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Conoco Chemicals

Continental Oil Company
P. O. Box ~~15360~~ 15360
Oklahoma City, Oklahoma 73115
(405) 672-4551

December 8, 1976

United States Environmental Protection Agency
First International Building
1201 Elm Street
Dallas, Texas 75270

Attention of Mr. O. W. Lively

Gentlemen:

CONOCO Chemicals, a Division of Continental Oil Company, own and operate a batch suspension polyvinyl chloride plant in Oklahoma City, Oklahoma. The plant is capable of producing up to 775,000 pounds per day of polyvinyl chloride resin. Approximately 45 people are permanently employed at the plant.

As a plant producing polyvinyl chloride we are subject to the National Emission Standard for Vinyl Chloride which was promulgated in the Federal Register of October 21, 1976 (40 CFR, Chapter 1, subchapter C, part 61).

The Oklahoma City plant has developed a comprehensive plan including engineering design, equipment installation, performance evaluation, and emission testing needed to achieve full compliance to the Standard. The attached block flow diagram indicates how vinyl chloride emissions from the existing process will be collected and treated in the new equipment which will be installed to meet the emission standard.

Since March of 1974 when it was announced that vinyl chloride is a health hazard, the plant has conducted an on-going program to limit both operator exposure and atmospheric emissions. The plant is now proceeding as rapidly as possible consistent with sound engineering and equipment procurement limitations to complete the emission containment plan. The plant, however, will not be in compliance with the Standard within 90 days from October 21, 1976. Therefore, we are requesting a waiver of compliance to the Standard [40 CFR 61, paragraph 61.10 (b)] in order to continue operations during the period required to complete the containment program. The Source Report and Waiver Request required by 40 CFR 61, paragraph 61.10, is submitted with this letter. The waiver request states our program with

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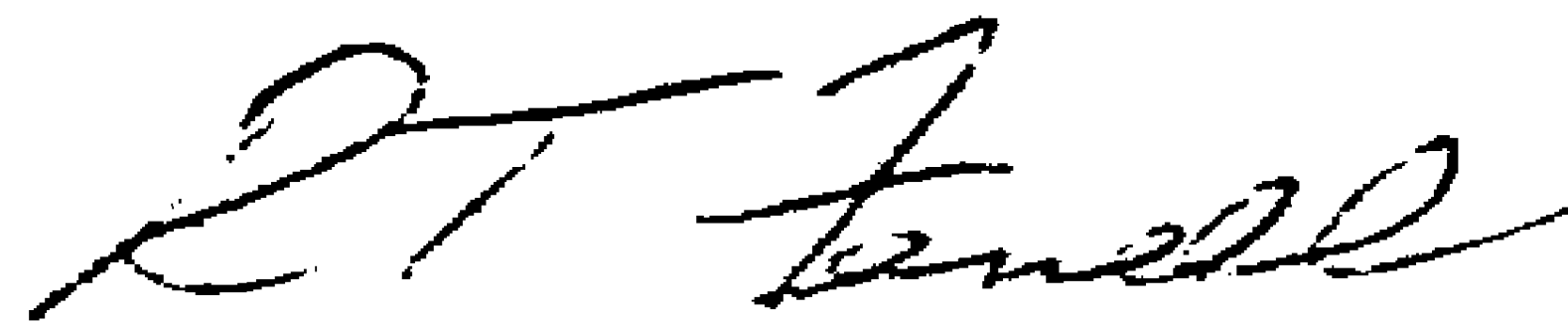
the timing required to meet each part of the Standard. The waiver request also includes the areas where we will seek Equivalent Equipment and Procedures (40 CFR 61, paragraph 61.66) when the necessary equipment is installed and operating.

In the event that the Standard for vinyl chloride promulgated by the Environmental Protection Agency on Thursday, October 21, 1976, is modified, CONOCO believes that there could be a severe crippling of CONOCO's ability to comply with the requirements of any waiver requests or waiver, especially the compliance timetable for scheduled action. Currently, our program for compliance totally depends on engineering and constructing control devices which will meet the conditions of the standard now in effect. Changes in this standard due to review, negotiation or litigation could make it necessary to choose an entirely different control strategy which could make it impossible for us to comply within the strict timetable provided by the Clean Air Act.

