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To: J. W. Ware

From: D. W. Hollis

Date: June 17, 1985

Subject: VCM Tank Farm Safety Review

BULLETS

The bullets need to be cleared to eliminate the risk that they present. A plan is in progress to clear the bullets.

COMPRESSOR SHED

1) If the Corken compressors are started up with the flow blocked, the temperature will increase to a dangerous level. Each compressor has a high temperature shutdown switch located on the head of the compressor. Another problem with blocked in compressors is high discharge pressure. Each compressor has a relief valve on the discharge piping. The discharge of the relief valve is routed to T-201. No PM is routinely done on the high temperature swithches and the relief valves are not routinely tested. There is also a high pressure shutdown in T-201 that shuts down the compressors when the tank pressure reaches 65 PSIG. An annual PM of this shutdown is done but is not documented. This PM needs to be documented.
2) The leak detection method at the compressor shed is one Honeywell sensor point that reads out in the Vinyl control room. A design is in process to install a General Monitor system at the tank farm.
3) During the VCM railcar unloading process, the compressors pull the vapor from the railcar at the end of unloading. If the unloading is left unattended there is the possibility of pulling a vacuum on the car. Each compressor has a pressure switch on the suction line which shuts down the compressor at 8 PSIG. No PM is done on this pressure switch.
4) A problem that has occurred in the past has been fires of the drive belts of the compressors. This can occur by compressor lockup or by the belts becoming loose and jumping tracks, this causes friction that starts the fire. The only way currently to catch this problem is to periodically check the area during the unloading. BELT PM PROGRAM IS NEEDED
5) Failure of the VCM unloading hoses could result in a massive leak during unloading. The unloading hoses are on a PM program that is currently up-to-date.
6) Chocks are used during unloading to prevent movement of the railcar. Due to the failure of a railcar's brakes in March, 1984, a redesigned chock is being tested. The testing and utilization needs to be completed.
7) A grounding system is used to eliminate static charges during unloading. The grounding network is on a PM schedule that is currently up-to-date. A problem does exist with grounding cables that connect the rails together. The current method of connecting the cables, cad welding, is continually breaking loose. A new method of drilling holes in the rails and bolting the cables is to be used. This procedure has not been instituted.

VCM SPHERE

1) The sphere has two level instruments: a local reading float device and a level indicator readout in the Vinyl control room. An alarm is installed with the control room readout but the leads to the instrument are mounted incorrectly so that a high level is given each time a car is unloaded. This does not provide adequate protection for high level. An additional high level probe is needed independent of the existing instruments. This probe has been funded under the Remote Operated Valves project but has not been designed.
2) The sphere has a pressure indicator with high pressure alarm in the Vinyl control room. Another independent instrument is needed.
3) The sphere piping has four isolation valves for shutoff in an emergency. These valves are tested weekly to ensure their proper operation. The Remote Operated Valves project will replace the actuators on these valves and the new General Monitor project will allow for switches in the control room to close these valves.
4) There is currently only Honeywell fixed point monitors in the tank farm area to detect leaks. The General Monitor design will install several points at the tank farm to give fast response to leaks.
5) The VCM transfer pumps at the sphere are not now on a routine inspection program. The pumps have Tandem seals that need to be inspected at least on a per shift basis. These pumps will be added to the check list of the Chief Operator.

TRAINING

A detailed training manual has been written for the VCM tank farm and all yard operators are trained using it.

Training is in process for the Shift Supervisors and Chief Operators to provide better emergency response in the tank farm area.

RECOMMENDATIONS

Continue with the General Monitors and Remote Operated Valves projects. The PM programs should be better documented. The redundant level and pressure alarms for the sphere should be pursued. A PM program for the sphere and compressor instrumentation should be developed. A training session is needed for the Chief Operators so that they will learn to troubleshoot Tandem seals.

An evaluation is needed of the Tandem seals to determine whether to continue using them or put in double mechanical seals with a Duraseal unit for circulating fluid.

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c: JF, CWT, AHS, MLN