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MONSANTO CHEMICAL
J.F. QUEENY PLANT
ST. LOUIS, MISSOURI
VPP PRE-APPROVAL EVALUATION REPORT

EXECUTIVE SUMMARY

The onsite pre-approval evaluation at Monsanto Chemical, St. Louis, Missouri, was conducted July 31 through August 4, 1995, to determine the site's eligibility to participate in the Occupational Safety and Health Administration's (OSHA) Voluntary Protection Programs (VPP). The OSHA evaluation team consisted of Ted Bach, Team Leader; Jeff Jones, Safety Engineer; Kevin Kolesa, Industrial Hygienist; and Tom Briggs, Safety Engineer.

This report is based on in-depth reviews of safety and health program documents, tours of the plant, and numerous management and employee interviews. Formal interviews were conducted with five management staff and six safety and health committee members. Twenty-five informal employee interviews were conducted in work areas of the plant. Plant tours included the warehousing and maintenance shop, skydrol (aviation hydraulics) and central drumming, L-Aspartic Acid, para-Nitrophenotole, and Maleic Anhydride production areas. The Standard Industrial Classification (SIC) code of 2869 is appropriate for this worksite.

The John F. Queeny Plant was the first plant for Monsanto in 1901. It grew to approximately 1900 employees producing over 200 products in the late 60's. Beginning in the late 70s, production decreased, and the Queeny plant consolidated until it now employs 150 people. The plant currently manufactures six different products, and the company is slowly increasing its productivity and efficiency and is bringing some workers back to work. Most of the chemical processes are covered by OSHA's Process Safety Management Standard.

The company is qualifying more and more of its products under ISO 9000 and the workforce is using more team building and quality management techniques in its operation. The three year average injury incidence and lost/restricted workday case rates for 1992-1994 are 3.2 and 1.5 respectively. These rates are six percent below and at the 1993 BLS average respectively for SIC 2869.

The latest OSHA enforcement activity at this plant was a comprehensive safety and health inspection in 1986. The plant has a good working relationship with OSHA's Area and Regional offices.

The safety and health program is successfully managed by the safety and training supervisor with the help of Queeny Environmental, Safety and Health Network (Queshnet) and close

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cooperation and active support from International Chemical Workers Union, Local 16. The team and networking concept is being used throughout the plant and the union workers are receiving more training on how to take active responsibility for the success of the safety program. The site has successfully implemented all new OSHA safety and health standards and has done an excellent job incorporating the Process Safety Management Standard. They have a contract agreement with the International Union to provide all OSHA required training to the workforce.

Outstanding aspects of the safety and health program include:

1. Very good employer involvement through use of team building and networks;

2. Effective use of computerized preventive maintenance program, job safety analyses, and training requirements;

3. Housekeeping throughout is very good.

4. Some chemical processes have been changed to eliminate explosion potentials;

5. Material handling robots help to eliminate body stress problems.

The Monsanto Corporate Office and Plant management have ensured that safety is a priority focus at the facility. During the on-site evaluation, management was very helpful to the VPP team in providing access to all programs, the plant facilities, and to employees.

The site has met OSHA VPP requirements for participation in the Star program. The OSHA team recommends that Monsanto Chemical, John F. Queeny Plant, St. Louis, Missouri, be approved for participation in OSHA's VPP Star Program.

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MANAGEMENT COMMITMENT AND PLANNING

Planning Process: The company incorporates input from Safety Committees, the Executive Safety Committee, the Headquarters Engineering group, and Business Team Leaders when they are planning changes in equipment or processes. In most cases the research and development groups have test facilities where process changes can be tested before actual production changes are incorporated.

The management strategy is to include employee involvement in the planning process for changes in all elements of their Safety and Health program. The only exception to the balanced planning is when the corporate office is planning significant capital investment. However, even these changes are heavily weighted with safety and health consideration.

Accountability: Monsanto has a system of holding managers and supervisors accountable for safety performance. Much of this plant's system comes from the system of accountability that works well at other Monsanto VPP sites. The plant manager, department heads, and supervisors were interviewed and performance evaluations were reviewed on-site. The business team approach has been used more and more with no loss of accountability for safety performance.

Resources: The plant has a full time safety and training manager and a contract agreement with the union to use a safety trainer from the Chemical Workers Union Headquarters. This has proven to be a very valuable resource for the Queeny Plant. Technical safety and health information is available on a state-of-the-art computer system. The manager is also spending the money necessary to have staff members trained in safety observation techniques.

Management personnel demonstrated a high level of safety compliance to all safety rules in the plant.

RECORDKEEPING

The 200 Logs for 1992 - 1994 were reviewed and the following rates were calculated:

Year	Hours	Total # Recordable	TIIR	LWDI Cases	LWDI Rate
1992	457,479	6	2.6	4	1.7
1993	394,532	6	3.0	3	1.5
1994	340,723	7	4.1	2	1.2
3 Year Averages	1,192,734	19	3.2	9	1.5
BLS National Average (1993) for SIC 2869			3.4		1.5
1995 YTD Trend (7/31/95)	188,948		2.1		1.1

SUMMARY OF RECORDKEEPING

The safety and training supervisor maintains the 200 Logs, first reports of injury, and the near miss incidents, all of which are becoming an important source of potential injury data. The safety supervisor is being trained in the data collection system to use behavioral observations. The data collected is analyzed for root cause and corrective action is taken. There are no temporary workers at the site, and no contractors onsite during the pre-approval visit.

