pressure safety team has not met in at least 6 months according to a member. In another example, the HS&E Director identified blocked electrical panels as a plant-wide issue during past inspections. Extensive effort has been implemented to address this plant-wide issue, including SHINE and Weekly Walk special emphasis, plant-wide training, and multiple communications to all managers. Despite this emphasis, the Team observed numerous instances of blocked access to electrical control panels. The VPP Steering Committee Program Evaluation of February 2008 called for the establishment of the Electrical Safety Committee and reinventing of the Electrical Safety Newsletter. These opportunities continue to be addressed.

Opportunity for Improvement: FM&T/KCP should conduct a review of all prescribed committees, determine which are to be maintained, develop or revise charters as appropriate, and staff with volunteers accordingly. FM&T/KCP should consider a governing safety committee with a subcommittee structure to ensure more effective conduct of and coordination between, subcommittees and teams.

Conclusion

There were several examples of proactive associate involvement at FM&T/KCP, and efforts by managers and the VPP Steering Committee to foster additional associate involvement are ongoing. By identifying and encouraging pockets of excellence and communicating their success stories to all hands, FM&T/KCP will significantly increase the percentage of associates that are actively involved in efforts to pursue excellence. This expanded cadre of empowered associates will aggressively identify, propose, and implement improvements throughout the plant. Broader worker participation through expanded safety committees, division level safety committees, as well as expanded resources for recognition and participation, are keys for FM&T/KCP to improve safety, quality, and efficiency and shift workers' focus from ensuring compliance to seeking continuous improvement.

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.

As a manufacturing/industrial site, one of the primary threats at the plant is fire. FM&T/KCP has expended considerable effort conducting fire prevention modeling and fire hazards analysis. As a result of this process, FM&T/KCP has made, or is making, repairs and improvements to the facility fire protection systems (fire rated walls, sprinkler systems, fire extinguishers, and combustible loading). During January 2008, FM&T/KCP eliminated fire fighting capabilities. Inspection, maintenance, and testing of fire protection systems are maintained by qualified Fire Operations personnel. The monthly inspection of portable fire extinguishers was transferred to the line organization. Some departments were not aware of these new responsibilities (see Employee Involvement section).

FM&T/KCP has several methods that identify and prescribe controls for work performed in the plant. Depending on whether it is a new work process, change to existing work process, or review of existing work process, these methods prescribe the steps to be followed such that the hazard is identified and controls are implemented. Additionally, the plant is in the process of implementing a departmental hazard analysis (DHA) process to look at all the evolutions that occur within one department. The Safety Department is starting to utilize the Honeywell Risk Management System to more objectively evaluate risk posed by work performed in KCP instead of the subjective risk evaluation they have previously utilized. The following processes were reviewed by the Team and are briefly described below.

- The Honeywell Corporate Hazards and Risk Assessment is a tool required by Honeywell that generally evaluates types of hazards at the plant, as well as a subjective assessment of the risk profile for that hazard.
- The preliminary hazard analysis is institutionalized into the KCP process, and performed when there is a physical change in work location, new work process, or change in the existing work process. The development of the preliminary hazard analysis typically includes HS&E expertise, engineering, customers' representatives, and FM&T/KCP associates involved in the work to be performed.
- A JHA is documented for most work at FM&T/KCP. The JHA document addresses job steps, hazards, and procedures/safety controls. *The Chemical Safety Plan, How to Handle Chemicals Including Carcinogens*, is part of the JHA process. Carcinogens have been determined to be one of the most prevalent hazards in the plant. Most JHAs are longstanding

and are required to be reviewed annually by users or, if temporarily transferred to another department, prior to performance of work.

- Beryllium hazards have been extensively analyzed. Areas where beryllium work was or is being done have been identified, and regular surveys are conducted to ensure beryllium levels do not exceed any action levels. Beryllium-affected workers are identified and are monitored annually for any health effects that might result from beryllium exposures.
- The DHA process is in the implementation phase for use in KCP. The DHA looks at a department's specific process(es) versus task-specific work steps and evaluates the process hazards.

