



INDUSTRIES

PPG INDUSTRIES, INC. CHEMICAL DIVISION - U.S. P. O. BOX 1000 LAKE CHARLES, LA. 70602

March 12, 1987

Mr. Tom Coerver
Department of Environmental Quality
Air Quality Division
Office of Environmental Affairs
P O Box 44096
Baton Rouge, LA 70804-4096

Dear Mr. Coerver:

RE: LESHAP VCM Quarterly Report

In accordance with Section 77.11 of the LESHAP regulations, PPG Industries' Lake Charles Complex submits the attached quarterly report for the period December 1, 1986 through February 28, 1987.

Attached as Exhibit I is a record of emissions in excess of 10 ppm (averaged on a hourly basis) in the stack gases exiting the incinerator. There were 5 such incidents.

Attached as Exhibit II is a record of emissions in excess of 10 ppm (averaged on an hourly basis) which resulted from temporary by-passes of incineration. An estimated 90 pounds of VCM were released as a result of these 6 incidents.

Attached as Exhibit III is a record of sudden discharged of VCM which occurred during this reporting period. An estimated 8458 lbs of VCM were released as a result of these 4 incidents. Written notification of these incidents was made within 7 days of their occurrence.

Next, in accordance with Section 61.65b of the NESHA regulations, particularly subsection (8) leak detection and eliminating PPG is hereby submitting (to the DEQ and, by copy of this report, to the EPA) the results of a performance leak test on 204 randomly selected valves in vinyl service which was performed at our VCM-II vinyl chloride unit on December 13 and 16, 1986. The leak check was performed in accordance with paragraph 61.245(b). A listing of the valves checked is attached as Exhibit IV. None of the valves was found to be leaking, consequently the percentage of leaking valves in this

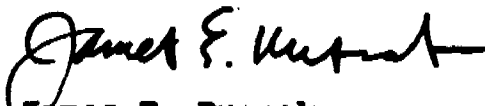
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Mr. Coerver
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unit is demonstrated to be less than 2.0 percent. Accordingly this unit qualifies for exemption from paragraph 61.242(d), 61.242-7(a), (b) and (c), 61.246, and 61.247 of Subpart V. Based on these results, PPG intends to continue its LESHAP approved leak detection and elimination program in its VCM-II unit in lieu of Subpart V leak detection.

Finally, PPG is hereby notifying you that our No. 4 incinerator located in our VCM-II vinyl chloride unit was started up on March 3, 1987 and is scheduled to operate approximately 14 consecutive weeks. This start-up has been required by the temporary shutdown of our No. 3 Incinerator which is being modified to meet EPA TSCA standards.

Respectfully,



James E. Rusnak
Plant Environmental Liaison Foreman

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Attachments

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EXHIBIT I

CONTINUOUS STACK EMISSION RESULTS >10 PPM VCM

Dec. 1, 1986 - Feb. 28, 1987

<u>Date</u>	<u>Stack No.</u>	<u>Hour Ending</u>	<u>Hourly Average (ppm)</u>	<u>Comment</u>
12/31/86	#1 & #2	1800	10.9	Investigation showed the #2 Incinerator shutdown burning liquid wastes. The #1 Incinerator was burning vinyl vents and experienced no upsets. The VCM level in the stack is unexplained.
01/24/87	#1 & #2	1500	22.7	The #1 Incinerator tripped due to hot VCM-II vents. VCM-II vents got hot due to a lack of adequate cooling from the cooling tower. Power to one of the cooling fans was being used by an experimental Walco trailer which increased the demands on the system.
01/27/87	#1 & #2	2200	14.1	#1 Incinerator tripped due to a flame failure while switching vents from the #3 incinerator.
02/02/87	#1 & #2	1400	137.7	Investigation showed that the #1 Incinerator was burning vinyl vents. The #2 Incinerator was burning liquid wastes. During the introduction of liquid material (non-vinyl) the stack analyzer indicated a high VCM level. The VCM level in the stack is unexplained.
02/11/87	#1 & #2	1200	14.1	The #1 Incinerator was burning vinyl vents. The #2 Incinerator was burning liquid wastes (non-vinyl). During the introduction of the liquid material the stack analyzer indicated a high VCM level. The VCM level in the stack is unexplained.

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EXHIBIT II

NON-INCINERATION OF VCM VENTS

Dec. 1, 1986 - Feb. 28, 1987

<u>Date</u>	<u>Time</u>	<u>Sources Not Incinerated</u>	<u>Estimated Quantity VCM Vents (lbs)</u>	<u>Comment</u>
01/08/87	0803 to	VCM-II, CSS, VCM-I	17.8	#1 Incinerator tripped due to no natural gas pressure. Someone mistakenly blocked in the air supply to the natural gas supply (PCV) pressure control valve for the entire complex.
01/08/87	1238 to 1240	VCM-II, CSS, VCM-I	11.6	#1 Incinerator tripped due to a flame failure while swapping vents to the #3 Incinerator. The #3 waste heat boiler was partially plugged which caused the flow to back up into the #1 Incinerator and blow out the flame.
01/24/87	1348 to 1400	VCM-II, CSS, VCM-I	23.1	#1 Incinerator tripped due to hot VCM-II vents. VCM-II vents got hot due to a lack of adequate cooling from the cooling tower. Power to one of the cooling fans was being used by an experimental Malco trailer which increased the demands on the system.
01/27/87	2104 to 2125	VCM-II, CSS, VCM-I	18.1	#1 Incinerator tripped due to a flame failure while vents were switched from the #3 Incinerator.
01/31/87	1724 to 1745	VCM-II	14.9	Unknown computer problems at VCM-II tripped off both OHC reactors and VCM-II vents out of the incinerator.
02/18/87	0250 to 0254	VCM-II, CSS, VCM-I	4.6	A possible power surge caused VC vents to trip out of the #1 Incinerator.

