

Applicability Determinations Index – 40 CFR 61, Subpart FF  
Printed 6/24/08

Control Number: Z050006

Category: NESHAP  
Region: Region 5  
Date: 01/21/2005  
Title: Alternative Monitoring Plan for Dual Purpose Valves  
Recipient: Ken Comey  
Author: George Czerniak  
Comments:

Subparts: Part 61 FF Benzene Waste Operations  
References: 61.14(g)  
61.343(a)(1)(i)  
61.347(a)(1)(i)

Abstract:

Q1: Do tank and oil/water separator pressure/vacuum relief valves at the wastewater treatment plant of the Flint Hills Resources refinery in Rosemount, Minnesota, function as pressure relief devices or as dilution air openings under the benzene waste operations NESHAP, 40 CFR part 61, subpart FF?

A1: Because the pressure/vacuum relief valves relieve excess pressure in the closed vent system and allow dilution air to enter the closed vent system, they are both pressure relief devices and dilution air openings under the 40 CFR part 61, subpart FF.

Q2: Can these pressure/vacuum relief valves meet all the requirements of 40 CFR 61.343(a)(1)(i) and 40 CFR 61.347(a)(1)(i)?

A2: No. When the pressure/vacuum relief valves open to relieve excess pressure, the pressure in the closed vent system is greater than 2.0 inches water column above atmospheric, and, thus, the continuous monitoring requirement in 40 CFR 61.343(a)(1)(i)(C)(3) and 40 CFR 61.347(a)(1)(i)(C)(3) is not met.

Q3: Will EPA approve, under 40 CFR part 61, subpart FF, the refinery's alternative monitoring plan to: (a) design the pressure/vacuum relief valves to open only under a negative pressure of 0.5 inch water column or a positive pressure of 2.0 inch; (b)

inspect the valves quarterly to verify proper operation; and (c) monitor the valves semiannually by the method specified in 40 CFR 61.355(h)?

A3: Yes. EPA will approve the alternative monitoring plan under 40 CFR part 61, subpart FF, with the condition that an instrument reading greater than 500 ppm above background indicates detectable emissions from the pressure/vacuum relief valves.

Letter:

January 21, 2005

Ken Comey  
Senior Air Compliance Manager  
Flints Hills Resources, LP  
P.O. Box 64596  
St. Paul, Minnesota 55164-0596

RE: Request for Approval of Alternative Monitoring Plan to Meet Requirements of 40 CFR Sec. 61.343(a)(1)(i)(C)(3) and Sec. 61.347(a)(1)(i)(C)(3)

Dear Mr. Comey:

On January 27, 2004, Flint Hills Resources, LP (FHR),\* requested a clarification of a February 16, 2000, applicability determination pertaining to the National Emission Standards for Benzene Waste Operations, 40 CFR 61, Subpart FF, Secs. 61.340 through 61.359, (hereinafter, the Benzene Waste NESHAP) at FHR's petroleum refinery located in Rosemount, Minnesota. This letter revises the February 2000 determination.

On December 29, 1999, FHR stated that it planned to replace the dilution air openings in three pieces of equipment with pressure/vacuum relief valves and asked the United States Environmental Protection Agency (U.S. EPA) to determine whether a pressure/vacuum relief valve is a dilution air opening or a pressure relief device. For the reasons stated below, U.S. EPA concludes that the pressure/vacuum relief valves function as both pressure relief devices and dilution air openings; recognizes that the requirements of 40 CFR Sec. 61.343(a)(1)(i)(B) and (C) do not account for this dichotomy; and approves FHR's request for an alternative monitoring plan to resolve the conflicting requirements.

## FHR's Request

FHR's wastewater treatment plant (WWTP) includes Sludge Storage Tank 94V-26, Oil/Water Separator 94V-25F, Reclaimed Oil Sump 94S-10, and the WWTP Area Drain Sump in the sludge dewatering building (WWTP Area Drain Sump; no equipment number). The Sludge Storage Tank, Reclaimed Oil Sump and WWTP Area Drain Sump are subject to the provisions of 40 CFR Sec. 61.343, and the Oil/Water Separator is subject to the provisions of 40 CFR Sec. 61.347. Vapors from the Sumps, Tank and Oil/Water Separator move through a closed vent system to one of two thermal oxidizers. FHR designed the closed vent system and control device to pull dilution air through dilution air openings to keep the concentration of volatile organic compounds (VOC) in the system below the lower explosive limit (LEL). On December 29, 1999, FHR stated that it was in the process of re-balancing and improving the air flows from various tanks in the WWTP and that it has been difficult to maintain a vacuum at all points in this system.

Consequently, FHR decided to seal the dilution air openings on all but four pieces of equipment. FHR retained the dilution air opening on the Sludge Storage Tank and continues to operate and maintain a pressure monitor in this segment of the closed vent system. FHR stated that it planned to replace the dilution air openings on the Reclaimed Oil Sump, WWTP Area Drain Sump and Oil/Water Separator with pressure/vacuum relief valves. Each valve has a vacuum pallet and a pressure pallet. The vacuum pallet opens only under a negative pressure of 0.5 inch water column, and the pressure pallet opens only under a positive pressure of 2.0 inch water column. FHR asked U.S. EPA to determine whether a pressure/vacuum relief valve is a dilution air opening. In its request, FHR included a diagram of a pressure/vacuum relief valve and a piping and instrumentation diagram of the WWTP.

## Discussion

### 1. Dilution Air Opening or Pressure Relief Device

FHR correctly notes that U.S. EPA did not promulgate a definition of "dilution air opening" in the Benzene Waste NESHAP. Although the undersigned does not have the authority to promulgate a definition, we believe that this term refers to any opening through which air can enter a closed vent system for the purpose of diluting the concentration of VOC below the LEL of the VOCs.

We believe that 40 CFR Sec. 61.343(a)(1)(i)(A and B) require a dilution air opening to reseal when the concentration is below the LEL.

Even though the Benzene Waste NESHAP does not include a definition of "pressure relief device," the National Emission Standard for Equipment Leaks (Fugitive Emission Sources, 40 CFR 61, Subpart V, Secs. 61.240 through 61.247, includes the following definition:

Pressure release means the emission of materials resulting from the system pressure being greater than the set pressure of the pressure relief device.

We infer from this definition that a pressure relief device is designed to release pressure but is not designed to function as a dilution air opening. Because the pressure/vacuum relief valves relieve excess pressure in the closed vent system and allow dilution air to enter the closed vent system, we conclude that the pressure/vacuum relief valves are both pressure relief devices and dilution air openings. However, we recognize that the requirements of 40 CFR Sec. 61.343(a)(1)(i)(B) and (C) do not account for this dichotomy and that some of their requirements are not appropriate.

## 2. Request for an Alternative Monitoring Plan

40 CFR Sec. 61.343(a)(1) sets forth requirements for the owner or operator of a tank to install, operate, and maintain a fixed roof and a closed vent system that is connected to a control device. 40 CFR Sec. 61.343(a)(1)(i) sets forth:

- (A) The cover and all openings (e.g., access hatches, sampling ports, and gauge wells) shall be designed to operate with no detectable emissions as indicated by an instrument reading of less than 500 ppmv above background, as determined initially and thereafter at least once per year by the methods specified in [40 CFR Sec. 61.355(h)].
- (B) Each opening shall be maintained in a closed, sealed position (e.g., covered by a lid that is gasketed and latched) at all times that waste is in the tank except when it is necessary to use the opening for waste sampling or removal, or for equipment inspection, maintenance, or repair.
- (C) If the cover and closed-vent system operate such that the tank is maintained at a pressure less than

atmospheric pressure, then paragraph (a)(1)(i)(B) of this section does not apply to any opening that meets all of the following conditions:

- (1) The purpose of the opening is to provide dilution air to reduce the explosion hazard;
- (2) The opening is designed to operate with no detectable emissions as indicated by an instrument reading of less than 500 ppmv above background, as determined initially and thereafter at least once per year by the methods specified in Sec. 61.355(h); and
- (3) The pressure is monitored continuously to ensure that the pressure in the tank remains below atmospheric pressure.

40 CFR Sec. 61.347(a)(1)(i)(A, B, and C) set forth identical requirements for the owner or operator of an oil/water separator.

The pressure/vacuum relief valve's dichotomy does not create a conflict for the requirement in 40 CFR Sec. 61.343(a)(1)(i)(A) or Sec. 61.347(a)(1)(i)(A). FHR does not open the pressure/vacuum relief valves to sample or remove waste or to inspect, maintain, or repair the fixed roof tank itself. Therefore, 40 CFR Sec. 61.343(a)(1)(i)(B) or Sec. 61.347(a)(1)(i)(B) does not create a conflict until a pressure/vacuum relief valve's pressure pallet opens to relieve excess pressure. At such times, the pressure in the closed vent system is greater than atmospheric pressure, and the continuous pressure monitoring requirement in 40 CFR Sec. 61.343(a)(1)(i)(C)(3) or Sec. 61.347(a)(1)(i)(C) is moot.

FHR proposed the following alternative monitoring plan to address this conflict:

1. Design of the pressure/vacuum relief valves: The vacuum pallet opens only under a negative pressure of 0.5 inch water column, and the pressure pallet opens only under a positive pressure of 2.0 inch water column.
2. Periodic inspections: FHR will inspect all of the pressure/vacuum relief valves quarterly to verify proper operation.
3. Periodic monitoring: FHR will conduct semiannual monitoring with the test method specified in 40 CFR Sec. 61.355(h).

U.S. EPA believes that the pressure/vacuum relief valves were designed to ensure that the valves remain in a closed, sealed position unless the vacuum pallet is open to serve as a dilution air opening or the pressure pallet is open to relieve excess pressure. Further, we believe that quarterly inspections and semiannual monitoring are consistent

with the purposes of 40 CFR Secs. 61.343(a)(1)(i) and 61.347(a)(1)(i). FHR's request did not specify an instrument reading that indicates detectable emissions from the pressure/vacuum relief valve. Therefore, U.S. EPA specifies that an instrument reading above 500 ppm above background indicates detectable emissions from the pressure/vacuum relief valve. With this clarification, the Administrator of the U.S. EPA, by authority duly-delegated to the undersigned, approves FHR's alternative monitoring plan request.

If you have any questions regarding this letter, please contact Charles Hall, of my staff, at (312) 353-3443.

Sincerely,

George Czerniak, Chief  
Air Enforcement and Compliance Assurance Branch

cc: Scott Parr, Minnesota Pollution Control Agency

---

\* In January 2002, Koch Industries, LP (Koch), separated its refining and chemicals businesses into an independent company named Flint Hills Resources, LP. U.S. EPA refers to FHR throughout this letter even though an event may have occurred during the time when Koch was the owner and operator of the petroleum refinery in Rosemount, Minnesota.

