

MINUTES OF PLANT MANAGER'S SAFETY BOARD
MEETING

January 19, 1977

Present: Members

G. W. Bostick	W. H. Lane
P. E. Brubaker	J. L. Rasmussen for Marsh
J. E. Clark	R. C. Martini
G. A. Danner	C. M. McCullough
G. W. Davies	C. A. Peters
W. C. Fuller	G. T. Ryan
J. A. Glass	J. G. Trafton
H. M. Lacy	

Visitor

J. F. Carlisle (part-time)

I. SAFETY STATISTICS

A. Statistics of '76 Statistics and Comparison with '77

<u>Time Period</u>	<u>TOT INJ</u>	<u>TIF</u>	<u>TOT SI</u>	<u>SIF</u>	<u>Major Injury Frequency</u>
12/1/76 - 12/31/76	23	84	2	7.3	-
1/1/76 - 12/31/76	302	94	20	6.2	0.31
1/1/75 - 12/31/75	238	73	17	5.6	-

Total injury frequency rose by 29% and serious injury frequency by 10%. These figures show that as total injury frequency rises the probability of having a serious injury increases. Our efforts aimed at the elimination of unsafe acts and conditions that could lead to injury - any kind of injury - is a step in the right direction to improve safety performance.

Effective January 1, 1977, we will begin reporting statistics based on the new Monsanto Corporate Guidelines consistent with the new OSHA reporting system. All corporate statistics will follow the new guidelines. A series of training sessions will be held plant wide to acquaint people with the new system. The first trial reporting of the statistics under the new system is tabulated below.

<u>Indicator</u>	<u>TOT INJ</u>	<u>TIR</u>	<u>TOT RI</u>	<u>RIR</u>
Footnote (on next page)	1	2	3	4
<u>Time Period</u>				
Jan. 1 - Jan. 13	6	10.7	0	0.0

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Footnotes

1. Total Injuries - TOT INJ
2.
$$\frac{\text{Total Injuries} \times 200,000 \text{ hours}}{\text{Hours Worked}} = \text{Total Incidence Rate TIR}$$

200,000 is the approximate number of hours worked per year by 100 persons
3. Total Recordable Injuries - TOT RI
Injuries requiring MEDICAL TREATMENT
4. Recordable Incidence Rate - RIR
$$\text{RIR} = \frac{\text{Total RI} \times 200,000}{\text{Hours Worked}}$$

The discussion following presentation of the above statistics included:

1. Need for a comparison of current performance with previous records:
 - (a) Direct comparison with '76 on the same basis.
Action: These records were kept and will be available beginning February 1.
 - (b) Comparison with 20 year performance record on the same basis.
Action: MISD & LP&S are revising the printout of the monthly statistics plotted, reported, and distributed to supervisors. Statistics for January '77 will be on the new basis.
2. Recordable injury designation depends on what the doctor actually does.
Action: This depends on interpretation of the guidelines within fairly well defined limits. Each General Superintendent will have a copy. In close calls, as in the past, the Plant Manager makes the final decision for the site.
3. Managers and supervisors need to know lost workday cases and incidence rate.
Action: MISD & LP&S will determine how to get this information on the form. Target: Include in the January report. Other changes in local reporting may be made as experience dictates.
4. Plantwide education on the new system and some revision of the signs at the gates will be needed as we phase out the old and begin the new system.
Action: SHAC will be responsible for developing the program. A copy of the graphical comparison and a summary of the key terms will be attached to these minutes.

B. X-ray Emission Problem -- McCullough

SAC reviewed the problems related to the effect of x-ray equipment used for radiographic testing of welds within the plant.

Status: There are three areas of concern:

1. Effect on flame control mechanisms ("purple peepers")
2. Admission of radiographers into the plant
3. Exposure of personnel (ours and contractors')

Action: SAC approved the concept of a radiographic work permit system. John Fox, LP&S, will prepare a P-bulletin that describes the proposed permit system, circulate it for comment to those most closely associated with the program, and circulate it for final approval.