These documented hazard analysis processes are required to be utilized for evaluation of work at FM&T/KCP, and most personnel interviewed were aware of the requirements, knew where to access the processes, or whom to call if they had questions. The format and content for hazard identification, analysis, and control were all based on a risk model for use and application. The Team reviewed that model, which uses a subjective approach to determine risk and manage hazards, as well as determine the need for further documentation of tasks, hazards, and controls. This risk-based approach emphasizes the higher consequence, lower frequency events that are selected for further documentation and does reduce the subjectivity of FM&T/KCP risk determination.

Personnel in HS&E were available for assistance should the need arise. The HS&E division was very prompt in addressing any issues that arose during the Team's visit. For example, the Team observed a maintenance crew removing concrete with a scabbler mounted on the front of a Bobcat®. Two associates were outside the Bobcat®, with an operator inside the cab. The associates outside the cab were wearing fullface respirators and hearing protection, while the operator was not. Further investigation determined that sound surveys had not been performed to ascertain noise levels inside the cab. Noise evaluations were performed the next day and showed noise levels in the cab approaching 80db. Since the measured levels were so close to the Occupational Safety and Health Administration (OSHA) limit, additional followup surveys were scheduled. In another case, the Team observed the local exhaust ventilation available in the steam plant for welding. The system had no indication that it had been tested or otherwise evaluated for flow requirements. Flow rates for the snorkel were determined the next day, but it was not clear from existing analyses what the appropriate flow rate should be. Additionally, during interviews, some associates indicated that they had asked for assistance and monitoring. In all of these cases, HS&E personnel responded promptly. The Team also observed a staff safety engineer providing feedback to workers who had submitted issues prior to the Team's arrival at the site. Specifically, the staff safety engineer effectively provided feedback to workers on monitoring results in their work area, feedback to workers who had called with a safety concern, or answered a worker's call for safety assistance.

In addition to the processes for new or modified work scopes, FM&T/KCP personnel conduct routine and general worksite safety self-inspections in connection with the SHINE program previously described. 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 near-misses, first aid, and OSHA-recordable injuries/illnesses and audit findings (noncompliance).

Associates are expected to report safety and environmental issues encountered in the workplace (including near-misses) and have several methods available to report those hazards and concerns. Associates are protected from reprisals 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 7745 for a hazardous materials spill, calling the plant emergency number 3600, or taking other appropriate action.

FM&T/KCP 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, and OSHA-recordable injuries/illnesses.

The JHAs reviewed by the Team did not clearly document the analysis linking the hazard to the control selection. However, JHAs did provide some links to additional references pertinent to the hazards being evaluated, and that this might be an opportunity to provide a link to the documented analysis that was performed or include the analysis in the JHA. For higher frequency, lower consequence activities, HS&E personnel acknowledged that the documentation was not complete. The DOE *Implementation Guide for Use with 10 C.F.R. Part 851, Worker Safety and Health Program* (DOE G 440.1-8), Section 3.3.2.1.6, may provide links to cross reference with the corporate model for expectations. Additional information may be found in *U.S. Department of Energy Voluntary Protection Program Part IV: Onsite Review Handbook* (DOE/EH-0436) to address a written system of JHAs, which provides for the analysis of all jobs over a given period of time and sets priorities for the most hazardous jobs.

Reviewing all of the plant processes to evaluate hazards and controls, the Team determined that the analysis that links identified hazards to the identified control set is not well documented. The documented analysis should reference applicable baseline exposure assessments, document any professional judgment, validate the selection of controls, and provide a basis for reevaluation should conditions or processes change. This effort will also demonstrate to the affected associates the rationale for hazard identification and control selection.

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

Both procedures and JHAs are expected to be used to perform tasks at the work location. As a result of past worker complaints about the complexity of JHAs, as well as past audit findings about the complexity of the work control process, FM&T/KCP has reduced the details included in JHAs to the point where the JHA no longer effectively performs its primary function of hazard

analysis. The Team reviewed several JHAs and found them to be lacking with respect to the analysis that had been conducted. Quality JHAs available for reference, coupled with integration of the controls identified in the JHA into applicable work process documents, will effectively streamline the work documents used by workers and reduce worker confusion.

