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- Contractor/Guest Safety
- Measures

Both FYI
• Also see Union letter to OSHA

PRE-APPROVAL REVIEW REPORT
MONSANTO CHEMICAL PLANT
ANNISTON, ALABAMA

INTRODUCTION

This report is based on a pre-approval visit to the Monsanto Chemical Company plant in Anniston, Alabama. The visit was conducted January 25-29, 1993. The OSHA VPP Team consisted of Leigh Sherrill, Team Leader; Walt Hemingway, Industrial Hygienist; and David Hubert, Safety Specialist.

8% formal
20% informal

Sources of information for this report included a review of the application and the onsite review of the complete safety and health program. The VPP Team conducted eight formal and twenty informal interviews of the company physician, managers, supervisors, maintenance employees, operators, committee members, and a co-op student. The VPP Team also interviewed two contract employees formally and three contractors informally on the site. The industrial hygienist and the safety specialist toured all areas of the site.

The facility produces heat transfer fluids, plastisizers, and intermediate products in three processing units, located on fifteen acres. Raw materials and finished product are transported to and from the site by truck and rail car. The Standard Industrial Code 2869 is appropriate for this site.

Currently 103 Monsanto employees work at this site in four shifts. On average 20 - 30 contract workers may be on the site each day mainly for construction maintenance work and janitorial services. Two temporary office workers also are currently employed. Site employees are represented by the International Chemical Workers Union, Local 125, which enthusiastically supports the site's participation in the VPP. Management has given all necessary assurances.

In 1991 an OSHA scheduled inspection resulted in a citation against the contractor doing a trenching job and against the plant. The citation against the plant was subsequently withdrawn. The history of interaction with OSHA indicates a cooperative relationship.

There are several impressive aspects of the safety and health program at this site. Several computerized systems for recordkeeping, including an excellent system for documenting training for each employee and for tracking the responses to safety suggestions have been put in place. Incident and accident reports, annual safety and health program evaluation procedures and the narrative reports are

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well organized and thorough. Sixty to seventy percent of the employees participate on the safety and health program committees.

MANAGEMENT COMMITMENT AND PLANNING

Safety and health policies and objectives are communicated to all employees through a safety newsletter, signs throughout the plant, written statements in employee handbooks given both to site employees and to contractor employees, and through the work of various committees. Conversations and formal interviews with employees revealed that employees are aware that "it is the policy of the company that every employee is entitled to a safe and healthful place in which to work." and that " to this end, every reasonable effort will be made in the interest of accident prevention, fire protection and health preservation." Included in the statements is a shutdown policy which gives all operators authority to shutdown a process without supervision's permission when conditions threaten safe operation. Also given is the authority not to start-up a process if safety concerns are discovered. A long-time employee said the policy giving operators this authority has been one of the most instrumental changes to make this worksite safer.

The written safety and health program clearly assigns responsibility to management, first line supervisors, and other employees. A review of performance evaluations for managers and supervisors revealed that worksite safety and health are factors in the performance goals and ratings, often as much as thirty-five percent.

Adequate resources are committed to the site's safety and health program. The onsite staff includes a full-time safety manager, a training coordinator, two trainers, and an industrial hygiene technician. Corporate safety and health professionals are available to the site when needed and are involved with the site at least yearly for an annual program review. One of the criteria for a gainsharing plan for all employees is the worksite safety and health accomplishments. If, because one of the criterion is not met, the money is not distributed to the employees, it is spent instead on the general safety and health program. Employees have a voice in that expenditure.

The plant manager serves on the Safety Board and during the VPP onsite review, was accessible to the review team and clearly knowledgeable about the safety and health program activities. Top management's involvement on the Safety Board and their support of the VPP process illustrates the managers' efforts on behalf of safety and health improvement

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at this site. Interviews with employees and the union president revealed that managers clearly are safety and health leaders who encourage everyone in the plant to be involved meaningfully in solving safety and health problems.

RECORDKEEPING

The OSHA 200 logs from 1990 through 1992 and supporting reports were reviewed by the VPP Team. The worksite injury statistics are provided below:

	HOURS	TOTAL CASES	IIR	LWDI CASES	LWDI RATE
1990	200,504	2	2.0	0	0
1991	208,140	1	1.0	1	1.0
1992	215,118	2	1.9	1	.9
*1993		0	0	0	0
Three Year Average (1990-1992)			1.6		0.6
BLS National Average (1990)			4.6		2.1

* When the onsite visit occurred during the fourth week in January, no injuries or lost work days had occurred thus far in 1993.