The first reports of injury support the findings listed on the 200 Log. Monitoring records for industrial hygiene programs were well within compliance with OSHA regulations.

CONTRACTOR PROGRAM

The plant maintains a comprehensive safety and health program to insure the safe operation of all contractor work. The Industrial Hygienist and Safety Engineer reviewed the programs to insure their adequacy. A contractor coordinator monitors the training and tracks the actual work of contractors onsite. In the past a contractor was removed from the approved list because of poor safety performance.

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SAFETY AND HEALTH PROGRAM

Hazard Assessment: Safety hazards are identified through self-inspections by teams that inspect different areas of the plant. Inspections are monthly and cover the entire facility. The safety supervisor also conducts inspections with department team members; this effort is also a training session in hazard recognition for the team members. Monsanto's corporate safety staff conducts comprehensive audits every third year and the insurance carrier conducts annual safety tours. The local fire department reviews fire safety issues also with the help of a fire protection service contractor. Written procedures have been in place for many years to insure that inspections are conducted and hazards corrected.

Additional hazard recognition training is planned for the near future so that union safety teams can be even more proficient.

HEALTH HAZARD CONTROLS AND PREVENTIVE MAINTENANCE

The potential health hazards are controlled in closed systems with computerized monitoring systems that eliminate employee exposure. Automatic safety sensors help control potential problems. Proper personal protective equipment is worn for protection during loading and unloading operations.

Preventive maintenance is tracked on computer and is being revised to coordinate lockout or tagout requirements with maintenance procedures. The maintenance supervisor and some equipment operators were interviewed to insure that training and procedures were adequate. So far, they have not reached the point of predictive replacement, but such replacement is planned for the future.

The process safety management (PSM) program is well managed at this facility. They have a full time PSM/ISO coordinator. Phase hazard analysis has been performed on new product line start up and management of change is conducted on product processes since the new start up. Follow up discussions were held with team members to insure that lockout/tagout and line breaking procedures do not put employees or contractors at risk.

The hazard communication program was adequate and other potential health hazards are monitored appropriately by a full time Industrial Hygiene Technician. The corporate office has Certified Industrial Hygienists to help assess any health exposures. The workers were very well informed of safety and health issues, and when they did not know an answer, they knew where to get the information.

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ACCIDENT REPORTS

Written procedures are available to guide the accident investigative process. They have been in place for many years, but will be revised as the plant completes the training on how to document unsafe acts and other near miss incidents. Each business unit investigates their accidents with assistance from the plant safety supervisor. The VPP team was very impressed with the results of investigations to determine root causes that can be traced to a program or system need rather than employee error. Summaries of the reports are reviewed by the plant manager and the safety committee to insure adequate tracking for corrective action.

JOB SAFETY AND HEALTH ANALYSIS

JSAs are conducted on the jobs through the plant. They are periodically reviewed and updated by the business team members. The JSAs are also coordinated with written safety procedures for a variety of operations throughout the plant.

EMPLOYEE HAZARD REPORTS

The employees are all members of the International Chemical Workers Union and have been at the plant for many years. They have been well trained by their union on how to report hazards up through the chain of command. Most input from the hourly workers is submitted to their safety representative of the business unit.

Workers are authorized to intervene when safety problems occur, and they can initiate work orders to maintenance if necessary. There are safety suggestion boxes in the plant, but they are seldom used. With so little turn over, the workforce of 147 people has become a fairly efficient team. The plant has begun to hire a few additional workers because of new product lines. The new employee orientation includes rights under the VPP and OSH Act on how to report unsafe conditions.

From the interviews conducted, the VPP team is confident that employees are comfortable in reporting hazards, and that management has been responsive. The VPP team found only a few items that needed correction.

Medical Program: The plant is in compliance with all OSHA standards concerning the medical program. Many workers onsite are first aid and CPR trained and covered by the Bloodborne Pathogens Standard. Emergency response facilities (fire department and a large hospital) are within one mile of the plant. During the onsite evaluation two alarms went off, which were automatically received at the fire department. The plant's emergency team responded immediately even though these alarms were caused by a computer malfunction.

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HAZARD CONTROLS

Monsanto has in-house certified professionals to advise the plant of ways to control all safety and health hazards. Engineering controls and design prevent problems from most of the chemicals, and when needed, proper personal protective equipment is used. One worker is allowed to wear a beard but when he needs to wear protection during a chemical unloading hookup operation he is supplied with an airline hood type respirator. Before new processes are started the PSM procedures are carefully followed and the pilot plant can setup operations and monitor for any possible system problems before actual production beings.