Opportunity for Improvement: FM&T/KCP should revise its work control process to ensure quality JHAs are developed and available for reference and ensure that controls identified in JHA are integrated into applicable work documents.

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

- Use gloves when handling metal components to prevent lacerations. Wear cut-resistant gloves if necessary. (The analysis should determine types of gloves to utilize and when and/or provide stock numbers of preferred gloves available from stores.)
- Wear appropriate gloves. (The analysis should identify the appropriate gloves and justify why the gloves are appropriate, such as permeability or penetration data for the chemical being handled.)
- Identify the designated area and post signs. (The analysis should provide specific information, including location and wording of signs.)
- Operators are recommended to wear apron and boots while mixing and applying carcinogens. (The analysis should determine if the apron and boots are required or not; leaving the choice to the employee opens the opportunity to chance.)
- Collect waste in a metal container for proper disposal. (The analysis should determine the specific container and prescribe what proper disposal means.)
- Travel at a safe speed. (The analysis should determine if there are applicable speed restrictions.)
- 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, as well as several recent instances of oil or fluids on mats that have caused slips.)

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

While FM&T/KCP has several hazard analysis processes that have been applied to discreet tasks, such as soldering, they have not used an overarching analysis of the production flow to ensure that all tasks have been evaluated, or ensure a baseline exposure assessment has been documented for all hazards. Specifically, analyses did not always examine all of the production steps that a part goes through from the time it enters a production area to the time it leaves, or the analysis did not sufficiently address an entire chemical process. FM&T/KCP has performed initial analysis as previously described and subsequently performed assessments for those hazards considered high risk, but they have not evaluated hazards considered to be lower

consequence but higher frequency exposure. For example, FM&T/KCP has one area where many different chemical processes may be run for either production or engineering demonstration purposes. Although the individual chemicals being introduced to the processes are generally analyzed and material safety data sheets are available, FM&T/KCP has not documented an analysis of any intermediate products that might be produced. These processes may involve polymerization reactions that could produce hazardous byproducts in the event of a process upset or equipment failure. Another illustration is a circuit board that enters a production area, is imprinted with a circuit pattern, populated with electronic components, soldered, and then cleaned. Each of the various steps has not been analyzed to determine the hazards that may be encountered. For example, the cleaning process uses a chemical cleaner (d-limonene) and isopropyl alcohol. Both chemicals are generally considered safe, but some controls are recommended. FM&T/KCP has implemented controls, such as the use of nitrile surgical gloves and a ventilation hood. When observed, the smell of both the isopropyl alcohol and d-limonene approximately ten feet away from the hood was quite obvious, calling into question either the effectiveness of the hood or the methods used for cleaning. No evaluation had been documented to validate that both exposures were below either recommended or regulatory limits.

Opportunity for Improvement: FM&T/KCP should ensure a baseline exposure assessment is performed for all materials used in production processes to determine if any remaining unidentified hazards may be present and verify existing control sets are appropriate.

Conclusion

FM&T/KCP has adequate worksite analysis processes and procedures in place and has done a good job addressing the majority of hazards encountered, particularly higher consequence but lower frequency hazards. FM&T/KCP should improve its processes to ensure that all hazards (lower consequence but higher frequency exposure), not just significant hazards, have been adequately identified and evaluated through more detailed JHAs or baseline exposure assessments.

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.

The Team observed many examples of good controls that had been implemented throughout the plant. FM&T/KCP is an exceptionally clean facility with good housekeeping and storage. Fire protection looked good throughout the plant, and improvements in fire doors and fire walls to patch penetrations and restore fire ratings were noteworthy. The use of motion detectors for the lights and doors that open into passageways, safe vehicle operations throughout the plant, and lead reduction efforts at the firing range were other examples of good controls at FM&T/KCP.