We request, therefore, that the Environmental Protection Agency take notice of possible delays in compliance due to changes in the Standard, and give us advice and guidance to establish a new schedule for compliance if the control strategy in our waiver request is insufficient for our compliance to the requirements of a modified Standard.

Please direct any questions or requests for additional information concerning the Source Report and Waiver request to Richard A. Frohreich, Chief Process Engineer, phone number 405-672-4551, extension 43. If you desire to discuss our plans for compliance to the Standard, we will be pleased to meet with you at your convenience.

Yours very truly,



R. T. FERRELL
Plant Manager

RTF-spt
Attachments

I. Source Report

(a) Information for existing source.

(1) Name and address of the owner.

CONOCO Chemicals, Division of Continental Oil Company
5200 Southeast 59th
Box 15360
Oklahoma City, Oklahoma 73115
(405) 672-4551

(2) The location of the source.

Latitude: N 35 degrees 24 minutes 15 seconds
Longitude: W 97 degrees 25 minutes 50 seconds

In the City of Oklahoma City in the county of
Oklahoma in the state of Oklahoma.

(3) The type of hazardous pollutants emitted by the source.

Vinyl Chloride is the hazardous pollutant emitted.

(4) A brief description of the nature, size, design and method of operation of the stationary source including the operating design capacity of such source. Identify each point of emission for each hazardous pollutant.

The Continental Oil Company Oklahoma City facility is a batch suspension grade polyvinyl chloride resin plant. The facility produces only resin and does not incorporate downstream processing such as dry blending or compounding.

Vinyl chloride monomer is received at the plant site in railroad tank cars. The VCM is transferred by pump and compressor to the VCM storage tanks. The VCM is then pumped on a batch basis to the fresh VCM batch tank which is located in the reactor process area.

Following is the process description of one batch suspension polymerization reaction cycle. This sequence is then repeated when completed. The reactor is first evacuated to remove inerts, and then is charged with VCM, process water, and a suspension agent. The reaction is then initiated with a peroxide-type catalyst. When the reaction is complete, the unreacted VCM is removed from the reactor in the recovery sequence.

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The recovery system is designed to recover the unreacted VCM and return it to the process. The recovery system incorporates pressure and vacuum stages. During the pressure recovery stage, the VCM vapor is pulled from the reactor, compressed, condensed, and is routed to the recovered monomer storage tank. When the reactor pressure approaches atmospheric pressure, vacuum pumps are started. VCM vapors thus removed are also compressed, condensed, and routed to the recovered monomer storage tank. During the recovery sequence, steam is injected into the reactors to reduce the quantity of vinyl chloride remaining in the slurry to a low level. Recovered monomer is subsequently charged to the reactor along with fresh VCM. Due to the design of the recovery system, it is now necessary to exhaust a small amount of vinyl chloride to the atmosphere during the last portion of the stripping operation.

A small quantity of inerts are generated during the reaction. These inerts accumulate in the recovered monomer system and are infrequently vented to maintain pressure control. The recovery system process design incorporates a refrigerated vent/gas condensing system and process locations where inerts tend to build up are tied into the system. Inerts are vented manually through the refrigerated vent condenser to minimize the quantity of VCM exhausted to the atmosphere.

When the recovery step is complete, the PVC water slurry is dumped through a slurry screener which removes oversize material. The slurry is then pumped to the slurry storage tanks. After dumping, the reactor is rinsed and cleaned to complete the reaction batch cycle.

The PVC water slurry is pumped from the storage tanks to centrifuges in the drying area. The extracted water is discharged to the process sewer and the wet resin cake is fed to the dryers where it is dried cocurrently with hot air. The air and dry resin product leave the dryer and enter a bag-type resin collector which minimizes the quantity of PVC resin which is lost to the atmosphere. The resin is separated from the hot air, and the air is exhausted to the atmosphere through the induced draft fan.

The dried resin flows to a product sifter where any oversized material is separated and collected. The on-size resin product is then pneumatically conveyed to product storage silos or railcar loading silos.

The product storage silos also have a pneumatic conveying system which enables product to be conveyed to the railcar loading silos or to a customer whose resin processing plant is located adjacent to our plant. All resin product with the exception of the small amount of oversized product is shipped by rail bulk hopper car, bulk truck, or is transferred directly to the adjacent customer resin processing plant.