The 1990 - 1992 Incidence Rate is 65 percent below the national average and the Lost Work Day Rate is 71 percent below the national average. There have been no incidents involving temporary workers at this site, but if there were such incidents, they would be recorded on the log. The incident reports were very complete and thorough. Incident reports for contractors are also compiled and would be included on the site logs if the contract workers were supervised by the site.

The review of the OSHA 200 logs supported the information provided in the application. The first reports of injuries support the information on the OSHA 200 logs and cross checking with the incident reports showed the accuracy of the data. The Monsanto accident report forms, which include first aid as well as "near miss", and recordable injuries also support the data recorded on the OSHA logs.

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The data used to support decisions to line out data on the 1992 OSHA 200 log indicate a high level of understanding of the recordkeeping requirements and a high level of sophistication in Monsanto recordkeeping procedures. The person responsible for recordkeeping signs the logs to attest to their accuracy. The logs generally reflect the safety and health conditions at this site.

Monitoring records of industrial hygiene sampling are accurately kept. All injury, industrial hygiene, and medical records are clear and well organized. Injury records have been analyzed for patterns and appropriate steps have been taken to address the causes.

CONTRACT WORKERS

The written safety and health program includes provisions for contractors in a variety of ways. Contractors' OSHA 200 logs and other safety records are evaluated as part of the bidding process. All contract employees receive orientation training consisting of a half hour video followed by a discussion session. Plant safety rules, mandatory use of the permit system, emergency procedures, and other safety matters are taught. At the conclusion of the orientation, the contract employee receives a sticker to be worn at all times on the hard hat and a contract employee handbook.

A Monsanto employee is assigned to each contracted job as the project monitor. If safety or health problems develop that can not be resolved, the contractor will be expelled from the site and from bidding on future jobs. If industrial hygiene concerns are part of the job, the site conducts appropriate monitoring. Interviews with contract employees revealed that these employees are protected by a same quality safety and health program as the site employees. These same procedures apply whether the contract employees are working separately from site employees or are intermingled with site employees.

THE SAFETY AND HEALTH PROGRAM

Management uses various methods to assess the hazards and potential hazards at this site. The written program contains procedures for the management of change which are appropriately applied. Eighteen pre-start-up analyses were done in 1992. An Industrial Risk Insurance review is done annually for fire pumps and automatic protection systems. Safety and Property Protection audits and industrial hygiene audits are conducted by corporate auditors every three years. Onsite, the Area Safety and Business teams conduct pre-start-up safety evaluations and also compile punch lists for safety items found that need correction. These teams

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are also included in project development during the engineering stages and procurement processes.

The six safety and business teams are an effective force in the plant. They meet monthly, consist both of hourly and salaried employees who volunteer to serve. Membership varies from four to ten members depending on the size of the group they represent. In addition to the work described above, they receive safety and business suggestions and track those suggestions to resolution.

Industrial hygiene monitoring is needed at this site to protect employees primarily against exposure to benzene. Monitoring is also done to ensure quality control. All employees' exposure samples are taken by the Industrial Hygiene Technician who has ten year's experience and has been well trained for his job. His work is reviewed by Monsanto's corporate certified industrial hygiene department. All sampling, testing and analyses is done is accordance with American Industrial Hygiene Association (AIHA) approved procedures. A review of records shows that these systems have been in place for many years. Monitoring records for Biphenol, noise, welding fumes, benzene, and Paranitrophenal were reviewed.

The Safety and Housekeeping Committee conducts monthly onsite safety inspections of the entire plant and a quarterly indepth audit of one fourth of the plant such that the entire plant is covered each year. This committee consists of five hourly and three salaried employees. They often invite a guest member to participate in these inspections to provide a fresh look at the plant site. The inspection will cover all safety and housekeeping issues, but also, each month, the teams will focus on a single issue such as lighting, fall protection, respirators, etc. Employees on the Safety and Housekeeping team are scheduled for hazard recognition training during the first quarter of 1993. However, the onsite VPP team found no hazards that the inspection teams had not already found.

Written procedures for these inspections and audits are clear, records of the findings are kept and tracked to resolution by the supervisor of the area inspected and by the team chairman. A rating system determines eligibility for a reward for overall excellent plant performance. Records indicate that this system has been in place for several years.

Routine hazard analysis is accomplished through job safety analyses which are done annually and reviewed by the safety and Business Teams. All necessary changes to the job

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procedures are made, and employee training to accommodate these changes is conducted.

