

**UNION
CARBIDE**

INTERNAL CORRESPONDENCE

CHEMICALS AND PLASTICS

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TO (NAME) R. L. Frantz
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LOCATION J. L. Jones
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M. E. Eisenhower
G. T. Pyle
R. P. Keefe
[REDACTED]
R. Q. Payne
W. M. Reeves
J. Tannos
K. L. Topham
Dr. D. Montgomery
A. A. Peterson
F. L. Johnson

DATE November 4, 1974

SUBJECT Update: VCI Action Plan
for Compliance

copies to: R. W. Sesler
K. E. Ross

Gentlemen:

Written comments on the attachment are capsuled minutes of a meeting held on October 30 in the No. 1 Conference Room to discuss the Suspension/Non-Solvent unit's progress in implementing projects to minimize vinyl chloride exposures.

Otis A. Shelton
O. A. Shelton

OAS/sld
attachment

UCC 090942

ORDERED OVA on 10/17/74.

TABLE II

PROJECTS TO BE IMPLEMENTED IN 1974/75
TO REDUCE VINYL CHLORIDE EXPOSURES IN THE
SUSPENSION/NON-SOLVENT UNIT

<u>Emission Source</u>	<u>Project Description for Compliance</u>
1. Non-Solvent high pressure vent UPDATE: DELIVERY LINE TO SOLVENT VINYLs IS ALMOST COMPLETED. NEW OBJECTIVES ARE TO HYDROSTATICALLY TEST HEADER BY FRIDAY (NOV. 1) AND TO PLACE IN SERVICE ON MONDAY (NOV. 4). <i>In service</i>	1. (a) Modify No. 1 VCl recovery system to allow recovery of contained vinyl chloride in high pressure vent by scrubbing in Solvent Vinyls acetone stripping system. Responsibility: R. May, O. Shelton Deadline: November 15, 1974 (b) If plan (a) does not work, plan of action is to send non-solvent high pressure vent to No. 1 Powerhouse as fuel for boilers. Responsibility: J. Tannos, R. Payne, O. Shelton Deadline: November 15, 1974 (c) A solvent scrubbing system may be installed in 1975 Responsibility: J. Tannos, A. Peterson Deadline: April 1, 1975
2. Suspension high pressure vent off-gas recovery system vent UPDATE: ENGINEERING WORK COMPLETED BUT EXPERIENCING DIFFICULTY IN GETTING CONTRACT MAINTENANCE. J. Poole, R. Q. Payne, W. Reeves volunteered to help in removing bottleneck. New target date for sending suspension high pressure vent and off-gas recovery system vent to the No. 1 Powerhouse is November 8, 1974.	2. (a) Initially, these high pressure vent streams will be sent to the No. 1 Powerhouse for burning in boilers as fuel. Responsibility: J. Tannos, R. Payne O. Shelton Deadline: November 15, 1974 (b) A solvent scrubbing system may be installed in 1975. Responsibility: J. Tannos, A. Peterson Deadline: April 1, 1975 (c) Install a gas holder to eliminate surges introduced to VCl recovery system by suspension autoclave batch process. A three per cent improvement in vinyl chloride efficiency is expected. (Comment: Initial efforts for procuring gas holder will come from upper management.)

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VCl Solvent Scrubbing System

To avoid 930 financing delays, D. Dechman suggests we use dimethyl ether column, high pressure tanks, and pumps at Bldg. 17 to solvent scrub vinyl chloride vent streams from Suspension/Non-Solvent and Ethyleneamines units. Besides being available for immediate use, it is also centrally located between both units. J. Tannos, A. Peterson, and W. Reeves will get together to work out details of Engineering assignments. Tentative deadline for project completion is end of 1st QTR, 1975.

Dr. D. Montgomery determined the major impurities in the ethyleneamines vent stream are vinylidene chloride, ethyl ether, and ammonia. Even though vinylidene chloride is a reaction inhibitor for the Suspension Vinyls reaction mechanism, it should not cause major problems at the concentrations it will be used.

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Table II

Projects To Be Implemented in 1974/75
To Reduce Vinyl Chloride Exposures In The
Suspension/Non-Solvent Unit

2.

Emission Source	Project Description For Compliance
3. Nos. 3 & 4 Stripping Tank effluent NO CHANGE	3. Recirculate Nos. 3 & 4 stripping tank effluent to eliminate flashing of vinyl chloride vapors to the atmosphere from effluent water. Responsibility: O. Shelton, R. P. Keefe Deadline: January 1, 1975
4. Decant Tanks 14107, 14108, 14111, 14112 (Non-Solvent)	4. Decanting of Non-Solvent recovered monomer tanks to the atmosphere has been discontinued. A project is being implemented to automatically decant tanks to VCl recovery systems. (Comment: Project is essentially complete.) (Done) <i>except for instrumentation</i>
5. Decant tanks C-10, C-11 (Suspension)	5. Recovered monomer tanks, C-10 & C-11, will be decanted to the No. 3 stripping tank instead of the sewer. Responsibility: R. P. Keefe, O. Shelton Deadline: November 1, 1974 (Done)
6. Blown autoclave rupture discs ALL rupture discs except eight have been changed from PLOV to RB-90 type. The remaining eight will be replaced on an as-fail basis.	6. (a) Replacement program is under way to change types of D-autoclave rupture discs to lessen premature failures. Responsibility: R. P. Keefe, O. Shelton Deadline: December 1, 1974 (b) Autoclave wash procedures will be modified to minimize nitrogen addition to the VCl recovery systems. (Comment: Low priority since other programs are under way to take care of nitrogen.)
7. Blown BDT/VST rupture discs ENGINEERING AND DRAFTING COMPLETED; WAITING ON MAINTENANCE. New deadline for installing DND on slurry header to No. 1 Blowdown tank is November 8.	7. An engineering project is under way to install motor valves on blowdown tanks feed headers to avoid autoclave blowdowns during vacuum stripping. Responsibility: A. Peterson, R. Payne Deadline: November 1, 1974