The facility contains the normal offsite support systems. These include steam generation, cooling water, plant utility air, waste water lagoons, and sanitary system.

The design capacity of the plant is 775,000 pounds per day of polyvinyl chloride. Vinyl chloride emissions occur at each of the points indicated in the Standard for vinyl chloride. The plans to control these emissions are stated in the Waiver Request.

- (5) The average weight per month of the hazardous materials being processed by the source, over the last 12 months proceeding the date of the report.

<u>Month</u>	<u>Vinyl Chloride Processed</u> <u>MM#</u>
Nov 75	13.2
Dec 75	14.4
Jan 76	14.6
Feb 76	14.0
Mar 76	16.9
Apr 76	14.8
May 76	15.8
June 76	14.1
July 76	12.3
Aug 76	16.9
Sept 76	17.8
Oct 76	19.8
Total	184.6
Average per month	15.4

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(6) A description of the existing control equipment.

The vapor recovery unit was included in the original design to recover unpolymerized vinyl chloride from the reactors. The dual purpose of this recovery unit is to improve the efficiency of the plant and to reduce vinyl chloride emissions to the atmosphere. In 1975 equipment necessary to inject steam into the reactor to strip vinyl chloride from the slurry was installed in the plant. This has reduced vinyl chloride emissions significantly by reducing the amount of residual vinyl chloride in the resin before it is exposed to the atmosphere. A refrigerated vent condenser is used to refrigerate inerts which accumulate in the recovery system and are periodically vented to the atmosphere. The vinyl chloride condensed is returned to the recovery system thus reducing emissions to the atmosphere.

(7) A statement by the owner of the source as to whether he can comply with the standards prescribed in this part within 90 days of the effective date.

The emissions from this source cannot meet the emission limitations contained in the National Emission Standard on or before January 19, 1977.

II. Waiver Request

Since the source will not meet the emission limitations contained in the National Emission Standard before January 19, 1977, a waiver is requested to continue operation of the plant until the equipment required to bring the source into compliance can be installed. The following information is submitted as required by 40 CFR 61, paragraph 61.10 (b).

The comprehensive plan developed by the plant includes:

- (1) steam stripping of the slurry in the reactors to reduce the residual vinyl chloride in the slurry to less than 400 ppm by weight;
- (2) control of emissions from fugitive sources;
- (3) collection and treatment of required exhaust gases and water streams;
- (4) water strippers to reduce the concentration of vinyl chloride in inprocess waste water to no more than 10 ppm by weight;

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- (5) a control device to reduce the vinyl chloride content of the collected exhaust gas to no more than 10 ppm by volume before discharge to the atmosphere.

Based upon our current best information the time required for process design calculations, mechanical design, equipment delivery construction, and start-up, all necessary equipment for total plant compliance will be installed by July, 1978. The plant will have debugged the systems and completed all testing proving compliance to all areas of the Standard by September, 1978. Our request is that a waiver to the Standard be granted until this time, September 1, 1978.

✓ A. Process Involved 61.64 (a)(1)

1. Control

Our process uses the reaction vessel as both a reactor and a stripper. Vinyl chloride emissions from sources following the stripper will be controlled by stripping the resin batchwise to less than 400 ppm VCM in the reactor before the slurry is transferred to the slurry blend tanks. There will be no exhaust gases discharged to the atmosphere from the reactor until paragraph 61.64 (a)(2) has been complied with.

✓ B. Process Involved 61.64 (a)(2)

1. Control

- a. Description of the proposed type of control device to be added or modifications to be made to the process to reduce emissions of vinyl chloride to an acceptable level.

In our process steam stripping of the slurry in the reactor is used to comply with paragraph 61.64(e). Also in our process the reactor is evacuated prior to each time a batch is charged to the reactor. Thus for our process we must meet paragraphs 61.64 (a)(2) and 61.64 (e) for each batch. As explained in our request for equivalency (paragraph 61.66 attached) we propose these emission sources be combined. This request is made because of the difficulty and time required to obtain the samples necessary to prove compliance with each paragraph individually. We propose the combined allowable emission be 420 pounds of VCM per million pounds of resin produced, which is the sum of the allowable reactor opening emission of 20 pounds of VCM per million pounds of resin produced and the stripping requirement of 400 pounds of VCM per million pounds of resin produced.