C. Electrical Tracing Hazards -- McCullough

This problem appears to vary widely across the plant.

Action: SAC referred it to SHAC to put out an action request for information to define the nature and extent of the problem.

II. SAFETY AND HOUSEKEEPING ACTION COMMITTEE (SHAC) -- Harold Lacy

A. Relief Valve Testing Program

Status: An EWO has been issued by SHAC to review the overall relief valve program and Mike Ward in PES has been assigned to do the job.

B. Recommendations from the 1976 Housekeeping and Safety Inspection

Harold reported on the status of each item. Details are included in minutes of SHAC meeting of January 17.

III. REPORT OF SAFETY ADVISORY COMMITTEE - McCullough

A. Review of Emergency Procedure Plan Concerns -- Bostick

A final summary of the status of the actions taken on EPP concerns was issued. At the PMSB meeting the following additional comments were made on the report by George Bostick (memo "EPP Concerns" to PMSB dated 1/17/77).

Concern 3: Fire crew shift coverage

Status & Action: LP&S has not completed its work on proposed plan. Expects to have proposal ready by February 11.

Concern 4: Back-up fire crew

Status: Of the 23 persons listed on the back-up crew, 16 have had training. Additional training will be scheduled by May 1.

Concern 5: Industrial Mutual Aid

Status: P. E. Brubaker is prepared to meet with IMAS officials to review status of the program and to discuss the nature and extent of Monsanto involvement in the enlarged program.

Concern 6: EPP Room Emergency Power

Action: PMSB approved the issuance of a PAFE to obtain the necessary diesel engine to drive the emergency generator. The present inverter/battery system will remain in place and serve as an alternate supply of emergency power.

Concern 7: Bomb Threat Procedure

Status: The new bomb threat procedure has been approved by the PMSB. SHAC will be responsible for providing necessary publicity and training when the revised P-bulletin is issued.

Concern 10: Warden Staffing (bring up to date)

Concern 17: How to Put Plant on Alert

Concern 18: Integration of Wardens into Ordinary Emergency Plan

Status: Warden system that exists under the EPP will be integrated with the regular fire/spill alarm.

Action: SAC recommended and PMSB assigned implementation of above changes to SHAC. Included in this plan should be listing of appropriate actions to be taken when the out-of-plant emergency code is sounded. The purpose of these changes is to get people in position to receive information about the nature and extent of the emergency and appropriate protective action.

Concern 27: Pay Policies During Emergencies

Status: Referred to Personnel for resolution.

Action: Has been reviewed and a recommendation forwarded to St. Louis. Target date for resolution: Prior to June 1.

Concerns

24,29,30,31 EPP back-up, Personnel Accounting, etc.

Status: As reported by Harold Lacy for SHAC - Arrangements exist at the First Bank of La Marque (formerly Bank of the Mainland) in La Marque for handling necessary personnel accounting. Space is also available to use this location as an evacuation re-assembly point.

A mobil back-up EPP center (Van containing necessary emergency radio equipment, status boards, maps, etc.) would provide the most comprehensive means for a reliable alternate control center. We are working with appropriate personnel to develop a cost estimate for such an alternate center.

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Action: PMSB approved the request by Lacy to proceed with a PAFE for the required equipment.

IV. OFFICE SAFETY COMMITTEE -- Glass

The Office Safety Committee continues to be actively engaged in presenting safety programs with good response. Driver's Education classes arranged by this committee has netted 35 persons for the first course and 21 are enrolled for the February course. (There's still time and space available for the second course.)

V. REVIEW OF INCIDENT REPORTS

- A. Serious injury - electrician's wrist fractured (12/14/76) -- McCullough
- B. ACY spill in the ACY tank car loading rack (12/16/76) -- Danner/Marsh
(A detailed analysis was distributed at the meeting.)
- C. Serious injury of polyethylene laboratory analyst (12/17/76) -- Daues
- D. Near-miss - collision of pickup truck with train switch engine (12/19/76)
-- Stacy
- E. Winch truck/flat bed truck incident (1/3/77) -- McCullough
- F. Fire @ crude methanol pump slab (Dept. 44) contractor welding (1/5/77)
-- McCullough
- G. ACY spill within unit (1/7/77) -- Rasmussen

VI. PROPERTY LOSS INCIDENT REPORTS

The proposed P-bulletin P-0111 "Property Loss Incident Notification and Reports" was approved for issue.