SAFETY RULES

Plant safety rules are followed by all employees including management and visitors. Visitors must read the rules and emergency procedures before entering the plant. Monsanto does a better than average job of planning, educating, and follow up on safety rules. The plant is also in compliance with OSHA's new Personal Protective Equipment Standard.

SAFETY AND HEALTH TRAINING

At this Monsanto plant the safety supervisor is also the manager of the training program. In this position there is keen awareness of training needs relative to new OSHA standards and all the safety initiatives of the World Headquarters. The potential VPP sites concentrate on giving hazard recognition skills to all of the business teams. Total Quality Management elements are transferred to the safety program elements at all Monsanto plants. This has been so effective that Monsanto trainers are in demand from other industries and organizations to share this training expertise.

The Queeny plant is the first to set up a contract with the international union to provide technical and safety training for the plant workers. They have an excellent trainer who was a former employee at the Queeny plant.

The training supervisor maintains an excellent computer tracking matrix of all OSHA required training by department and employee.

The Queeny plant is very active with the Region VII VPPPA and will be participating in safety training for their staff as the need arises.

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EMERGENCY PREPAREDNESS

The workers have been trained on how to respond to workplace emergencies and drills are conducted to maintain their skills. They no longer maintain their own fire department but they do respond to hazardous spills. The union contract trainer is specialized to conduct all levels of hazardous response training.

EMPLOYER INVOLVEMENT

Committee Structure

The Monsanto Queeny Plant has a joint labor-Management Committee comprised of five union and three management members. Union members are selected by the union president. Individual members can volunteer for committee service, especially on the specific topic safety committees that serve as problem solving groups. Committee members serve for one year with an option to renew.

Some specific sub-committees for additional employee involvement include:

1) Confined Space Committee

2) Elevated Work Committee

3) Accident Investigation Committee

The Queeny plant also has a staff safety committee with five management and two union representatives on this committee that gives overall guidance to the safety program. Safety committees have been active at this worksite for the past five years, and they meet at least monthly.

One additional example of strong employee involvement is in the area of training and education. Union workers provide new employee safety and health orientation to new hires. The company has a contract with the union to conduct most of the additional training for the workers. From interviews with the employees and the union trainer, the VPP team was impressed with the quality and quantity of employee involvement at the Queeny plant.

Atmosphere: Management was very helpful and gave the VPP team access to employees who were selected at random from a printout by department of the entire workforce. There is a very cordial relationship between management and union workers at this plant which has undergone severe layoffs over the past few years. Numerous interviews were conducted during the walk around tour and at employee work stations. Employees were easy to talk to and were comfortable talking about safety issues to management and the VPP team. Employees were confident that Monsanto plants are some of the safest places to work.

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Awareness: Employees were aware of the safety and health programs, the requirements, and their own responsibilities to help them work. They understand the VPP program and OSHA well. The company is slowly hiring again, and some newly hired persons will be returning workers. The safety supervisor will insure that all new workers receive education on VPP. The plant manager demonstrates his commitment to worker safety by conducting periodic tours of the facility, and he looks for safety items while in the plant. The VPP team was escorted by hourly plant employees without a management representative present. This action demonstrates a high level of trust in the workers by management, and that they are aware of all safety health issues and features of the plant.

Interviews conducted with employees verified that employees are directly involved with both the development and implementation of the plant's safety program. Employees have pride in their safety program and know they are empowered to resolve safety issues. Employees understand that safety and health have value equal to production and quality at the Queeny plant.

ANNUAL EVALUATION

Comprehensive evaluations of the safety and health program, which cover the required VPP program elements, are conducted annually by the plant staff. Every third year the corporate safety and health staff conduct comprehensive evaluation of all the program elements. This effort fits very neatly into the auditing program that Monsanto follows to insure excellence in production and quality. Program data from recordable injuries, investigations, self-inspections, external audits, employee input, and the summary of all training program efforts are part of the annual evaluation. Goals and objectives are reformulated and communicated to all levels and reviewed periodically at the safety committee meetings.

GENERAL REVIEW

The organization of the safety program and attention to detail is above average for this industry. Monsanto has a very strong and committed safety staff. The corporate focus to assist the plants in achieving VPP status has been very helpful to the safety program. The Queeny plant is beginning to pick-up more business which will have a positive impact on morale. This plant has begun to train on behavioral observations techniques as a way to reduce unsafe behaviors and subsequently recordable injuries. The rates are already below the national average for the SIC code and this safety observation program should help them improve even more.

Based on the tours of the facility, the safety and health program is well managed. Even though this facility is old, the housekeeping was excellent and very modern process controls have been installed. Management and labor are working cooperatively on all aspects of the safety program.

Monsanto's corporate commitment to the Voluntary Protection Program has given the Queeny plant the challenge they needed to put the final touches on a good safety and health program. On September 8, 1995, the regional office received the letter of corrective actions that have been completed by the staff.

All members of the VPP evaluation team concur that this worksite is operating a highly effective program and recommend their approval into OSHA'S VPP Star program.

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