- b. Description of the measures to be taken during the waiver period to assure that the health of persons will be protected from imminent danger.

Facilities have been installed and are in use to steam strip the slurry before it is dumped from the reactor stripper. VCM is recovered in the existing recovery system.

2. Increments of Progress

Date by which orders will be issued for purchase-June, 1977
 Date of initiation of on-site construction-October, 1977
 Date by which on-site construction complete-July, 1978
 Date of full compliance for system-September, 1978

✓ C. Process Involved 61.64 (a)(3)

1. Control

- a. Description of the proposed type of control device to be added or modifications to be made to the process to reduce emissions of vinyl chloride to an acceptable level.

Normal operational vent discharges from the reactors will be routed to the new recovery system. Inerts collected in the recovery system will be first refrigerated and will then be reduced to no more than 10 ppm VCM in a control device before discharge to the atmosphere.

- b. Description of the measures to be taken during the waiver period to assure that the health of persons will be protected from imminent danger.

Manual vent valve discharge from the reactors now occur only seldomly. Operators are instructed only to vent VCM from a reactor in order to relieve a situation which would result in a greater VCM emission than that resulting from the manual venting.

2. Increments of Progress

Increments of progress will be the same as for 61.64 (a)(2) except the control device to reduce the vent stream to less than 10 ppm VCM. An engineering study is now in progress to determine if a carbon bed or an incinerator will be installed as the final control device to reduce the vinyl chloride content of the specified emissions to no more than 10 ppm by volume.

Increments of progress for the control device.

Date by which orders will be issued for purchase-July, 1977

Date of initiation of on-site construction-March, 1978

Date by which on-site construction complete-July, 1978

Date of full compliance for system-September, 1978

✓ D. Process Involved 61.64 (b)

1. Control

Since stripping is done in the reactors meeting 61.64 (a) (1) and (2) will result in compliance to this requirement.

✓ E. Process Involved 61.64 (c)

1. Control

- a. Description of the proposed type of control device to be added or modifications to be made to the process to reduce emissions of vinyl chloride to an acceptable level.

Our process does not include mixing or weighing vessels which are in vinyl chloride service. Vessels covered by this paragraph are a sphere, two storage bullets, a fresh VCM receiver and two recovered VCM receivers. Venting of the sphere or bullets will occur only seldomly. These vents will be routed to the new recovery system. Vents from the VCM receivers will be regrigerated and then reduced to no more than 10 ppm VCM by the control device before discharge to the atmosphere.

- b. Description of the measures to be taken during the waiver period to assure that the health of persons will be protected from imminent danger.

Exhausts from the VCM receivers are presently vented to the existing recovery system to reduce VCM emissions to the atmosphere.

2. Increments of Progress

Increments of progress will be the same as for paragraph 61.64 (a)(3).

✓ F. Process Involved 61.64 (d)

1. Control

- a. Description of the proposed type of control device to be added or modifications to be made to the process to reduce emissions of vinyl chloride to an acceptable level.

Exhausts from the existing and new recovery system to be installed for EPA compliance will be routed to the control device and reduced to no more than 10 ppm VCM before discharge to the atmosphere.

- b. Description of the measures to be taken during the waiver period to assure that the health of persons will be protected from imminent danger.

Vents from the existing recovery system are refrigerated prior to discharge to the atmosphere to reduce the amount of VCM emitted.

2. Increments of Progress

Increments of progress will be the same as for paragraph 61.64 (a)(3).

✓ G. Process Involved 61.64 (e)(1)(ii)

1. Control

- a. Description of the proposed type of control device to be added or modifications to be made to the process to reduce emissions of vinyl chloride to an acceptable level.

Compliance will be achieved by stripping the slurry to 400 ppm VCM in the reactor/stripper. Capability to inject steam to the reactor/stripper is now installed and in use. Equipment modifications which will allow the use of a suspending agent which produces a more porous and thus an easier to strip resin will be installed by May 1, 1977. With this modification the daily average residual VCM in the slurry after stripping will not exceed 400 ppm. As stated in our compliance plan for paragraph 61.64 (a)(2), we propose combining the emission limits for that section and 61.64 (e)(1)(ii) into one compliance area.

