



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5  
77 WEST JACKSON BOULEVARD  
CHICAGO, IL 60604-3590

SEP 06 2005

REPLY TO THE ATTENTION OF

(AE-17J)

**CERTIFIED MAIL**  
**RETURN RECEIPT REQUESTED**

Erica R. Dromgoole, HSE Air Team Leader  
Innovene USA LLC  
1900 Fort Amanda Road  
Lima, Ohio 45804

Re: Finding of Violation  
Innovene USA LLC  
Lima, Ohio

Dear Ms. Dromgoole:

The United States Environmental Protection Agency (U.S. EPA or we) is issuing the enclosed Finding of Violation (FOV) to Innovene USA LLC (you). We find that you are in violation of Section 112 of the Clean Air Act, 42 U.S.C. § 7412, at your Lima, Ohio facility, as set forth below.

We have several enforcement options under Section 113(a)(3) of the Clean Air Act, 42 U.S.C. § 7413(a)(3). These options include issuing an administrative compliance order, issuing an administrative penalty order, and bringing a judicial civil or criminal action. The options we select may depend on, among other things, the length of time you take to achieve and demonstrate continuous compliance with the requirements cited in the FOV.

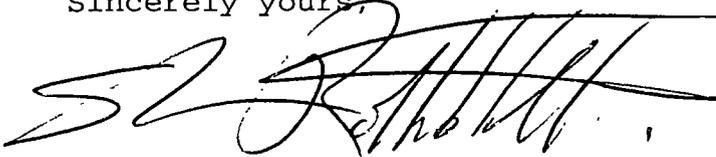
We are offering you an opportunity to confer with us about the violations alleged in the FOV. The conference will give you the opportunity to present information on the specific findings of violation, the efforts you have taken to comply, and the steps you will take to prevent future violations.

Please plan for your facility's technical and management personnel to attend the conference to discuss compliance measures and commitments. You may have an attorney represent you at this conference.

The U.S. EPA contact in this matter is Ray Cullen. You may call him at (312) 886-0538 to request a conference. You should make

the request as soon as possible, but no later than 10 calendar days after you receive this letter. We should hold any conference within 30 calendar days of your receipt of this letter.

Sincerely yours,

A handwritten signature in black ink, appearing to read "S2 Rothblatt", written over a horizontal line.

Stephen Rothblatt, Director  
Air and Radiation Division

Enclosure

cc: Don Waltermeyer, APC Supervisor  
Northwest District Office  
347 North Dunbridge Road  
Bowling Green, Ohio 43402



4. Subpart F, at 40 C.F.R. § 63.101(b), defines a chemical manufacturing process unit as the equipment assembled and connected by pipes or ducts to process raw materials and to manufacture an intended product, and includes, in part, pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, instrumentation systems, and control devices or systems.
5. Subpart F, at 40 C.F.R. § 63.100(k)(1)(ii), states that new sources that commence construction after August 26, 1996 shall be in compliance with subparts F, G, and H of Part 63 upon initial start-up or by January 17, 1997, whichever is later.
6. Subpart F, at 40 C.F.R. § 63.100(b), states that the provisions of subparts F and H apply to chemical manufacturing process units that: a) manufacture as a primary product one or more of the chemicals listed in Table 1 of Subpart F, tetrahydrobenzaldehyde, or crotonaldehyde; b) use as a reactant or manufacture as a product, or co-product, one or more of the organic hazardous air pollutants (HAPs) listed in Table 2 of Subpart F; and c) are located at a plant site that is a major source as defined in Section 112(a) of the Act.
7. The Group IV Polymers and Resins NESHAP was proposed on March 29, 2005 and became final on September 12, 1996. It states that the owner or operator of each affected source shall comply with the requirements of Subpart H, as required under 40 C.F.R. § 63.1331(a).
8. The Group IV Polymers and Resins NESHAP, at 40 C.F.R. § 63.1311(d), states that existing affected sources shall be in compliance with Section 63.1331 no later than June 19, 2001.
9. The Group IV Polymers and Resins NESHAP, at 40 C.F.R. § 63.1310(a)(2), defines an existing affected source as each group of one or more thermoplastic product process units (TPPU) and associated equipment that is not part of a new affected source, that is manufacturing the same primary product, and that is located at a plant site that is a major source.
10. The Group IV Polymers and Resins NESHAP, at 40 C.F.R. § 63.1312(b), defines a TPPU as a collection of equipment

assembled and connected by hard-piping or ductwork used to process raw materials and to manufacture a thermoplastic product as its primary product, and includes, in part, the equipment that is subject to the equipment leak provisions as specified in Section 63.1331.

