

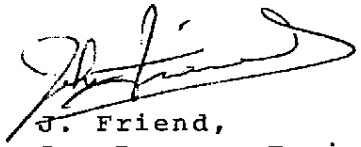


Interoffice Communication

To R.T. Ferrell
From J. Friend
Date February 26, 1975
Subject ENGINEERING AND WORK PRACTICE CONTROLS PLAN FOR OSHA

The Oklahoma City PVC Plant's Engineering and Work Practice Controls Plan for compliance with the OSHA VCM standard is attached. Comments from those receiving copies of this letter will be appreciated. This document will be discussed with Aberdeen personnel in mid-March.

As you know, our Engineering and Work Practice Controls Plan must be on file by April 1 and can be reviewed by OSHA. Therefore, we want to be sure that everything listed in the plan can and will be accomplished.



J. Friend,
Sr. Process Engineer

JF/kv

CC: LNV, RDG, EMS, DVP, RAF,
AWS, MS, ELK, LDJ, CHP

CCR 000010545

ENGINEERING AND WORK PRACTICE CONTROLS PLAN
FOR COMPLIANCE WITH OSHA VCM EXPOSURE STANDARD
CONOCO CHEMICALS
OKLAHOMA CITY PVC PLANT
APRIL, 1975

EXPOSURE SOURCE

All rotary seals, flexible hoses, pipe unions and flanges, valve stems, swivel joints and seals on equipment enclosures which are in low or high concentration VCM service.

Opening and working on equipment or piping which may contain VCM in low or high concentrations.

WORK PRACTICE CONTROLS

1. a) At least once per month, measure VCM concentrations at all hoses, flanges, unions, seals, valve stems and swivel joints in low or high concentration VCM service. Repair or replace leakers on-the-spot, where necessary. List other leakers for repair or replacement on a maintenance schedule. The fixed point monitor will detect the occurrence of relatively large leaks which will be attended immediately. Initiate this program on 4-1-75.
- b) Institute a regular lubrication schedule for swivel joints on April 1, 1975.
2. a) Before opening, remove VCM from equipment or piping to the lowest practical level by flushing, purging and/or evacuation, where possible.
- b) Wear personnel protection equipment which meets OSHA standards when opening equipment or piping which may contain VCM.
- c) Before commencing repair work, measure the VCM concentration in or near opened equipment or piping to determine what

ENGINEERING CONTROLS

1. Make an engineering study to determine which rotary equipment in VCM service can be improved by converting to other systems such as double mechanical seals, canned pumps, etc. Complete study by July 1, 1975.
2. a) Install electropolished internals in all reactors by January 1, 1976 in order to reduce the frequency of reactor entries for cleaning.
- b) Study injection of polymerization inhibitor into the VCM recovery system for reduction of fouling and plugging which would lead to reductions in required maintenance and cleaning. Complete study by January 1, 1976.

EXPOSURE SOURCE

WORK PRACTICE CONTROLS

ENGINEERING CONTROLS

Reactor sampling and handling
of slurry samples

2. continued
personnel protection
equipment is required
and if further VCM re-
moval should be attempt-
ed.
3. a) Wear personnel protection
equipment which meets OSHA
standards during reactor samp-
ling until enclosed sampling
systems are installed.
- b) Store, handle and analyze all
reactor and slurry samples in
a laboratory hood.

3. a) Prepare an engineering
design for a closed
reactor sampling
system by October 1,
1975.

Resin sampling and analysis

4. a) Wear personnel protection
equipment which meets OSHA
standards when sampling and
analyzing resin.
- b) After pulling a resin sample,
immediately seal the sample
bag.

4. Prepare an engineering
design for an improved
resin sampling system at
the M-500 dryer. Complete
design by August 1, 1975.

VCM rail car unloading

5. a) Wear personnel protection
equipment which meets OSHA
standards while at the un-
loading rack during hook-up,
unloading and un-hooking.
- b) Use the new double mechanical
seal unloading pump whenever
possible.

5. a) Install a sight glass by
July 1, 1975, in the
unloading line at each
rack for determining
the liquid to vapor
transition at the end
of unloading.
- b) Prepare a design to
rearrange valving at the
unloading racks to min-
imize the volume of VCM
that must be vented
before unhooking a car.
Complete design by
June 1, 1975.

CCR 000010547

POSURE SOURCE

WORK PRACTICE CONTROLS

ENGINEERING CONTROLS

Slurry dump screener

Screener at the reactors'
wash system effluent

Reactor rinse after dump

Residual monomer in resin

8. Transfer the effluent from the initial water rinse after reactor dump to the dump system and eliminate transfer to the sewer. Initiate before April 1, 1975.

6. Perform an engineering study to determine the feasibility of installing an enclosed culls elimination system. Tests must be conducted on any equipment proposed for this service. Complete study by December 1, 1975.

7. a) Design and install an enclosure on the wash screener similar to the existing enclosure on the dump screener. Complete by September 1, 1975.

- b) Provide culls overflow enclosure subject to the study outlined in no. 6 above.

9. Perform a study to determine the feasibility of a residual monomer reduction process. Steam stripping the slurry and higher temperature processing are currently being investigated. Complete study by October 1, 1975.

CCR 000010548

POSURE SOURCE

1. Water flow from the centrifuges to the open trenches in the dryer room

1. Resin screeners at the dryers' effluents

WORK PRACTICE CONTROLS

ENGINEERING CONTROLS

10. Design a header to transfer all water effluent from the centrifuges to the process sewer via a closed pipe instead of open trenches. Design must avoid potential explosive concentrations of VCM in the sewer system. If a residual monomer reduction process is installed (no. 9 above), VCM content of the water effluent will be substantially reduced. Complete design by January 1, 1976, subject to no. 9 above.

11. Perform an engineering study of enclosing the culls overflow from the dryers' screeners. If a residual monomer reduction process is installed (no. 9 above), exposures at the culls overflow will be substantially reduced. Complete design by April 1, 1976, subject to no. 9 above.

12. Design and install an elevated stack for the M-500 dryer exhaust by October 1, 1975. The elevated stack will reduce exposure in the resin loading area.

CCR 000010549

2. M-500 dryer exhaust

EXPOSURE SOURCE

WORK PRACTICE CONTROLS

ENGINEERING CONTROLS

8. Gaseous or liquid vents or
purges which may contain VCM

13. Prepare a conceptual design and feasibility study for a vent collection system with an associated VCM recovery system. This system would allow containment and clean-up of VCM-containing vent streams before discharge to the atmosphere. Corporate Process Engineering will complete conceptual design by January 1, 1976.

CCR 000010550