

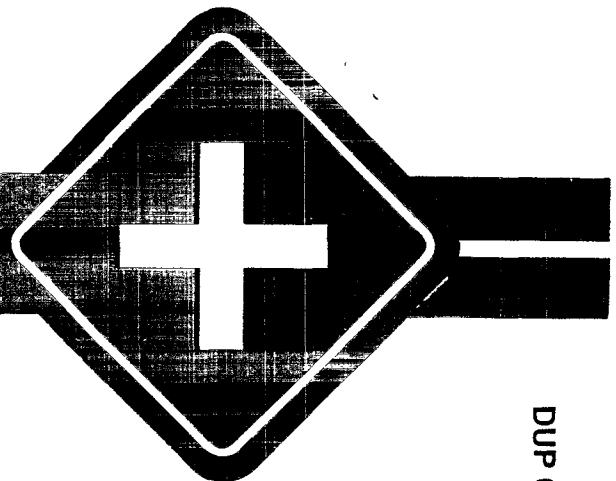
Safety Emphasis Survey

VICTORIA PLANT
PETROCHEMICALS DEPARTMENT
VICTORIA, TEXAS

REPORT NO. 5080
JULY 15, 1985

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EMPLOYEE RELATIONS DEPARTMENT
SAFETY & OCCUPATIONAL HEALTH DIVISION
WILMINGTON, DELAWARE 19898



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INTRODUCTION

A safety emphasis survey of the Victoria Plant was conducted on June 17-28, 1985. The team concept was used. Team members who assisted in final report preparation included J. Borden, G. De Dear, C. Hull, R. Molzygemba, D. Barnhart, M. Hausman, M. Ritter, R. Walleck, and T. Zapata from the Victoria Plant and the undersigned engineers.

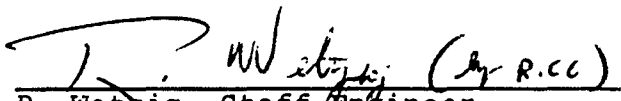
Safety and Health Management, Work Practices, Work Environment, Process Hazards Management and Emergency Control were evaluated. Elements of safe distribution of hazardous material (RHYTHM®) were also reviewed.

This report contains a summary and analysis of findings which were presented for site management by Victoria Plant and S&OH Division team members at the survey conclusion. No ratings were given.

Within the next three months, please send two copies of a status report to D. G. Windsor, Survey and Governmental Affairs Section, S&OH Division, indicating corrective actions to date and any recommendations which require further discussion.

SAFETY AND OCCUPATIONAL HEALTH DIVISION


R. C. Cooley, Staff Engineer


R. Wetzig, Staff Engineer

Reviewed by:


R. E. Munson, Consultant

RCC/RW:kam

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SUMMARY

Significant accomplishments noted during the survey were:

- Formation of a safety task force who has developed an indepth analysis of the site's safety needs.
- Excellent housekeeping, orderliness and maintenance of site facilities.
- Site dedication to well organized process hazards management programs.
- Excellent fire brigade, training facilities and firefighting capabilities.

The most significant areas needing improvement include:

- Moving forward with formation and implementation of safety awareness team programs.
- Reestablishing off-the-job safety programs.
- Strengthening the lock, tag, (clear) and try procedure.
- More utilization of wage roll and nonexempt employees in safety and occupational health programs and activities.
- Restaffing plant and area occupational health programs, where needed.
- Reevaluating site audit programs to include establishing a formalized area audit program.
- Improving safety meeting quality.
- Reviewing retraining programs.
- Establishing a timetable to complete site contractor safety programs.
- Improving work practices with emphasis on employee-created unsafe conditions.

SAFETY AND HEALTH MANAGEMENT

The Central Safety and Health Committee is organized and is operating according to company guidelines. Subcommittees are

properly chartered and report their activities to the Central Safety Committee periodically.

The safety activities subcommittee function was discontinued earlier this year and replaced by safety awareness teams in accordance with the Safety Excellence Task Force (SETF) recommendation. However, the plant currently lacks direction in this area, as the transition from the old to the new has taken more time than anticipated. Although formation of the safety awareness teams is underway, the plant should speed up the process so teams can begin functioning as soon as possible. Some teams have been slow in forming and need additional help in getting programs initiated.

The site's program to maximize involvement of wage roll and nonexempt employees in safety/health program efforts is strongly endorsed.

A survey team met with representatives of the SETF and discussed their proposals. Based on this discussion, the survey team found:

- A very positive commitment by management to the program.
- An indepth analysis of the plant's safety program by the SETF. Survey team findings also reinforce many conclusions of the SETF, such as the need to revise audit programs (particularly area audit which should include more wage and nonexempt employees).

Discussions with employees indicated prompt follow-up in response to the SETF's recommendations is imperative to achieve and maintain credibility with personnel.

The plant has an appropriate organization and staff for safety, RHYTHM® and process hazards management programs. However, the survey teams are concerned about the impact of the early retirement program (ERO) on the industrial hygiene program. Several area industrial hygiene coordinators retired and the plant occupational health coordinator was reassigned. A loss of program direction and momentum could result from understaffing of the health effort. Proper staffing of site health programs should be addressed promptly.

