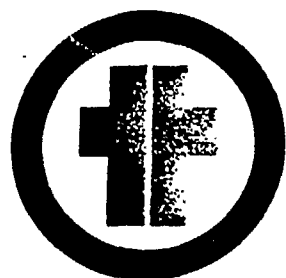


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wesley ott associates, inc.

SAFETY MANAGEMENT CONSULTANTS  
P.O. BOX 161 GASTONIA, N.C. 28052 704-866-8001

GAY *[initials]*  
CHILDERS *[initials]*  
FEB 1981 *[initials]*

November 14, 1980

Mr. J. F. Gay  
Champlin Petroleum Company  
P. O. Box 9365  
Fort Worth, TX 76107

Dear Joe:

Enclosed is my report resulting from the special survey of the Corpus Christi Refinery's current safety management program. I trust this is in agreement with my verbal summary during the wrap-up meeting.

I have tried to highlight what I perceive to be two major areas requiring emphasis: 1) a need for greater intensity of management commitment and day to day demonstration of management's interest and concern, and 2) a need for additional advisory and consulting services from the plant safety staff. Efforts are underway to improve in both of these areas.

Also enclosed are a copy of the "Shapiro speech" and an invoice for the Corpus Christi visit. Please give the copy of the speech to Bill Childers, as I had promised to send him a copy.

Finally, I commend you on your success in continuing to develop a unified, corporate safety and loss control effort in conjunction with the rapid growth being experienced by Champlin. The priority and emphasis you are helping members of top management maintain on safety matters during this period is significant. You and Bill do not have an easy task.

As always, it was a pleasure working with you and other members of the Champlin staff. I hope to be able to assist you again in the future.

Sincerely yours,

Wesley L. Ott

WLO:ma  
Enclosures

AN 000086

SPECIAL SAFETY MANAGEMENT SURVEY

CHAMPLIN PETROLEUM COMPANY

CORPUS CHRISTI REFINERY

November 4-6, 1980

INTRODUCTION

A special survey of the safety management program at Champlin Petroleum Company's Corpus Christi refinery was made in conjunction with the annual Loss Control Audit on November 4-6, 1980. The primary purpose of the survey was to assess the current status of implementation of the activities incorporated into the refinery's safety effort as a result of the DuPont safety management consulting program.

OVERALL EVALUATION

A comprehensive safety management program is underway at the Corpus Christi refinery. There are many effective activities underway, some of which are enumerated in the following section of this report. Members of management at all levels are personally involved in these activities.

Many of the activities, such as the safety huddles, investigation of equipment malfunctions, and use of the STOP cards are increasing the emphasis devoted to safety by first-line supervisors. One indicated area for improvement is regarding the intensity or degree of top management's involvement. Several deviations from the original program have resulted. These include a change in chairmanship of the Central Safety Committee, elimination of scheduled management audits and of the overlapping, departmental safety meeting structure.

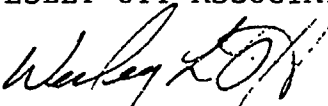
The safety staff has recently been enlarged and assignments made to provide increased staff support to the operating and maintenance areas.

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Specific suggestions for improvements of refinements of the safety management program are included in the following sections of this report, where appropriate.

Respectfully submitted,

WESLEY OTT ASSOCIATES, INC.

  
Wesley L. Ott, P. E., CSP  
President

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ACTIVITIES OF SPECIAL NOTE

There are many positive aspects of the overall safety effort at the refinery. Some of the activities that are being implemented especially well, and for which management should be commended, include:

- o There is now nearly 100% attendance of hourly employees at the monthly safety meetings conducted by safety department personnel. Most contractor personnel are also in attendance. This is a great improvement over previous attendance at these meetings.
- o Weekly safety huddles are conducted by members of first-line supervision with members of their crew. Suggested topics and resource information for these safety huddles are provided by the safety staff.
- o A committee investigation is conducted on all injuries resulting in lost-time or doctor's treatment.
- o The general publicity and awareness campaigns at the Corpus Christi refinery are excellent. Many persons have mixed feelings about the advantages of these types of programs. Although persons do not always read the signs, posters and safety messages, I feel the concept of subliminal perception is utilized to some degree.
- o A program was recently begun in operations to have the unit operators review an emergency shutdown procedure each week with other unit operators. These reviews are documented.
- o There is an excellent training program underway for Emergency Response Team members.
- o A program has recently begun in operations to have operators document and investigate all equipment malfunctions and process upsets. This program could contribute significantly to ferreting out conditions, operating procedures and possible training deficiencies that lead, not only to equipment malfunctions, but also to employee injuries.

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- o A spot-check of work order logbooks in two control rooms revealed that there is not a large backlog of work orders over three or four weeks old. Also, safety engineers are involved in the scheduling of maintenance work. This helps insure a balanced priority of safety related work orders.
- o Summary reports and resource materials prepared by the safety office are very thorough and provide managers and department supervision with good sources of information to help them maintain an awareness of their areas' performance.
- o The assignment of safety engineers to various areas of the plant is a very positive step which can afford an increased awareness of on-going conditions and practices in the areas. Their increased presence should be beneficial to area supervision as they seek to maintain a safe environment.
- o The practices of labeling individual vessels and pieces of equipment such as heat exchangers and columns is excellent. This practice should be extended to all areas of the refinery. This is especially helpful in training of new employees, operators and maintenance personnel.
- o The laboratory employees recently completed ten years without a lost-time injury. Employees in this department are congratulated on this achievement.

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GENERAL AREAS FOR IMPROVEMENT

Based on the review of activities underway and discussions with members of management and operators, there has been a deviation away from the original concepts and approaches to safety management adopted at the refinery in three areas. These include:

- o The Central Safety Committee is not being chaired by the Refinery Manager. Instead, the Safety Manager is chairing this meeting.
- o The cascading or overlapping safety communication structure does not exist. Safety matters are a part of the routine discussions in the morning meetings with the Refinery Manager. These meetings are attended by the Safety Manager.
- o Audits by members of upper management, specifically members of the Central Safety Committee, are no longer conducted. Members of management are sometimes scheduled to participate on the "plantkeeping" inspections and each manager makes individual tours of the refinery areas.

There are continual demands on the time of each member of the staff at the Corpus Christi refinery. These time demands have been compounded by the start-up and operation of new facilities during recent years, revamping older units, and increases in the overall responsibility of each manager.

If there is a weakness in the overall safety effort, it is not a lack of desire to operate safely. However, because of the demands on management's time, some of the safety matters are perhaps pursued with less intensity than necessary to provide adequate personal follow-up on programs and activities to insure the required degree of control to achieve the desired performance. Indications of this, in addition to the deviations highlighted above, include:

- o Limited knowledge regarding the number of first-aid injuries in their area,
- o No communication in some departments regarding injuries resulting in other departments, including those with lost time.

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- o Lack of knowledge (by one manager) of how safety programs within the department are functioning.

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SUGGESTIONS FOR IMPROVEMENT

Specific suggestions which are offered to help increase the intensity of managements' emphasis on safety within the refinery include:

1. The original reports resulting from the DuPont study and consulting effort should be reviewed and those sections pertaining to the Central Safety Committee, cascading department safety meetings, and management audits should be reproduced and distributed to Central Safety Committee members. These should be reviewed individually by each member of the Central Safety Committee and scheduled for discussion at a forthcoming meeting.

Management should analyze the current practices and activities and determine if they are sufficient or whether modifications would result in greater management awareness of, and impact on, the safety effort.

A specific discussion and decision should be made on each of the program elements.

2. Management's intensity of emphasis on safety matters could be increased by devoting more attention to minor injuries. These can be used as an effective indicator of performance. They can provide valuable information regarding trends, training deficiencies, or existing employee work practices which need attention, to upgrade performance or reduce exposures.