With respect to hazards associated with the manufacturing processes, substitution of materials in order to reduce the use of hazardous materials was the preferred alternative. This year, the plant implemented a single source for housekeeping chemicals and prepared a list of approved janitorial supplies. Only these chemicals are authorized for purchase. In all other areas, chemical purchases must conform to an approved list or complete an approval process and procure a material safety data sheet before the purchase will be authorized. This central control helps to reduce or eliminate unsafe chemicals when a safer chemical can be used. Where substitution of materials and/or processes was not practical, the hierarchy of first implementing engineered controls, then administrative controls, and then the use of PPE was applied. In many cases, hazard mitigation required a combination of engineering and administrative controls, coupled with the use of PPE. The Team noted that workers had no problems complying with identified controls.

While manual machines still have application throughout the plant, FM&T/KCP uses a large number of computer-controlled machines in the production and prototype shops. Many of them have automatic guarding and interlock features that significantly reduce the risk of operator injury and/or hazard exposure. Associates interviewed had a healthy respect for these inherent safety features, and the Team observed various machining operations, all with the machines being operated with doors, barriers, and/or guards in place and interlocks functioning properly.

Moreover, extensive improvements to machinery via engineered controls were evident, such as the addition of mist collectors, metal scrap collectors, installed high efficiency particulate air (HEPA) vacuums, ventilation hoods, and local HEPA filter exhaust units. This was particularly evident in the production department areas. The Team noted that in the prototype (Department 007) areas, only one mist collector had been installed on a machine that was in operation with a second installation underway. Personnel interviewed indicated that a program was recently put in place to install controls on prototype machines, where practical, similar to those in the production areas.

Administrative controls observed included warning signs and postings, both at entrance points to areas with potential hazards, and on machines where the hazards could be encountered. Many machines, especially in the production departments, had startup instructions and illustrated maintenance charts posted at the machine. Also, machine guarding cards were attached to machines that indicated the operator-controlled guards that were required to be set prior to operation of the machine. Not all machines in and between given areas had consistent signs and postings. For example, in one production area, a caution sign was posted on an electronic discharge machine that warned the operator not to touch the wire when the machine was in operation. A check of several other similar machines in the area revealed either no such warning or a warning that was obstructed during normal operation of the machine.

Opportunity for Improvement: FM&T/KCP should standardize the requirements for signs and postings throughout the production and prototype shops.

FM&T/KCP requires associates to use PPE whenever it has been determined that a significant risk for personal injury exists. Postings are used in areas to identify general PPE requirements, such as eye or hearing protection. More detailed requirements may be contained in various work control documents, such as JHAs, DHAs, and Safety Plans. In some cases, PPE requirements are addressed in the applicable work instruction. The Team noted that the inclusion of specific PPE controls and/or other hazard controls was not consistent across the divisions and departments. For example, work instructions used by maintenance personnel did include a list of controls for the associate to use. This was the case for work orders for routine work request jobs and for preventive maintenance tasks. The Team looked at several of these work orders and noted different levels of detail, depending upon the planner who had prepared the work order. In one example, which included tungsten inert gas welding on aluminum, the work order specified PPE for the welder to use and also directed reference to JHA for tungsten inert gas welding. The work order listing of required PPE did not include all of the PPE required by JHA. Of note, the maintenance division is currently modifying its procedures with a goal to have a more task-specific approach to identifying hazards and the appropriate controls in place by the end of CY 2009. The Facilities Maintenance manager has also directed a quality assurance type review of work orders to ensure feedback is being provided, captured, and incorporated into the system.

Generally, work instructions in the prototype department did not include any details with respect to potential hazards or controls. Associates working in this department indicated that their training and annual review of JHAs enabled them to make the correct decisions with respect to potential hazards and controls to use. With respect to work instructions in the production departments, generally, reference was made to an appropriate Safety Plan and/or JHA for the associate to review in order to determine what controls to use. The Team observed several associates in the prototype department attempting to access these documents via the Command Media. Some had difficulty accessing the documents, and most of those interviewed indicated that the process was cumbersome and that they would prefer having the specific controls included in the work instruction. The Team observed a video, which the work instruction required the associate to watch, prior to conducting an annealing process. While the video contained the specific details on how to set up and carry out the procedure, it did not include any personnel safety precautions or hazard control information. One improvement currently underway was the hiring of 50-100 engineering support specialists who are being used to review

work instructions, Manufacturing Execution System routings, and general process instructions to ensure that the instructions are clear and contain appropriate control steps.

