

CORRECTIVE ACTION UPDATE
(ALL ITEMS COMPLETED)

5/9/94

7 - Deer Park
Narrative

NARRATIVE REPORT
Environmental Incident Review
530 Stripping Column Release
Deer Park
January 21, 1994

Introduction

At 8:30 Friday, January 21, 1994, the Provox computer system lost control of the 530 resin stripping column. The Provox system placed the column in an isolated condition as designed. The column pressure slowly increased and released partially stripped slurry to the atmosphere through a relief valve on the steam supply header to the column.

Conclusions and Findings

1. The cause of the release was a direct result of the loss of computer control to the stripping column.
2. The computer failure was caused by improperly installed lightening arrestors on some of the data highways.
3. The computer placed all valves on the column in a totally isolated state. This included the cooling water to the overheads condenser.
4. Without cooling to the overheads condenser, residual heat, vinyl chloride and steam leakage caused the column to exceed the pressure of the relief valve in the steam supply header. This resulted in a release of partially stripped slurry to the atmosphere.
5. Operating personnel followed all procedures and minimized the release by manually isolating and recovering the column in a very timely manner.
6. The release of vinyl chloride was not reportable under NESHAPs and did not exceed the one pound SARA reporting threshold.

Board of Review

On the afternoon of January 21, 1994, a board of review was held to determine the cause of the incident. Attending:

Dave Laubacher
Lewis Payne
Bob DesJardins
Ron Paige

Melvin Eudy
Steve Johnson
Val O'Keefe
Boyd Geisleman
Mark Reynolds

Plant Manager
General Foreman
Sr. Safety Engineer
Maintenance Manager
Operator
Operator
Sr. Process Engineer
Sr. Process Engineer
Shift Foreman
Technical Manager

REDACTED

NGC 13662

Description of Events

At 0825 the morning of January 21, 1994, the Provox computer system controlling the 530 Column failed. the control room head operator, responded and notified Melvin Eudy of the computer problem. Melvin, the outside head operator, immediately proceeded to the column and noticed the slurry coming out the relief valve on the steam supply on the bottom of the column. Melvin shut the feed pumps off and closed the manual valves on the pump suction. Melvin manually closed the steam supply valve. The automatic valve was in the closed position. Cold water flush was started to the column but was discontinued when the relief valve began to lift again. The gas alarm was sounded to clear all non-essential personnel from the area. Boyd Gelsleman instructed Melvin to recover the column. At approximately 08:32 Melvin proceeded to the column and bypassed the pressure control valve on the column. This action secured the column which was then prepared for maintenance. By 09:10 the column was ready for maintenance to begin work.

During the incident Bob DesJardins and Mark Reynolds relieved Boyd of the Emergency Reporting Procedure and placed calls to the Deer Park LEPC, the Harris County Pollution Control Board, the Texas Natural Resource Conservation Commission (SERC), the Texas Air Control Board, and the National Response Center. Geon internal reporting was made to Jim Lewis and Ron Davis. All notifications were completed within 30 minutes of the incident.

Maintenance removed the steam relief valve and found that the bellows on the valve had ruptured. Although not a factor in the release itself, the broken bellows may have reduced the relieving pressure of the relief valve after the initial release.

To quantify the release, a RVCM sample of the slurry was immediately taken from the bottoms pump. Using the greatest estimate of lost slurry, 200 gallons, the quantity of vinyl chloride released to the atmosphere was less than 0.74 pounds.

Corrective Actions

- 1) Insure that the lightning arrestors are installed on all data highways as per Provox recommendations. - Steve Johnson - Completed.
- 2) Review failed states of all column control valves as per design. - Steve Johnson - Completed.
- 3) Complete HazOp Review of column area with recommendations for failed states of stripping column valves. - Mark Reynolds - HazOp in progress. - Completed.
- 4) Issue written reports to all agencies contacted during the release. - Mark Reynolds - Completed.
- 5) Determine purpose of relief valve in steam header and remove if not required. If required, redirect discharge from personnel traffic areas. - Mark Reynolds - Completed. - Relief valve removed.
- 6) Change the failed state of the cooling water to the column overheads condenser to the open position. - Steve Johnson - Completed.