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EXHIBIT III

SUDDEN VCM DISCHARGES

Dec. 1, 1986 - Feb. 28, 1987

<u>Date</u>	<u>Time Duration</u>	<u>Estimated Quantity VCM Released (lbs)</u>	<u>Comment</u>
12/16/86	0142 to 0144 (2.5 min)	11	A corrosion pinhole leak developed on the VCM-II Neutralizer drain line. (Written notification was made 12/18/86).
12/16/86	0915 to 1300 (3 hrs, 45 min)	7455	A hydraulic shock in the system caused a SRV to lift and improperly reset on a VCM-II transfer line. (Written notification was made 12/19/86).
01/26/87	0920 (2 seconds)	7	A shift storage vent compressor at VCM-II was started up incorrectly which caused its SRV to relieve. (Written notification was made 2/2/87.)
02/02/87	0235 to 0620 (3 hrs, 45 min)	985	Two pinhole corrosion leaks developed on the bottom nozzle of the No. 1 VCM Neutralizer. A second release occurred when an organics hose being used to drain the neutralizer ruptured. (Written notification was made 2/9/87).

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EXHIBIT IV

The following operators if read the testing of the valves:

Name	MNU #	Cal. Date	Date of Use
Gary Sonnier	1067	12/12/86	12/13/86
Jay Moon	916	12/12/86	12/13/86
Kenny Bourgeois	916	12/12/86	12/13/86
Nolan Simien	916	12/12/86	12/13/86
Marc Moreno	1067	12/12/86	12/1 /86

The following valves were all checked and found to have no vinyl leaks.

FAID#	Description/location
1. 5	1" block valve on #2 pass #1 furnace going to vent header.
2. 6	1" block valve on #1 furnace #1 pass going to vent header.
3. 14	Nitrogen supply block valve to body cavity of #2 furnace #1 pass supervalve.
4. 15	#2 furnace #1 pass supervalve
5. 19	3" dump valve from Quench Tower to #2 Dopp kettle.
6. 32	Block valve on pressure gauge on middle of Quench Tower.
7. 33	6" block valve at Quench Tower on reflux line.
8. 35	Block valve on pressure gauge at top of Quench Tower.
9. 36	6" block valve on #1 furnace feed line SHV.
10. 40	Middle block valve on middle Quench Tower SHV.
11. 41	6" block valve on west SHV on Quench Tower vapor line.
12. 45	Quench Tower reflux flow control valve.
13. 53	3" upstream block valve on prod. still LCV on O. Liq. Tk.
14. 56	3" block valve next to quench liquor tk. on vcn rework to O.L.TK.
15. 60	1/2" block valve on low pressure side of FT 3040 O.vapor to Absorber.
16. 61	1/2" block valve on high pressure side of FT 3040 O.vapor to Absorber.
17. 63	3-way valve on SHV on Quench Liquor Tank.
18. 70	Sample point block valve on suction of Quench Liquor pump.
19. 73	Discharge block valve on #1 Quench Liquor pump.
20. 74	8" valve on suction of Quench Liquor pump.
21. 82	4" downstream block valve for Quench Liquor to Stripper FCV 3042.
22. 86	6" block valve on vapor line out of #1 Dopp Kettle.
23. 89	#1 Dopp Kettle dump line where nitrogen is added.
24. 94	1-1/2" block valve on #2 Dopp Kettle from entrainment separator.
25. 100	1-1/2" block valve at ground level on Dopp overhead seal loop.
26. 103	Block valve on Quench Dopp Overhead tank where nitrogen is added.
27. 107	1-1/2" drain valve on west bottom end of O.D. Ovhd. drum.
28. 112	Upstream block valve on O.D. Ovhd. drum PCV.
29. 114	1-1/2" downstream block valve for PV3455.
30. 116	1" block valve on sample loop return to suction of O.D.Ovhd pumps.
31. 118	3" block valve on suction line to south O.D. Ovhd. pump.
32. 125	2" block valve for outlet of O.D. Ovhd. filter.
33. 129	Upstream block valve on Ft3048:Quench Dopp Ovhd. to O.I.
34. 139	1/2" block valve on high pressure side of FT 3105.
35. 150	8" section valve to #1 Presat pump.
36. 152	Sample point block valve on discharge of Upper Inner Cooler pump.
37. 162	3-way valve on Absorber SHV's.
38. 163	4" block valve next to Absorber from Presat Cooler.
39. 165	Top block valve on Lean Oil to Absorber.
40. 167	Top block valve on Presat tray sight glass on Absorber.
41. 168	Top block valve on Absorber flow to Presat Cooler.
42. 175	Top block valve on sight glass for Upper Inner Cooler.
43. 176	6" block valve next to Absorber on Upper Inner Cooler.
44. 180	Lower Inner Cooler flow to Absorber next to Absorber.
45. 184	Bypass block valve on Lower Inner Cooler FCV 3125.
46. 189	Top block valve on Absorber level transmitter.
47. 205	8" suction valve to #1 Presat pump.
48. 212	Bypass valve around Absorber Bottoms to Stripper - LCV 3340
49. 215	1" block valve on line from discharge of Upper Innercooler pump.
50. 218	6" block valve on discharge of spare Lower Innercooler pump.