Opportunity for Improvement: FM&T/KCP should standardize the required information in production and prototype work instructions and consider including hazard control details in the work instruction rather than requiring associates to reference Safety Plans and/or JHAs to determine what controls to implement.

The Team observed that workers were very knowledgeable of PPE requirements. A general stock of regularly used PPE items, such as gloves, hardhats, nonprescription safety glasses, hearing protection, and toe caps, are available in stores. PPE items used in low volumes are identified in the Peoplesoft catalogue for “Order on Request” from the vendor. Unique or specialized PPE is purchased by the department. Associates requiring foot protection are entered into the foot protection database and are reimbursed annually for the purchase of safety footwear. Prescription eyewear is provided to those associates who have a work-related need through a vendor, who is onsite twice weekly. The vendor also provides repair and maintenance of the eyewear.

There is significant interface between the Medical Care Services and HS&E departments, which includes program development, data exchange, accident investigations, and program evaluations. The Medical Care Services department staff consists of one physician, one senior occupational health nurse, one lead health and safety assistant, one health and safety administrator, and one health and safety administrator II. In addition, Medical Care Services operates an onsite laboratory supported by the lead health and safety assistant, who, along with the senior occupational health nurse, is a certified breath alcohol technician. Medical Care Services is staffed by the physician and nurse from 6:30 a.m. to 3 p.m., Monday through Friday. The physician and nurse carry a pager for 24-hour coverage and are trained in basic cardiac life support and use of an automated external defibrillator. During off shifts, weekends, or times when Medical Care Services staff coverage is not available, associates who work in Physical Security are responsible for providing emergency response (onsite physical security support is maintained 24 hours a day, 365 days a year). These associates are trained to provide American Red Cross first aid, basic cardiac life support, and proper use of an automated external defibrillator. Physical Security lieutenants may dispense over-the-counter medications for minor injuries/illnesses, such as a headache or superficial lacerations at the direction of the oncall physician or nurse. The physician and nurse are available for consultation by telephone with onsite personnel. In the event of a medical emergency, the local emergency service, Metropolitan Ambulance Services Trust, is called.

Health protection takes various forms, including Occupational Health Program development, health hazard evaluation, identification of proper control measures, and regulatory review for compliance verification. The physician and nurse visit worksites to orient themselves to job tasks and work environments and to discuss occupational concerns with associates. Visits are usually prearranged and may include representatives from HS&E as appropriate. A departmental log of the “Medical Work Site Visits” is maintained. In addition, the physician and nurse also conduct worksite visits following the diagnosis or treatment of an occupational injury/illness or in response to an employee’s concern. These visits also include HS&E personnel.

Several classes of health examinations are offered by the Medical Care Services department. These include postoffer of employment physical examinations, medical surveillance examinations, job transfer examinations, and return-to-work examinations. The medical surveillance examinations are conducted to manage a variety of occupational exposures. These include exposures to lead, lasers, chromium, beryllium, hazardous chemicals, noise, etc.

Associates were satisfied with the medical response and care provided to them in the event of an injury or illness on the job. Medical personnel maintained accurate records that included a database of first aid cases. This database allowed FM&T to perform trend analysis of first aid cases.

The FM&T/KCP emergency planning and preparedness program is based on the hazards identified in the KCP emergency preparedness hazards assessment (EPHA). Personnel, facilities, equipment, and training requirements are based on Federal, State, and local regulations. Annual plant-wide sheltering/evacuation drills are conducted on all three shifts. Assurance of space evacuation is completed by assigned associates documented in Departmental Emergency Plans. These individuals are designated to be the “last out” and sweep the area to determine all associates have evacuated. This method of determining that an area is clear rather than ensuring all workers are positively accounted for leaves FM&T/KCP at risk of abandoning a trapped worker.

Opportunity for Improvement: FM&T/KCP should consider the practicality of implementing a positive accountability system that requires tracking the status of each associate for emergencies.