---

---

Control Number: Z060001

Category: NESHAP  
EPA Office: Region 5  
Date: 01/21/2005  
Title: Alternative Monitoring Plan for Dual Purpose Valves  
Recipient: Ken Comey  
Author: George Czerniak  
Comments: See related determination under ADI Control No. Z050006.  
Subparts: Part 61 FF Benzene Waste Operations  
          Part 61 V Equipment Leaks/Fugitive Emission Sources  
References: 61.343  
              61.347

61.343(a)(1)(i)(C)(3)  
61.347(a)(1)(i)(C)(3)

Abstract:

Q: Does EPA approve an alternative monitoring plan for pressure/vacuum relief valves, under 40 CFR part 61, subpart FF, for the wastewater treatment plant tanks and oil-water separator at the Flint Hills Resources refinery in Saint Paul, Minnesota?

A: Yes. EPA concludes that the pressure/vacuum relief valves function as both pressure relief devices and dilution air openings. Further, the Agency recognizes that the requirements of 40 CFR 61.343(a)(1)(i)(B) and (C) do not account for this dichotomy, and it approves the proposed alternative monitoring plan under NESHAP subpart FF to resolve the conflicting requirements.

Letter:

01/21/2005

Ken Comey  
Senior Air Compliance Manager  
Flint Hills Resources, LP  
P.O. Box 64596  
St. Paul, Minnesota 55164-0596

RE: Request for Approval of Alternative Monitoring Plan to Meet Requirements of 40 CFR Sec. 61.343(a)(1)(i)(C)(3) and Sec. 61.347(a)(1)(i)(C)(3)

Dear Mr. Comey:

On January 27, 2004, Flint Hills Resources, LP (FHR), requested a clarification of a February 16, 2000, applicability determination pertaining to the National Emission Standards for Benzene Waste Operations, 40 CFR 61, Subpart FF, Secs. 61.340 through 61.359, (hereinafter, the Benzene Waste NESHAP) at FHR's petroleum refinery located in Rosemount, Minnesota. This letter revises the February 2000 determination.

On December 29, 1999, FHR stated that it planned to replace the dilution air openings in three pieces of equipment with pressure/vacuum relief valves and asked the United States Environmental Protection Agency (U.S. EPA) to determine whether a pressure/vacuum relief valve is a dilution air opening or a pressure relief device. For the reasons stated below, U.S. EPA concludes that the pressure/vacuum relief valves function as both pressure relief devices and dilution air openings; recognizes that the requirements of 40 CFR Sec. 61.343(a)(1)(i)(B) and (C) do not account for this dichotomy; and approves

FHR's request for an alternative monitoring plan to resolve the conflicting requirements.

#### FHR's Request

FHR's wastewater treatment plant (WWTP) includes Sludge Storage Tank 94V-26, Oil/Water Separator 94V-25F, Reclaimed Oil Sump 94S-10, and the WWTP Area Drain

Drain Sump in the sludge dewatering building (WWTP Area Drain Sump; no equipment number). The Sludge Storage Tank, Reclaimed Oil Sump and WWTP Area Drain Sump

are subject to the provisions of 40 CFR Sec. 61.343, and the Oil/Water Separator is subject to the provisions of 40 CFR Sec. 61.347. Vapors from the Sumps, Tank and Oil/Water Separator move through a closed vent system to one of two thermal oxidizers. FHR designed the closed vent system and control device to pull dilution air through dilution air openings to keep the concentration of volatile organic compounds (VOC) in the system below the lower explosive limit (LEL). On December 29, 1999, FHR stated that it was in the process of re-balancing and improving the air flows from various tanks in the WWTP and that it has been difficult to maintain a vacuum at all points in this system.

Consequently, FHR decided to seal the dilution air openings on all but four pieces of equipment. FHR retained the dilution air opening on the Sludge Storage Tank and continues to operate and maintain a pressure monitor in this segment of the closed vent system. FHR stated that it planned to replace the dilution air openings on the Reclaimed Oil Sump, WWTP Area Drain Sump and Oil/Water Separator with pressure/vacuum relief valves. Each valve has a vacuum pallet and a pressure pallet. The vacuum pallet opens only under a negative pressure of 0.5 inch water column, and the pressure pallet opens only under a positive pressure of 2.0 inch water column. FHR asked U.S. EPA to determine whether a pressure/vacuum relief valve is a dilution air opening. In its request, FHR included a diagram of a pressure/vacuum relief valve and a piping and instrumentation diagram of the WWTP.

#### Discussion

##### 1. Dilution Air Opening or Pressure Relief Device

FHR correctly notes that U.S. EPA did not promulgate a definition of "dilution air opening" in the Benzene Waste NESHAP. Although the undersigned does not have the authority to promulgate a definition, we believe that this term refers to any opening through which air can enter a closed vent system for the purpose of diluting the concentration of VOC below the LEL of the VOCs.

We believe that 40 CFR Sec. 61.343(a)(1)(i)(A and B) require a dilution air opening to reseal when the concentration is below the LEL.

Even though the Benzene Waste NESHAP does not include a definition of "pressure relief device," the National Emission Standard for Equipment Leaks (Fugitive Emission Sources, 40 CFR 61, Subpart V, Secs. 61.240 through 61.247, includes the following definition:

Pressure release means the emission of materials resulting from the system pressure being greater than the set pressure of the pressure relief device.

We infer from this definition that a pressure relief device is designed to release pressure but is not designed to function as a dilution air opening. Because the pressure/vacuum relief valves relieve excess pressure in the closed vent system and allow dilution air to enter the closed vent system, we conclude that the pressure/vacuum relief valves are both pressure relief devices and dilution air openings. However, we recognize that the requirements of 40 CFR Sec. 61.343(a)(1)(i)(B) and (C) do not account for this dichotomy and that some of their requirements are not appropriate.

## 2. Request for an Alternative Monitoring Plan

40 CFR Sec. 61.343(a)(1) sets forth requirements for the owner or operator of a tank to install, operate, and maintain a fixed roof and a closed vent system that is connected to a control device. 40 CFR Sec. 61.343(a)(1)(i) sets forth:

- (A) The cover and all openings (e.g., access hatches, sampling ports, and gauge wells) shall be designed to operate with no detectable emissions as indicated by an instrument reading of less than 500 ppmv above background, as determined initially and thereafter at least once per year by the methods specified in [40 CFR Sec. 61.355(h)].
- (B) Each opening shall be maintained in a closed, sealed position (e.g., covered by a lid that is gasketed and latched) at all times that waste is in the tank except when it is necessary to use the opening for waste sampling or removal, or for equipment inspection, maintenance, or repair.
- (C) If the cover and closed-vent system operate such that the tank is maintained at a pressure less than atmospheric pressure, then paragraph (a)(1)(i)(B) of this section does not apply to any opening that meets all of the following conditions:
  - (1) The purpose of the opening is to provide dilution air to reduce the explosion hazard;

- (2) The opening is designed to operate with no detectable emissions as indicated by an instrument reading of less than 500 ppmv above background, as determined initially and thereafter at least once per year by the methods specified in Sec. 61.355(h); and
- (3) The pressure is monitored continuously to ensure that the pressure in the tank remains below atmospheric pressure.

40 CFR Sec. 61.347(a)(1)(i)(A, B, and C) set forth identical requirements for the owner or operator of an oil/water separator.

The pressure/vacuum relief valve's dichotomy does not create a conflict for the requirement in 40 CFR Sec. 61.343(a)(1)(i)(A) or Sec. 61.347(a)(1)(i)(A). FHR does not open the pressure/vacuum relief valves to sample or remove waste or to inspect, maintain, or repair the fixed roof tank itself. Therefore, 40 CFR Sec. 61.343(a)(1)(i)(B) or Sec. 61.347(a)(1)(i)(B) does not create a conflict until a pressure/vacuum relief valve's pressure pallet opens to relieve excess pressure. At such times, the pressure in the closed vent system is greater than atmospheric pressure, and the continuous pressure monitoring requirement in 40 CFR Sec. 61.343(a)(1)(i)(C)(3) or Sec. 61.347(a)(1)(i)(C) is moot.

FHR proposed the following alternative monitoring plan to address this conflict:

1. Design of the pressure/vacuum relief valves: The vacuum pallet opens only under a negative pressure of 0.5 inch water column, and the pressure pallet opens only under a positive pressure of 2.0 inch water column.
2. Periodic inspections: FHR will inspect all of the pressure/vacuum relief valves quarterly to verify proper operation.
3. Periodic monitoring: FHR will conduct semiannual monitoring with the test method specified in 40 CFR Sec. 61.355(h).

U.S. EPA believes that the pressure/vacuum relief valves were designed to ensure that the valves remain in a closed, sealed position unless the vacuum pallet is open to serve as a dilution air opening or the pressure pallet is open to relieve excess pressure. Further, we believe that quarterly inspections and semiannual monitoring are consistent with the purposes of 40 CFR Secs. 61.343(a)(1)(i) and 61.347(a)(1)(i). FHR's request did not specify an instrument reading that indicates detectable emissions from the pressure/vacuum relief valve. Therefore, U.S. EPA specifies that an instrument reading above 500 ppm above background indicates detectable emissions from the pressure/vacuum relief valve. With this clarification, the Administrator of the U.S. EPA, by authority duly-delegated to the undersigned, approves FHR's

alternative monitoring plan request.

If you have any questions regarding this letter, please contact Charles Hall, of my staff, at (312) 353-3443.

Sincerely,

George Czerniak, Chief  
Air Enforcement and Compliance Assurance Branch

cc: Scott Parr, Minnesota Pollution Control Agency

Control Number: Z050007

Category: NESHAP  
EPA Office: Region 5  
Date: 01/21/2005  
Title: Alternative Monitoring of Pressure/Vacuum Relief Valves  
Recipient: Ken Comey  
Author: George Czerniak  
Comments:  
Subparts: Part 61 FF Benzene Waste Operations  
Part 61 V Equipment Leaks/Fugitive Emission Sources  
References: 61.347  
61.343;61.343(a)(1)

Abstract:

Q: Does EPA approve an alternative monitoring plan, under 40 CFR part 61, subparts V and FF, for pressure/vacuum relief valves in the wastewater treatment plant tanks and oil-water separator located at Flint Hills Resources' (FHR) petroleum refinery in Rosemount, Minnesota?

A: Yes. EPA concludes that the pressure/vacuum relief valves function as both pressure relief devices and dilution air openings under NESHAP subparts V and FF. EPA did not promulgate a definition of "dilution air opening" in NESHAP subpart FF. NESHAP subpart V infers that a pressure relief device is designed to release pressure but is not designed to function as a dilution air opening. Since the pressure/vacuum relief valves relieve excess pressure in the closed vent system and allow dilution air to enter the closed vent system, the pressure/vacuum relief valves are both pressure relief devices and dilution air openings. EPA recognizes that the requirements of 40 CFR 61.343(a)(1)(i)(B) and (C) do not account for this dichotomy, and thus approves FHR's request for an alternative monitoring plan to resolve the ambiguity.