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- b. Description of the measures to be taken during the waiver period to assure that the health of persons will be protected from imminent danger.

Slurry is presently being steam stripped to reduce VCM emissions to the atmosphere.

✓ H. Process Involved 61.65 (a)

1. Control

- a. Description of the proposed type of control device to be added or modifications to be made to the process to reduce emissions of vinyl chloride to an acceptable level.

In case of an abnormal situation, reactor relief valve discharges will be controlled by killing the polymerization reaction with alpha methyl styrene. In case of a plant power failure cooling water supply to the reactor condensers is provided by a City water tie-in. This system and procedure for killing the reaction is currently in use and has proven very effective in controlling reactor temperature and pressure and thus preventing reactor relief discharges during power failures or other emergencies. An upgraded alpha methyl styrene injection system will be installed to improve the reliability of our reaction termination capability. The existing manual reactor relief valve discharge system will be maintained but will only be used in an emergency situation.

- b. Description of the measures to be taken during the waiver period to assure that the health of persons will be protected from imminent danger.

The present effective measures of addition of alpha methyl styrene and the use of City water on the condenser if a loss of plant cooling water occurs will continue to be used to control reactor relief discharges.

2. Increments of Progress

Date by which orders will be issued for purchase-June, 1977
Date of initiation of on-site construction-August, 1977
Date by which on-site construction complete-September, 1977
Date of full compliance for system-September, 1977

✓ I. Process Involved 61.65 (b)(1)

1. Control

- a. Description of the proposed type of control device to be added or modifications to be made to the process to reduce emissions of vinyl chloride to an acceptable level.

Valves will be added to the unloading lines and piping modifications will be made so the unloading compressor can be used to reduce the pressure of the vapor in each unloading line so that each contains less than 0.13 ft³ of vinyl chloride at standard pressure and temperature before opening to the atmosphere.

2. Increments of Progress

Date by which orders will be issued for purchase-April, 1977
Date of initiation of on-site construction-September, 1977
Date by which on-site construction complete-November, 1977
Date of full compliance for system-December, 1977

✓ J. Process Involved 61.65 (b)(2)

1. Control

- a. Description of the proposed type of control device to be added or modifications to be made to the process to reduce emissions of vinyl chloride to an acceptable level.

Magnetic level gauges are being installed in all Company-owned vinyl chloride railcars. If it is necessary to vent vinyl chloride from slip gauges on the railcars, it will be routed to the new recovery system and any exhaust gas will be reduced to no more than 10 ppm VCM by the control device before discharge to the atmosphere.

✓ K. Process Involved 61.65 (b)(3)

1. Control

- a. Description of the proposed type of control device to be added or modifications to be made to the process to reduce emissions of vinyl chloride to an acceptable level.

Double mechanical seals or tandem seals for which an equivalency will be requested will be installed on rotating pumps in vinyl chloride service. We do not have any reciprocating pumps in vinyl chloride service. Tandem seals for which an equivalency will be requested will be installed on rotating compressors in vinyl service. Double mechanical seals cannot be installed on our reciprocating compressors in vinyl service. We are currently working with the vendor to develop a suitable equivalent. All agitators in vinyl service are now equipped with double mechanical seals. These agitators are on the reactors and pressure is maintained on the seal liquid such that it will leak into the reactor rather than to allow vinyl chloride to leak to the atmosphere. The water buffer fluid required for the tandem seals will be collected and stripped to no more than 10 ppm VCM before discharge to the atmosphere.

2. Increments of Progress

Date by which orders will be issued for purchase-December, 1977
Date of initiation of on-site construction-April, 1978
Date by which on-site construction complete-July, 1978
Date of full compliance for system-September, 1978

✓ L. Process Involved 61.65 (b)(4)

1. Control

- a. Description of the proposed type of control device to be added or modifications to be made to the process to reduce emissions of vinyl chloride to an acceptable level.

Rupture discs have been installed between each relief valve on equipment in vinyl chloride service and the piece of equipment except for some thermal relief valves. The discharge from thermal relief valves in vinyl service without rupture discs will be routed into the new recovery system or process equipment.

