

W. C. Holbrook/T. S. Bialke/J. W. Lewis
 C. J. Nosal/H. R. Calsing
 H. Waltemate
 C. K. Andersen
 A. D. Timpano - Brecksville
 G. F. Krcmar/K. H. Lee, Jr.
 A. N. Sitabkhan/W. Haase
 W. C. Niederst/T. A. Waltermire
 N. R. Aquino/D. H. Hall
 R. C. Kaminski/E. C. Martinelli
 F. E. Krause/C. J. Nosal
 F. W. Hovey/E. L. Beeler - Waterloo
 W. D. Morse - Calvert City
 J. A. Weaver/M. Merk
 H. C. Botelho/D. H. Marshall/C. N. Bush
 R. K. Schlatter/C. A. Daniels

Safety Engineers/Plant Managers

J. A. Kingma/M. G. Fletcher
 R. A. Accarino/W. E. Horton
 R. M. Kreager/R. Kissling
 R. D. Hardesty/S. C. Alten
 M. S. Fox/S. R. Guidry
 J. L. Miller/W. C. Fultz
 H. Mason/D. Dargan
 K. J. Willings/R. J. Grahek
 R. W. Taylor/L. V. Goode
 W. L. Smith/P. W. Shore
 R. L. Martin/G. E. Higby
 J. Nagy/J. J. Dunn
 G. A. Kaswell/R. V. Tebbutt
 T. J. Guillot/C. Bayard
 R. DeWolf/J. B. Canella
 G. Morley/D. D. Quester
 R. D. Goodman/A. L. Auvil
 T. Fletcher/C. C. Lee
 P. Selvage/H. Kletke

- Akron Chemical
 - Avon Lake General
 - Avon Lake Technical
 - Avon Lake Technical
 - Calvert City
 - Deer Park
 - Hattiesburg
 - Henry
 - LaPorte
 - Long Beach
 - Louisville
 - Niagara Falls
 - Pedricktown
 - Plaquemine
 - Shawinigan
 - Altona, via Cleveland Safety
 - Beltsville
 - Scotford
 - Terre Haute

File

Near Miss
Repetitive Accident
Type 10A
Toxic Chemical Release
Pedricktown, New Jersey

January 11, 1988

REDACTED

SUMMARY:

At approximately 05:45 on Wednesday morning, December 23, 1987, a leak of vinyl chloride was detected at the bottom of tank 100, the Mass Resin recovered monomer storage tank. The leak, a small stream of vinyl chloride, was located in the vicinity of an abandoned drain nozzle at the bottom center of this day tank. There were no injuries or property damage as a result of the tank's leak.

BOARD OF INQUIRY:

The board of inquiry was held Wednesday afternoon, December 23, 1987 at 15:00. The following people were in attendance:

Bob Tebbutt	Plant Manager
John Fletcher	Plant Engineer
Al Matyger	Mass Resin Area Manager
Gary Fair	Mass Resin Senior Process Engineer
Chuck McCann	Senior Environmental Engineer
John Sovich	Senior Safety Inspector
Steve Irwin	Mass Resin Associate Engineer
George Rowe	Mass Resin Lead Technician
W. E. Burl	Fire Brigade Chief
	Mass Resin Technician

NARRATIVE:

On Wednesday, December 23, 1987 at approximately 05:45, the utility man in the mass resin area, , walked past tank 100 and observed a vinyl chloride leak. This leak was located at the bottom center of the tank. At the time of the incident, the building was shutdown for maintenance work on the drive-end of the 8300 autoclave shaft. A group of outside contractors, Municipal Maintenance, were in the mass building to complete a welding job on this autoclave. During this time, reactors 8200 and 8400 were empty and blanked. The 8100 reactor was out of service.

When the leak was discovered, quickly informed the area lead technician, On investigation, had a water hose from the building placed on the leak, and activated the gas alarm at 06:00. The fire brigade responded promptly.

NGC 16101

REDACTED

Readings taken with the gas meters detected vinyl chloride levels of 200 parts per million in the area between the mass building and the day tank. Shortly after the gas alarm was sounded, a fire hose was connected to a monitor nozzle so fire water could be concentrated on the vinyl chloride leak. This proved to be helpful in knocking-down the fugitive vinyl chloride vapors. The water used for this purpose was diverted to the plant waste treatment system.