Letter:

01/21/2005

Ken Comey  
Senior Air Compliance Manager  
Flints Hills Resources, LP  
P.O. Box 64596  
St. Paul, Minnesota 55164-0596

RE: Request for Approval of Alternative Monitoring Plan to Meet Requirements of 40 CFR Sec. 61.343(a)(1)(i)(C)(3) and Sec. 61.347(a)(1)(i)(C)(3)

Dear Mr. Comey:

On January 27, 2004, Flint Hills Resources, LP (FHR), requested a clarification of a February 16, 2000, applicability determination pertaining to the National Emission Standards for Benzene Waste Operations, 40 CFR 61, Subpart FF, Secs. 61.340 through 61.359, (hereinafter, the Benzene Waste NESHAP) at FHR's petroleum refinery located in Rosemount, Minnesota. This letter revises the February 2000 determination.

On December 29, 1999, FHR stated that it planned to replace the dilution air openings in three pieces of equipment with pressure/vacuum relief valves and asked the United States Environmental Protection Agency (U.S. EPA) to determine whether a pressure/vacuum relief valve is a dilution air opening or a pressure relief device. For the reasons stated below, U.S. EPA concludes that the pressure/vacuum relief valves function as both pressure relief devices and dilution air openings; recognizes that the requirements of 40 CFR Sec. 61.343(a)(1)(i)(B) and (C) do not account for this dichotomy; and approves FHR's request for an alternative monitoring plan to resolve the conflicting requirements.

#### FHR's Request

FHR's wastewater treatment plant (WWTP) includes Sludge Storage Tank 94V-26, Oil/Water Separator 94V-25F, Reclaimed Oil Sump 94S-10, and the WWTP Area Drain

Sump in the sludge dewatering building (WWTP Area Drain Sump; no equipment number). The Sludge Storage Tank, Reclaimed Oil Sump and WWTP Area Drain Sump

are subject to the provisions of 40 CFR Sec. 61.343, and the Oil/Water Separator is subject to the provisions of 40 CFR Sec. 61.347. Vapors from the Sumps, Tank and Oil/Water Separator move through a closed vent system to one of two thermal oxidizers. FHR designed the closed vent system and control device

to pull dilution air through dilution air openings to keep the concentration of volatile organic compounds (VOC) in the system below the lower explosive limit (LEL). On December 29, 1999, FHR stated that it was in the process of re-balancing and improving the air flows from various tanks in the WWTP and that it has been difficult to maintain a vacuum at all points in this system.

Consequently, FHR decided to seal the dilution air openings on all but four pieces of equipment. FHR retained the dilution air opening on the Sludge Storage Tank and continues to operate and maintain a pressure monitor in this segment of the closed vent system. FHR stated that it planned to replace the dilution air openings on the Reclaimed Oil Sump, WWTP Area Drain Sump and Oil/Water Separator with pressure/vacuum relief valves. Each valve has a vacuum pallet and a pressure pallet. The vacuum pallet opens only under a negative pressure of 0.5 inch water column, and the pressure pallet opens only under a positive pressure of 2.0 inch water column. FHR asked U.S. EPA to determine whether a pressure/vacuum relief valve is a dilution air opening. In its request, FHR included a diagram of a pressure/vacuum relief valve and a piping and instrumentation diagram of the WWTP.

## Discussion

### 1. Dilution Air Opening or Pressure Relief Device

FHR correctly notes that U.S. EPA did not promulgate a definition of "dilution air opening" in the Benzene Waste NESHAP. Although the undersigned does not have the authority to promulgate a definition, we believe that this term refers to any opening through which air can enter a closed vent system for the purpose of diluting the concentration of VOC below the LEL of the VOCs. We believe that 40 CFR Sec. 61.343(a)(1)(i)(A and B) require a dilution air opening to reseal when the concentration is below the LEL.

Even though the Benzene Waste NESHAP does not include a definition of "pressure relief device," the National Emission Standard for Equipment Leaks (Fugitive Emission Sources, 40 CFR 61, Subpart V, Secs. 61.240 through 61.247, includes the following definition:

Pressure release means the emission of materials resulting from the system pressure being greater than the set pressure of the pressure relief device.

We infer from this definition that a pressure relief device is designed to release pressure but is not designed to function as a dilution air opening. Because the pressure/vacuum relief valves relieve excess pressure in the closed vent system and allow dilution air to enter the closed vent system, we conclude that the pressure/vacuum relief valves are both pressure relief devices and

dilution air openings. However, we recognize that the requirements of 40 CFR Sec. 61.343(a)(1)(i)(B) and (C) do not account for this dichotomy and that some of their requirements are not appropriate.

## 2. Request for an Alternative Monitoring Plan

40 CFR Sec. 61.343(a)(1) sets forth requirements for the owner or operator of a tank to install, operate, and maintain a fixed roof and a closed vent system that is connected to a control device. 40 CFR Sec. 61.343(a)(1)(i) sets forth:

- (A) The cover and all openings (e.g., access hatches, sampling ports, and gauge wells) shall be designed to operate with no detectable emissions as indicated by an instrument reading of less than 500 ppmv above background, as determined initially and thereafter at least once per year by the methods specified in [40 CFR Sec. 61.355(h)].
- (B) Each opening shall be maintained in a closed, sealed position (e.g., covered by a lid that is gasketed and latched) at all times that waste is in the tank except when it is necessary to use the opening for waste sampling or removal, or for equipment inspection, maintenance, or repair.
- (C) If the cover and closed-vent system operate such that the tank is maintained at a pressure less than atmospheric pressure, then paragraph (a)(1)(i)(B) of this section does not apply to any opening that meets all of the following conditions:
  - (1) The purpose of the opening is to provide dilution air to reduce the explosion hazard;
  - (2) The opening is designed to operate with no detectable emissions as indicated by an instrument reading of less than 500 ppmv above background, as determined initially and thereafter at least once per year by the methods specified in Sec. 61.355(h); and
  - (3) The pressure is monitored continuously to ensure that the pressure in the tank remains below atmospheric pressure.

40 CFR Sec. 61.347(a)(1)(i)(A, B, and C) set forth identical requirements for the owner or operator of an oil/water separator.

The pressure/vacuum relief valve's dichotomy does not create a conflict for the requirement in 40 CFR Sec. 61.343(a)(1)(i)(A) or Sec. 61.347(a)(1)(i)(A). FHR

does not open the pressure/vacuum relief valves to sample or remove waste or to inspect, maintain, or repair the fixed roof tank itself. Therefore, 40 CFR Sec. 61.343(a)(1)(i)(B) or Sec. 61.347(a)(1)(i)(B) does not create a conflict until a pressure/vacuum relief valve's pressure pallet opens to relieve excess pressure. At such times, the pressure in the closed vent system is greater than atmospheric pressure, and the continuous pressure monitoring requirement in 40 CFR Sec. 61.343(a)(1)(i)(C)(3) or Sec. 61.347(a)(1)(i)(C) is moot.

FHR proposed the following alternative monitoring plan to address this conflict:

1. Design of the pressure/vacuum relief valves: The vacuum pallet opens only under a negative pressure of 0.5 inch water column, and the pressure pallet opens only under a positive pressure of 2.0 inch water column.
2. Periodic inspections: FHR will inspect all of the pressure/vacuum relief valves quarterly to verify proper operation.
3. Periodic monitoring: FHR will conduct semiannual monitoring with the test method specified in 40 CFR Sec. 61.355(h).

U.S. EPA believes that the pressure/vacuum relief valves were designed to ensure that the valves remain in a closed, sealed position unless the vacuum pallet is open to serve as a dilution air opening or the pressure pallet is open to relieve excess pressure. Further, we believe that quarterly inspections and semiannual monitoring are consistent with the purposes of 40 CFR Secs. 61.343(a)(1)(i) and 61.347(a)(1)(i). FHR's request did not specify an instrument reading that indicates detectable emissions from the pressure/vacuum relief valve. Therefore, U.S. EPA specifies that an instrument reading above 500 ppm above background indicates detectable emissions from the pressure/ vacuum relief valve. With this clarification, the Administrator of the U.S. EPA, by authority duly-delegated to the undersigned, approves FHR's alternative monitoring plan request.

If you have any questions regarding this letter, please contact Charles Hall, of my staff, at (312) 353-3443.

Sincerely,

George Czerniak, Chief  
Air Enforcement and Compliance Assurance Branch

cc: Scott Parr, Minnesota Pollution Control Agency

Control Number: Z050001

Category: NESHAP  
Region: Region 5  
Date: 07/14/2004  
Title: Junction Box Tight Seal Requirements  
Recipient: Andes, Ronald  
Author: Czerniak, George  
Comments: See related determination filed as ADI Control No. 0400031.

Subparts: Part 61 FF Benzene Waste Operations  
References: 61.346(b)(2)(i)

Abstract:

Q: Are covers on junction boxes at Marathon Ashland Petroleum's facilities required to be equipped with a gasket in order to satisfy the "tight seal" requirements for junction box covers under 40 CFR part 61, subpart FF?

A: No. 40 CFR section 61.346(b)(2)(1) requires that junction boxes prevent leaks to the atmosphere in order to satisfy the "tight seal" requirements. However, consistent with a prior determination for similar provisions under 40 CFR part 60, a gasket is not necessarily required to achieve the tight seal.

Letter:

July 14, 2004

Ronald L. Andes  
Senior Attorney  
Marathon Ashland Petroleum LLC  
539 Main Street  
Findley, OH 45840-3295

RE: Marathon Ashland Petroleum LLC  
Request for Applicability Determination  
40 C.F.R. Part 61 Subpart FF, Benzene Waste NESHAP

On March 18, 2004, Marathon Ashland Petroleum LLC ("MAP") submitted to the United States

Environmental Protection Agency ("EPA"), a letter requesting an applicability determination for

40 C.F.R. Part 61 Subpart FF National Emission Standard for Benzene Waste Operations. The letter requests EPA to determine whether covers on junction boxes are required to be equipped with a gasket or other type of seal in order to satisfy the "tight seal" requirements for junction box covers under Sec. 61.346(b)(2)(i). In summary, we have determined junction boxes must prevent leaks to the atmosphere in order to satisfy the "tight seal" requirements. However, a gasket is not necessarily required.

The control requirements for individual drain systems in Sec. 61.346(b) were designed to mirror the NSPS control requirements for individual drain systems in petroleum waste water systems in Sec. 60.692-2, with the addition of control equipment on the junction box vent stack. This is explained in 55 Fed. Reg. 8346 (March 7, 1990). Correspondingly, the following requirement for junction box covers is found verbatim in both Sec. 61.346(b)(2)(i) and Sec. 60.692-2(b)(2):

"Junction box covers shall have a tight seal around the edge . . ."