Employees report hazards and other suggestions to their Area Safety and Business team, or to the chief operator who will turn in a safety work order. Employees write suggestions on a two part form, the bottom half of which is returned to the employee with the response. The Area Safety and Business team is responsible for tracking these written suggestions. Safety work orders are prioritized as to their critical nature and are responded to appropriately. Reports are tracked by a new computer system referred to as the MPCS (Maintenance Procurement Control System). The computer printouts are reviewed by the Safety Manager who ensures that closure is reached. The computerized system has been in operation for several months and has been instrumental in improving the tracking of all suggestions to closure. Response time has improved in the past year, and when the new computer system is fully operational, more improvement is expected. Employees interviewed reported satisfaction with these systems.

Written procedures exist for the investigations of accidents and near misses. All accidents and near-miss incidents are investigated by the Safety Business Teams as well as by management. These investigations and the reports are clear and thorough. Results of the investigations are posted on bulletin boards and reviewed at safety meetings. Recommendations are tracking by the safety supervisor on a computerized program. This procedure has been in place for many years.

The plant medical program is administered by an occupational health physician. The physician's office is located approximately two miles from the plant as is the hospital emergency room. The physician is on call 24 hours a day and visits the plant once a week. He conducts pre-employment and annual physicals. He confers with the Industrial Hygiene Technician, reviews exposure records, and observes employees at work. Each year the physician conducts a wellness fair for employees and their families. Topics at the fair have included diabetes, stress management, diet, etc. All employee medical records are maintained by the physician and an employee's records are available for the employee to review. This program is adequate for the site and has been in place for several years.

The employee handbooks, one for site employees and one for contractors, contain the site safety rules. Forty-three written safe work procedures exist of which seven have been revised during 1992. The disciplinary system is written into the union contract, but use of this system has not been

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necessary for the past several years. The rules and the disciplinary system have been in place for many years. Employees said that they are aware of the rules and aware of the disciplinary system, but since all but two of them have worked at this site for many years, discipline is not necessary. If the system was invoked, it could involve the union representative and the employee in a progression of events from an informal conversation to written documentation in the employee's file to dismissal. Site safety rules apply both to management and to the rank and file employees.

Respirators are used occasionally in various areas of the plant for certain jobs. The written respirator program is appropriate and implemented. First level supervisors are responsible for the implementation of the program in their area. Employees receive fit testing, pulmonary function tests, and respiratory training. Supervisors ensure that employees inspect their respirators monthly. Interviews revealed that employees are knowledgeable of the uses, limits, and care of the respiratory equipment.

Emergency procedures are written and practiced. Emergency drills are conducted annually with the alarm equipment tested weekly. Drills have been conducted with the community response groups such as the fire department. The results of drills are reviewed by the Safety Board and revised if needed. All necessary equipment, signs and training are in place. The site fire brigade has been trained at Texas A and M fire school, and several of the Emergency Response Technicians (ERT's) have been trained in confined space rescue at an accredited program in Rome, Georgia. Two ERT's attended a chemical emergency response course in 1992. All site employees and contract employee know what to do in case of emergency. The emergency plans and equipment are adequate for the possible emergencies at this site.

The preventive maintenance program includes annual testing of relief devices and annual boiler inspections. Other regular schedules for inspecting a variety of site equipment such as large and small cranes, manlifts, hoists, fire extinguishers, etc. were available for review. Maintenance schedules are computerized. Maintenance records for the past three years were reviewed. Employees interviewed during the plant tours said that the maintenance system works well.

Benzene is the high risk chemical at this site. It is used as a raw material in a closed piping system, so that during normal operations employees do not come in contact with it. Engineers consider safety and health during the design phase

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for new equipment and processes both for normal operations and for emergencies. Engineering design includes appropriately placed rupture disks and emergency relief devices. Operators are trained to control flow rates and pressures. If necessary they can "idle the process" or redirect the flow to alternate receivers. Also, redundant high level detection devices and equipment modification on eleven process vessels in the Paranitrophenol (PNP) department prevent product spills due to process overflow. Frequent monitoring is done for benzene with the results readily available to employees. Such monitoring has not shown unacceptable levels of benzene in the workplace.

The emergency response systems are adequately designed, thoroughly communicated to all employees, and rehearsed with the community. Since the plant is located in a tornado area, procedures for emergency shut-down and start-up are rehearsed and well known. Periodic shut downs are scheduled for the preventive maintenance program to lessen the chances of plugged lines or other mishaps, including equipment failure.

This site has an extensive training program which includes comprehensive, computerized recordkeeping. Employees promoted to supervisory and managerial positions receive training from corporate resources. Monthly training sessions are conducted to improve job knowledge and safety. Training schedules for 1992 and 1993 were reviewed showing training for new employees and contract workers, for intra-plant transfers of employees, for emergency responders, and for all plant employees. Training done in 1992 included the Bloodborne Pathogen Standard, the Process Safety Management Standard, and ergonomics along with many other courses. Training for 1993 includes hazard recognition training.