A plan that could be utilized to accomplish this is outlined below:

- A. Each employee should report to his immediate supervision either before or after treatment at first-aid.
- B. The injury report form should be partially completed in first-aid and returned to the supervisor, preferably by the employee.
- C. Upon receipt of the forms, the supervisor should make some investigation and inquiry regarding the circumstances surrounding the injury and complete the remaining information.

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- D. Communication regarding the injury, circumstances surrounding the injury, and follow-up action taken should be conveyed to other levels of supervision no later than the day following the injury. For example, at the meeting between the superintendent and his staff, a brief discussion regarding the injury would be appropriate. If the injury is of a serious nature, more detailed investigation should be planned.
  - E. Similar discussion should take place in the refinery managers' meeting to communicate the fact that an injury occurred and supervision reacted to it. Where the potential was very serious, detailed discussion may be in order and plans for correction of similar exposures should be made. The detail of the verbal reports should be consistent with the seriousness of the injury.
  - F. When necessary, the safety engineer representing the area in which the injury occurred should do some independent investigation regarding the circumstances surrounding the injury. On occasion, he may prod area supervision into making more detailed follow-up investigation.
- 3. Another method of increasing managements' emphasis on safety would include a verbal communication with their staffs to discuss the investigation results of serious injuries and equipment upsets. Some minimal verbal communication should be held on all injuries upon which an investigation is made. The extent of the discussion and follow-up would depend on the investigation results and recommended actions.
  - 4. The area safety engineers can provide a valuable assistance and advisory service to management by monitoring effectiveness of safety huddles, stop card use, work practices, investigation of equipment malfunctions or process upsets, and the extent of emergency shutdown training, etc. Their feedback to management can allow them to become personally involved when needed or provide added emphasis to insure that area programs function effectively.

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### SUPPLEMENTAL SUGGESTIONS

The following sections of this report include comments on specific activities or elements of the safety program.

#### Light Duty Policy

Corpus Christi management has recently adopted a firm stance against light duty for injured employees. This has had the effect of increasing the number of injuries that are classified as "lost-time" injuries and the number of lost workdays experienced by employees. Future lost time injury performance will not be as good as that experienced in the past, when light duty or restricted work assignments were utilized.

Mr. Gay, Corporate Safety Director, has been requested to review the corporate stance on light duty, and develop a proposed guideline for refinery review. Refinery personnel should have an opportunity to participate in the development of this proposal.

#### Monthly Safety Meetings

In spite of the improvements made in the attendance of the monthly safety meetings, and other refinements of these meetings, there are still employees who comment negatively regarding the interest level of the meeting topics. This is to be expected, considering the number of employees in attendance each month.

A schedule has been developed for 1981 meeting topics. One suggestion to help overcome some of the adverse reactions to the meetings is to involve representatives from the various departments in the preparation of the meeting resource material. A method of doing so would be to have a task force, composed of area representatives (primarily supervision), assigned the responsibility for planning and procuring meeting resource materials.

Consideration should be given to having a member of the task force also take responsibility for presenting the material. This could require an inordinate demand on their time to do so.

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Another approach to varying the presentations would be to rotate responsibility for presentation among different members of the safety staff. This would also broaden their capabilities and provide some variety of the meetings.

STOP

The current program of using STOP cards may be more counter-productive than helpful. Each member of supervision is asked to complete one STOP card each week. The majority of these cards are being returned with the statement "no observation" or "none" on the cards. Also, some departments are not following through with the program. It is suggested that some plan be continued to utilize the STOP cards and apply the concepts of observation established in the STOP training program. Some suggested methods for doing so include:

- o Continue to have each member of supervision make at least one observation per week.
- o Require that each observation be directed at employee work practices. Observations of equipment conditions should not be acceptable. (An alternate would be to accept an employee created condition such as hose left lying on pad, or ladder left in area.)
- o Supervision should observe "positive" work practices as well as violations or unsafe practices. For instance, if an employee is observed drawing a sample, working on a valve, or even just walking through an operating area, this could constitute an observation. If the task is being done safely and in accordance with procedure, and if the employee is using all required protective equipment, he should be commended or thanked for doing so. An observation card might record:

"Observed employee taking sample from splitter. Using all required protective equipment and performing job correctly." Action taken would be: "Thanked employee for working safely and contributing to a safe operation. Asked employee if he knew of any hazards or problems associated with that task."