On May 10, 2004, EPA issued a determination to MAP which stated that the "tight seal" requirement in Sec. 60.692-2 requires that junction box covers prevent detectable leaks around the edges, while not necessarily requiring a gasket. This determination is attached. Since the language is identical in Sec. 61.346(b)(2)(i), it is our finding that junction boxes regulated by Sec. 61.346(b)(2)(i) must likewise prevent detectable leaks to the atmosphere. Semiannual monitoring is not required, however, sources should be able to demonstrate that junction box covers do not leak by monitoring with a hydrocarbon detector upon request. As stated in our NSPS determination, the definition of a leak is an instrument reading of less than 500 ppm above background levels. A physical gasket is not required if another means is available to prevent detectable leaks.

We have coordinated this response with the Office of Enforcement and Compliance Assurance,

the Office of Air Quality Planning and Standards, and the National Enforcement Investigation Center. If you have any questions regarding this determination, please call Nathan A. Frank of my staff, at (312) 886-3850.

Sincerely yours,

George T. Czerniak, Chief  
Air Enforcement and Compliance Assurance Branch

Attachment

cc: Maria Malave  
Office of Enforcement and Compliance Assurance  
Ariel Rios Building  
1200 Pennsylvania Avenue, N.W.  
Washington, D.C. 20460

Robert Lucas  
Office of Air Quality Planning and Standards  
C439-03  
U.S. EPA Mailroom  
Research Triangle Park, NC 27711

Ken Garing  
National Enforcement Investigation Center  
Denver Federal Center  
Building 25/Door E-3, P.O. Box 25227  
Denver, CO 80225

Tom Sinn  
Minnesota Pollution Control Agency  
520 LaFayette Road  
St. Paul, Minnesota, 55155

Scott Parr  
Minnesota Pollution Control Agency  
520 LaFayette Road  
St. Paul, Minnesota, 55155

James R. Wilkins  
Marathon Ashland Petroleum LLC  
Refining Division

539 South Main Street  
Findlay, OH 45840

---

---

Control Number: Z060003

Category: NESHAP  
EPA Office: Region 6  
Date: 04/12/2001  
Title: Benzene Emissions from Exchange Leaks  
Recipient: David Savage  
Author: John R. Hepola  
Comments: Also see this determination under ADI Control No. M060035.  
Subparts: Part 61 FF Benzene Waste Operations  
References: 61.340(c)(1)  
63.104  
61.341

Abstract:

Q: Does EPA find that benzene emissions that occur from heat exchanger leaks at a facility, located in Texas and represented by Baker Botts, are to be included in the calculation of the Total Annual Benzene (TAB) quantity from facility waste water under the NESHAP for Benzene Waste Operations, 40 CFR part 61, subpart FF?

A: Yes. EPA finds that neither benzene emissions occurring from non-contact heat exchanger leaks into cooling tower water nor benzene quantities from "contact heat exchangers" qualify for the exemption or exclusion from the required benzene calculation (TAB) under the NESHAP for Benzene Waste Operations, 40 CFR part 61, subpart FF. Therefore, waste in the form of gases or vapors that is emitted from process fluids is required to be part of the calculation of the total annual benzene quantity in facility waste generation. This determination is based on the fact that the benzene emissions are directly generated by the respective process, and are neither the result of leakage nor of process offgas.

Letter:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 6  
1445 ROSS AVENUE, SUITE 1200  
DALLAS, TX 75202-2733

APR 12 2001

Mr. David Savage  
BAKER BOTTS L.L.P.  
1600 San Jacinto Center  
98 San Jacinto Blvd.  
Austin, Texas 78701-4039

Re: Request for Regulatory Interpretation of 40 C.F.R. Part 61, Subpart FF,  
National Emission Standards for Benzene Waste Operations (NESHAP)

Dear Mr. Savage:

This is in response to your letter of March 1, 2000, requesting confirmation that benzene (BZ) emissions that occur from heat exchanger leaks should not be included in the calculation of the total annual quantity of BZ (TAB) from facility waste under the NESHAP for BZ Waste Operations, 40 C.F.R. Part 61, Subpart FF (BWN for BZ Waste NESHAP). Your request was primarily supported by your contention that BZ leaks from heat exchangers are covered by the exemption for waste in the form of gases or vapors emitted from process fluid(s) and are not intended to be included in calculating a facility's TAB./1 The subject 'heat exchanger leaks' of your request are viewed as leakage of process fluid through the tube bundle into the cooling water side of a non-contact heat exchanger and have been addressed only in that context.

"Waste in the form of gases or vapors that is emitted from process fluids" was quoted from 40 C.F.R. sec.61.340(c)(1) as being exempt from the BWN regulation.

Your interpretation of this exemption as being applicable to BZ, that volatilizes to the atmosphere from a cooling tower because of a heat exchanger leak, was understood as follows. A leaking tube bundle within a non-contact heat exchanger, associated with a process unit fluid containing BZ, can result in the respective 'leaked' process fluid being carried through the non-contact cooling water system to the cooling tower, where BZ within the entrained process fluid volatilizes and results in being emitted from the process fluid and cooling water to the atmosphere.

Your request contends, therefore, that the loss of BZ from such non-contact heat exchanger leaks should not be included in a facility's TAB. This position was further supported by a citation of a portion of the preamble to the initial BWN/2, wherein EPA explained that it did not intend to include gaseous emissions from process fluids in the annual TAB quantity calculation because these emissions were considered in separate regulatory decisions that addressed process emissions (rather than emissions from waste operations) from various source categories. In this regard, the Hazardous Organic NESHAP (HON) at 40 C.F.R. Part 63, Subpart F/3, was identified as the type of regulation that addresses process emissions from heat exchanger leaks, as compared to the BWN,

which addresses BZ waste operations. The subject heat exchanger leaks were also categorized as being analogous to the type of BZ equipment leaks that are regulated as 'fugitive emissions' by the NESHAP for BZ in 40 C.F.R. Part 61, Subparts J & V; yet, these Subparts (J & V) are not found to apply to such heat exchanger source leaks into cooling (tower) water.

We have completed our review of your request and find that BZ emissions, which occur from non-contact heat exchanger leaks into cooling tower water, results in the generation of a BZ waste water stream that does not qualify for the exemption and exclusion of BZ emissions from the BWN and its required calculation of the total annual BZ quantity in facility waste generation or TAB. In like manner, BZ quantities, which may result in a waste water stream from "contact heat exchangers", also do not qualify for the exemption or exclusion from the required BWN calculation of the TAB, since it is considered to be a waste stream that is directly generated by the respective process and is neither the result of leakage nor process offgas. (In this respect, a contact heat exchanger is described as having a process design for heat transfer to occur by direct contact of the process fluid with the cooling (tower) water. Whereas, heat transfer within a non-contact heat exchanger is designed to occur through some conduction medium, as opposed to direct contact of the process fluid with the cooling (tower) water.)

This review of your request and finding has been coordinated with EPA's Office of Air Quality Planning and Standards, Office of Enforcement and Compliance Assurance, and National Enforcement Investigation Center, as well as EPA Regions 4, 5 and 10, and is based on the following reasoning:

1) Based on the definitions for 'Process wastewater', 'Waste' and 'Waste stream' found in the BWN/4, cooling tower water, which has been contaminated with BZ via a non-contact heat exchanger leak, results in that water meeting the definition of waste (i.e., a process fluid leaked into the cooling water and generated a waste stream from which waste BZ air emissions occur at the cooling tower). This scenario is equivalent to an equipment leak or spill of an organic process fluid into a sewer system, which results in BZ in the waste being emitted to the air from the wastewater treatment system.

2) Because the heat exchanger leak generated a waste stream of the cooling water, the applicability exemption of sec. 61.340(c)(1) for "waste in the form of gases or vapors that is emitted from process fluids" is not relevant nor applicable, since cooling water is not a process fluid. (However, this exemption does not mean that BZ air emissions from process fluids, occurring prior to the generation of the waste, are excluded from the BWN requirements and the TAB.)

3) The exemption of sec. 61.340(c)(1) excludes process emissions, as distinguished from waste emissions. Waste emissions are considered as waste in

the form of gases or vapors that are emitted from waste streams. (Only BZ air emissions from process fluid(s), which occur prior to the generation of the waste, therefore, do not have to be considered for regulation by the BWN or TAB calculation under this exemption.)

4) A comparison of the subject heat exchanger leaks to equipment leaks, regulated as 'fugitive emissions' by 40 C.F.R. Part 61, Subparts J and V, is not considered applicable, in light of EPA's position on such air emissions to not be regulated as "fugitive emissions" under Subpart H of the HON, which was addressed in the preamble to the proposed HON/5, as cited in following:

"The lines within a unit process operation containing process fluids are considered to be part of the process unit (e.g., such as a non-contact heat exchanger) and thus, subject to regulatory requirements, while lines and equipment not containing process fluids are not subject to these requirements (i.e., proposed HON's Subpart H for equipment leaks). Utilities and other nonprocess lines, such as heating and cooling systems, are not considered to be part of a process unit. For example, any direct heating and cooling systems, which generally service many processes at a plant and do not combine their materials with those in the processes they service, are also not subject to these (i.e., equipment leak) requirements."

In summary, Region 6's review of your request finds that BZ emissions to the air, that result from non-contact heat exchanger leaks into cooling tower water, as described herein: (i) constitute a "waste in the form of gases or vapors", that is emitted from a cooling water waste stream, and does not qualify, therefore, for the exemption from the requirements of the BWN provided by 40 C.F.R. sec. 61.340(c)(1); (ii) are intended to be regulated by the BWN; and (iii) should be included in calculating a facility's TAB. [In order for such a cooling tower waste water stream to qualify for exemption from BWN control and treatment requirements, it is required to have a flow-weighted annual average BZ concentration less than 10 ppmw (i.e., parts per million by weight), which cannot be attained by any dilution measures following the waste stream's generation.]

Thank you for your inquiry request, which initiated our formal clarification and resolution of this issue. If we can be of additional assistance or if you have other questions about this response, please contact Mr. Martin E. Brittain, P.E., at (214) 665-7296.

Sincerely yours,

John R. Hepola  
Chief  
Air/Toxics & Inspection

Coordination Branch

/1 40 C.F.R. sec. 61.340(c)(1)

/2 Vol. 55, No. 45, Fed.Reg., 8318-19, March 7, 1990

/3 See 40 C.F.R. sec. 63.104

/4 See 40 C.F.R. sec. 61.341 Definitions:

"Process wastewater means water which comes in contact with benzene during manufacturing or processing operations conducted within a process unit. Process wastewater is not organic wastes, process fluids, product tank drawdown, cooling tower blowdown, steam trap condensate, or landfill leachate.