At the time of the leak, the day tank was 24% full; approximately 3400 gallons. In order to empty the day tank, the building personnel setup the prepoly so it could receive the vinyl chloride, and then transfer it to the two eligible autoclaves, B200 and B300.

At 06:10, the paste area lead technician, notified the waste treatment area technician, of the ongoing situation. The report made to at that time indicated that there was a vinyl chloride leak in the day tank. determined that outside support from the Pedricktown Fire Department was not necessary, but that the Department of Environmental Protection in Trenton should be notified. made no indication as to the magnitude of the leak.

The next step was the emptying of the day tank's vinyl chloride content. This was done by setting up the prepoly so it could receive the day tank's vinyl chloride supply, and then transfer this vinyl chloride to the two eligible autoclaves (B200 & B400).

Upon removing the jeopardized vinyl chloride, recovery of the day tank was started to evacuate the system of all residual vinyl chloride. When this was well underway, at approximately 14:45 the all clear was sounded. However, the immediate area and roadways surrounding the building were off limits to all vehicles, and only one dispersion and one suspension dryer was allowed to start back up. The last dryer would be started only when the day tank was pulled down to a vacuum because of its close proximity to the day tank.

During the morning, representatives of several response agencies came to the plant and reviewed the response. This included the New Jersey Department of Environmental Protection, the Salem County Department of Health, the Oldmans Township Office of Emergency Management, The U.S. Environmental Protection Agency, and the U.S. Coast Guard. All of these agencies were very satisfied with the plant's response in managing the incident, although there were some communication problems noted.

Recovery was continued until 23:00, when the day tank was pulled down to a vacuum allowing the building personnel to isolate it and the leak. After the day tank was successfully isolated, the building personnel recovered the prepoly and autoclaves to prepare for the necessary repairs.

NGC 16102

FACTS SURROUNDING THE INCIDENT:

A similar occurrence took place July 22, 1980 in which vinyl chloride leaked from the same location. The alleged cause of the leak in this circumstance was the corrosion of an unused drain nozzle. Apparently, the nozzle, being a low point in the tank, had collected water which caused the deterioration of the metal. This situation was remedied by replacing the nozzle.

Since it's replacement in 1980, this nozzle and the day tank have not presented any problems, as indicated by periodic inspections. In this past October's inspection, thinning trends were noticed in the vapor space at the top of the tank. No such trends, however, were observed at the measurement point on the tank wall immediately adjacent to the nozzle of interest. The thickness measurement of the tank at the point next to the nozzle was 0.726 inches (0.75 inch is the design thickness; see attached report).

CONCLUSION:

Based upon weigh cell readings from the computer console as well as visual observances, it was estimated that 100 pounds of vinyl chloride escaped before the leak was stopped. When the area was safe for inspection, the exact cause of the leak was determined. Apparently, water that had collected in the unused drain nozzle, a low point in the system, caused the corrosion and eventual leakage where the nozzle was welded to the tank.

MANAGEMENT SYSTEMS INVESTIGATION:

Procedures

The fire brigade and building personnel's response and handling of the crisis was excellent. The incident was not caused by any deviation in standard operating procedures.

Inspections

The day tank thickness is periodically measured in order to keep an eye on thinning trends. Such inspections were conducted this past October, indicating that the tank had not shown severe thinning trends in the area of the leak (See attached report).

Engineering

In 1980, a similar leak happened for the same reasons as this one. Unfortunately, the issue was resolved by merely replacing the nozzle. In this most recent reoccurrence, the problem was addressed by eliminating the nozzle and welding a replacement plate on the tank thereby eliminating the low spot in the system.

NGC 16103

REDACTED

PROBLEMS AND CONCERNS:

There was confusion as to what the blue light at the guard shack meant, and if shift change was permissible. The fire brigade determined that the shift change was allowed to take place, but the guard did not communicate this decision to the concerned individuals.

One of the major difficulties experienced during the response was that of communication. Communication between the fire brigade, the security guard, waste treatment, and the consoles did not go smoothly due to problems with the radio system. The major problem was encountered when vital information about the incident had to be conveyed between people at the scene and people coordinating outside notification. The reports made to _____ by _____ had to be conveyed through the computer console leading to inaccuracies. For instance, although not so indicated by _____ determined that outside fire support was necessary. In his reporting of the incident to the state, _____ inaccurately reported that 1000 pounds of vinyl chloride had been leaked. In addition to the miscommunications to the state, it was not communicated to the people at the scene of the incident that the Fire Department's assistance had been requested. This led to a breakdown in the established procedure of a fire brigade member briefing the fire chief on the situation at hand.