11. Subpart H, at 40 C.F.R. § 63.160(a), applies to pumps, compressors, agitators, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, instrumentation systems, control devices, and closed-vent systems that are intended to operate in organic HAP service 300 hours or more during the calendar year within a source subject to the provisions of a specific subpart in 40 C.F.R. Part 63 that references Subpart H.
12. Subpart H, at 40 C.F.R. § 63.161, defines equipment in organic HAP service as equipment that either contains or contacts a fluid that is at least 5% by weight of total organic HAPs.
13. Subpart H, at 40 C.F.R. § 63.168(b)(1), requires the owner or operator of a source subject to Subpart H to monitor valves in gas/vapor and light liquid service by the method specified in Section 63.180(b) of Subpart H.
14. Subpart H, at 40 C.F.R. § 63.174(a)(1), requires the owner or operator of a process unit subject to Subpart H to monitor connectors in gas/vapor and light liquid service by the method specified in Section 63.180(b) of Subpart H.
15. Subpart H, at 40 C.F.R. § 63.161, defines a process unit as a chemical manufacturing process unit as defined in Subpart F of Part 63, a process subject to the provisions of Subpart I of Part 63, or a process subject to another subpart in 40 C.F.R. Part 63 that references Subpart H.
16. Subpart H, at 40 C.F.R. § 63.163(b)(1), requires the owner or operator of a process unit subject to Subpart H to monitor each pump in light liquid service monthly by the method specified in Section 63.180(b) of Subpart H.
17. Subpart H, at 40 C.F.R. § 63.173(a)(1), requires the owner or operator of a process unit subject to Subpart H to monitor each agitator in gas/vapor and light liquid service monthly by the method specified in Section 63.180(b) of Subpart H.

18. Subpart H, at 40 C.F.R. § 63.180(b)(1), requires each owner or operator of a source subject to Subpart H to comply with the monitoring procedures and requirements of Method 21 at 40 C.F.R. Part 60, Appendix A.
19. Method 21, at 40 C.F.R. Part 60, Appendix A, Section 8.3.1, requires the owner or operator of an affected source to slowly sample the interface of a component where leakage is indicated until the maximum meter reading is obtained.
20. Subpart H, at 40 C.F.R. § 63.168(b), requires the owner or operator of a source subject to Subpart H to monitor all valves in gas/vapor and light liquid service at the intervals specified in paragraphs (c) and (d) of Section 63.168.
21. Subpart H, at 40 C.F.R. § 63.168(d), states that in Phase III, the owner or operator of a source subject to Subpart H shall monitor valves in gas/vapor and light liquid service for leaks at the intervals specified in paragraphs (1) through (4) of Section 63.168(d).
22. Subpart H, at 40 C.F.R. § 63.168(a)(1)(i)(C), defines Phase III as beginning no later than 2½ years after the compliance date for each group of existing process units at existing sources subject to the provisions of Subparts F or I of Part 63.
23. Subpart H, at 40 C.F.R. § 63.168(d)(2), requires the owner or operator of a process unit subject to Subpart H with less than 2% leaking valves to monitor each valve in gas/vapor and light liquid service once each quarter.
24. Subpart H, at 40 C.F.R. § 63.167(a)(1), requires each open-ended valve or line subject to Subpart H to be equipped with a cap, blind flange, plug, or second valve.
25. Subpart H, at 40 C.F.R. § 63.161, defines an open-ended valve or line as any valve, except pressure relief valves, having one side of the valve seat in contact with process fluid and one side open to atmosphere, either directly or through open piping.
26. Subpart H, at 40 C.F.R. § 63.167(a)(2), requires the cap, blind flange, plug, or second valve to seal the open end at all times except during operations requiring process fluid flow through the open-ended valve or line, or during maintenance and repair.