Waste means any material resulting from industrial, commercial, mining or agricultural operations, or from community activities that is discarded or is being accumulated, stored, or physically, chemically, thermally, or biologically treated prior to being discarded, recycled, or discharged.

Waste stream means the waste generated by a particular process unit, product tank, or waste management unit. The characteristics of the waste stream (e.g., flow rate, benzene concentration, water content) are determined at the point of generation. Examples of a waste stream include process wastewater, product tank drawdown, sludge and slop oil removed from waste management units, and landfill leachate."

/5 Vol. 57, No. 252, Fed. Reg., 62660, December 31, 1992

Control Number: Z000006

Category: NESHAP

Region: Region 4

Date: 09/28/2000

Title: Treatment and Control Requirements for TSD Facilities

Recipient: Carl Richardson

Author: R. Douglas Neeley

Comments:

Subparts: Part 61 FF Benzene Waste Operations

References: 61.340  
61.342

Abstract:

Q: Although the annual quantity of benzene managed at a treatment, storage, and disposal (TSD) facility does not exceed 10 Mg, the TSD facility receives waste from facilities described in Sec. 61.340 which do generate an annual quantity of benzene greater than 10 Mg and are subject to Subpart FF. Will the treatment requirements in Sec. 61.342(c)(1)(i) and the control requirements in Sec. 61.342(c)(1)(ii) apply to the TSD facility?

A: Yes. A TSD facility is subject to the treatment and control requirements in Sec. 61.342(c)(1)(i) and (ii) if the total annual benzene (TAB) quantity received on-site is greater than or equal to 10 Mg per year, or if the TSD facility receives waste from any facility listed in Sec. 61.340(a) whose TAB exceeds 10 Mg.

Letter:

September 28, 2000

4APT-ARB

Mr. Carl W. Richardson, P.E.  
South Carolina Department of Health  
and Environmental Control  
2600 Bull Street  
Columbia, SC 29201-1708

SUBJ: National Emission Standards for Hazardous Air  
Pollutants, Subpart FF

Dear Mr. Richardson:

We have received your September 8, 2000, letter requesting an applicability determination regarding National Emission Standards for Hazardous Air Pollutants (NESHAP), Subpart FF (National Emission Standard for Benzene Waste Operations). In particular, clarification has been requested concerning the treatment and control requirements specified in Sec. 61.342(c)(1)(i) and (ii) as they relate to the Safety-Kleen Systems, Inc., treatment, storage, and disposal (TSD) facility in Holly Hill, South Carolina. The letter indicates that the annual quantity of benzene managed at the Safety-Kleen TSD facility does not exceed 10 Mg. However, the TSD facility receives waste from facilities

described in Sec. 61.340 which do generate an annual quantity of benzene greater than 10 Mg and are subject to Subpart FF. Safety-Kleen contends that both the treatment requirements of Sec. 61.342(c)(1)(i) and the control requirements of Sec. 61.342(c)(1)(ii) apply to its facility if either the total annual benzene (TAB) received on-site exceeds 10 Mg/yr or if the facility receives waste from a generator whose TAB exceeds 10 Mg. Based on our review of the regulation, we concur that the requirements of Subpart FF specified in Sec. 61.342(c)(1)(i) and (ii) are applicable to the Safety-Kleen facility. A TSD facility will be subject to Subpart FF if the TAB quantity received on-site is greater than or equal to 10 Mg per year, or if the TSD facility receives waste from any facility listed in Sec. 61.340(a) whose TAB exceeds 10 Mg.

As indicated in Sec. 61.340(a), the Subpart FF regulation applies to owners and operators of chemical manufacturing plants, coke by-product recovery plants, and petroleum refineries. The regulation at Sec. 61.340(b) indicates that Subpart FF also applies to owners and operators of hazardous waste treatment, storage, and disposal facilities that treat, store, or dispose of hazardous waste generated by any facility listed in Sec. 61.340(a). A "facility" is defined in Sec. 61.341 as all process units and product tanks that generate waste within a stationary source, and all waste management units that are used for waste treatment, storage, or disposal within a stationary source. As stated in Sec. 61.342 (Standards, General), an owner or operator of a facility at which the TAB quantity from facility waste is less than 10 Mg per year shall be exempt from the requirements of Sec. 61.342(b) and (c).

Clarification is provided in Sec. 61.342(f) concerning the requirements for facilities which transfer waste to TSD facilities and the requirements for TSD facilities. As indicated in Sec. 61.342(f), instead of treating the waste onsite a facility owner or operator may comply with the treatment requirements in Sec. 61.342(c)(1)(i) by transferring the waste offsite to another facility where the waste is treated in accordance with Sec. 61.342(c)(1)(i). The facility owner transferring the waste must still comply with the control requirements specified in Secs. 61.343 through 61.347 for each waste management unit that receives or manages the waste prior to shipment of the waste offsite (Sec. 61.342(f)(1)). The facility

owner transferring the waste must also include with each offsite waste shipment a notice stating that the waste contains benzene which is required to be managed and treated in accordance with the provisions of Subpart FF (Sec. 61.342(f)(2)). Therefore, a TSD facility which accepts waste from a Sec. 61.340(a) facility which has a TAB quantity of greater than or equal to 10 Mg must meet the same treatment and control requirements under Subpart FF which the Sec. 61.340(a) facility would be required to meet. This applies even if the TSD facility itself has a TAB quantity of less than 10 Mg. The Subpart FF regulation does not exempt TSD facilities from any requirements of the regulation, including Sec. 61.342(c)(1)(ii) which requires compliance with the control requirements of Secs. 61.343 through 61.347. If a TSD facility receives waste from Sec. 61.340(a) facilities which have TAB quantities of less than 10 Mg, the TSD facility would be required to calculate its own TAB to determine if it is greater than or equal to 10 Mg. If the TSD has a TAB of 10 Mg or greater, it will be required to comply with the Subpart FF treatment and control requirements.

If there are any questions regarding this letter, please contact Keith Goff of the EPA Region 4 staff at (404)562-9137.

Sincerely,

R. Douglas Neeley  
Chief

Air and Radiation Technology Branch Air, Pesticides and  
Toxics Management Division

=====

Control Number: Z030004

Category: NESHAP  
Region: Region 10  
Date: 06/29/1999  
Title: Wastewater Treatment Operations  
Recipient: Ken Ferry

Author: Gil Haselberger

Comments:

Subparts: Part 61 FF Benzene Waste Operations

References: 61.341

61.342(c)(2)

61.348(b)

Abstract:

Q1: Tosco combines affected process wastewater streams for centralized treatment. Is the waste stream flowing to the Roughing Filter with less than 10 ppm benzene exempt from control requirements per Subpart FF?

A1: No. Based on a detailed review of the regulations and supporting discussion in the 1990 preamble to Part 61, Subpart FF, the exemption of 40 CFR 61.342(c)(2) does not apply because the facility uses a centralized wastewater treatment system that treats aggregate waste streams, some of which may have benzene concentrations greater than 10 ppm. The control requirements do not allow for avoiding control requirements through intentional or unintentional dilution of waste streams. Thus, waste management units, including the Roughing Filter, are subject to control requirements of 40 CFR 61.348(b).

Q2: Does the exemption of 40 CFR 61.348(b)(2)(ii)(B) apply to Tosco's Roughing Filter?

A2: No. The Roughing Filter is not an enhanced biodegradation unit as defined in Subpart FF.

Q3: What procedures apply if Tosco' wanted to seek approval for use of its RF/AS system as an alternative means of emission limitation?

A3: EPA Region 10 does not have the authority to grant Tosco an alternative means of emission limitation. The Assistant Administrator of OAR along with the Director of OAQPS possess such authority, and the determination indicates how Tosco should follow up on this matter if it remains interested in this option.

Letter:

Reply To  
Attn Of: OAQ-107

Mr. Ken J. Ferry  
Mechanical Manager  
Tosco Refining Company  
3901 Unick Road - P.O. Box 8  
Ferndale, Washington 98248

Re: NESHAP Subpart FF Guidance for Tosco Refining Company,  
Ferndale Refinery

Dear Mr. Ferry:

This letter is in response to your October 12, 1998, request to the United States Environmental Protection Agency, Region 10 (Region 10) for regulatory guidance relating to wastewater treatment operations at Tosco's petroleum refinery located in Ferndale, Washington. This letter also responds to a similar request from the Northwest Air Pollution Authority (NWAPA) dated October 12, 1998. The refinery is subject to 40 C.F.R. Part 61, Subpart FF - National Emission Standard for Benzene Waste Operations (NESHAP FF). You requested that Region 10 identify the emission control requirements, if any, applicable to the Roughing Filter (more commonly referred to as a trickling filter) at the Ferndale facility. For the reasons discussed below, Region 10 has determined that the Roughing Filter is subject to the tank emission standards outlined in 40 C.F.R. Sec. 61.343.

#### Waste Stream Exemption Not Applicable to Aggregate Waste Streams

It is Tosco's position that the refinery is not required to install emission controls on the Roughing Filter, pursuant to the exemption in 40 C.F.R. Sec. 61.342(c)(2), because the benzene concentration of the waste stream entering it is less than 10 ppmw. Specifically, Tosco points out that, following treatment in the API separators and induced air flotation units (IAFs), wastewater at typically less than 10 ppmw benzene flows to the Roughing Filter.

The Region has carefully considered your position and has concluded that the exemption stated in 40 C.F.R. Sec. 61.342(c)(2) does not apply to your Roughing Filter within

the context of your compliance strategy. In particular, Tosco, like many other refineries, aggregates many individual waste streams in order to facilitate management and treatment in a centralized wastewater treatment system. Because Tosco's refinery operates a centralized wastewater treatment system, the management and treatment requirements of 40 C.F.R. Sec. 61.348(b) apply to waste management units within your wastewater treatment system.

Because the Tosco refinery produces greater than 10 megagrams per year (Mg/yr) of benzene, it must meet the requirements of 40 C.F.R. 61.342(c), (d), or (e). Tosco has elected to comply with the requirements of 40 C.F.R. 61.342(c). Pursuant to 40 C.F.R. Sec. 61.342(c)(1)(i), the facility must, therefore, destroy the benzene contained in the waste using a treatment process or wastewater treatment system that complies with the standards specified in Sec. 61.348.

40 C.F.R. Sec. 61.348(a) lists requirements for treating the waste stream described above. Additionally, 40 C.F.R. Sec. 61.348(a)(3) states that, for the purpose of complying with the requirement that benzene be removed from a waste stream to a level less than 10 ppmw, "the intentional or unintentional reduction in the benzene concentration of a waste stream by dilution of the waste stream with other wastes or materials is not allowed." This point is further emphasized by 40 C.F.R. Sec. 61.348(a)(5) which states:

If an owner or operator aggregates or mixes any combination of process wastewater . . . together with other waste streams to create a combined waste stream for the purpose of facilitating management or treatment of waste in a wastewater treatment system, then the wastewater treatment system shall be operated in accordance with paragraph (b) of this section.

