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To: J. Friend
From: D. Hollis
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Subject: VINYL SAFETY AND ENVIRONMENTAL PROGRAMS

This report is to provide a status of the Vinyl department safety and environmental programs; what is supposed to happen and what is really happening.

SAFETY/OSHA PROGRAMS

1) MONTHLY SAFETY MEETING- Meetings are held monthly with all shift personnel to discuss various topics. Each meeting is lead by the shift supervisor and includes the vinyl and yard people assigned to that particular shift. The topics are chosen by the Operations Supervisor and cover a wide variety of subjects from home safety to the required respirator and health training.

2) QUARTERLY SAFETY MEETING FOR THE YARD- This meeting is to include the yard personnel only and to discuss safety and operational topics related specifically to the yard duties. Three meetings were held in 1984. The one meeting missed was during department personnel changes.

3) ESAR PROGRAM- There were 38 ESAR's submitted from Vinyl during 1984. A total of 40 were completed including 1984 ESAR's and previous years.

4) VCM EXPOSURE MONITORING- Vinyl personnel wear VCM monitoring badges during the work hours. The card turned in with the badge is used to determine if respirator protection is worn and if any jobs were done that could give a high exposure to VCM. The results from the badges are used to determine if proper protection is being worn and to warn of continued high exposures.

5) VCM LEAK DETECTION-FIXED POINT MONITOR- A fixed point monitoring system is used to help detect VCM leaks in the operating units. When leaks are detected with this system, an operator searches the area with an HNU detector. A lot of time was spent looking for and correcting leaks. For a period of time, the badge results showed that leaks existed that were not stopped. Recent badge results have shown a decline in unexplained VCM exposures within the Vinyl unit.

6) VCM LEAK DETECTION-WEEKLY SURVEY- A comprehensive leak survey is done weekly by the Safety department. This list is worked on by the shift mechanic on weekends and evenings. A high priority is placed on this list and the major items on it are addressed.

7) SHIFT SAFETY AUDITS- A safety audit check list was developed and was included in the 1984 safety program. No audits were done in 1984. A large part of the reason for no audits was the shift in personnel within the department. Most of the emphasis was placed on learning a new job with little time for the audits.

8) INTERLOCK CHECKS- A checklist has been developed to determine if the reactor interlocks are working properly. This is used when there is a question if the interlocks are working properly or if work has been done to revise the interlocks or wiring. This checkout procedure was used when a release occurred on D-500 reactor. No problems could be found with the interlocks at that time.

9) ANNUAL RESPIRATOR TRAINING- An annual training session is held as a refresher course for respirator use. This training is required under the VCM standard. The December safety meeting included respirator training along with other topics.

10) RESPIRATOR PROTECTION FOR ENTRY- There are two types of entry requirements. One is entry into a VCM containing vessel and the other is entry into the dust collectors. VCM vessel entry requires the use of an air-line respirator. The dust collector entry uses a hood with supplied air. The hood is mainly for dust/particle protection. These entry rules are rigidly followed.

11) PLANT EMERGENCY PLAN- Vinyl has certain duties under the Emergency Plan mainly as Emergency Officer, Emergency Crew Chief and as an Emergency Crew. During problems, the structure of the Emergency Plan is loosely followed. I think some work to familiarize everyone involved is needed. All of the Vinyl Shift Supervisors, the Operations Engineer and two Chief Operators have attended the Texas A&M fire training.

12) POWER OUTAGE MANUAL- A procedure was established to prepare for power outages during bad weather. During several long power outages in 1984, some problems were noted. The manual is currently being revised to address the problems. Overall, the power outage procedure is followed well including preparation and execution.

13) SAFETY CONTROL PROCEDURES- A revised Safety Control Procedure was issued this year. The procedures cover mechanical permits, hot work, entry, lockout procedures and other jobs. Work permits are issued with little deviation from these procedures. Lockout procedures and clearing mechanical equipment is done well. There have been occasions when the proper level of personnel did not check dryer entry checklists. This problem has been addressed with no further lapses.

14) ANNUAL FIRE TRAINING- All operations personnel in Vinyl have hands-on fire training at the plant. This is covered as a topic of the monthly safety meetings.