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51.	219	#1 Lower Innercooler pump suction block valve.
52.	221	1/2" block valve on orifice tap on FT 3141 - Stripper Overhead vapor high side.
53.	222	1/2" block valve on orifice tap on FT 3141 - Stripper Overhead vapor low side.
54.	223	4" block valve jumper between Quench Liquor Feed and Absorber feed to stripper.
55.	230	High pressure nitrogen to Stripper next to Stripper.
56.	238	Product Still Feed pump discharge line -4" valve that ties into EDC rework header.
57.	240	4" block valve top of Product Still Feed tank on EDC rework line.
58.	242	2" block valve top of Product Still Feed tank.
59.	243	Top block valve on sight glass on Product Still Feed tank.
60.	252	#1 Product Still Feed pump discharge.
61.	263	3-way valve on Product Still SHV.
62.	264	Middle feed point block valve on Product Still Reflux.
63.	267	Block valve on second from top on Product Still feed point.
64.	268	Block valve on third from top on Product Still feed point.
65.	269	Block valve on bottom feed point to Product Still.
66.	272	Top block valve on float chamber to Product Still.
67.	280	Upstream block valve on Product Still Reflux PCV.
68.	282	Product Still reflux flow transmitter block valve on high pressure side.
69.	284	1" block valve on Product Still top pressure gauge.
70.	289	6" down stream block valve on Product Still PCV.
71.	298	2" block valve on top of Product Still reflux tank.
72.	299	1/2" block valve for Product Still reflux tank pressure gauge.
73.	304	Downstream block valve on Product Still reflux tank PCV 3581.
74.	308	3" block valve on upstream block valve on double block and bleed on rework line to neutralizers.
75.	323	Bypass around Product Still reflux tank LCV.
76.	326	3/4" block valve on top of Humidifier.
77.	335	1/2" block valve to pressure gauge on 3" product outlet line from #1 neutralizer.
78.	336	3" block valve on product outlet line from #1 neutralizer.
79.	337	1-1/2" block valve on drain line to drain drum from #1 neutralizer.
80.	342	4" valve on drain line on #2 neutralizer.
81.	343	Block valve on pressure gauge to top of #2 neutralizer.
82.	346	3" valve on product outlet of #2 neutralizer.
83.	347	Product inlet block valve on #3 neutralizer.
84.	348	Pressure gauge block valve on #3 neutralizer.
85.	353	4" block valve on drain line to neutralizer drain drum from #3 neutralizer.
86.	359	1" block valve to pressure gauge on outlet of #1 VCM product filter.
87.	360	Product inlet block valve on #1 product filter.
88.	367	4" block valve down stream of VC product filters.
89.	369	Pressure gauge block valve on neutralizer drain drum.
90.	373	3" top nozzle block valve on LT3390 for neutralizer drain drum.
91.	378	4" valve at the drain drum on the neutralizer drain line.
92.	381	4" block valve on suction line out of neutralizer drain drum to neutralizer wash pump.
93.	405	Block valve on bottom of B-1 level transmitter.
94.	406	2" block valve for B-1 high level probe.
95.	428	3" valve on product rework recirculation on B-2.
96.	429	Block valve on B-2 high level transmitter.
97.	431	2" block valve with blind flange on B-2.
98.	432	6" suction block valve on B-2 next to tank.
99.	435	Pinch valve on top of B-3 varec.
100.	438	Level transmitter top block valve.
101.	444	3" rework recirculation block valve on top of B-3.
102.	452	B-4 top block valve on varec.
103.	456	2" block valve for Hi-Hi pressure switch on B-4.
104.	463	3" block valve with blind flange on B-4.

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105. 465	6" block valve on bottom of B-4 on line to product rework pump.
106. 466	2" block valve with blind flange on B-4.
107. 467	1" equalizing line on 6" line to/from VCH storage spheres.
108. 471	1" floating line on 6" product transfer header to S1/S2 area.
109. 474	Block valve on product pump discharge line into product transfer header.
110. 475	3/4" block valve on floating line from alternate transfer header (South) to suction line of product transfer pump.
111. 482	B-5 bottom block valve on LI.
112. 486	Product inlet line block valve on B-5.
113. 493	2" valve with blind flange on B-5.
114. 495	10" suction valve for #2 product transfer pump.
115. 499	10" suction isolation block valve on product transfer pump.
116. 500	1" floating line on suction of product transfer pump.
117. 504	1" valve on suction of rework pump sample point.
118. 508	1" sample rig on product rework pump discharge line block valve.
119. 524	2" inlet valve to shift storage vent condenser from shift storage vent compressor.
120. 528	Bottom block valve on H.P. vent condenser knock out drum level transmitter.
121. 529	Bottom block valve on H.P. vent condenser knock out drum sight glass.
122. 537	1/2" orifice tap block valve (high side) on FT 7026 vent flow off of H.P. vent condenser receiver.
123. 541	Shift storage vent compressor pressure control valve (PCV 7426).
124. 542	Shift storage vent compressor block valve downstream of PCV 7426.
125. 543	Shift storage vent compressor block valve bypass around PCV 7426.
126. 550	3" block valve on Product line into D-1.
127. 553	D-1 block valve on pressure gauge.
128. 556	3-way valve under SRV's on D-1.
129. 570	3" bottom block valve on pressure transmitter on D-2.
130. 573	4" block valve for recirculation into D-2.
131. 577	3-way valve for SRV on top of D-2.
132. 584	4" drain valve on west end of bottom of D-2.
133. 587	3" block valve on product inlet to D-2.
134. 588	Block valve on rework recirculation line into D-3.
135. 589	4" recirculation block valve from Certainteed transfer pump to D-3 or D-4.
136. 590	4" block valve on recirculation to D-3.
137. 596	6" block valve on bottom of D-3 on suction line to Certainteed transfer pump.
138. 600	3" bottom block valve on level transmitter on D-4.
139. 601	3" block valve on product inlet to D-4.
140. 614	4" recirculation valve in piperack on walkway on top of daytanks between D-1 and D-8.
141. 615	1-1/2" equalizing line in piperack between D-1 and D-8.
142. 617	3" block valve on product line in pipe rack between D-1 and D-8.
143. 624	3/4" block valve on Certainteed transfer equalizing line.
144. 629	6" suction valve at Certainteed transfer pump.
145. 659	1-1/2" block valve on equalizing line to D-8.
146. 660	1-1/2" block valve under pressure gauge on D-8.
147. 674	1/2" block valve under pressure switch on D-7.
148. 675	6" 3-way valve on D-7 for SRV's.
149. 677	6" block valve to transfer pump suction header under D-7.
150. 681	3" block valve on product line into D-6.
151. 690	6" block valve to transfer pump suction header under D-6.
152. 691	4" block valve to suction header for rework pump under D-1.
153. 692	4" block valve with blind flange under D-6.
154. 696	4" block valve on recirculation header to D-5.
155. 698	1/2" block valve to pressure switch on D-5.
156. 699	6" 3-way valve on D-5 for SRV's.
157. 702	6" block valve on D-5 to suction header for transfer pumps.
158. 706	2" block valve at S-1.