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2. Increments of Progress

Date by which orders will be issued for purchase-June, 1977
Date of initiation of on-site construction-October, 1977
Date by which on-site construction complete-July, 1978
Date of full compliance for system-September, 1978

✓ M. Process Involved 61.65 (b)(5)

1. Control

- a. Description of the proposed type of control device to be added or modifications to be made to the process to reduce emissions of vinyl chloride to an acceptable level.

The vent collection system described to comply with paragraph 61.65 (b)(6) will be used to meet this requirement. See control plan for paragraph 61.65 (b)(6).

✓ N. Process Involved 61.65 (b)(6)

1. Control

- a. Description of the proposed type of control device to be added or modifications to be made to the process to reduce emissions of vinyl chloride to an acceptable level.

An equipment purge system will be installed to meet this requirement. Equipment less than 25 gallons will be vented to the VCM collection system. Equipment larger than 25 gallons will be vented to the VCM collection system and then filled with water to displace the remaining VCM into the collection system. The VCM removed from the equipment will be recovered in the new recovery system. Inerts from the recovery system will be routed to the control device where the VCM content will be reduced to no more than 10 ppm. Displacement water containing over 10 ppm VCM will be stripped in the new water stripper as explained in paragraph 61.65(b)(9).

2. Increments of Progress

Date by which orders will be issued for purchase-October, 1977
Date of initiation of on-site construction-November, 1977
Date by which on-site construction complete-July, 1978
Date of full compliance for system-September, 1978

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✓ 0. Process Involved 61.65 (b)(7)

1. Control

- a. Description of the proposed type of control device to be added or modifications to be made to the process to reduce emissions of vinyl chloride to an acceptable level.

All unused portions of samples containing at least 10% by weight VCM will be returned to the process and all sample containers in vinyl chloride service will be purged into a closed process system. A reactor sampling system will be installed so that purging of the sample containers will be collected in a closed process system.

2. Increments of Progress

Date by which orders will be issued for purchase-June, 1977
Date of initiation of on-site construction-August, 1977
Date by which on-site construction complete-October, 1977
Date of full compliance for system-December, 1977

✓ 1. Process Involved 61.65 (b)(8)

The leak detection program has been previously submitted.

✓ 2. Process Involved 61.65 (b)(9)

1. Control

- a. Description of the proposed type of control device to be added or modifications to be made to the process to reduce emissions of vinyl chloride to an acceptable level.

Two waste water batch strippers will be installed. Water will be alternately collected and then stripped in each vessel to no more than 10 ppm VCM by weight before being exposed to the atmosphere. VCM stripped from the water will be recovered in the new recovery system. Inerts from the recovery system will be routed to the control device where they will be reduced to no more than 10 ppm VCM before discharge to the atmosphere.

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2. Increments of Progress

Date by which orders will be issued for purchase-June, 1977
Date of initiation of on-site construction-October, 1977
Date by which on-site construction complete-July, 1978
Date of full compliance for system-September, 1978

R. Process Involved 61.65 (c)

1. Control

- a. Description of the proposed type of control device to be added or modifications to be made to the process to reduce emissions of vinyl chloride to an acceptable level.

Standard operating procedures will be prepared as the systems are installed and become operational.

61.66 Equivalent Equipment and Procedures

At the time our waiver to the Standard for vinyl chloride expires we will have accumulated sufficient operating records such as pressures, temperatures, times, etc. that demonstrate certain operating procedures provide equivalent methods to various specified sections of the Standard. We will develop and document these relationships and prior to the expiration of the waiver submit them to the Administrator for his approval. The specific requests for equivalent procedures as well as requests for equivalent equipment will include:

A. 61.64 (a)(2) and 61.64 (e)(1)(ii)

These paragraphs require that reactor opening losses not exceed 20 pounds of VCM per million pounds of resin produced, that stripped slurry not contain more than 400 pounds of VCM per million pounds of resin produced, and that both of these criterion be met separately. To take the necessary samples to make these determinations would be hazardous and would cause an undue burden on the plant. Also, it would be very difficult for the plant (or the EPA) to prove compliance with reactor opening losses. Therefore, the following equivalencies are requested.

In our process, the large batch reactors also serve as batch strippers. Immediately after the polymerization step is completed, the reactor contents are first subjected to a recovery/steam stripping step, and then immediately dumped.