- o The employees name should be recorded on the observation cards.

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- o Consideration should be given to advising employees that any violation of standard safe practices or procedures would be considered as a "second offense" violation, and the card would constitute a written warning. A copy of the card should go in his file. Unsafe practices of a "judgment" nature would be considered verbal warnings. The card should be discarded after recording for trends, etc.
- o Regardless of the methods used, it is important that a discussion be held in the Central Safety Committee to determine the procedures to be followed, and a uniform method for use of the cards established. The plan for use should be verbally transmitted through each level of the organization.
- o The above method of using the STOP cards would be a method of getting supervision to apply the concepts of observation contained in the STOP program and apply the techniques of "positive re-enforcement" to obtain the desired behavior. Current safety researchers and practitioners are beginning to agree that this is a more effective method of obtaining the desired level of safe performance than the punitive or negative approach.

#### Safety Huddles

The safety huddles are an excellent method of establishing communication between the first-line supervisors and their crews. If the supervisors or employees begin to react negatively to the topics and materials prepared by the safety staff, an alternate approach to select topics would be:

- o Use a periodic meeting to develop a list of topics or potential danger sources or hidden hazards. In this way, operators or mechanics would have input into the topics they felt should be reviewed to contribute to a safer operation or help make them aware of hazardous operations in their area.
- o An alternate approach would be to make assignments to one or more members of the crew each week, asking for a report at the next safety huddle. For example, operators could be

asked to survey the areas for safety signs that might need to be replaced, to comment on areas where signs could be placed, to make a survey for hard to operate valves, etc.

#### Safety Department Responsibilities

Emphasis on having safety engineers assume responsibility for specific areas of the plant should be continued. Each member of the safety organization has special skills in a particular area such as training, fire protection, emergency equipment, etc. The assignment to a particular area and assumption of total responsibility for that area should help to broaden the safety engineers' capabilities. Some of these responsibilities include inspecting emergency equipment within the area on the scheduled frequency, monitoring area inspections of this equipment, investigating injuries and potentially serious injuries, participating in follow-up investigations of equipment malfunctions, monitoring work practices, and effectiveness of training such as shutdown procedures, etc. Such area representation should help the safety personnel become more effective in performing their role as consultants and advisors to the line organization. Their increased presence and follow-up in the areas should help them to more quickly detect potential trends and deficiencies in the area and to suggest corrective action.

A suggestion to help insure uniform understanding of the desired working relationships is to have each department head prepare an outline of what he would like to receive in regard to safety advisory and support services. The department head could meet with members of the safety staff and outline his expectations and suggestions on "How you can help me administer the safety effort in my area."

#### Laboratory

A walk-thru of the laboratory facilities and discussion with the laboratory supervisor revealed serious deficiencies regarding laboratory ventilation. These deficiencies are recognized and an AFE has been authorized to revamp and improve the laboratory facilities, but no definite plans have been made to do so. Some

problems are anticipated by the laboratory supervisor regarding continued operation during the remodeling, when it is undertaken.

It is suggested that a thorough discussion and review of existing laboratory deficiencies be conducted. The hazards associated with the current facility should be enumerated and a hazard classification placed on these. Consideration should be given to the potential exposure to laboratory employees, potential OSHA citations and their effect, and the effect of continued operation on employee morale. A decision should be made on the seriousness of the above, and plans made regarding future operation of the laboratory and for modernization.

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