40 C.F.R. Sec. 61.348(b) contains the requirements for facilities that aggregate or mix individual waste streams, which mandate wastewater treatment consistent with the requirements specified in Sec. 61.343 through Sec. 61.347.

The Region's position is further supported by the preamble to the final rule for NESHAP FF located at 55 Fed. Reg. 8292-8340 (March 7, 1990). The preamble explains the requirement that a facility apply controls to all

wastewater treatment units up to the point where the benzene concentration is below 10 ppmw and one of the following occurs: (1) the total annual quantity of benzene in the wastewater for the facility is reduced below 1 Mg; or (2) the waste has reached the biological treatment unit. The preamble states:

While the final rule allows the combination of waste streams for the purpose of centralized treatment, EPA recognizes that this allowance could result in emission and risks higher than intended in certain cases when many large volume waste streams that contain levels of benzene above and below 10 ppmw as mixed. This situation could occur if an owner or operator chooses to reduce the benzene content of process wastewater streams through treatment that occurs in a facility's wastewater treatment system rather than segregate streams with greater than 10 ppmw benzene for separate treatment. The wastewater treatment system at some facilities, such as at petroleum refineries, manages large quantities of wastewater made up of a mixture of waste streams having benzene concentrations above and below 10 ppmw. The mixed stream may go through several management steps leading to a biological treatment unit. Due to the large volume of wastes handled, benzene emissions could be substantial even though the benzene concentration in the mixed waste is below 10 ppmw. . . . Therefore, a provision has been added to the final rule that applies specifically to those situations where an owner or operator chooses to use an existing wastewater treatment system to meet the treatment requirements of the rule. In these situations, the final rule requires the facility to apply controls to all wastewater treatment units up to the point where benzene concentration is below 10 ppmw and one of the following occurs: (1) the total annual quantity of benzene in the process wastewater for the facility is reduced below 1 megagram; or (2) the waste has reached the biological treatment unit.

55 Fed. Reg. 8292, 8331 (March 7, 1990) (emphasis added).

In sum, based on both the regulatory language and the preamble to NESHAP FF, the Region has concluded that EPA did not intend refineries utilizing a centralized wastewater treatment system to apply the exemption of 40 C.F.R. Sec. 61.342(c)(2) to waste management units within the wastewater treatment system. Each waste management

unit within Tosco's wastewater treatment system must comply with emission control requirements of 40 C.F.R. Sec. 61.343 through Sec. 61.347 as required by Sec. 61.348(b).

### Roughing Filter

Tosco has raised the additional argument that, even if 40 C.F.R. Sec. 61.348(b) applies to the Roughing Filter, the Roughing Filter should still be exempt from pollution controls pursuant to Sec. 61.348(b)(2). That exemption, as explained above, essentially requires that the stream entering the waste management unit be less than 10 ppmw, and either of the following conditions exists: (1) the total annual quantity of benzene in the process wastewater for the facility is reduced below 1 Mg; or (2) the waste has reached the biological treatment unit. Because the total annual quantity of benzene in the waste stream entering the Roughing Filter is greater than 1 Mg, the first condition does not exist. However, you indicate, that the second condition does exist as the Roughing Filter operates as part of a larger biological treatment system which includes the Aero- Accelerators.

After considering the information you have provided, and based upon our inspection of the Tosco facility conducted on May 14, 1999, the Region does not consider the Roughing Filter (or a combination of the Roughing Filter and Aero-Accelerators) to be "enhanced biodegradation" as required by the exemption in 40 C.F.R. Sec. 61.348(b)(2)(ii)(B). According to that provision, "[a] unit shall be considered enhanced biodegradation if it is a suspended-growth process that generates biomass, uses recycled biomass, and periodically removes biomass from the process." 40 C.F.R. Sec. 61.348(b)(2)(ii)(B) (emphasis added). A trickling filter functions differently from an activated sludge unit in that a trickling filter is an attached-growth process, not a suspended- growth process. While activated sludge units have been widely demonstrated to effectively remove up to 80 percent of organics from dilute waste streams, trickling filters have not.

During Region 10's inspection of Tosco's wastewater treatment system on May 14, 1999, we observed that the trickling filter is a physically distinct emission point apart from the Aero- Accelerators. Wastewater treatment plant process flow diagrams presented by Tosco also

identify the trickling filter as a singular unit and distinguish it from the Aero-Accelators. Our visual inspection of the aforementioned waste management units confirmed that the Roughing Filter is a physically distinct unit apart from the Aero-Accelators.

In sum, EPA Region 10 finds that EPA did not intend to allow trickling filters to be considered "enhanced biodegradation" units for the purposes of utilizing the emissions control exemption of 40 C.F.R. Sec. 61.348(b)(2). The emission control exemption of Sec. 61.342(b)(2)(ii)(B) is reserved exclusively for singular enhanced biological treatment units, i.e., activated sludge units, that have been widely proven to effectively remove organics from dilute waste streams. Tosco's Roughing Filter does not qualify as an enhanced biological treatment unit.

#### Alternate Means of Emission Limitation

Finally, Tosco has requested information relating to EPA's authority to approve alternate emission control strategies pursuant to 40 C.F.R. Sec. 61.353. Region 10 does not have the authority to grant Tosco an alternative means of emission limitation for the Roughing Filter. The Assistant Administrator of the Office of Air and Radiation (OAR) along with the Director of the Office of Air Quality Planning and Standards (OAQPS) possess such authority. You may contact Mr. Bob Lucas of OAQPS at (919) 541- 0884 to pursue requesting an alternative means of emission limitation for the Roughing Filter. Given the nature of your request, you may also need to coordinate with EPA's Office of General Counsel.

#### Summary

Region 10 provides the following determinations:

1. The waste stream exiting the IAFs is not exempt from control requirements. The exemption of 40 C.F.R. Sec. 61.342(c)(2) does not apply to your centralized wastewater treatment system that treats aggregate waste streams. Waste management units, including the Roughing Filter, are subject to control requirements of 40 C.F.R. Sec. 61.348(b).
2. Tosco's Roughing Filter is not an enhanced

biodegradation unit as defined in NESHAP FF; therefore, the exemption of 40 C.F.R. Sec. 61.348(b)(2)(ii)(B) does not apply to the Roughing Filter.

3. EPA Region 10 does not have the authority to grant Tosco an alternative means of emission limitation. The Assistant Administrator of OAR along with the Director of OAQPS possess such authority.

This response has been coordinated with both OAQPS and Office of Enforcement and Compliance Assistance at EPA Headquarters. If you have any questions regarding any aspect of this response, please contact either Dan Meyer or John Keenan of this office at (206) 553-4150 and (206) 553-1817, respectively.

Sincerely,

Gil Haselberger, Manager  
Air Enforcement & Program Support Unit

DM:GH:cb

cc: R.T. Bremer, Tosco  
Lester Keel, NWAPA  
Christie A. Lee, EPA Region 10 - Washington Operations  
Office Bob Lucas, EPA - OAQPS Terry L. Nyman, NWAPA

=====  
=====  
Control Number: Z970001

Category: NESHAP  
Region: Region 6  
Date: 11/14/1996  
Title: Internal Floating Roof for Oil-Water Separator  
Recipient: Loganathan, Narayanan  
Author: Hepola, John  
Comments:

Subparts: Part 61 FF Benzene Waste Operations  
References: 60.112b

60.693-2  
61.347  
61.352

Abstract:

Q: Will EPA approve the use of an internal floating roof with liquid-mounted primary seals meeting the requirements of 40 CFR 60, Subpart Kb, 60.112b(a)(1), as an acceptable method of control for an oil-water separator under 40 CFR 61, Subpart FF, 40 CFR 61.347?

A: Yes. An internal floating roof equipped with a primary seal and a secondary seal and meeting the requirements of 60.693-2, can be used to comply with 61.352(a).

Letter:

November 14, 1996

Mr. Narayanan Loganathan  
Texas Natural Resource  
Conservation Commission  
P.O. Box 13087  
Austin, TX 78711-3087

Dear Mr. Loganathan:

In a letter dated February 26, 1996, you requested our response to a written request you received from Waid and Associates ("Waid"), Austin, Texas dated February 7, 1996. Waid in its letter to TNRCC requested the use of an internal floating roof with liquid-mounted primary seals meeting the requirements of 40 CFR 60, Subpart Kb, 60.112b(a)(1), as an acceptable method of control for an oil-water separator under 40 CFR 61, Subpart FF, 40 CFR 61.347.

As you are aware, 40 CFR 61, Subpart FF, 40 CFR 61.352(a) (relating to Alternative Standards for Oil-Water Separators under NESHAP Subpart FF) states that an operator or owner may elect to comply with the following, as an alternative to the standards for oil-water separators specified in

61.347 (relating to Standards: Oil-Water Separators): (1) a floating roof meeting the requirements in 40 CFR 60.693-2(a). Furthermore, 40 CFR 60.693-2(a)(1) states that each floating roof shall be equipped with a closure device between the wall of the separator and the roof edge. The closure device is to consist of a primary seal and a secondary seal. As you stated in your letter, the above requirement does not exclude the use of an internal floating roof. Therefore, we concur with your conclusion that an internal floating roof equipped with a primary seal and a secondary seal and meeting the requirements of 60.693-2, can be used to comply with 61.352(a).

We have coordinated your request with the appropriate technical staff at EPA's Office of Air Quality Planning and Standards in Research Triangle Park, North Carolina and the Office of Enforcement and Compliance Assurance in Washington, D.C. Should you need any additional information regarding this matter, please contact me at (214) 665-7220, or Mr. Tony Robledo of my staff at (214) 665-8182.

Sincerely yours,

/s/

John R. Hepola  
Chief  
Air/Toxics and Inspection  
Coordination Branch

cc: Mr. Jeff Grief, TNRCC  
Mr. Troy Dalton, TNRCC  
Ms. Karen Atkinson, TNRCC, Region 12  
Ms. Teresa S. Hurley, Waid and Associates

---

---

Control Number: Z960010

Category: NESHAP  
Region: Region 8  
Date: 06/26/1996  
Title: Benzene Waste Production  
Recipient: Mount, Dana  
Author: Hestmark, Martin  
Comments:

Subparts: Part 61 FF Benzene Waste Operations  
References: 61.341  
61.342

Abstract:

Q. Does a source's calculation of total annual benzene waste generated need to include the tank water draws for each storage tank as points of generation?

A. Yes, the points of generation were correctly identified. In addition, the source should report a particular tank where material containing waste is accumulated, stored, or treated as a waste management unit.

