Monsanto

J. A. Glass - LP&S

PLAINTIFF'S EXHIBIT

MON-929

DATE March 29, 1977

cc

Safety and Property Protection Survey
Texas City Plant - August 26-20, 1976

REFERENCE

TO :

G. W. Bostick
P. E. Brubaker
J. E. Clark
G. A. Danner
G. W. Daues
W. C. Fuller
H. M. Lacy
N. L. Marsh
R. C. Martini
D. W. Metten
C. M. McCullough
G. T. Ryan
R. L. Stuart
J. G. Trafton

Attached is a copy of last year's S&PP survey for the Texas City plant. Some progress reports have been received on the items listed. I would like to suggest that we review the status of the recommendations included in this report at the next Plant Manager's Safety Board meeting scheduled for April 20. We will place it on the agenda as a reminder.

Arnold

J. A. Glass

vf

Att.

SC 002896

LAM004104

Monsanto

FROM (NAME & LOCATION): T. W. Lawrence/H. W. Morgan - S&PP - St. Louis - F2WA

DATE: September 3, 1976

SUBJECT: Safety and PRoperty Protection Survey - Texas City Plant

REFERENCE: August 16-20, 1976

TO: Mr. P. E. Brubaker
Texas City - 1890

CC: E. N. Brasfield - E3NG
J. A. Glass - 1890
E. H. Jones - 1890
R. L. Miller/E. G. Volz

This report summarizes observations that were made during our recent safety and property protection survey of the Texas City Plant. It also includes the status of outstanding recommendations from previous surveys.

It was noted that of the 11 outstanding recommendations, 9 have been satisfactorily completed, the other two recommendations are still under consideration.

It was unfortunate that almost simultaneous with our arrival at the plant, the crisis with the large scale ammonia leak occurred. However, this incident did give us an opportunity to evaluate the emergency response. It is our opinion that your disaster control plan functioned well. There was demonstrated good coordination between the control center and the field and all safety concerns were properly addressed and managed.

The plant's Team Approach to Safety is having an apparent positive impact on the plant's overall safety performance. Of particular note is the Unit/Craft safety team concept. Our discussions in the plant revealed that this concept is an effective mechanism for dealing with the safety concerns originating from the field.

There were many other positive observations made during the five day exposure to your plant. These included a good level of housekeeping being maintained in all areas of the plant including shops and laboratories. Good hazard highlighting was noted throughout the plant and of particular note is the non-skid treatment applied to most exterior stairs. It was also noted that good attention has been given to the guarding of mechanical hazards. The program for cleaning, inspection and dispensing personal protective equipment is excellent and operating people reflect a high degree of confidence in the reliability of the personal protective equipment that is issued.

SC 002897

NEW RECOMMENDATIONS:

76-1: Emergency Shower Head-Acetic Acid Department

The standard emergency shower heads in the Acetic Acid Department are one inch by two inch reducing couplings to provide a more spot-type deluge. However, a field demonstration revealed a very erratic discharge of very questionable character. It is recommended that these reducing couplings be replaced with conventional emergency shower heads.

76-2: Hoist Practices

The following hoist deficiencies requiring attention were noted:

a. The capacity of the hoist in the control valve testing building and the Oxo-Alcohol/Phthalic Esters Department was greater than the capacity of the hoist trolley or the hoist support. Hoist of matching or lesser capacity should be provided for these areas.

b. Several of the hoists receiving rather infrequent use show signs of long periods without service or inspection. This coupled with the natural atmospheric corrosion leaves some doubt about the reliability of these hoists. The overhead hoist in the HCN Department is an example. It is recommended that the hoist inspection program be evaluated to ensure that all hoists are being thoroughly inspected on an interval that will assure their reliability.

c. The jury-rigged pulley hoist which has been installed in the HCN Department should be dismantled.

76-3: TBA Reactor Vent

It was noted that pressure was indicated on the section of the vent line between a rupture disc and a pressure relief valve. This condition should be investigated and corrected. The practice of installing rupture disc and pressure relief valves in series is generally discouraged by API. It is recognized that in isolated cases this may be the only practical solution to such problems as vent capacity. However, in such instances it becomes imperative that measures are taken to ensure that pressure is not permitted between the two relieving devices, since this can significantly change the ultimate relieving pressure.

76-4: HCN Manufacturing and Storage Area

It was noted that the housekeeping/maintenance level of the HCN Manufacturing and storage area was not up to the par of the plant. While the future of part of this facility may be short lived, it is imperative that it continues to receive special attention. It is also recommended that consideration be given to inerting the vapor space in the HCN storage tanks for added fire protection.