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159. 710 6" 3-way valve on S-1 for SRV's
 160. 712 3" block valve on bottom nozzle of varec of S-1.
 161. 714 4" check valve on recirculation line to S-1.
 162. 728 4" suction block valve on #1 tank car loading pump.
 163. 731 1/2" block valve on sample rig off of suction of tank car loading pumps.
 164. 759 6" block valve on suction header to barge loading pumps under S-3.
 165. 766 1/2" block valve on top of sample rig of S-3 loading pumps.
 166. 769 4" block valve on discharge of #1 barge loading pump at S-3.
 167. 771 6" block valve on suction of #2 barge loading pump at S-3.
 168. 777 6" bypass valve around PCV 6005/Incinerator vent valve from C-6.
 169. 785 1-1/2" drain valve on bottom of T-4.
 170. 789 6" block valve out of E-1.
 171. 792 6" block valve on discharge line of low temp VC transfer pump into line to/from area.
 172. 793 6" block valve upstream of TCV out of E-2.
 173. 795 6" downstream block valve on TCV out of E-2.
 174. 796 14" block valve on suction header for P-1 (Orbit valve).
 175. 800 6" check valve on discharge of P-3.
 176. 805 6" block valve on discharge of P-4.
 177. 807 6" Durco block valve used to cross-over from discharge of P-1/P-2 into discharge of P-3/P-4 into sphere storage.
 178. 808 12" suction block valve on P-1 loading pump.
 179. 827 2" block valve on discharge of P-6; after check valve on line to T-7.
 180. 833 1-1/2" block valve on bottom leg of sight glass on T-3.
 181. 837 1-1/2" block valve under rupture disk/SRV for T-3.
 182. 844 2" block valve out of E-3 (going to T-7).
 183. 845 2" block valve on vent line out of E-4 to T-4.
 184. 850 6" block valve between vapor line from docks and the back-pressure control valve.
 185. 863 2" bypass valve around dryer on drain line to T-7.
 186. 867 3/4" bottom bleed valve on bottom of T-6 (Deriming water drain tank).
 187. 879 2" block valve between deriming dryer D-1 and T-7.
 188. 881 Bottom block valve on level transmitter on T-7.
 189. 883 2" block valve on top of T-7 on line from P-5 and P-6.
 190. 885 1" block valve on recirculation line on top of T-7.
 191. 886 1-1/2" block valve on pressure switch on T-7.
 192. 889 Nitrogen make-up regulator block valve on T-7.
 193. 891 6" block valve on vapor line from loading dock going into E-3 and E-4.
 194. 901 1" LCV6223 on H-1 vaporizer off of 14" T-1 and T-2 suction lines.
 195. 906 Block valve on top of T-1 varec.
 196. 908 4" block valve on top of T-1 (cooldown line).
 197. 910 8" block valve on vent line on top of T-1.
 198. 924 Nitrogen automatic valve on top of T-2.
 199. 927 Block valve on bottom of thermal SRV on 4" recirculation line from dock.
 200. 929 6" block valve on recirculation line on top of T-2.
 201. 931 1-1/2" block valve on top of T-2 to PV-6429 and PCV-6439 (nitrogen make-up).
 202. 934 1-1/2" block valve on line to PT6482 on top of T-2.
 203. 935 8" block valve on vapor line out of the top of T-2 at tank.
 204. 943 8" isolation (air operated) valve for ship vapor return.



PPG INDUSTRIES, INC.

CHEMICALS

P. O. BOX 1000

LAKE CHARLES, LA. 70602

Dec. 12, 1986

Mr. Gus Von Bodungen
Department of Environmental Quality
Air Quality Division
Office of Environmental Affairs
P. O. Box 44096
Baton Rouge, LA 70804-4096

Dear Mr. Von Bodungen:

Re: LESHAP VCM Quarterly Report

In accordance with Section 77.11 of the LESHAP regulations, PPG Industries' Lake Charles Complex submits the attached quarterly report for the period September 1, 1986 through November 30, 1986.

Attached as Exhibit I is a record of emissions in excess of 10 ppm (averaged on an hourly basis) in the stack gases exiting the incinerator. There were four such incidents.

Attached as Exhibit II is a record of emission in excess of 10 ppm (averaged on an hourly basis) which resulted from temporary by-passes of incineration. An estimated 67 pounds of VCM were released as a result of these 12 incidents.

Attached as Exhibit III is a record of sudden discharges of VCM which occurred during this reporting period. An estimated 31 lbs of VCM were released as a result of these two incidents. Written notification of these incidents was made within 7 days of their occurrence.