Based on interviews with approximately 5% of the work force, safety/health communications have improved since the last S&OH survey. Pertinent topics are promptly communicated through line organization openly and honestly. Management changes and

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embarkation on the "BIG Q" program have significantly opened lines of communications with employees. While communications have improved, there is room for improvement. There are still some cases where information is not reaching all employees. Some employees are awaiting the outcome of current communication efforts, such as from the SETF and the "BIG Q" program, to determine credibility of these and future safety and health efforts.

Communications between the various mechanical shop groups needs improvement. Communicating both ideas for improvement (such as equipment guarding) and standardization of procedures for common equipment is needed.

The current plant safety audit programs are deficient as follows:

- They are not conducted often enough in any area to be effective.
- There are no consistent area audit programs and there is no documentation of audit findings.
- Current programs have little wage and nonexempt employee involvement.

The teams involved during this survey have demonstrated that area personnel have sufficient expertise and knowledge to accomplish high quality audits. An improved audit program should allow communications of potential problems across area lines and the opportunity to analyze audits for plantwide trends.

While the overall safety program is receiving considerable attention through the SETF, the survey teams have concerns for the plant health programs. The health program is at a stand still, surviving on past momentum. These programs need continued direction and could benefit from increased involvement by wage and nonexempt employees.

Conversations with plant employees indicate that safety meeting quality is poor and is not effective. Company experience has shown that other plants with this problem have noted significant improvement and acceptance by involving more wage and nonexempt employees in safety meetings. The site is encouraged to expand employees direct involvement in important safety activities such as periodic safety meetings.

Production initial training programs (both field and central) are considered effective and current. The use of the process simulator enhances the production training effort. Retraining at Victoria (including both production and mechanical employees) is established through:

- Annual reviews of detailed procedures by employees.
- Supervisory follow-up and observations of work.
- Special schools and procedures on specific topics of infrequent involvement.

While the site is comfortable with the retraining program, numerous survey work practice observations are related to the need for a stronger retraining effort. The survey team recommends the site retraining program be reevaluated with a plant-wide goal of significantly reducing unsafe work practices and unsafe conditions related to unsafe work practices.

Victoria previously had good performance in off-the-job safety; currently there are no active or specific programs providing emphasis on off-the-job safety. Recent off-the-job performance has deteriorated, emphasizing the need to revive the emphasis on off-the-job safety.

Safety and health rules and procedures are generally appropriate. They are current and are reviewed appropriately. However (based on survey observations), needed procedures include:

- Rental equipment inspection.
- Panalarm light testing.
- Asbestos material storage and identification.
- Inspection of nylon chokers.

Overall the RHYTHM® program is effective and loading/unloading areas are in good compliance with the site's program. The plant's participation in the Gulf Coast RHYTHM® audit program enhances the overall RHYTHM® effort. Good compliance was noted including a detailed laboratory procedure for packaging and labeling samples for shipment. However, the shipping and stores area programs need upgrading to include annual RHYTHM® program retraining.

The survey team noted significant contractor safety infractions during the survey. Although manpower was recently committed to upgrade contractor safety administration, the survey team urges management to establish a timetable for compliance with current company guidelines by January 1986.

WORK PRACTICES

Approximately 20% of the observations documented during the survey were work practice related. Although the number of observed employee unsafe acts was low, numerous employee created unsafe conditions were found. Several observations involved altered or damaged tools which were being used or were available for use. Employees using these tools did not recognize the deficiency or were ignoring it.

Most individuals observed working unsafely were trained, experienced individuals who knew established rules and procedures, but were not following them. More emphasis is needed on employee's individual responsibility and supervisory follow-up. In addition, the plant safety awareness team should be charged with the responsibility of determining underlying causes for the numerous unsafe work practices noted during the survey.

Overall use, storage, maintenance and availability of protective equipment was very good.

As recommended in the "Safety and Health Management" section of this report, audits for unsafe work practices and conditions should be strengthened by supervision. Significant reduction in the number of such conditions as observed during the survey is needed.

Based on the number of survey team observations related to Victoria's locking and tagging procedure, the site should review this procedure to determine how it compares with the more stringent corporate guidelines.

WORK ENVIRONMENT

Area guarding on the plant is good. Access ways are clear; perimeter protection is provided; safety information signs are posted and restricted areas are appropriately marked. However, many chains across access ladders to elevated work platforms with two or more access ways were left down. A review of site policy with area personnel is recommended.

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Several plant scaffolds were substandard and in some cases created serious potential fall hazards. The survey teams recommend a review of scaffold erection procedures and training programs.

Equipment guarding in the shops and production areas is excellent overall. Two areas of concern were flange guards (which were either missing or loose and needed to be secured) and, several steam trap station guards which were loose creating a burn hazard.

The plant's ongoing maintenance program assists in spill and leak control. The plant's excellent gas detection systems and other control devices notify employees of dangerous gas or fume leaks. Spill control kits are readily available for use with spill control procedures unique to the area's chemical hazards.