76-5: Lactic Acid-Light Fixture Guards

It was noted that the incandescent light fixtures on the reactors are without the wire metal guards. This is required to meet the electrical classification for this area and it is recommended that this extra protection from physical damage be provided.

76-6: Mobil-Therm Bypass - Phthalic Department

A temporary bypass/filter system was noted in this area. The piping system did not seem to be adequately supported. The piping was not plumb or level and it was not possible to determine whether this was due to strain or whether it had been installed in this manner. Additionally, there was some evidence of an earlier material spill. This high temperature heat transfer fluid has a high loss potential and it is important that temporary installations receive the same installation considerations as a permanent installation.

76-7: Nitrogen Connections

A large number of utility stations have been provided throughout the plant where connections for steam, air, water and nitrogen are available. These utility connections all employ a crows foot connection except in the Phthalic Anhydride Department. There the nitrogen connection employs a distinctly different connector. This certainly minimizes the potential for dangerous cross connections between nitrogen and other utilities. It is recommended that this practice be considered for all other areas of the plant.

76-8: Hydrogen Excess Flow Valve - HDPE

A bypass has been provided around the excess flow valve in the hydrogen loading system. It is recommended that the valve in the bypass be sealed in the closed position to ensure that the function of the excess flow valve is not defeated.

76-9: HDPE - Finish Area

This area has a high potential for dust fires and explosions. Efforts to reduce this loss potential should be complemented by considering automatic sprinkler protection for the entire finishing building.

76-10: Maintenance Shop Practices

Several maintenance shop operations were observed that could lead to personal injury or harmful exposure. It is recommended that these be reviewed and corrective action taken.

a. Welding operations were being performed on benches and on bench vises. Barrier screens were not high enough to protect nearby workers and other people passing by.

b. Welding operations were being performed without the benefit of local exhaust.

c. Two men were at a machine piercing holes in angle iron pieces. One man was holding the angle iron pieces near the point of operation while the second man operated the control buttons. Facilities should be provided to support the work such that encroachment on the point of operation would be avoided.

d. Paint spraying was being performed away from the spray booth with other workers in the area unprotected by respirators.

76-11: Pressure Testing Valves and Control Instruments

It was determined that relief valves and other pressure control components were being gas pressure tested without the benefit of barrier protection for the person performing the test. Under the present conditions, catastrophic failure of the valve body would endanger the life or lives of persons in the area. It is recommended that the existing test chamber be used for all gas pressure testing except in lesser exposures where satisfactory protection may be provided with barrier shielding.

76-12: Foot Protection Program

It is recommended that consideration be given for mandatory foot protection program covering all industrial exposures. i.e., manufacturing, maintenance, storerooms and laboratory.

76-13: Fire Brigade Coverage

Considering the potential for large loss fires and the need to make a prompt initial reponse to any developing fire, it is recommended that around-the-clock fire brigade coverage consisting of at least two fully trained firemen be inaugurated. These men should be capable of moving initial response apparatus to the scene and, supplemented by other on-shift personnel, making an initial attack on the fire.

CONTINUED RECOMMENDATIONS:

75-2: Methanol Reformer Firing Safeguards

The firing train for the methanol reformer should be upgraded to include:

a. Double block valves with an intermediate bleed valve in the fuel gas supply line. Present installation includes only one block valve.

b. Interlocking system which proves burner cocks closed before main gas supply can be opened.

c. Elimination of the non-interlocked manual reset feature on the solenoid valve in the air line to the air-to-open safety shutoff valve in the gas supply. It should not be possible to open the main gas valve, even with a reset handle, until all interlocks are satisfied.

Status: Corrective measures are being developed.

75-3: Flammable Dust Accumulation - HDPE

Heavy deposits of polyethylene dust were noted in several areas of Department 35, High Density Polyethylene. Accumulations in the enclosed building areas in the pelletizing area were of particular concern and would be conducive to a major secondary explosion, should the dust be shaken loose from the building structure. Better dust control and more frequent cleaning is recommended.

Status: This problem still exists, however, a number of improvements have been introduced. Efforts to further reduce the dust accumulation are being taken.

COMPLETED RECOMMENDATIONS:

72-6: Flammable Liquid Containers
74-4: Emergency Eye Bath Locations
74-5: Gates for Platform Railing Openings
74-6: Guarding of Couplings, Shafts, Belts and Pulleys and Pedestal Fans
75-1: Sprinkler Clearance - Research 2
75-4: Ladder Inspection
75-5: Biennial Safety Audits
75-6: Ramp - HDPE Analyzer House
75-7: Dock Fire Protection

Thomas W. Lawrence, Jr.

Harvey W. Morgan

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