From MONSANTO CHEMICAL COMPANY cc

At Anniston, Alabama

Date February 3, 1958

To C. M. Edelblut Reference

At Subject Proposed - Chlorine Vaporizer Operations

Design data on Armstrong Size G Chlorine Vaporizer has been prepared and is presented in Progress Report No. 729-22(3). This vaporizer will be normally operated as follows:

Normal Operations

The normal operations of the chlorine vaporizer will be manual. The liquid chlorine and steam feed will be manually supplied by opening full the manual valve, up stream from the liquid chlorine shut-off valve, and the manual valve up stream from the steam shut-off valve. The flow of vaporized chlorine to the gaseous chlorine header will be controlled with the automatic pressure control valve now in service.

Liquid chlorine will flow into the vaporizer until sufficient chlorine is vaporized to build up a pressure equal to that on the tank car. Then chlorine would be fed only as gaseous chlorine is exhausted into the gas system.

Safety features are included in the design to prevent liquid chlorine from entering the chlorinators and to prevent excessive pressure build-up in the vaporizer. These safety features would function in the following manner:

Safety Features

High Liquid Level

In the event the pressure regulating valve would stick open, the vaporizer being operated in excess of its design capacity, or if the steam failed, the liquid level would build up in the vaporizer to the extent that it would trip the high level alarm sounding the buzzer and shutting off the liquid chlorine. The operator would be notified of some malfunction of equipment by the buzzer. He would check the system and make the necessary adjustments.

Closed System

In the event the liquid chlorine valve would be closed, as well as the vapor outlet valve, while liquid chlorine was in the vaporizer and steam was applied, the temperature of the liquid chlorine in the vaporizer would increase, building up an excess of pressure within the vaporizer. When this temperature reaches 115°F., the steam shut-off valve will close and a buzzer will sound. The buzzer will notify the operator of malfunction of equipment and the operator will investigate. The operator can relieve the pressure by opening the bypass in the liquid chlorine line. This will allow the liquid chlorine in the vaporizer to flow back to the tank car.

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