

file
J

R. E. Jones

20 April 1976

W. J. Stueben

Unusual Occurrence Report - Lost-Time Injury

On 5 April 1976 at 2:10 p.m., a Hays iron stop (plug cock valve), Model 7450 on a 10,000 gallon tank car, SHPX 14962, broke while 60% Dimethylamines was being off loaded to a truck, spraying a loading operator, Tom Clyatt, with the amines. The operator was taken to the hospital where he is currently being treated for burns to the skin, lungs, trachea, and eyes. The prognosis is good.

Investigation of the incident revealed the following:

- The operator had the required protective equipment on and had followed normal procedures when the accident occurred.
- He went to a safety shower immediately after the incident.
- The degree of injury was increased because the wind blew the escaping vapors towards the operator while he was in the safety shower, causing him to breath additional vapors.
- Two other valves, identical to the one that broke, were found near the loading area broken the same way, indicating previous problems with this type of valve. These problems were not reported to Amines management. The operators were having the valves replaced without notifying their supervisors.
- The valve broke while the operator was standing next to it, indicating that it had been broken previously, either when starting to load or at another time.
- There is no automatic shut off available in the plant that would prevent Amines from being discharged if a valve broke or a line ruptured while loading with natural gas pressure. In this case, the natural gas had been shut off because the truck was almost full and the Amines was discharged from the car by the remaining pressure.
- Laboratory analysis by our insurance carrier will determine why the valve broke.

Liberty Mutual has reviewed, we are sending report to S. Dean.

20 April 1976

Conclusions

- Lack of communication from the operators to their supervisors enabled the problem of inadequate and breaking valves to go unrecognized.
- The wearing of goggles by the operator prevented any severe corneal damage.

Action to Prevent Recurrence

- in progress*
- Amines solutions will no longer be loaded into any tank car without first replacing any plug cock type valves with Wooster ball valves.
 - A project to load solutions by metering in order to reduce product losses will be reemphasized in that it will also reduce operator exposure to possible loading accidents.
 - Escape-type respirators will be required while loading as soon as they are certified by NIOSH.

we are using non-certified respirators for protection against benzene - no certified respirators fit our needs. We are dependent on entire plant

Additional Actions

comple - Loading procedures across the plant will be reviewed by the Safety Dept. and the Loading Supv. and findings and recommendations will be reported to the Central Safety Committee for action.

comple The incident will be publicized so that everyone is aware of what happened and why it happened.

in progress Goggle areas around loading platforms will be reemphasized and expanded in recognition of the potential for exposure and the value of goggles.

W. J. Stueben

WJS:j sr

BIOGRAPHICAL HIGHLIGHTS

Brian A. Gebbia - Plant Superintendent

- Education: Bachelor of Science in Chemical Engineering
University of Southwestern Louisiana , 1973
Master of Science in Chemical Engineering
West Virginia College of Graduate Studies, 1976
- Radiology Training: Basic principles and practices of radiation in
General Chemistry and Basic Engineering courses
presented in BSChE curriculum.
- Radiology Experience: Ohmart density gauges (nitric acid use).
Radioactive source is Cesium-137. Duration
of experience was 4 months.



Air Products and Chemicals
ESCAMBIA PLANT INC.

BIOGRAPHICAL HIGHLIGHTS

WILLIAM V. HENRY - SAFETY ENGINEER

Education: Bachelor of Science in Safety Engineering
Louisiana State University, 1973

Radiological Courses Taken:

- 1) Nuclear Science 2051, "Contemporary Radiological Science" -
Introduction to radioactivity in nature, synthetic radionuclides
and radiation sources; radiological applications in chemistry,
industry, biomedical sciences, engineering, energy production;
radiological safety.
- 2) Nuclear Science 4331, "Radiation Hazards and Control" -
Consequences of human exposure to high energy radiation;
control of radiation hazards, including exposure limits, detection
techniques, shielding, laboratory design, emergency action, and
federal and state regulations.

Professional Training:

NIOSH course, "Recognition of Occupational Health Hazards"
A portion of this course was devoted to radiation aspects.

2/5/81

AP00054447