Interviews with supervisors indicated that they are aware of the hazards associated with the jobs they supervise. These supervisors often conduct the monthly training sessions. Topics range from regulatory requirements to hazard recognition. During employee interviews, supervisors and other employees could clearly describe what to do in emergency situations.

Employee interviews also revealed that the process operators are aware of the hazards associated with their jobs. Operators were observed drawing samples along the process. Prior to taking a sample, the operator donned the necessary personal protective equipment (PPE). When questioned as to why they were wearing the equipment, they responded by explaining the hazards and the role the PPE plays in providing protection. When other employees, including

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contractors, were interviewed, they also knew what PPE was required and why it was necessary.

Management provided all lists necessary from which to choose employees for random interviews, provided a suitable room for the interviews, and arranged the interview schedule. Employees talked candidly during the interviews and did not reveal any factors that might have inhibited their responses. Employees were very knowledgeable and enthusiastic about the safety and health program at this site. Many of them participate on the various committees. Their impressions corresponded with the impressions of the VPP team.

A total of eleven committees function as part of the site safety and health program. Several of these committees, the Area Safety and Business Teams and the Safety and Housekeeping Team, have been discussed elsewhere. The Safety Board is the committee that has functioned the longest. It has ten members including the plant manager and the union president. Two additional members are hourly workers appointed by the union president. This committee meets monthly to review and discuss safety and health issues. Minutes provide a clear and concise record of the Board's activities.

One year ago the union established a safety and health committee to work with the existing committees and to enhance the overall safety effort. This committee consists of seven union members who are active union members and who volunteer to serve. They have been reviewing the plant safety and health program, working with other unions, and supporting the plant's efforts to achieve VPP approval.

The Safety Awareness Team consists of five members who organize safety incentive programs and other safety awareness activities such as bulletin boards, signs, and incentive games. They publish the employees' newsletter and organize an annual family picnic with a safety theme.

The Ergonomics Team consists of six members including the plant physician and one of the trainers. Recently this team has been meeting weekly to devise ways to recognize and reduce ergonomic problems. They have conducted an ergonomics symptoms survey and have been discussing ways to reduce back injuries or keyboard injuries.

All teams meet at least monthly. Good records are kept of each meeting. Membership is usually appointed or voluntary. Attendance is good, and employees are proud of their involvement and accomplishments in the site's safety and

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health program. Sixty to seventy percent of the employees at this site participate on the safety and health teams.

Written procedures clearly describe the annual safety and health program evaluation process. This evaluation assess each element of the safety and health program by first describing the actual performance and activities relating to each element during the past year. Next, the effectiveness of these activities is analyzed. Future activities for improvement are described, and the responsibility for implementing these activities is assigned. All recommendations are logged onto the MPCS computer system which lists the audit element, date of the audit, the recommendation, the date to be completed, and the current status. These records are also kept in a notebook and are reviewed monthly by the safety supervisor. The program elements evaluated in this manner cover all the elements necessary for VPP participation.

SUMMARY

Housekeeping at this site and the overall safety and health conditions at this site are excellent. All the required elements for VPP participation have been met. Employee enthusiasm for participation in safety and health activities at this site and for gaining VPP approval is very high. Management and union leadership is clearly visible and affective. Hazards are clearly identified and eliminated or controlled. Training is effective and thorough. Contract employees working at this site are knowledgeable about safety and health concerns and are protected in the same manner as site employees. The VPP team recommends that this site be approve for participation in the Star Voluntary Protection Program when the attached list of ninety day items has been completed.

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Ninety-day Items

1. All vehicles on the plant site must be equipped with seat belts and a clear policy for seat belt use is enforced. This item will be complete when a copy of the seat belt policy and the enforcement procedures are received by Pamela Evatt in the OSHA Regional office along with information that seat belts have been installed on all plant vehicles.

2. All pipelines must be labeled as to their contents and direction of flow.

3. 3/8 inch and 1/2 inch steam trace jumpers at pipeline flanges must be covered to protect against thermal burns when they are next to walkways.

4. The horizontal spline shaft on the super service radial drill must be guarded.

5. Written documentation of the response to all employee notification of hazards and employee suggestion be tracked to closure.

These items will be complete when documentation is received by Pamela Evatt in the OSHA Regional office. When documentation for all items is received, the recommendation for Star approval will be forwarded to the Assistant Secretary of Labor.

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