Overall, housekeeping and orderliness are excellent. Some areas are exceptional such as the mechanical shops and the power plant. However, additional ladder racks are needed throughout the plant.

The site should review labeling of lighting panels and switch boxes. Many were found unlabeled or with labels painted over.

Equipment inspection and test programs for small tools and equipment are good. The most significant survey teams concern was the inspection and testing of flexible hoses. Several inconsistencies and misunderstandings were noted from area to area regarding the testing procedure. Also, several damaged flex hoses were found with exposed burrs. A review of this procedure with plant personnel is recommended.

Overall, waste material control and disposal is good. However, there is a poor understanding (perhaps because there is no formal procedure) regarding disposal of material in area trash containers. Survey teams observed ordinary trash, scrap metal and contaminated material placed in some common containers.

Chemical and physical hazards identified by the survey teams included the need to:

- Label asbestos gasket material storage locations.
- Improve labeling of breathing air bottles to assure air analysis documentation is legible.

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Relief valve and rupture disk inspection and testing programs are excellent. Numerous relief valves in the field were checked and found to have correct inspection tags. A computer tickler system, inspection procedure controls and up-to-date historical records assure personnel of an effective program. It was noted that relief valves, in some areas, are inspected and tested annually. This frequency may not be necessary according to corporate guidelines. The site should consider adjusting the frequency based on performance and process hazards.

Incidents are investigated according to the site incident investigation procedure and subsequent documentation is distributed appropriately.

EMERGENCY CONTROL

The site has developed one of the finest fire protection programs in the company, reflecting significant improvements during the past few years. Testing of the fire protection equipment and systems generally follows company guidelines. Test results show little deterioration of the system with age. Problems detected during the previous survey, particularly with the alarm system and personnel training, have been effectively resolved.

The area fire extinguisher inspection program is inconsistent and does not always follow the site procedure. It is recommended that area fire extinguisher inspections be conducted no less frequently than monthly (OSHA) and that the established frequency not decrease during area shutdowns, as noted by the survey teams. In addition, emergency equipment inspection tags should not be reused when completely filled in as noted. Current tag reuse practices do not follow prudent policy.

The site is well equipped for fire control and strengthening of protection continues, such as at the barge dock and fire brigade training area. The survey teams recommend that sprinkler protection in the Building No. 3 chemical storage room be reevaluated to ensure adequate sprinkler protection for this flammables storage area.

There are still some "dead spots" and confusion areas due to the current arrangement of the emergency alarm signal system. Although the alarm is supplemented by voice communications, efforts to eliminate alarm "dead spots" should continue until resolved.

The storage and dispensing practices for flammable liquids are generally appropriate. Improvements can be made by eliminating potential problems noted by survey teams, such as:

- Several badly rusted flammable storage cabinets.
- Flammable material storage under several stairwells.
- Storing flammable gases and oxidizers without adequate separation.
- Replacing/repairing defective grounding cables noted in service.

Problems such as these can be eliminated by implementing a more formal, effective area audit program.

The site has many process areas where the control of ignition sources is imperative to the safety of personnel. Generally the site is doing a thorough job. However, the reasons for the loose protective globes on "vapor proof" light fixtures throughout the "J" and "F" units should be determined and corrected to restore fire control to a level appropriate for these Class I, Division II areas. In addition, stronger control of contractors working in these areas is needed to eliminate observations such as misuse of extension cords and use of spark producing tools.

The performance of the fire brigade was outstanding during an unannounced night shift drill. The observed brigade has made remarkable progress in a few short years, apparently due to the:

- Fire training facilities (now among the best in the company).
- Aggressive training and leadership.
- The obvious support of management in supplying needed tools and equipment for the task.

Although the post drill critique outlined several areas needing improvement, overall the status of this program is quite satisfactory.

The site has installed appropriate emergency equipment, i.e., safety showers, eyewash stations, etc. However, continued phaseout of the one-liter eyewash bottles at the battery stations is needed in favor of one providing 15 minutes flush

time, as recommended by the Corporate Medical Division. In addition, employees inspecting safety showers and associated eyewash stations need much additional training. Deficiencies such as inadequate eyewash station water flow, partially obstructed eyewash streams, plugged cold weather drain holes, etc., are not being noted and corrected during system inspections. In addition, the testing frequency for eyewash stations and safety showers should be compared with the company's more frequent test recommendation, contained in Engineering Standard SLE, Section 5.1.1. Many of the noted deficiencies might be corrected sooner through more frequent, high quality inspections.

The site has a fine medical facility and the emergency first aid training for involved emergency personnel is up-to-date.

The site is further strengthening its transportation emergency (TERP) program by equipping a new TERP van. Response procedures are established and site TERP personnel have already responded to several offsite problems. Appropriate communications tie-in with CHEMTREC are established and participation in the CHEMNET program is planned. However, the site needs to move forward with formalizing its plans for semiannual TERP drills and training.

PREVIOUS REPORTS

Recommendations from previous reports (No. 3179 dated December 22, 1983 for Safety; No. 1069-H dated October 7, 1981 for Occupational Health) have been satisfactorily resolved except as noted in this report.

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