VII. OTHER ITEMS

A. Tank Protection Program -- Jack Carlisle

This item was in response to an investigation following a tank fire that occurred at Port Plastics. The incident was described as follows:

"One lightning bolt hit a 555K-gallon tank containing methanol igniting an explosive mixture in vapor space. Explosive pressure ruptured tank at bottom flange and propelled tank side and top approximately 80 feet in the air. It fell on nearby dike and burning methanol spread over a wide area. Intense heat collapsed an adjacent 43K tank of AN and caused internal explosion of an adjacent methanol tank which blew off its frangible roof and ignited the contained methanol."

Questions arising from this incident and pertinent comments given at the PMSB meeting were:

Question 1: Are we vulnerable at Texas City from a design standpoint?

A. Are our tanks nitrogen blanketed?

Answer: We specify nitrogen blanketing when the flash point of the liquid is $\leq 140^{\circ}\text{F}$.

B. Do our tanks comply with plant and corporate safety standards?

Answer: We have completed an out-of-battery limit survey and found that our tanks were specified/designed according to our standards.

Question 2: Are current standards acceptable safety practice?

A. Nitrogen blanketing?

Answer: Our recommendation of using a flash point of $\leq 140^{\circ}\text{F}$ agrees with OSHA recommendations.

B. Design standards (tank)?

Answer: Our standards comply with API Codes 650 and 2000 for frangible (weak seam) roof:
"A cone roof with a slope 2" in 12" with a 3/16" single fillet weld at junction of roof and wall" venting requirements - normal.

Key Point: The API 650/2000 code emergency vent criterion is not good for explosions.

Tables listing large Texas City storage tanks were distributed to members of PMSB.

Question 3: Do our tanks comply to:

A. Nitrogen blanketing standards?

Answer: A memo recommending a check of this system was issued to all superintendents on November 2, 1976. Feedback has been received from the East Plant only. Others are hereby requested to respond no later than Feb. 15.

B. Normal and emergency venting capacity?

Answer: This must be confirmed by checks and calculations on each plant tank. One man is assigned to this in the East Plant. Plans and target dates for completion of all areas are hereby requested to be presented to the PMSB on February 16, 1977.

RECOMMENDATIONS

- (1) All storage tanks existing and new installations except floating roof tanks which store flammable liquids with a flash point of 140°F (closed cup) or less must be nitrogen blanketed.
- (2) Check capacity of plant API tank vents (normal and emergency).
- (3) A plantwide check to be sure we are in compliance with item (1) above.
- (4) A review of all nitrogen blanketing facilities to check sensitivity and capacity.
- (5) Develop a plantwide procedure to insure proper sizing, testing and installation of P/V venting devices.

Overall

Key Point: Tanks checked are built in accordance with accepted code requirements, but blanketing, venting and pressure relief systems must be properly operated and maintained to insure integrity of the tanks.

Questions Raised by PMSB:

- a. Do plastic manhole covers in styrene tanks negate the protection covered by the code?
- b. These comments did not address the question of how we compare in compliance with ASME code on unfired pressure vessels. PMSB requested a recommendation from PES regarding checking such vessels.
- c. To what extent does nitrogen curtailment affect the protection of nitrogen blanketed vessels? Is there an action plan in event nitrogen is curtailed? Should natural gas be used in lieu of nitrogen? If so, in what tanks and when?

B. Additional Concerns To Be Addressed Prior to Next Meeting

1. West gate traffic pattern and problems -- Albritton/McCullough
2. Styrene and VAM transfer line shoes jumped off their supports in the piperack -- Danner/Ryan/Fuller

Next meeting Wednesday, February 16, 1977.


J. A. Glass

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