Letter:

Dana Mount  
Director, Division of Environmental Engineering  
North Dakota Department of Health

1200 Missouri Avenue  
P.O. Box 5520  
Bismark, ND 58506-5520

RE: Concurrence with State of North Dakota's NESHAP  
applicability determination

Dear Mr. Dana Mount:

The Office of Enforcement, Compliance, & Environmental Justice has reviewed Amoco Petroleum Products, Mandan Refinery's interpretation of the Benzene Waste Operations NESHAP Subpart FF regulations and its applicability to their refinery's tank field operations.

This office has also reviewed the North Dakota Division of Environmental Health's response and concluding applicability determination.

EPA Region VIII concurs with North Dakota Division of Environmental Health on this matter. The points of waste generation are at the tank water draws for each storage tank. Tank 503 is a waste management unit as applied to the National Emission Standard for Benzene Waste Operations, 40 CFR Subpart FF. The calculation of this refinery's Total Annual Benzene should include these points of generation prior to Tank 503.

If you have any questions or need any further review, please contact Scott Whitmore of my staff at (303) 312-6317.

Sincerely,

Martin Hestmark, Director  
Technical Enforcement Program, Office of Enforcement,  
Compliance, & Environmental Justice

Enclosures: Applicability request from Amoco Petroleum,  
Mandan, 3/11/96 Draft applicability determination, North  
Dakota Division of Environmental Health April  
19, 1996

D.K. Litchfield  
Manager, Environmental, Health, & Safety  
Amoco Petroleum Products  
Mandan Refinery  
Post Office Box 5000  
Mandan, ND 58554-5500

Re: Determination of Benzene NESHAPs Applicability to the  
Tank Water Draw System

Dear Mr. Litchfield:

This Department has reviewed your March 11, 1996 letter requesting a review of the refinery's current Benzene emissions reporting for the tank water draw system. To summarize your letter, various tanks located in the refineries' tank field transfer bottoms to a small product storage tank, Tank 503, where residual product is separated from solids, emulsions, and/or water. The refinery has been reporting the tank bottoms as separate waste streams for the annual TAB (Total Annual Benzene) report. Your interpretation of the Benzene NESHAP is that the product storage tank is part of an integral process unit, and the point of Benzene waste generation is the line leaving Tank 503 which drains to the refinery process sewer.

Per 40 CFR Part 61.341, the point of waste generation is defined as "the location where the waste stream exits the process unit component or storage tank prior to handling or treatment in an operation that is not an integral part of the production process, or in the case of waste management units that generate new wastes after treatment, the location where the waste stream exits the waste management component." If given that the tank bottoms exiting the individual storage tanks meet the rules' definition of waste streams, the reporting requirements are determined by the definition of Tank 503's relation to the product storage tank system.

In the Benzene NESHAP Preamble, Section III; Facility Applicability: B. Clarification on Point of Waste Generation - Definition of Point of Generation, which facilities are subject to control requirements is determined by the characteristics of waste streams at the point of generation. The Preamble states, " The point of generation of a stream is after it has left a process and

prior to handling or management in a unit that is not integral to the process, including prior to processes that promote resource recovery. In general, and as discussed in the proposed preamble, the distinction between what is a waste management unit and what is a process unit is based on the material managed in the unit. If the material meets the definition of waste in the rule, then the unit is a waste management unit and the point of generation would be at a location prior to where the waste enters this unit. This is primary criterion for distinguishing waste management units from process units for the purposes of subpart FF." The section continues that in limited situations the material may meet the definition of waste, but never leaves the process unit. "This may be the case where materials are recycled within a process (e.g., product distillation reflux streams) or where materials are directly hard piped from one process to another without accumulation, storage or treatment." As this Department interprets your letter, material entering Tank 503 is accumulated, stored, or treated, and certain material streams entering the tank meet the definition of waste material. Therefore, Tank 503 is a waste management unit used to treat waste streams as defined in the Benzene NESHAP.

Further material definition is presented in section III.E. - Materials Recycled to a Process or Within a Process, of the preamble. This section contains: "To meet the definition of waste in the rule, a material must either be discarded or accumulated: stored, or physically, chemically, thermally, or biologically treated prior to being discarded, recycled or discharged." The test for whether materials recycled within a process or that are recycled directly to another process are subject to the rule is where they are accumulated, stored, or treated prior to recycling. If they are, they are subject to the rule." Again, Tank 503 meets the definition of a waste management unit.

Therefore, your initial interpretation of the rule was correct in reporting the point of waste generation at the tank water draws of the storage tanks. Tank 503 should also be reported as a waste management unit as defined in the Benzene NESHAP under 61.342., paragraph (c), subparagraph (1), item (iii). If you feel this issue needs further review, we encourage you to submit additional

information justifying a definition of Tank 503's operation in regard to material treatment and handling. Any information regarding determinations for similar processes or units located nationwide would also aid this Department in re-reviewing a change in your current TAR reporting practices. Please be reminded that exempting the tank water draws may be precedent setting and subject to Federal EPA review.

If you have any questions or additional comments, please contact Mr. Steven Smokey of my staff at 701-328-5188.

Sincerely,

Dana K. Mount, P.E.  
Director, Division  
Environmental Engineering

---

---

Control Number: Z970009

Category: NESHAP  
Region: Region 10  
Date: 10/27/1995  
Title: New Controls for Proc. Wastewater Treat. Plant  
Recipient: Solari, Gery  
Author: Thie, Bonnie  
Comments:

Subparts: Part 61 A General Provisions  
Part 61 FF Benzene Waste Operations  
References: 61.15  
61.355

Abstract:

Q: A waste water treatment plant is installing vapor tight seals and vent carbon canisters on oily water and phenolic sewer openings as well as all combined process wastewater treatment system openings in the primary treatment section. Does the addition of these control devices constitute a modification?

A: No. The addition of control devices to a stationary source is not a modification (there is no increase in emissions of hazardous air pollutants to which standards apply; see 40 CFR 61.15(a)). EPA would not need to approve this proposed project.

Letter:

Reply To  
Attn Of: AT-082

Mr. Gary A. Solari  
Tosco Northwest Company  
Ferndale Refinery  
3901 Unick Road, P.O. Box 8  
Ferndale, Washington 98248

Dear Mr. Solari:

We have received your notification dated September 11, 1995, requesting EPA review and concurrence on whether the attached proposed project meets the applicable requirements of 40 CFR Part 61, subpart FF (National Emission Standards for Benzene Waste Operations).

It is our understanding that vapor tight seals and vent point carbon canisters will be installed on subpart FF-covered oily water and phenolic sewer openings, as well as all combined process wastewater treatment system openings in the primary treatment section of the waste water treatment plant.

Since the addition of control devices to a stationary source does not constitute a modification (as there will not be an increase in emissions of a hazardous air pollutant to which a standard applies; see 40 CFR 61.15(a)), EPA would not need to approve this proposed project. However, based upon our review of the project information submitted, we believe this project, if properly equipped and operated, would meet all applicable control technology requirements and emissions standards in subpart FF. Of course, a final determination as to whether the project meets subpart FF requirements cannot be made until our office has had the opportunity to review the results of

the performance test required by 61.355(h).

Please call Chris Hall of our office at (206) 553-1949 if you have any questions or comments regarding this matter, or you may contact me at (206) 553-1189.

Sincerely,

Bonnie Thie, Unit Manager  
Alaska-Washington Air Unit

cc: Terryl Nyman, NWAPA

=====  
=====  
Control Number: Z000001

Category: NESHAP  
Region: OAQPS  
Date: 08/25/1993  
Title: Benzene Waste Operations  
Recipient: Kirby Boston  
Author: John Seitz  
Comments:

Subparts: Part 61 FF Benzene Waste Operations  
References: 61.341

Abstract:

Q: Are sodium crasylate and sulfidic caustic solutions covered by the Benzene Waste Operations NESHAP?

A: No. Sodium crasylate and sulfidic caustic solutions do not meet the definition of "waste" or "material subject to this subpart" in the Benzene Waste Operations NESHAP if they (1) are stored, transported, and managed in ways that are customary for other commercial products; and (2) are used as produced, as raw materials, or process chemicals by industry.

Letter:

United States Environmental Protection Agency  
Office of Air Quality Planning and Standards  
Research Triangle Park, North Carolina 27711

AUG 25 1993

Mr. Kirby L. Boston, Esq.  
Vice President and General Counsel  
Merichem Company  
4800 Texas Commerce Tower  
Houston, Texas 77002-3088

Dear Mr. Boston:

This is in response to your letter of March 12, 1993, to Bob Lucas regarding the regulatory status of sodium crasylate and sulfidic caustic solutions under the Benzene Waste Operations national emission standards for hazardous air pollutants (NESHAP) (subpart FF of 40 CFR part 61). In your letter, you requested that the Environmental Protection Agency (EPA) issue a regulatory determination that these solutions are not covered by the Benzene Waste Operations NESHAP.

We have reviewed the information submitted by Merichem describing how these solutions are produced and managed by the petroleum refiners and how Merichem's uses of these solutions do not involve recycling processes. Based on this information, the EPA has determined that sodium crasylate and sulfidic caustic solutions do not meet the definition of "waste" or "material subject to this subpart" in the Benzene Waste Operations NESHAP once the solutions have been loaded for shipment under contract to Merichem if they (1) are stored, transported, and managed by Merichem in ways that are customary for other commercial products; and (2) are used as produced, as raw materials, or process chemicals by industry. This determination does not modify or affect the definition of waste set forth in 40 CFR Section 61.341 as that regulation applies to all materials at a petroleum refinery.

I appreciate this opportunity to be of service, and trust this information will be helpful to you. If you have any questions on this matter, please call Bob Lucas at (919)

941-0884.

Sincerely,

John S. Seitz  
Director  
Office of Air Quality Planning and Standards

cc: Bruce Jordan, EPA/OAQPS  
John Rasnic, EPA/OAQPS  
EPA Regional Air Enforcement Branches  
Bob Martineau, EPA/OGC

=====  
=====  
Control Number: Z930006

Category: NESHAP  
Region: SSCD  
Date: 07/09/1993  
Title: Waivers Not Available when Modifying  
Recipient: Kee, David  
Author: Rasnic, John  
Comments:

Subparts: Part 61 A General Provisions  
          Part 61 FF Benzene Waste Operations  
References: 61.05  
            61.07  
            61.10

Abstract:

Sources who modify after the compliance date are not eligible for a waiver from controls required by NESHAP. Compliance waivers are available only to existing sources unable to comply with the control requirements of a regulation. Any source which becomes modified due to a change in fuels must install control equipment to meet the subpart before increasing emissions.