FM&T has established a radiation protection program to comply with 10 C.F.R. 835, *Occupational Radiation Protection*. KCP is a nonnuclear, radiological facility. Processes at KCP utilize low activity (microcurie) radioactive sealed sources and various types of industrial x-ray radiography units comparable to those used in commercial manufacturing and laboratories.

WI 5.14.7, *Radiation Protection*, implements the requirements of 10 C.F.R.835. Thirty radiation work authorizations are issued to departments that handle radioactive material or operate radiation generating devices (e.g., x-ray units). Health Physics has 11 internal procedures that document how it manages the radiation protection program. Health Physics performs various types of radiological surveys that are documented on electronic forms. Health Physics performs audits on departments that are issued a radiation work authorization.

FM&T/KCP maintains a rigorous respiratory protection program. Respirators are issued and must be returned for a reissue each week. Respirator users’ training, medical clearances, and fit tests are verified each week when the respirators are issued. Each respirator use request requires a form signed by the supervisor that specifies the needed respirator type and hazard. Respirators are requested and issued from a central inventory that is managed by a person who performs all inspections, cleaning, and recordkeeping associated with respirator use. This person also performs fit tests. Examination of records found good documentation of the hazards assessment and assignment of respirator and cartridge change-out schedules. FM&T/KCP performed a

quarterly assessment of the respirator program that evaluates all program aspects using a checklist, and requiring examination of at least ten use records.

The Fire Protection department maintains the plant-wide SCBAs that are inspected visually weekly and more thoroughly each month. Records of these inspections are maintained at the fire protection office. The Team identified that the annual flow test required by the manufacturer for SCBAs had not been performed. There was some confusion about this requirement, but the HS&E department and fire protection staff determined that failure to perform these tests in July 2008 was an oversight and immediately contacted the service vendor to schedule the tests. The tests were performed on December 1, 2008. Of 17 SCBAs tested, two required some repairs, and one was removed from service requiring more significant repairs.

FM&T/KCP 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;
- Audiology services;
- Instrument and equipment calibration and repair;
- Laboratory services (industrial hygiene and occupational medicine);
- Ophthalmologic consultation;
- Radiologic interpretations; and
- Safety eyewear (particularly prescription lenses).

The FM&T/KCP preventive maintenance (PM) program is administered by the Maintenance Operations department. Maximo is an electronically based computer system that delivers PM work orders and plant-wide random work requests. Equipment Engineering department develops and enters PM information into Maximo based on equipment owners' requirements, manufacturers' suggestions, and existing equipment PMs. The schedule frequency is also based on these sources. Maximo electronically sends out the work request to the appropriate crew based on engineering input. The Team observed the planning and actual conduct of several PM work orders. Additionally, the Team interviewed associates about their understanding of the PM program and found that some confusion existed regarding verification of PMs performed. For example, when asked how they knew that a local ventilation HEPA filter had been changed within the last year as required, the associates were not certain. There was no tag to indicate the date that PM was conducted. In another example, the Team could not determine which fans corresponded to specific ventilation hoods, making it difficult to determine if a particular hood's fan was up to date with respect to the required PM.

Opportunity for Improvement: FM&T/KCP should consider instituting a PM tagging system that affixes tags to equipment to indicate when PM was last completed and the next due date.

Opportunity for Improvement: FM&T/KCP should consider linking hood locations to fans in Maximo to provide better information to maintenance workers and warn workers who might need to use a particular hood.

One area of concern, raised by many associates during observation of work activities and interviews in the production and prototype areas, involved an upcoming change in how lubrication and coolant PMs on the machines will be accomplished. This change is a result of the recently negotiated contract bargaining agreement between management and the union. Currently, lubrication PMs are scheduled out of Maximo and conducted by three chemical material handlers. Although not specifically scheduled by Maximo, coolant levels are topped off by these associates in conjunction with the lubrication PMs. Once the logistics have been defined, machine operators will now be responsible for carrying out these maintenance actions. The reason for this change in maintenance strategy has not been effectively communicated to the workforce, and several associates indicated that they would eventually be required to do even more of the PMs that were traditionally conducted by maintenance division personnel.

Opportunity for Improvement: FM&T/KCP should clearly communicate the intent of changes in maintenance strategies to all associates, the scope of the changes, and the specifics on how these changes will be implemented.