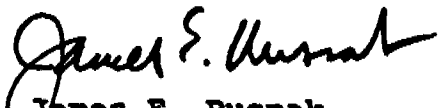
Finally, in accordance with Section 61.65b of the NESHAP regulations, particularly subsection (8) leak detection and elimination, PPG is hereby submitting (to the DEQ and, by copy of this report, to the EPA) the results of a performance leak test on 200 randomly selected valves in vinyl service which was performed at our Tri-Ethane^(R) II vinyl chloride unit on November 26, 1986. The leak check was performed in accordance with §61.245(b). A listing of the valves checked is attached as Exhibit IV. None of the valves was found to be leaking,

SL 026412

Dec. 12, 1986

consequently the percentage of leaking valves in this unit is demonstrated to be less than 2.0 percent. Accordingly this unit qualifies for exemption from P61.242-1(d), 61.242-7(a), (b) and (c), 61.246, and 61.247 of Subpart V. Based upon these results, PPG intends to continue its LESHAP approved leak detection and elimination program in its Tri-Ethane^(R) II unit in lieu of Subpart V leak detection. The results of a similar test in PPG's VCM-II unit, scheduled for December, will be submitted in the next quarterly report.

Respectfully,



James E. Rusnak
Advanced Research Chemist

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Attachments

SL 026413

EXHIBIT 1

Continuous Stack Emission Results > 10 ppm VCM

September 1, 1986 - November 30, 1986

<u>Date</u>	<u>Stack No.</u>	<u>Hour Ending</u>	<u>Hourly Avg (ppm)</u>	<u>Comment</u>
9/6/86	4	0800	10.3	Investigation showed no process upsets or unusual circumstances leading to the incident. The cause of excursion is not known. The incinerator stack GC's calibration was checked for accuracy.
10/8/86	#1 & 2	0900	11.3	No trips or upsets occurred during this time. The VC level in stack is unexplained.
10/9/86	#3	0300	13.3	No trips or upsets occurred during this time. The VC level in stack is unexplained.
11/9/86	#1 & #2	1300	569.2	Investigation showed that the #3 incinerator shut down due to a failure of the absorber bottoms pump. Par/Tri vents (non-vinyl vents) were switched from #3 incinerator to #2 incinerator. #2 incinerator was burning natural gas at time of switch. The #1 incinerator was burning VC vents. The VC level in the stack is unexplained.

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EXHIBIT II

Non-Incineration of VCM Vents

September 1, 1986 - November 30, 1986

<u>Date</u>	<u>Time</u>	<u>Sources Not Incinerated</u>	<u>Estimated Quantity VCM Vented (lbs)</u>	<u>Comment</u>
9/2/86	4 minutes between 1326 & 1334	VC II	1.7	VC II vents were tripped out of #4 incinerator due to operator errors while switching vents to B-1. Operator was counseled on his actions.
9/15/86	1747 to 1752	VC II, CSS	3.1	#1 incinerator tripped due to hot VC II vents. Hot vents resulted from the venting of a ship in preparation for loading.
9/20/86	0751 to 0758	VC II, CSS	4.4	#1 incinerator tripped due to hot EDC vents. Hot vents resulted from ethylene rich vents from the EDC process of shutting down.
10/3/86	1633 to 1638	VC II, CSS	2.1	#1 incinerator tripped due to hot vents from VC II while they were in the process of starting up.
10/8/86	0107 to 0110	VC II	1.0	VC II vent was tripped out of #1 incinerator in order to prevent the incinerator from tripping off. Vents were "hot" due to the startup of the VC II EDC plant.
10/10/86	1452 to 1459	VC II, CSS	5.8	#3 incinerator tripped due to a failure of the steam drum level transmitter. The level transmitter was replaced.
10/14/86	1511 to 1522	VC II, CSS	3.9	#3 incinerator tripped due to an excessive buildup of rust in the system causing the steam drum level transmitter to fail. The problem was remedied by flushing the system several times.
10/17/86	0911 to 0913	VC II, CSS	0.7	Vents were tripped out of #3 incinerator due to operator error. Operator tripped the wrong switch. Operator was counseled.

EXHIBIT II

Non-Incineration of VCM Vents

September 1, 1986 - November 30, 1986

<u>Date</u>	<u>Time</u>	<u>Sources Not Incinerated</u>	<u>Estimated Quantity VCM Vented (lbs)</u>	<u>Comment</u>
10/20/86	1112 to 1116	VC 11, CSS	2.6	#1 Incinerator tripped due to high natural gas pressure when hot vents caused a valve completely close. Cause of the problem was not discovered until second trip occurred. See below.
10/20/86	1330 to 1334	VC 11, CSS,	2.6	#1 Incinerator tripped due to high natural gas pressure when hot vents caused a valve to completely shut off. A stop was put on the regulator to prevent the valve from completely closing.
11/21/86	1310 to 1314	VC 11, CSS VC 1	12.5	#1 incinerator was tripped due to operator error. Wrong incinerator was shut down by mistake. Operator was counseled on his action.
11/22/86	2015 to 2039	VC 11, CSS VC 1	26.5	#1 incinerator tripped due to high temperature condition caused by burning liquids.

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EXHIBIT III

SUDDEN VCM DISCHARGES

Sept. 1, 1986 - Nov. 30, 1986

<u>Date</u>	<u>Time Duration</u>	<u>Estimated Quantity VCM Released (lbs)</u>	<u>Comment</u>
10/5/86	0800 to 0807 (7 minutes)	25	A small leak developed in the seal flush tubing on the TE II VC/HCl Still Reflux pump. (Written notification was made 10/10/86).
11/14/86	0730 to 0740 (10 minutes)	6	A small hole developed in a feed line going to the VCM II #2 VC Dopp Kettle. (Written notification was made on 11/21/86).