15) WEEKLY DELUGE TEST- A test is done weekly on the deluge systems in the Vinyl unit. This test is done by the Safety department. A weekly test of the fire pumps is done at this time.

16) BLEEDER PLUGGING- Bleeders in hazardous services are to be plugged when not in use. A monthly inspection is to be done to insure that all bleeders are plugged. An inspection is not done in the Vinyl unit routinely.

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ENVIRONMENTAL

1) VCM RESIDUALS ON SLURRIES- Each batch is to be sampled for VCM residual in the resin. These samples are taken by the "A" operator during dump. Generally samples are taken correctly with only occasional problems.

2) BATCH WATER STRIPPER- Each batch of water processed through the stripper is sampled to make sure that it is below the allowable 10 ppm of VCM. The stripping process is controlled by the Modicon to make sure it is consistent. Some instrumentation problems resulted in poor control of the stripping. These problems lead to a release of unstripped water to the sewer. The problems were corrected. The startup of the emmision recovery system helped to give a better, more reliable stripping.

3) PRESSURE TEST REACTORS- Following opening of a flange on the reactor, the reactor is pressure tested with water prior to putting back into VCM service. This to prevent the release of VCM into the atmosphere. This procedure is followed closely.

4) INSPECTION PLATE ON CONDENSER- Following a coarse batch, the inspection plate on the condenser is opened to make the condenser is not filled with PVC. This procedure is followed after severly coarse batches.

5) RUPTURE DISC CHANGEOUTS- The rupture discs on the reactors are changed every six months to reduce the possibility of a premature failure. This was done routinely in 1984. A plan has been submitted to go to a one year changeout.

6) WEEKLY CHECK- The Engineering department does a weekly inspection to check pump and compressor seals, rupture discs, and the AMS systems. Correction of the problems noted is given high priority.

7) AMS CHECKOUT- The AMS emergency kill system is checked out prior to each reactor charge. This procedure is rigidly followed.

8) DURASEAL UNIT- The Duraseal unit serving the reactor seal is checked before each batch. Failure of this unit would result in seal failure and possible VCM release.

9) REACTOR RUPTURE DISC- The final step before charging a reactor is to break the vacuum with VCM and to check the rupture discs for leaks. This procedure is followed without exception.

10) EMISSION RECOVERY SYSTEM- The emission recovery system is used to control vents and to clear equipment. The system is used to recover the batch water strippers. This system was modified during 1984 and its reliably was increased.

11) TANK FARM VENT TANK- The tank was put in service in 1984 after the emission recovery system was put back in service. This tank helps to control the leaks from the Corken compressor packing glands. This has helped to reduce the VCM leaks under the compressor shed.

12) VCM UNLOADING- Prior to disconnecting the VCM unloading hoses, a vacuum is pulled on the line. This was made easier after the emission recovery system was put in service. Clearing the hoses is done routinely.

13) VENT GAS INCINERATION- The inert gas build up in the recovered receivers is vented through an incinerator to eliminate the VCM. There were no bypasses of the incinerator this year. There was one occasion when the exhaust gas may have exceeded 10 ppm of VCM.

14) EMERGENCY GENERATORS-

a) AIR COMPRESSORS- The emergency electrical generator used to supply power for the air compressors is run weekly to check proper operation. This checkout procedure is followed routinely. The dryer "A" operators were trained to startup the air compressors during a power failure and they perform the weekly checks.

b) CONTROL ROOM POWER- The emergency generator used to supply power to the control backup batteries is tested weekly by the instrument department.

15) EMERGENCY COOLING- An emergency cooling system was made operational this year. The system involves tie-ins from the fire system into the cooling water to the reactors. This system relies on the emergency generator air compressors to operate the valves during a power failure. This system was successfully used this year.

16) ANNUAL VCM LEAK CHECK- The Engineering department performs a leak survey throughout the Vinyl and Yard areas. A mechanic accompanied the engineers during the survey and corrected small leaks. The more difficult leaks were given top priority on the daily work schedule.

This has been a comprehensive review of the Safety and Environmental programs of the Vinyl department.

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c: JWW, CWT, MLN