All associates, subcontractors, and visitors are required to follow and abide by plant safety and health rules. Positive reinforcement systems are the preferred methods for ensuring associates follow the prescribed safety and health rules. 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 plant, but it most often will be initiated by the individual's immediate line manager. Continued violation of safety and health rules will lead to disciplinary action, including termination.

Conclusion

FM&T/KCP 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 more specifically and consistently identify the appropriate controls to all associates, will enhance the safe working environment at FM&T/KCP.

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 (less than 1 month) to "veteran" associates (+30 years). All associates interviewed 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 FM&T/KCP receive training in worker safety and health program requirements. Training includes a mixture of online, classroom, and on-the-job training. Department meetings provide additional opportunities for training as safety topics are frequently discussed.

Heavy reliance on the Electronic Learning Management System assures that training requirements are communicated and tracked. A training plan is established for each employee depending on job functions. The training plan is reviewed with the employee by the supervisor and contains a mix of mandated qualification and development training courses.

To ensure the safety and health of new associates and visitors at FM&T/KCP, 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/KCP 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/KCP associates. Every new associate, regardless of job function, must complete the new-hire training. This includes:

- Mandated courses:
 - Lock out/tag out (LOTO) for "other" associates (30 days);
 - HS&E orientation (30 days);
 - Introduction to Six Sigma (90 days);
 - Basic computer applications (required within 2 days, necessary to access the online courses);
 - Honeywell Code of Business conduct (30 days) – includes injury reporting;
 - A division-specific overview (90 days);
 - Counterintelligence (90 days); and

- Development courses in nuclear surety and nuclear weapons.

Periodically, every employee must complete training modules in HS&E that include beryllium hazards and controls (2 years), general hazard communication (initial within 90 days), HS&E documents review (1 year), KCP hazard communication refresher (3 years), general ergonomics overview (3 years), and emergency preparedness training (annually).

Job-specific training is specified for each job function. Electricians, for example, have 25 qualification and mandated courses to take initially (within 90 days) and periodically, in addition to the courses listed above.

The Electronic Learning Management System tracks each employee's course completion, and monthly summaries are produced to identify associates who are overdue for their required training. Each division has a 98 percent ontime goal for qualification training, and the current manager's report showed that each division had achieved this goal with most scoring 100 percent. Online courses are automatically entered as complete in the system when the employee scores 80 percent or above on the embedded questions in the courses. Some courses require a score of 90 or 100 percent to pass. Associates may retake courses until they achieve this score. Classroom training must be manually entered by the instructor upon course completion. In addition, associates or their managers may enter external training completed. Interviews with supervisors confirm that the training is effective and that they are aware of the training status of their staff. They readily report that they observe work performance to confirm proper work execution and to detect any need for coaching. Random examinations of various associates' records showed impressive listings of courses completed, including members of top management.

Each employee is notified of an upcoming course requirement 45 days prior to the due date. This notification appears whenever the employee logs onto the portal. For classroom training, the employee registers online and the instructor monitors class registrations to adjust frequency and timing of course offerings to meet training needs. Carcinogen awareness training is offered as a classroom course and is scheduled to meet employee needs. Managers are copied on their respective staff class registrations and upcoming course completion requirements. Interviews with associates confirm that training takes place throughout the year and that there is a mix of online, classroom, and on-the-job training. No negative comments were made in any of the interviews regarding the safety training. One online refresher course, *In-plant Vehicles*, was reviewed by a Team member. The course content contained information with direct applicability to associates expected activities, the listing of course objectives, and the relevance of the knowledge check questions that followed each information item. The information was straightforward and easily understandable.