27. Subpart H, at 40 C.F.R. § 63.167(b), requires each open-ended valve or line subject to Subpart H and equipped with a second valve to be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed.
28. Subpart H, at 40 C.F.R. § 63.166(a), requires each sampling connection system subject to Subpart H to be equipped with a closed-purge, closed-loop, or closed-vent system.
29. Subpart H, at 40 C.F.R. § 63.161, defines a sampling connection system as an assembly of equipment within a process unit used routinely during periods of representative operation to take samples of the process fluid.
30. Subpart H, at 40 C.F.R. § 63.161, defines a closed-purge, closed-loop, and closed-vent system as a system or combination of system and portable containers to capture purged liquids; an enclosed systems that returns process fluid to the process and is not vented to the atmosphere except through a closed-vent system; and a system that is not open to the atmosphere and that is composed of hard-piping, ductwork, connections, and, if necessary, flow-inducing devices that transport gas or vapor from a piece or pieces of equipment to a control device or back into a process, respectively.
31. Subpart H, at 40 C.F.R. § 63.162(c), requires each piece of equipment in a process unit to which Subpart H applies to be identified such that it can be distinguished readily from equipment that is not subject to Subpart H.
32. Subpart H, at 40 C.F.R. § 63.163(c)(2), requires a first attempt at repair of a pump in light liquid service subject to Subpart H to be made no later than 5 calendar days after a leak is detected.
33. Subpart H, at 40 C.F.R. § 63.168(f)(2), requires a first attempt at repair of a valve in gas/vapor or light liquid service subject to Subpart H to be made no later than 5 calendar days after a leak is detected.
34. Subpart H, at 40 C.F.R. § 63.163(c)(1), requires a leaking pump in light liquid service subject to Subpart H to be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected.

35. Subpart H, at 40 C.F.R. § 63.168(f)(1), requires a leaking valve in gas/vapor or light liquid service subject to Subpart H to be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected.

**Factual Background**

36. Innovene owns and operates a chemical manufacturing plant site at and around 1900 Fort Amanda Road, Lima, Ohio.
37. At the Lima plant site, since October 24, 1994, the Acetonitrile and Acrylonitrile process units have manufactured a Group I chemical, as listed in Table 1 of Subpart F, as a primary product and have used as a reactant or have manufactured as a product, or co-product, one or more of the organic HAPs listed in Table 2 of Subpart F. The Lima plant site also has been a major source, as defined in Section 112(a) of the Act, since before October 24, 1994. Therefore, as of October 24, 1994, the Acetonitrile and Acrylonitrile units have been subject to Subpart F, and consequently, to the leak detection and repair (LDAR) provisions of Subpart H.
38. At the Lima plant site, since September 2000, the Butanediol process unit has manufactured a chemical listed in Table 1 of Subpart F as a primary product and has used as a reactant or has manufactured as a product, or co-product, one or more of the organic HAPs listed in Table 2 of Subpart F. As noted in paragraph 37 above, the Lima plant site also has been a major source, as defined in Section 112(a) of the Act, since before October 24, 1994. Therefore, as of September 2000, the Butanediol unit has been subject to Subpart F, and consequently, to the LDAR provisions of Subpart H.
39. At the Lima plant site, since June 19, 2001, the Barex process unit has manufactured a thermoplastic product, as defined in 40 C.F.R. § 63.1312(b), as its primary product. As noted in paragraph 37 above, the Lima plant site also has been a major source, as defined in Section 112(a) of the Act, since before June 19, 2001. Therefore, as of June 19, 2001, the Barex unit has been subject to Section 63.1331, and consequently, to the LDAR provisions of Subpart H.
40. U.S. EPA inspected the Lima plant site on April 18-22, 2005.
41. During the inspection, Innovene provided U.S. EPA with LDAR monitoring data for the Acetonitrile, Acrylonitrile,

Butandiol, and Barex units from January 1998 through April 2005 from its Fugitive Emissions Monitoring System (FEMS) database.