CORRECTIVE ACTION:

- | | DATE |
|---|----------------|
| 1) We must verify that the communication link between the Mass/Paste console and the Large Poly console is operational, and that everyone involved is aware of how to use this link. A.M. Matyger | <u>2/29/88</u> |
| 2) Instrument shop must follow up on the past false alarms and the apparent failure of the L.E.L and Bendix systems. S.F.Irwin | <u>2/15/88</u> |
| 3) Clarify the blue light/gas alarm procedures. Safety Council. | <u>2/29/88</u> |
| 4) Resolve the communication problems. J.A.Kiel | <u>2/15/88</u> |
| <ul style="list-style-type: none">- the distribution of accurate information to authorized outsiders requesting it.- communication between the state and the plant when outside help is called for by the state.- problems that developed with the fire company as a result of the incident.- radio problems. Currently being addressed by the Safety Department.- assure that initial contact with the Department of Environmental Protection is accurate in the future. | |

S. F. Irwin (1/11/88)

NGC 16104



Lehigh Testing Laboratories, Inc.

308 W. BASIN RD. PO BOX 903 NEW CASTLE DE 19720
Corrected 10/21/87 to reflect locations.

ULTRASONIC EXAMINATION

TEST REPORT

B F GOODRICH
ATTENTION BILL SMITH DEPT 5161
PO BOX 400
PEDRICKTOWN NJ

DATE October 12, 1987

P.O.NO. 31-15-72296

LEHIGH NO. D-37-12

MATERIAL: Steel
SPECIFICATION: SA 515 GR 70
SAMPLE DESIGNATION: TK QQ

TECHNIQUES: ☐ Angled Beam ☒ Straight Beam ☐ Contact ☐ Immersion
☐ Pulse-Echo ☐ Continuous ☒ Longitudinal ☐ Transverse

SURFACE(S) EXAMINED: 14 Spots

SURFACE FINISH: Ground

INSTRUMENT: Stresstel T-Mike

TRANSDUCER - Size: 0.25 Frequency: 5 MHz

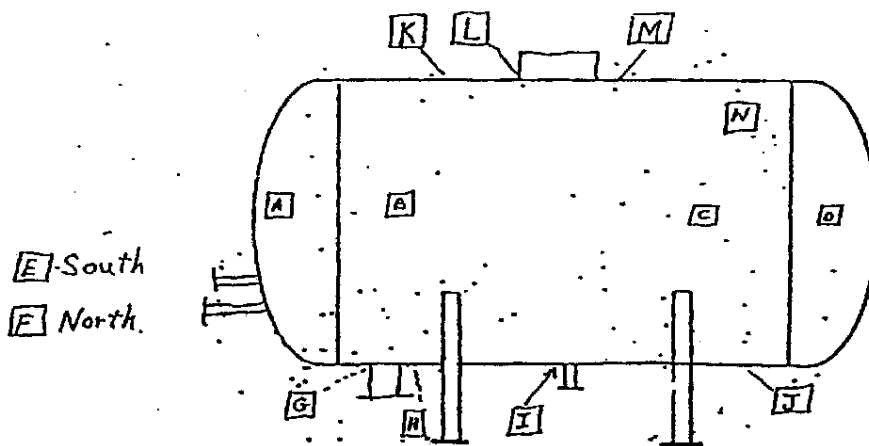
COUPLANT: Baseline

CALIBRATION PROCEDURE/STANDARD: Standard .100-.125-.500

SAMPLE NO./AREA

REPORTABLE INDICATIONS

REMARKS



A.	.707
B.	.747
C.	.740
D.	.715
E.	.406
F.	.331
G.	.743
H.	.769
I.	.726
J.	.861
K.	.518
L.	.654
M.	.699
N.	.610

NGC 16105

Lehigh Testing Laboratories, Inc.

UT Inspector

Level

These results are subject to the adequacy and representative character of the samples submitted. We believe the above test results to be accurate and reliable. Laboratory errors, should they occur, will be corrected free of charge. In no event shall Lehigh Testing Laboratories, Inc. be liable for any special, consequential, or other damages.