Respirator training is performed online, but the process of fit testing provides an excellent opportunity to confirm that the employee demonstrates knowledge of the proper use of the respirator and also provides a face-to-face opportunity to ask questions. The respirator coordinator is very knowledgeable of respirator use due, in large part, to his years as a firefighter and current position in the HS&E division. Most importantly, he demonstrates a high degree of concern for the protection of associates. He is very meticulous in checking the required paperwork for issuing respirators, and his schedule for fit testing (approximately 5-8 tests per week) gives him the opportunity to talk with each respirator user to be sure that they are able to wear their respirator properly. One of his required checks before issuing any respirator is to confirm that the user is current in training and that the user's supervisor is current as well. A potential opportunity to improve the respirator training might be to identify several "Training Use Only" respirators with prepositioned flaws. This would give the associate an opportunity to actually find respirator failures during an inspection, as well as confirm the effectiveness of the training.

With the plans to construct the Kansas City Responsive Infrastructure Manufacturing and Sourcing and the impending reductions in staff, there are training opportunities to either help associates write effective resumes and to offer new training for associates to help them qualify for positions that may be opening. Some of the training opportunities exist through a cooperative agreement with a local community college. This is a proactive step that improves safety by reducing job security stress.

Employee safety training is thorough. One opportunity for improvement is in VPP training. There is a one-time VPP Awareness course of approximately 10 minutes duration that includes video clips of the initial and recertification awards ceremonies and a listing of the VPP tenets. Interviews with staff show a knowledge gap in what VPP means to the workforce.

Supervisors have additional training requirements based on the tasks performed by their staff. Respirator awareness, for example, is a supervisor course for those whose staff uses respirators. This class is mandated because the supervisor must approve each weekly request for respirator issuance and requires the supervisor to be able to identify tasks that require a respirator and to identify the associated chemical exposures of concern. For supervisors with staff who perform LOTO, supervisors must complete a LOTO course to qualify them to perform semiannual audits of LOTO. The course also covers the requirements to communicate the findings of the audits in staff meetings. Similarly, there is a hearing conservation awareness course for supervisors. All supervisors take an "Essentials for Supervisors" course and Six Sigma Green Belt training. The Honeywell Code of Conduct training covers incident reporting.

HS&E division associates have numerous training requirements. A review of one manager's training records revealed dozens of recently completed courses. One area examined was incident commander training. Three staff members at FM&T, including the HS&E manager as the lead, are qualified incident commanders giving the plant a three-deep coverage. The training requirements include 24-hour Hazwoper, 8-hour annual refresher, incident commander, drills and exercises, emergency operations center training, and emergency response organization training.

Manager training consists of the same annual requirements as all associates. Forty-eight managers completed "Facility Manager Occurrence Reporting" during 2003-2007, a classroom course taught in-house. There is no additional required safety training.

Currently, VPP training for managers consists of an introduction to the program with a strong emphasis upon associate rights and responsibilities with respect to safety and health. The training does not include the details of the five tenets and how they should be applied at FM&T/KCP to build and sustain a culture of safety excellence (see the Opportunity for Improvement in Management Leadership section).

Conclusion

The Team found that safety and health training continues to be a top priority at FM&T/KCP. Part of each supervisor's performance evaluation is achievement of ontime training for each employee under his/her supervision. The identification of various required training courses is rigorous and on target to meet legal and performance standards. The courses are effective in

building safety performance and implementing a culture of safety. Associates readily accept their training requirements and convey an appreciation that their training provides the knowledge and skills to perform their jobs safely. Members of the VPP Steering Committee demonstrated a wide range of safety knowledge. Supervisors are well trained on the safety issues involving their staff.

VIII. CONCLUSIONS

Safety is a top priority at FM&T/KCP, and managers and associates are thoroughly committed to maintaining a strong safety culture. The programs required for recognition as a DOE-VPP Star site have been maintained throughout the plant. However, weaknesses were noted in all of the tenets with the exception of Safety and Health Training. The most significant area that requires aggressive remediation across the plant involves the development of a more indepth understanding of how to maximize the benefits of VPP. By ensuring managers and associates better understand the specific details of the five tenets of VPP, FM&T/KCP will be able to better implement and execute the various efficiency and quality initiatives, both local and corporate, that are in progress at FM&T/KCP. Because the foundation is in place and remains strong and in view of the demonstrated desire for continuous improvement across all levels of the organization, the Team recommends that FM&T/KCP be recertified as a Star participant in DOE-VPP.

Appendix A

Onsite VPP Assessment Team Roster

Management

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