42. During the inspection, U.S. EPA conducted LDAR monitoring per Method 21 in the Acetonitrile and Acrylonitrile units and obtained the leak rates shown in Table A.

Table A: U.S. EPA Monitoring Data

Component Type	Acetonitrile Unit			Acrylonitrile Unit		
	Monitored	Leaking	Leak Rate	Monitored	Leaking	Leak Rate
Valves	167	9	5.39%	367	5	1.36%
Connectors	278	5	1.80%	507	7	1.38%
Pumps	6	4	66.67%	22	1	4.55%

43. Based on the FEMS data, Table B shows the leak rates Innovene obtained for valves and pumps in the Acetonitrile and Acrylonitrile units from January 2001 through April 2005.
44. According to the FEMS data, Innovene found no connectors leaking in the Acetonitrile or Acrylonitrile units from January 2001 through April 2005.
45. Todd Grant, a Furmanite America, Inc. contractor working on behalf of Innovene, had conducted the LDAR monitoring for Innovene at the Lima plant site from 1998 until June 2005.
46. Mr. Grant disclosed to U.S. EPA during the inspection that he does not monitor flanges around the entire interface.
47. According to the FEMS data, Innovene monitored more than 1000 components in one day on at least five separate occasions since August 2000: on 4/26/01, 10/18/02, 10/30/02, 4/21/04, and 8/19/04, Innovene monitored 1025, 1122, 1051, 1208, and 2437 components, respectively.
48. According to the FEMS data, Innovene monitored between 500 and 1000 components in one day on 81 separate occasions since August 2000.

Table B: Innovene Monitoring Data

Component Type	Period	Acetonitrile Unit			Acrylonitrile Unit		
		Monitored	Leaking	Leak Rate	Monitored	Leaking	Leak Rate
Valves	2 <sup>nd</sup> qtr 2001	None	N/A	N/A	3684	12	0.33%
	4 <sup>th</sup> qtr 2001	1026	11	1.07%	3938	15	0.38%
	2 <sup>nd</sup> qtr 2002	1809	1	0.06%	3935	10	0.25%
	4 <sup>th</sup> qtr 2002	1527	12	0.79%	4213	22	0.52%
	2 <sup>nd</sup> qtr 2003	1507	5	0.33%	4205	19	0.45%
	3 <sup>rd</sup> qtr 2003	None	N/A	N/A	1295	2	0.15%
	4 <sup>th</sup> qtr 2003	1192	10	0.84%	4236	16	0.38%
	2 <sup>nd</sup> qtr 2004	1172	12	1.02%	3824	17	0.44%
	3 <sup>rd</sup> qtr 2004	None	N/A	N/A	1327	2	0.15%
	4 <sup>th</sup> qtr 2004	1219	20	1.64%	4255	25	0.59%
	2 <sup>nd</sup> qtr 2005	None	N/A	N/A	1804	5	0.28%
Pumps	Feb. 2001	21	0	0%	70	1	1.43%
	March 2001	21	0	0%	70	1	1.43%
	April 2001	21	0	0%	70	1	1.43%
	July 2003	21	0	0%	70	1	1.43%
	Aug. 2003	24	3	12.5%	70	0	0%
	Sep. 2003	21	0	0%	70	1	1.43%
	Oct. 2004	23	1	4.35%	70	0	0%

49. Based on the FEMS data, Table C shows periods when Innovene failed to monitor valves in the Acetonitrile, Acrylonitrile, Barex, and Butanediol units from the first quarter of 2000 through the first quarter of 2005.

Table C: Missed Monitoring for Valves

Process Unit	When Monitored	Leak Rate	Missed Monitoring Period
Acetonitrile	4 <sup>th</sup> quarter 2001	1.07%	1 <sup>st</sup> quarter 2002
	2 <sup>nd</sup> quarter 2004	1.02%	3 <sup>rd</sup> quarter 2004
	4 <sup>th</sup> quarter 2004	1.64%	1 <sup>st</sup> quarter 2005
Acrylonitrile	4 <sup>th</sup> quarter 1999	0.62%	1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup> , and 4 <sup>th</sup> quarters 2000, 1 <sup>st</sup> quarter 2001
Barex	4 <sup>th</sup> quarter 2004	1.17%	1 <sup>st</sup> quarter 2005
Butanediol	2 <sup>nd</sup> quarter 2002	0.61%	3 <sup>rd</sup> and 4 <sup>th</sup> quarters 2002, 1 <sup>st</sup> quarter 2003