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Table II
Projects To Be Implemented in 1974/75
To Reduce Vinyl Chloride Exposures In The
Suspension/Non-Solvent Unit

3.

Emission Source	Project Description For Compliance
8. Autoclaves - high reaction pressure	8. (a) Issued new standard operating procedure for venting autoclaves with high pressure to vacuum header instead of the atmosphere. (b) Autoclave wash procedure will be modified to minimize nitrogen content left in autoclaves after MEK washes. (c) Install autoclave hand vent header to future vent gas holder.
9. Bldg. 120 - dryer exhaust stacks Bldg. 127, 178, 184 - storage bin losses Bldg. 120 - surge tank vents Bird effluent	9. Revise vacuum strippers to allow batch stripping of resin. (Comment: Revise vacuum strippers to allow batch stripping of resin. Initiate batch stripping technique next week.) Responsibility: R. P. Keefe, J. Shelton, A. Peterson, R. MAY
10. Preparation of vinyl chloride filters for maintenance	10. Vinyl chloride filters will be vented to the No. 3 stripping tank and filled with water prior to opening for maintenance. Responsibility: R. P. Keefe, O. Shelton Deadline: November 1, 1974 (Done)
11. Priming VCl pumps	11. A program is under way to evaluate several means of priming pumps. Standard operating procedures will be written recommending best priming techniques. Responsibility: G. T. Pyle, R. P. Keefe, O. Shelton, R. May Deadline: Try first trial by November 1, 1974
12. C-autoclaves agitator packing failures	12. Several packing designs will be tested to minimize packing failure frequency. Responsibility: R. May Deadline: Try first trial by November 1, 1974
13. VCl underground barrel pump seal (atmospheric seal)	13. Consideration will be given to installing double seal arrangement on barrel pump. Responsibility: D. Jordan, R. Payne Deadline: January 1, 1975

BATCH RESIN STRIPPING WILL COMMENCE THURSDAY, October 31, ON QSAN-7 RESIN.

Non-Solvent Surge tank losses — strip w/ls slurry in flash tank

Held mty on Oct. 18. Accountability for various priming techniques were assigned.

Being worked on C-autoclaves agitator packing failures. Discovered quality control problem with vendor — has been corrected. Will consider repacking on each overhaul to prevent premature failures.

CHANGE SENTENCE TO READ: INSTALL DOUBLE-SEAL ON BARREL PUMP by JANUARY 1, 1975.

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Projects To Be Implemented in 1974/75
To Reduce Vinyl Chloride Exposures In The
Suspension/Non-Solvent Unit

4.

Emission Source	Project Description For Compliance
14. VCl loss in MEK	14. Reduce autoclave MEK washings by installing direct steam injection system on each D-autoclave. Responsibility: A. Peterson, J. Tannos Deadline: April 1, 1975
15. Nash Hytor seal water	15. Vinyl chloride contained in seal water is recovered in No. 3 vacuum stripper.
16. VCM compressors packing leak vent and unloader packing leaks. Suspension VCl compressors have lead packing on compressor valve unloaders.	16. (a) Install exhaust fan on compressor room roof to minimize personnel exposures. Responsibility: R. Payne Deadline: December 1, 1974 (b) Consideration will be given to replacing reciprocating compressors with rotary compressors to minimize packing leakage. (Comment: Try lead packing on compressor valve unloaders.) Responsibility: D. Jordan, R. Payne
17. Pilot Plant VCl emissions	17. Extend off-gas recovery system vacuum header to Bldg. 171 for VCl recovery. Responsibility: A. Peterson, D. Montgomery Deadline: January 1, 1975
18. Autoclave resin sampling	18. Redesign autoclave resin sampling equipment. (Comment: Take resin samples after batch stripping in vacuum strippers.)
19. Maintenance food preparation and eating facilities	19. Temporary building will be installed for re-location of Suspension/Non-Solvent maintenance personnel food preparation and eating facilities. Responsibility: R. Payne Deadline: October 21, 1974 <u>Done</u>

ADDITIONAL ITEMS OF INTEREST

1. CHANGE UFA/VCL ANALYZER RANGE AND HIGH LEVEL ALARM SETTING FROM (0-100ppm) to (0-50 ppm) and from 50 ppm to 25 ppm, respectively. 25 ppm and 10 ppm cylinders of VCl/Air test gas should be ordered ASAP. D. Doese has a 250# cylinder of 25 ppm test gas for production units use, if necessary.

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