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When dump starts, the reactor contents are hotter than 212°F and thus under pressure. As the dump proceeds, the pressure eventually drops below atmospheric and the reactor must be vented to complete dump. Sampling to insure compliance with the 400 ppm stripping loss could be done from a tap in the dump line.

Because the reactor is hot and under pressure at the start of dump, it is impossible to measure reactor opening losses as prescribed by the promulgated standard. First the reactor manway cannot be opened because of the pressure. Second even if it could good safety practice would not allow it because of the thermal and VCM exposure hazards. It should be noted that the plant has reduced the reactor manway opening frequency to approximately once per week because of the thermal and VCM exposure hazards (the once per week opening is required for a mechanical inspection and cleanliness check).

In addition, the Standard prescribes that Test Method 106 or a portable hydrocarbon analyzer be used to determine reactor opening losses. In our situation, even if the reactor manway could be opened at the end of the recovery/steam stripping step, neither test method would be valid. This is because the reactor vapor space contains only steam and VCM. If the proposed test methods were used, the VCM concentration would always be measured to be nearly 100 percent since the steam would condense as the sample was taken. Therefore, it would be very difficult for the plant (or EPA) to show compliance.

It has been suggested that the reactor opening losses be checked by sampling the reactor/stripper contents after the reactor has been dumped and cooled, i.e., after inerts have filled the reactor. The problem with this method is that the stripped slurry continues to give up VCM to the vapor space during the dump operation. This makes it impossible to show compliance with either the reactor opening loss or the steam stripping loss requirements since it is impossible to tell how much did come out of the slurry.

Therefore, the plant requests that an equivalency allowing combination of the requirements of 61.64 (a)(2) and 61.64 (e)(1)(ii). This would mean that instead of having to show compliance with the 20 pounds of VCM per million pounds of produced resin

reactor opening loss criterion and the 400 pounds of VCM per million pounds of produced resin stripping loss criterion, the plant would be allowed to emit a total of 420 pounds of VCM per million pounds of resin produced as combined reactor opening and stripping losses. This does not increase the total allowable emissions but does allow both the plant and the EPA to determine compliance by making a VCM balance around the reactor following the recovery/steam stripping operation. The procedure would be:

1. To sample the slurry as it was dumped from the reactor.
2. Upon completion of the dump, the reactor would be cooled and allowed to fill with air as the steam condensed.
3. The concentration of VCM in the cooled reactor would be measured.
4. Compliance would be shown by adding the total VCM contained in the slurry to the total left in the reactor and comparing it with 420 pounds of VCM per million pounds of resin produced.

In addition to the equivalency of combining the reactor opening and stripping losses, the plant requests that it not be required to routinely show compliance with these losses by sampling all slurry dumps and reactor openings (ventings). In addition to the significant production loss, the sampling will cause laboratory and operating personnel to be subjected to unnecessary thermal and VCM exposure hazards. In place of the sampling, the plant proposes that it be allowed to show routine compliance by recording operating parameters such as stripping time, temperature, and pressure, once these parameters are demonstrated to insure compliance. The plant understands that it will be required to redemonstrate that these parameters do, in fact, show compliance whenever any process change which may affect compliance is made.

B. 61.65 (b)(3)(i)

Equivalency to install tandem seals with a water buffer fluid is requested for the rotating pumps in vinyl chloride service which cannot be modified to accomodate double mechanical seals. The water buffer fluid will be collected and reduced to no more than 10 ppm VCM before discharge to the atmosphere.

C. 61.65 (b)(3)(iii)

Equivalency to install tandem seals with a water buffer fluid is requested for the rotating compressors in vinyl chloride service. The water buffer fluid will be collected and reduced to no more than 10 ppm VCM before discharge to the atmosphere.

D. 61.65 (b)(3)(iv)

Double mechanical seals cannot be installed on the reciprocating compressors in vinyl service. We are currently working with the vendor to develop a suitable equivalent. When a suitable solution is obtained, equivalency will be requested.

E. 61.65 (c)

An equipment purge system will be installed to meet compliance to paragraph 61.65 (b)(6)(i)(ii). Water will be used to displace vinyl chloride vapor to the new recovery system in vessels larger than 25 gallons. Our tests have shown that once a vessel is filled with water and then drained, the vapor space will contain less than two percent vinyl chloride. We request a proper operating procedure of filling and draining vessels larger than 1250 gallons with water be an equivalent procedure to measuring the vinyl chloride content in the vapor space using Test Method 106 or a portable hydrocarbon detector.