50. During the inspection, U.S. EPA discovered three open-ended lines in the Acetonitrile unit without a cap, blind flange, plug, or second valve, identified as the lines off of valves 9829, 9840, and 27573.
51. During the inspection, U.S. EPA discovered fourteen open-ended lines in the Acrylonitrile unit without a cap, blind flange, plug, or second valve, identified as the lines off of valves 11077, 21888, 22789, 23569, 27904, 27916, 32741, and 32873, untagged valve TK5A.5H2-V2, connector 32883, untagged connector 212APPN26-C, pump 23878, the line above pump 23878, and the line near untagged pump TK5A.5-Pp2.
52. During the inspection, U.S. EPA discovered two uncovered sampling line pots in the Acetonitrile loading racks.
53. During the inspection, U.S. EPA monitored six plugged open-ended lines in the Acetonitrile unit and obtained readings of 240 ppm, 558 ppm, 240 ppm, and 560 ppm on the plugs off of valves 9656, 9878, 21606, and 27615, respectively, and obtained readings of 495 ppm and 2300 ppm on two plugs off of valve 9825.

54. During the inspection, U.S. EPA monitored nine plugged open-ended lines in the Acrylonitrile unit and obtained readings of 1600 ppm, 27 ppm, 35 ppm, 1600 ppm, 37 ppm, 100 ppm, 31 ppm, 21 ppm, and 1000 ppm on the plugs off of valves 16497, 21882, and 32780, Strahman valve 23870, untagged valves CH2C-V, TK5A.5-V, TK5A.5D1-V, and TK6I.5E1-V, and connector 16138, respectively.
55. For the leaking open-ended lines referenced in paragraphs 53 and 54 above, operations at the time of discovery by U.S. EPA did not require process fluid flow through the lines, and Innovene was not conducting maintenance on the lines.
56. During the inspection, U.S. EPA observed several of the Strahman sampling valves in the Acetonitrile and Acrylonitrile units to be open and leaking.
57. Innovene takes routine samples of process fluid from the Strahman sampling valves in the Acetonitrile and Acrylonitrile units.
58. None of the Strahman sampling valves observed by U.S. EPA during the inspection were equipped with a closed-purge, closed-loop, or closed-vent system.
59. Innovene uses tags to identify components in organic HAP service subject to Subpart H.
60. During the inspection, U.S. EPA noted many components subject to Subpart H in the Acetonitrile and Acrylonitrile units without tags.
61. Prior to the inspection, Innovene had removed insulation from process lines in the Acrylonitrile unit but has failed to tag components in organic HAP service that subsequently became subject to Subpart H monitoring requirements.
62. The FEMS data indicates that Innovene failed to attempt to repair twenty-one leaking components subject to Subpart H within five days of discovery from August 2000 through April 2005, as shown in Table D.
63. The FEMS data indicates that Innovene failed to repair twelve leaking components subject to Subpart H within fifteen days of discovery from August 2000 through April 2005, as shown in Table E.

Table D: Leaks With No Attempt to Repair Within Five Days

Component Type	Component ID (per FEMS)	Leak Reading (ppm)	Date Monitored
Valve	21336	1000	10/30/00
Valve	7616	10000	10/23/01
Valve	13018	700	5/15/02
Valve	13221	10000	5/15/02
Valve	13480	800	5/15/02
Valve	14844	10000	5/22/02
Valve	15166	600	5/22/02
Valve	14236	4000	5/23/02
Valve	14508	700	5/23/02
Valve	13701	1000	5/24/02
Valve	13963	10000	5/24/02
Valve	7065	1033	4/25/03
Pump	10977	10000	7/31/03
Pump	1919	5221	8/28/03
Pump	10938	1197	9/10/03
Valve	13240	1000	5/10/04
Valve	13753	7000	5/11/04
Valve	13803	3100	5/11/04
Valve	15172	600	5/17/04
Valve	72	900	10/27/04
Valve	681	10000	10/27/04