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EXHIBIT IV

The following valves were checked on 11/26/86 by J. E. Neely using HNU #1074 (last calibrated 11/24/86). No readings in excess of 2,000 ppm were found.

TE II VODCOE AREAS

A. QUENCH TOWER/VODCOE DOPP KETTLE SYSTEM:

1. SOUTH SUPER VALVE
2. NORTH SUPER VALVE
3. NO.1 PASS VENT VALVE TO THE VENT HEADER
4. NO.2 PASS VENT VALVE TO THE VENT HEADER
5. EDC INLET TO THE QUENCH TOWER
6. CP CELL BOTTOM VALVE
7. CP CELL TOP VALVE
8. SIGHT GLASS BOTTOM VALVE
9. SIGHT GLASS TOP VALVE
10. SOUTH DOPP KETTLE VAPOR RETURN VALVE
11. NORTH DOPP KETTLE VAPOR RETURN VALVE
12. SOUTH 'STRAHMAN' VALVE AT THE QUENCH TOWER
13. NORTH 'STRAHMAN' VALVE AT THE QUENCH TOWER
14. NO.1 PASS OUTLET PRESSURE TRANSMITTER VALVE
15. NO.2 PASS OUTLET PRESSURE TRANSMITTER VALVE
16. NO.1 PASS VALVE TO THE ATMOSPHERIC VALVE
17. NO.2 PASS VALVE TO THE ATMOSPHERIC VALVE
18. QUENCH LIQUOR REFLUX VALVE AT THE QUENCH TOWER
19. FLOAT CHAMBER BOTTOM VALVE
20. FLOAT CHAMBER TOP VALVE
21. NO.1 DUMP UPSTREAM VALVE
22. NO.1 DUMP VALVE
23. NO.1 DOPP KETTLE INLET VALVE
24. NO.2 DUMP UPSTREAM VALVE
25. NO.1 DUMP VALVE
26. NO.1 DOPP KETTLE INLET VALVE

B. QUENCH CONDENSER/QUENCH LIQUOR TANK:

27. QUENCH CONDENSER DRAIN TO THE QUENCH LIQUOR TANK
28. QUENCH CONDENSER EQUALIZING VALVE
29. QUENCH TOWER VAPOR LINE EQUALIZING VALVE
30. QUENCH LIQUOR TANK 3-WAY VALVE TO SRV's
31. QUENCH LIQUOR TANK VAPOR VALVE TO VC/HCL STILL
32. VC REWORK VALVE AT THE QUENCH LIQUOR TANK
33. FURNACE FEED VALVE AT THE QUENCH LIQUOR TANK
34. QUENCH LIQUOR TANK SUCTION VALVE
35. NO.1 QUENCH LIQUOR PUMP SUCTION
36. NO.2 QUENCH LIQUOR PUMP SUCTION
37. NO.1 QUENCH LIQUOR PUMP DISCHARGE
38. NO.2 QUENCH LIQUOR PUMP DISCHARGE
39. QUENCH TOWER REFLUX FCV UPSTREAM VALVE
40. QUENCH TOWER REFLUX FCV BY-PASS VALVE
41. QUENCH TOWER REFLUX FCV (F-124)
42. QUENCH TOWER REFLUX FCV DOWNSTREAM VALVE
43. QUENCH TOWER REFLUX FCV DRAIN VALVE
44. QUENCH LIQUOR DRUM LCV UPSTREAM VALVE
45. QUENCH LIQUOR DRUM LCV BY-PASS VALVE
46. QUENCH LIQUOR DRUM LCV (L-125)

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47. QUENCH LIQUOR DRUM LCV DOWNSTREAM VALVE
 48. QUENCH LIQUOR DRUM LCV DRAIN VALVE
 49. NO. 1 QUENCH LIQUOR PUMP DRAIN
 50. NO. 2 QUENCH LIQUOR PUMP DRAIN
 51. NO. 1 QUENCH LIQUOR PUMP DISCHARGE BLEED
 52. NO. 2 QUENCH LIQUOR PUMP DISCHARGE BLEED
 53. QUENCH LIQUOR PUMP DISCHARGE PRESSURE INDICATOR VALVE
 54. QUENCH LIQUOR PUMP DISCHARGE PRESSURE INDICATOR VALVE BLEED
 55. QUENCH LIQUOR SAMPLE POINT VALVE
 56. QUENCH LIQUOR TANK LEVEL TRANSMITTER BOTTOM VALVE
 57. QUENCH LIQUOR TANK LEVEL TRANSMITTER TOP VALVE
 58. QUENCH LIQUOR TANK LEVEL TRANSMITTER BOTTOM BLEED VALVE
 59. QUENCH LIQUOR TANK LEVEL TRANSMITTER TOP BLEED VALVE
 60. QUENCH LIQUOR TANK SPARE LEVEL TRANSMITTER BOTTOM VALVE
 61. QUENCH LIQUOR TANK SPARE LEVEL TRANSMITTER TOP VALVE
 62. QUENCH LIQUOR TANK SPARE LEVEL TRANSMITTER BOTTOM BLEED VALVE
 63. QUENCH LIQUOR TANK SPARE LEVEL TRANSMITTER TOP BLEED VALVE

C.VC/HCL STILL:

64. VC/HCL STILL LIQUID FEED BOTTOM VALVE
 65. VC/HCL STILL LIQUID FEED MIDDLE VALVE
 66. VC/HCL STILL LIQUID FEED TOP VALVE
 67. VC/HCL STILL VAPOR FEED BOTTOM VALVE
 68. VC/HCL STILL VAPOR FEED MIDDLE VALVE
 69. VC/HCL STILL VAPOR FEED TOP VALVE
 70. VC/HCL STILL REFLUX INLET VALVE
 71. VC/HCL STILL 3-WAY VALVE SRV's
 72. VC/HCL STILL 3-WAY VALVE SRV's SOUTH BLEED VALVE
 73. VC/HCL STILL 3-WAY VALVE SRV's NORTH BLEED VALVE
 74. VC/HCL STILL LEVEL TRANSMITTER BOTTOM VALVE
 75. VC/HCL STILL LEVEL TRANSMITTER TOP VALVE
 76. VC/HCL STILL LEVEL TRANSMITTER BLEED VALVE
 77. VC/HCL STILL SPARE LEVEL TRANSMITTER BOTTOM VALVE
 78. VC/HCL STILL SPARE LEVEL TRANSMITTER TOP VALVE
 79. VC/HCL STILL SPARE LEVEL TRANSMITTER BLEED VALVE
 80. VC/HCL STILL REBOILER OVERFLOW VALVE
 81. VC/HCL STILL REBOILER UNDERFLOW VALVE
 82. VC/HCL STILL REFLUX DRUM LCV BY-PASS VALVE
 83. VC/HCL STILL REFLUX DRUM LCV UPSTREAM VALVE
 84. VC/HCL STILL REFLUX DRUM LCV UPSTREAM BLEED VALVE
 85. VC/HCL STILL REFLUX DRUM LCV (L-150)
 86. VC/HCL STILL REFLUX DRUM LCV DOWNSTREAM VALVE
 87. VC/HCL STILL REFLUX DRUM LCV DOWNSTREAM BLEED VALVE
 88. VC/HCL STILL REFLUX DRUM SPARE LCV UPSTREAM VALVE
 89. VC/HCL STILL REFLUX DRUM SPARE LCV BY-PASS VALVE
 90. VC/HCL STILL REFLUX DRUM SPARE LCV BLEED VALVE

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91.VC/HCL STILL CONDENSER INLET BLEED VALVE
 92.VC/HCL STILL REFLUX DRUM INLET VALVE
 93.VC/HCL STILL REFLUX DRUM EQUALIZING VALVE
 94.LIQUID VC LINE SRV DISCHARGE VALVE TO REFLUX DRUM
 95.VC/HCL STILL REFLUX DRUM 3-WAY VALVE FOR SRV's
 96.VC/HCL STILL REFLUX DRUM 3-WAY VALVE NORTH BLEED
 97.VC/HCL STILL REFLUX DRUM 3-WAY VALVE SOUTH BLEED
 98.LIQUID VC LINE SRV DISCHARGE BLEED VALVE TO REFLUX
 DRUM
 99.VC/HCL STILL REFLUX DRUM LEVEL TRANSMITTER TOP VALVE
 100.VC/HCL STILL REFLUX DRUM LEVEL TRANSMITTER BOTTOM
 VALVE AT THE TANK
 101.LIQUID VC RETURN TO THE LEVEL TRANSMITTER
 102.VC/HCL STILL REFLUX DRUM LEVEL TRANSMITTER BOTTOM
 BLEED VALVE
 103.VC/HCL STILL REFLUX DRUM LEVEL TRANSMITTER TOP BLEED
 VALVE
 104.VC/HCL STILL REFLUX DRUM SPARE LEVEL TRANSMITTER
 BOTTOM VALVE
 105.VC/HCL STILL REFLUX DRUM SPARE LEVEL TRANSMITTER
 TOP VALVE
 106.VC/HCL STILL REFLUX DRUM SPARE LEVEL TRANSMITTER
 BOTTOM BLEED VALVE
 107.VC/HCL STILL REFLUX DRUM SPARE LEVEL TRANSMITTER
 TOP BLEED VALVE
 108.VC/HCL STILL REFLUX DRUM SUCTION VALVE
 109.VC/HCL STILL REFLUX DRUM LEVEL TRANSMITTER BOTTOM
 VALVE AT THE TRANSMITTER
 110.NO.1 VC/HCL REFLUX PUMP SUCTION VALVE
 111.NO.2 VC/HCL REFLUX PUMP SUCTION VALVE
 112.NO.1 VC/HCL REFLUX PUMP SUCTION DRAIN VALVE
 113.NO.2 VC/HCL REFLUX PUMP SUCTION DRAIN VALVE
 114.VC/HCL REFLUX PUMP SUCTION SAMPLE VALVE
 115.NO.1 VC/HCL REFLUX PUMP DISCHARGE VALVE
 116.NO.2 VC/HCL REFLUX PUMP DISCHARGE VALVE
 117.NO.1 VC/HCL REFLUX PUMP DISCHARGE BLEED VALVE
 118.NO.2 VC/HCL REFLUX PUMP DISCHARGE BLEED VALVE
 119.VC/HCL REFLUX PUMP DISCHARGE SAMPLE VALVE
 120.VC REWORK LINE VALVE AT THE PUMPS
 121.LIQUID VC TO VCII FCV UPSTREAM VALVE
 122.LIQUID VC TO VCII FCV BY-PASS VALVE
 123.LIQUID VC TO VCII FCV UPSTREAM VALVE BLEED
 124.LIQUID VC TO VCII FCV (F-141)
 125.LIQUID VC TO VCII FCV DOWNSTREAM VALVE BLEED
 126.LIQUID VC TO VCII FCV DOWNSTREAM VALVE
 127.LIQUID VC TO VCII SRV BLOCK VALVE
 128.VC/HCL REFLUX FCV UPSTREAM VALVE
 129.VC/HCL REFLUX FCV BLEED VALVE
 130.VC/HCL REFLUX FCV (F-148)
 131.VC/HCL REFLUX FCV DOWNSTREAM VALVE
 132.VC/HCL REFLUX SAFETY DRYER BY-PASS
 133.VC/HCL REFLUX SAFETY DRYER INLET PI VALVE
 134.VC/HCL REFLUX SAFETY DRYER INLET PI BLEED VALVE