F. 61.67 (g)(3)

An equivalency of the operating records of the batch stripping operation for each batch as proposed to meet paragraphs 61.64 (a)(2) and 61.64 (e)(1)(ii) is requested rather than to sample and use Test Method 107 on each batch of stripped slurry.

G. 61.67 (g)(5)

An equivalency of the operating records of the batch stripping operation for each batch as proposed to meet paragraphs 61.64 (a)(2) and 61.64 (e)(1)(ii) is requested rather than measuring the vinyl chloride content in the reactor after stripping each batch by Test Method 106 or a portable hydrocarbon detector.

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H. 61.70 (c)(2)

The requested equivalency of the operating procedure for stripping each batch to prove compliance to paragraph 61.64 (e) by batch stripping will be reported rather than the analytical results of Test Method 107 for each batch.

I. 61.70 (c)(3)

The requested equivalency of the operating procedure for stripping each batch to prove compliance to paragraph 61.64 (a)(2) will be reported rather than a calculation of the reactor opening made by determining the vinyl chloride content in each reactor by Test Method 106 or use of a portable hydrocarbon detector.

J. Test Methods 106 and 107

An equivalency to use the CONOCO Test Methods, copies attached, to determine the vinyl chloride content in air, water, slurry, and polyvinyl chloride is requested until the necessary equipment can be obtained to perform Test Methods 106 and 107 and any time this equipment is inoperative after its installation.

K. Test Method 106

The following specific equivalencies are requested:

1. Paragraph 4.3.1

Equivalency is requested to also use manual sample valving.

2. Paragraph 4.3.2

Equivalency is requested to use chromosorb 101 and Poropak Q in the column or any column material capable of resolving the VCM from other components. Also since VCM is a gas at room temperature, it is not necessary to have a heated sample loop.

3. Paragraph 6.4

Chromatographic conditions required to obtain the required resolution can vary and an equivalency to do this rather than adhere to the strict conditions of this paragraph is requested.

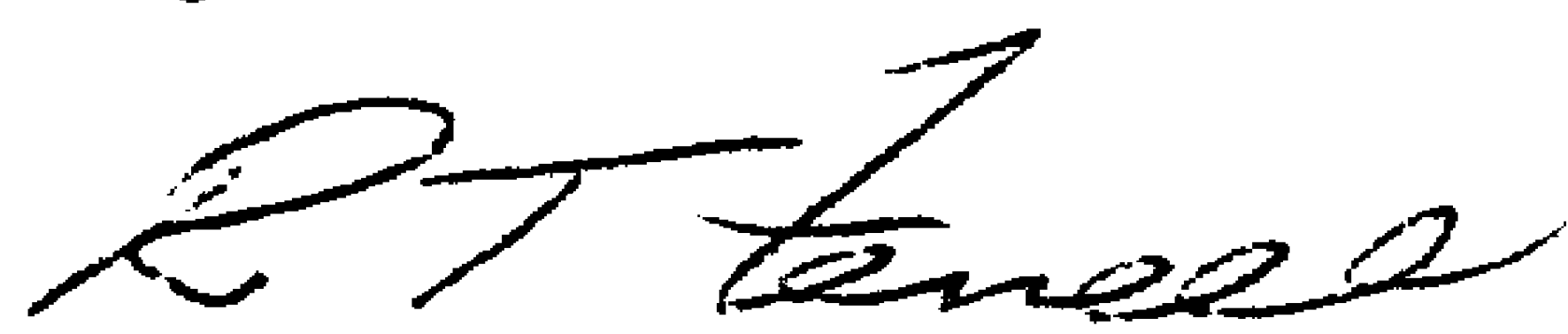
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An equivalency is requested to use peak heights rather than peak areas to determine vinyl chloride concentration.

66.67 Emission Tests

A waiver of emission tests is requested under paragraph 61.13 for the reason that a waiver of compliance to the Standard is being requested.

Signed:



R. T. FERRELL
Plant Manager

*All Conoco test methods
considered confidential*