Table E: Leaks Not Repaired Within Fifteen Days

Component Type	Component ID (per FEMS)	Leak Reading (ppm)	Date Monitored
Valve	30247 Butanediol	900	10/27/00
Valve	30939 Butanediol	5200	10/28/00
Valve	31925 Butanediol	1000	10/30/00
Valve	15572 Acrylonitrile	850	4/19/01
Valve	15587 Acrylonitrile	620	4/19/01
Valve	15588 Acrylonitrile	10000	4/19/01
Valve	16945 Acrylonitrile	10000	10/23/01
Valve	8709 Acrylonitrile	10000	10/24/01
Valve	30299 Butanediol	800	5/15/02
Pump	7592 Barex	5221	8/28/03
Pump	8724 Acrylonitrile	1197	9/10/03
Valve	10364 Acrylonitrile	946	4/20/04

### Violations

64. Innovene failed to comply with Subpart F and the Group IV Polymers and Resins NESHAP. This is in violation of 40 C.F.R. § 63.102(a) and 40 C.F.R. § 63.1331(a), respectively.
65. Innovene failed to monitor equipment subject to Subpart H per Method 21. This is in violation of 40 C.F.R. § 63.168(b)(1), 40 C.F.R. § 63.174(a)(1), 40 C.F.R. § 63.163(b)(1), 40 C.F.R. § 63.173(a)(1), 40 C.F.R. § 63.180(b)(1), and Method 21 at 40 C.F.R. Part 60, Appendix A, Section 8.3.1.
66. Innovene failed to monitor quarterly each valve in gas/vapor and light liquid service subject to Subpart H in process units with less than two percent leaking valves. This is in violation of 40 C.F.R. § 63.168(b) and 40 C.F.R. § 63.168(d)(2).
67. Innovene failed to equip each open-ended line subject to Subpart H with a cap, blind flange, plug, or second valve. This is in violation of 40 C.F.R. § 63.167(a)(1).

68. Innovene failed to seal properly the open end of each open-ended line subject to Subpart H. This is in violation of 40 C.F.R. § 63.167(a)(2).
69. Innovene failed to operate each Strahman sampling valve subject to Subpart H such that the valve on the process fluid end is closed before the second valve is closed. This is in violation of 40 C.F.R. § 63.167(a)(2) and 40 C.F.R. § 63.167(b).
70. Innovene failed to equip each sampling connection system subject to Subpart H, including each Strahman sampling valve, with a closed-purge, closed-loop, or closed-vent system. This is in violation of 40 C.F.R. § 63.166(a).
71. Innovene failed to identify each piece of equipment subject to Subpart H such that it can be distinguished from equipment that is not subject to Subpart H. This is in violation of 40 C.F.R. § 63.162(c).
72. Innovene failed to attempt to repair each leaking pump and valve subject to Subpart H within five days of when a leak was detected. This is in violation of 40 C.F.R. § 63.163(c)(2) and 40 C.F.R. § 63.168(f)(2).
73. Innovene failed to repair each leaking pump and valve subject to Subpart H within fifteen days of when a leak was detected. This is in violation of 40 C.F.R. § 63.163(c)(1) and 40 C.F.R. § 63.168(f)(1).

9/6/2005  
Date

  
Stephen Rothblatt, Director  
Air and Radiation Division

CERTIFICATE OF MAILING

I, Shanee Rucker, certify that I sent a Finding of Violation, No. EPA-5-05-OH- , by Certified Mail, Return Receipt Requested, to:

Erica R. Dromgoole, HSE Air Team Leader  
Innovene USA LLC  
1900 Fort Amanda Road  
Lima, Ohio 45804

I also certify that I sent copies of the Finding of Violation by first class mail to:

Don Waltermeyer, APC Supervisor  
Northwest District Office  
347 North Dunbridge Road  
Bowling Green, Ohio 43402

on the 7<sup>th</sup> day of September, 2005.

Phyllis Dixon for  
Shanee Rucker,  
Administrative Program Assistant  
AECAS, (MI/WI)

CERTIFIED MAIL RECEIPT NUMBER: 70010320000614478362