



TARR TECHNICAL RISKS AGENCY INC.

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VISTA CHEMICAL COMPANY
PVC Plant
Aberdeen, MS

1990 RECOMMENDATION REPORT

INSPECTION DATES: April 25-26, 1990

INSPECTOR: Leo Dagley

PERSONNEL CONTACTED:

Mr. Doug Skofner -	Plant Superintendent
Mr. Bruce Trego -	Plant Safety Dir.
Mr. Dan Miller -	Plant Maintenance Supt.
Mr. Jerry Roberts -	Plant Fire Protection
Mr. Malcolm McMullen -	Corp. Risk Mgr.
Mr. Tony Causey -	Jardine (Broker)
Mr. Don Roe -	CIGNA (Co-Insurer) Inspector

SITE STATUS: Operating 24 hrs/ 7 days with about 250 total employees, current throughput is near a 625,000,000 #/yr design rate, as increased some 36% by debottlenecking from the '87 capacity. The multiple batch production of PVC involves receipt of VCM, mostly by rail from Vista-Lake Charles, its interim sphere storage, and PVC recovery, finishing, and shipment, mostly by bulk Rail to customers. Plasticizers for this PVC are also manufactured on-site.

A generally good state of housekeeping and maintenance was seen. Satisfactory preventative and emergency maintenance programs are in effect.

Developed data and plots resulting from performance tests on all six Fire Water Pumps are attached for plant records. While no manufacturers' curves were available for detailed comparisons, all of the curve characteristics, pump speeds and flow/head relationships agreed well with specific pump ratings and assumed manufacturers' curves.

The following suggestions are offered for consideration.

ST 90-1 (Electrical Inconsistencies - Various) Differences from generally accepted electrical installation practices for areas subject to release of flammables, like Vinyl Chloride Monomer, were seen, as noted below. Those well versed in code electrical practices should review these and other plant areas for conformity.

A. (VCM Rail Rack - Switchbox) By the walkway at the north end of the VCM rail rack are two switchboxes labeled "HS-902". There are no seal pots in the conduit anywhere near the switches. Normally, such pots with hard seals would be used to protect against migration of flammable vapors into arcing devices.

B. (VCM Sphere Transfer Pumps - Switch) Just southeast of the VCM Sphere are pumps for the transfer of VCM to the units. A seal pot in the power supply to the switches is mounted upside down and obviously not provided a hard seal.

C. (VCM Sphere Dike - Switch rack) Operating switches for the "South Sphere Pump" and "North Compressor" have seal pots in the conduit, but they are not poured.

D. (VCM Feed Surge Tanks - Old Reactor Area) Under and around the Unit VCM feed surge tanks, conduits for power to various electrical equipment, such as valve operator solenoids, sometimes include seal pots that may be poured, and sometimes they don't. Installation principles should be in accordance with Code, and applied consistently.

ST 90-2 (VCM Sphere - Top Weir Area) Several items, such as scaffolding pieces, were in the top water weir area of the VCM Sphere. Functional efficiency of the underflow weir arrangement for distribution of exposure protection water over the sphere surface depends on unobstructed water flow. Procedures should emphasize the need to frequently check and keep the sphere weir area free of obstructions.

ST 90-3 (VCM Sphere - Water Redistribution Gutters) Exposure protection water flowing down the sphere surface would normally tend to follow the outside surface of the fireproofed legs, except for gutters located near the top of each leg. These are intended to redistribute the water to the "amplit" zone to eliminate dry surfaces that would be directly exposed to a fire under the sphere. In most cases the redistribution zones are either tightly abutting the sphere surface or otherwise compromised to thwart their function. These redistribution gutters should be serviced to restore their function.

ST 90-4 (Add Heat &/Or Smoke Detection) Two enclosures involving electrical equipment, not visually accessible to operators, are the Emergency Power Room in the Control Building, and the Substation southeast of the SA Building. Quick response to fire problems in those critical areas could significantly minimize the extent of both property and time loss. This response could be effected by addition of an appropriate heat or smoke detection element, alarming to a constantly attended area (Control Room).

ST 90-5 (Reactor Additive Basins) Beside reactors, about waist high, are partially sheltered basins with valving to allow an organic liquid (AMS ?) to free fall from a discharge point perhaps 15" above a collection screen in the bottom. If the liquid is non-polar, static electrical potential could build on and in it to the point an arc could form with its neutralization in a zone where a flammable vapor mixture could be ignited. Some modification to this operation should replace the liquid free fall with a less turbulent discharge which includes any necessary bonding.

ST 90-6 (Alternate Boiler Feed Water Pump Drive) All of the boiler feed water pumps are electrically driven. Any power interruption would force immediate boiler shutdowns, jeopardizing chances for an orderly shutdown of main plant operations, especially in the winter. To allow better plant continuity and reliability, one or more drivers should be replaced with either steam turbines or other feasible, non-electrical types.

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