135.VC/HCL REFLUX SAFETY DRYER INLET VALVE
 136.VC/HCL REFLUX SAFETY DRYER INLET BLEED VALVE
 137.VC/HCL REFLUX PCV BY-PASS
 138.VC/HCL REFLUX SAFETY DRYER OUTLET BLEED VALVE
 139.VC/HCL REFLUX SAFETY DRYER PI VALVE
 140.VC/HCL REFLUX SAFETY DRYER OUTLET VALVE
 141.VC/HCL NO.1 FILTER INLET VALVE
 142.VC/HCL NO.1 FILTER TOP BLEED VALVE
 143.VC/HCL NO.1 FILTER PI BLEED VALVE
 144.VC/HCL NO.1 FILTER PI VALVE
 145.VC/HCL NO.1 FILTER OUTLET VALVE
 146.VC/HCL NO.2 FILTER INLET VALVE
 147.VC/HCL NO.2 FILTER TOP BLEED VALVE
 148.VC/HCL NO.2 FILTER PI BLEED VALVE
 149.VC/HCL NO.2 FILTER PI VALVE
 150.VC/HCL NO.2 FILTER OUTLET VALVE
 151.VC/HCL FILTERS INLET BLEED VALVE
 152.VC/HCL NO.1 FILTER OUTLET BLEED VALVE
 153.VC/HCL NO.2 FILTER OUTLET BLEED VALVE
 154.VC/HCL STILL PCV UPSTREAM VALVE
 155.VC/HCL STILL PCV BLEED VALVE
 156.VC/HCL STILL PCV (P-156)
 157.VC/HCL STILL PCV DOWNSTREAM VALVE
 158.VC/HCL STILL PCV (HIC) UPSTREAM VALVE
 159.VC/HCL STILL PCV (HIC) BLEED VALVE
 160.VC/HCL STILL PCV (H-154)
 161.VC/HCL STILL PCV (HIC) DOWNSTREAM VALVE

D.DCE REACTOR:

162.DCE REACTOR FEED MAIN VALVE
 163.DCE REACTOR FEED SE SPARGER FEED VALVE
 164.DCE REACTOR FEED SW SPARGER FEED VALVE
 165.DCE REACTOR FEED NE SPARGER FEED VALVE
 166.DCE REACTOR FEED NW SPARGER FEED VALVE
 167.NO.1 DCE REACTOR RECIRCULATION PUMP SUCTION VALVE
 168.NO.1 DCE REACTOR RECIRCULATION PUMP SUCTION VALVE
 (AIR OPERATED)
 169.NO.1 DCE REACTOR RECIRCULATION PUMP SUCTION BLEED
 VALVE
 170.NO.1 DCE REACTOR RECIRCULATION PUMP DISCHARGE BLEED
 VALVE (1/2")
 171.NO.1 DCE REACTOR RECIRCULATION PUMP DISCHARGE (AIR
 OPERATED)
 172.NO.1 DCE REACTOR RECIRCULATION PUMP DISCHARGE BLEED
 VALVE (1")
 173.NO.1 DCE REACTOR RECIRCULATION PUMP DISCHARGE
 174.NO.2 DCE REACTOR RECIRCULATION PUMP SUCTION VALVE
 175.NO.2 DCE REACTOR RECIRCULATION PUMP SUCTION VALVE
 (AIR OPERATED)
 176.NO.2 DCE REACTOR RECIRCULATION PUMP SUCTION BLEED
 VALVE
 177.NO.2 DCE REACTOR RECIRCULATION PUMP DISCHARGE BLEED
 VALVE

178.NO.2 DCE REACTOR RECIRCULATION PUMP DISCHARGE (AIR
 OPERATED)
 179.NO.2 DCE REACTOR RECIRCULATION PUMP DISCHARGE
 180.NO.3 DCE REACTOR RECIRCULATION PUMP SUCTION VALVE
 181.NO.3 DCE REACTOR RECIRCULATION PUMP SUCTION VALVE
 (AIR OPERATED)
 182.NO.3 DCE REACTOR RECIRCULATION PUMP SUCTION BLEED
 VALVE
 183.NO.3 DCE REACTOR RECIRCULATION PUMP DISCHARGE BLEED
 VALVE
 184.NO.3 DCE REACTOR RECIRCULATION PUMP DISCHARGE (AIR
 OPERATED)
 185.NO.3 DCE REACTOR RECIRCULATION PUMP DISCHARGE
 186.NO.2 DCE REACTOR COOLER INLET VALVE
 187.NO.2 DCE REACTOR COOLER OUTLET BLEED VALVE
 188.NO.2 DCE REACTOR COOLER OUTLET VALVE
 189.NO.2 DCE REACTOR COOLER OUTLET PI VALVE
 190.NO.1 DCE REACTOR COOLER INLET VALVE
 191.NO.1 DCE REACTOR COOLER OUTLET BLEED VALVE
 192.NO.1 DCE REACTOR COOLER OUTLET VALVE
 193.NO.1 DCE REACTOR COOLER OUTLET PI VALVE (PRIMARY)
 194.NO.1 DCE REACTOR COOLER OUTLET PI VALVE (SECONDARY)

E.VC/HCL STILL SAMPLE POINT VALVES:

195.VC/HCL STILL SAMPLE POINT-TRAY #7
 196.VC/HCL STILL SAMPLE POINT-TRAY #8
 197.VC/HCL STILL SAMPLE POINT-TRAY #13
 198.VC/HCL STILL SAMPLE POINT-TRAY #23
 199.VC/HCL STILL SAMPLE POINT-TRAY #27
 200.VC/HCL STILL SAMPLE POINT-TRAY #31