Letter:

=====

Control Number: Z930004

Category: NESHAP  
Region: SSCD  
Date: 06/16/1993  
Title: Subpart FF-Vacuum Trucks  
Recipient: Turlinski, Bernard  
Author: Rasnic, John B.  
Comments:

Subparts: Part 61 FF Benzene Waste Operations  
References: 61.345

Abstract:

Are vacuum trucks used for clean-up and maintenance subject to the control requirements of subpart FF?

Vacuum trucks used for clean-up and maintenance at a facility with an annual average benzene quantity greater than 10 Mg/yr, and therefore subject to all of the control requirements of the subpart, are included in the definition of "containers" and must meet the requirements at section 61.345. Though the trucks used at Chevron are owned by a contractor, they must meet the requirements of the rule when handling controlled waste.

Letter:

Control Number: Z930004

June 16, 1993

MEMORANDUM

SUBJECT: Applicability of NESHAP Subpart FF to Vacuum Trucks

FROM: John B. Rasnic, Director  
Stationary Source Compliance Division (EN-341W)

Office of Air Quality Planning And Standards

To: Bernard Turlinski, Chief  
Air Enforcement Branch (3AT-23)  
Region III

This memorandum is in response to your request of May 27, 1993 for an applicability determination under the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Benzene Emissions from Waste Operations at 40 CFR Part 61, Subpart FF.

Your request concerned vacuum trucks used for clean-up and maintenance at the Chevron Refinery at Philadelphia, Pennsylvania. Your staff stated in a phone conversation that the facility has an annual average benzene quantity greater than 10 Mg/yr, and therefore, they are subject to all of the control requirements of the subpart.

The vacuum trucks are included in the definition of "containers" and must meet the requirements at section 61.345. Each opening shall be maintained in a closed, sealed position at all times except when it is necessary to use the opening for waste loading, removal, inspection or sampling. Covers and openings shall be certified initially and annually to operate with no detectable emissions. Visual inspections are required for each cover and all openings initially and quarterly. Though the trucks used at Chevron are owned by a contractor, they must meet the requirements of the rule when handling controlled waste.

Please contact Daniel Couturier of my staff with any further questions regarding this issue at 703-308-8678. This response has been coordinated with the Emission Standards Division.

cc: Air Compliance Branch Chiefs, Regions I-X  
R. Lucas (MD-13)

=====

Control Number: Z930001

Category: NESHAP  
Region: SSCD

Date: 03/05/1993  
Title: Aristech Chemical Corporation-Subpart FF  
Recipient: Wardzinski, Karen  
Author: Rasnic, John B.  
Comments:

Subparts: Part 61 FF Benzene Waste Operations  
Part 61 L Benzene-Coke By-product Recovery Plants

References: 61.130  
61.340  
61.341  
61.355(a)  
61.355(b)(2)  
61.355(c)(1)(i)(B)

Abstract:

How are the annual waste quantity and the flow-weighted annual average benzene concentration determined for a facility subject to both Sections L and FF?

The quantity and concentration can be determined at the exit of the ammonia still if the still is a sour water stripper and the transfer of wastes between Subpart L waste management units, process units, and the still is through a hardpiping system. If not, the calculations must be done at the exit of the process unit or waste management unit.

Letter:

March 5, 1993

Ms. Karen Wardzinski  
Freedman, Levy, Kroll & Simonds  
1050 Connecticut Ave, N.W.  
Washington, D.C. 20036-5366

RE: Applicability of Subpart FF NESHAP to Aristech Chemical Corp.

Dear Ms. Wardzinski:

This letter is in response to your letter of February 12, 1993 and comments submitted May 4, 1992 on the proposed benzene waste operations rule. As discussed, this

source-specific application issue you raised is outside the scope of the rule clarifications and is better addressed through the normal applicability determination procedures.

You have requested clarification of how the Benzene Waste Operations NESHAP (40 CFR Part 61, Subpart FF) requirements would apply to the Tarben facility in Clairton, Pennsylvania. It has previously been determined that the Tarben facility is subject to the Subpart L NESHAP requirements for Benzene Emissions from Coke By-product Recovery Plants.

The Subpart FF determinations of the annual waste quantity and the flow-weighted annual average benzene concentration required by  $\square$ 61.355(a), include an allowance for sources subject to both the Subpart L and Subpart FF NESHAP. For the determination required by Subpart FF,  $\square$ 61.355(a),  $\square$ 61.355(b)(2) and  $\square$ 61.355(c)(1)(i)(B) allow the benzene in wastes from units controlled by Subpart L that feed into the ammonia still to be determined at the exit of the still, rather than at the unit generating the waste, provided that: (1) the transfer of wastes between units complying with the control requirements of Subpart L, process units, and the ammonia still is made through hardpiping or other enclosed system, and (2) the ammonia still meets the Subpart FF definition of sour water stripper in  $\square$ 61.341.

However, if a light oil sump or other unit covered by the Subpart L NESHAP sends benzene-containing wastewater to any waste management unit other than the ammonia still, then that benzene quantity and concentration is determined where the waste stream exits the process unit component or waste management unit controlled by Subpart L. Also, if there is not an enclosed system between the units controlled in accordance with Subpart L and the ammonia still, then the benzene quantity and concentration would be determined where the waste stream exits the process unit component or waste management unit controlled by Subpart L.

Based upon your proposed rule comments and February letter, Aristech would meet the hardpiping requirements for the transfer of wastes as discussed above. In addition, you have stated that the ammonia still, which

is owned and operated by USX, will receive benzene wastes and does meet the definition of sour water stripper in □61.341. Therefore, Aristech is allowed to determine the benzene quantity for its Tarben waste stream at the exit of the ammonia still owned and operated by USX.

In a phone conversation with Daniel Couturier of my staff, it was stated that Aristech and USX are both sending wastewater to the ammonia still. Since the NESHAP requirements affect each source individually, there must be a method to clearly determine the proportionate benzene quantity accountable to each source. The particulate configuration and operation of the separately owned systems should be factored into the accounting responsibilities. Please discuss this situation and the associated recordkeeping and reporting requirements with the EPA Region III office.

If you have any questions regarding this letter, please contact Daniel Couturier of my staff at (703) 308-8678.

Sincerely,

John B. Rasnic, Director  
Stationary Source Compliance Division  
Office of Air Quality Planning and Standards

cc: Benzene NESHAP Regional Coordinators I-X  
John Seitz (MD-10)  
Thomas Maslany (3AT-23)  
Charles Goetz, Allegheny County

=====  
=====

Control Number: PA06

Category: NESHAP  
Region: SSCD  
Date: 08/17/1992  
Title: Control of Waste Management Units  
Recipient: Hepola, John R.  
Author: Rasnic, John B.  
Comments:

Subparts: Part 61 FF Benzene Waste Operations

References: 61.340

61.346

61.348(b)(2)(i)

61.348(b)(2)(ii)

Abstract:

How should compliance be determined for commingling streams?

When combining a stream with greater than 10 ppmw benzene concentration with a stream of less than 10 ppmw into a resultant stream of less than 10 ppmw, the facility should apply controls to all waste management units up to the biological treatment unit. Controls should extend to individual drain systems, including junction boxes, but covers and closed-vent system controls are not required.

Letter:

Control Number: PA06

August 17, 1992

MEMORANDUM

SUBJECT: Requirements for Control of Waste Management Units under the Benzene Waste Operations NESHAP, Subpart FF

FROM: John B. Rasnic, Director  
Stationary Source Compliance Division  
Office of Air Quality Planning and Standards

TO: John R. Hepola, Chief  
Air, Pesticides and Toxics Division  
Region VI

This memorandum is in response to your June 16, 1992 request to Susan Wyatt of the Chemicals and Petroleum Branch for an interpretation of the requirements for an enhanced biodegradation unit under the Benzene Waste Operations NESHAP at 40 C.F.R. Part 61, Subpart FF. This response has been coordinated with the Emission Standards Division.

CITGO Petroleum Corporation (CITGO) in Lake Charles, Louisiana, has contacted both Region VI and Headquarters regarding a unit at their facility. Specifically, CITGO would like an interpretation of Section 61.348(b)(2)(i) covering standards for treatment processes as they may apply to an enhanced biodegradation unit at Lake Charles. CITGO plans to combine streams of greater than 10 ppmw benzene with those less than 10 ppmw to form a combined feed into the enhanced biodegradation unit of less than 10 ppmw for the purpose of facilitating treatment. The total annual quantity of benzene in combined wastewater will be greater than 1 megagram.

When an owner or operator aggregates or mixes individual waste streams in order to facilitate management and treatment, the Section 61.348(b)(2)(i) management and treatment requirements must be met, as discussed in the March 7, 1992 preamble (page 8331, second column). The preamble states that the facility shall "apply controls to all wastewater treatment units up to the point where the benzene concentration is below 10 ppmw and one of the following occurs: (1) the total annual quantity of benzene in the wastewater for the facility is reduced below 1 megagram; or (2) the waste has reached the biological treatment unit. Biological treatment units would need to be controlled only if the benzene concentration of the waste entering the unit is 10 ppmw or greater. These units routinely remove up to 80% of the organics in dilute waste streams and thus would not be required to meet the 1 megagram per year limit if the concentration entering the unit is less than 10 ppmw."

The rule requirements are actually broader in scope than discussed in the preamble and include controls on all the waste management units (rather than the subset, waste treatment units) until the above cited conditions are met. Individual drain systems, which often contain junction boxes, are included in the definition of waste management units. The CITGO schematic (attached) indicates the presence of two and possibly three junction boxes prior to the aeration tanks. All of these junction boxes would need to comply with the individual drain system control standards at Section 61.346. If the feed to the enhanced biodegradation unit is less than 10 ppmw benzene, as stated by CITGO, then covers and closed-vent system controls are not required.

Though the inquiry from CITGO cited Section 61.348(b)(2)(ii), the question was directed at Section 61.348(b)(2)(i). This response has been prepared regarding the latter citation addressing the flow-weighted annual average benzene content being less than 10 ppmw.

Please contact Daniel Couturier of my staff with any questions regarding this issue at (703) 308-8678.

Attachment

cc: Air Compliance Branch Chiefs, Regions I-X  
Mark Hansen, (6T-E)  
Bob Lucas, (MD-19)  
Susan Wyatt, (MD-19)

=====

Control Number: PA05

Category: NESHAP  
Region:  
Date: 08/12/1992  
Title: Drain Configuration Equivalency  
Recipient: Spiridakis, Nicholas J.  
Author: Lucas, Robert B.  
Comments:

Subparts: Part 61 FF Benzene Waste Operations  
References: 61.340  
61.346  
61.346(a)  
61.346(b)

Abstract:

Control Number: PA05

Is a multiple-hub drain configuration equivalent to alternative requirements of Section 61.346(b)?

No, a drain configuration with the potential for convective emissions is not acceptable.

Letter:

Control Number: PA05

August 12, 1992

Mr. Nicholas J. Spiridakis  
Benzene NESHAP Coordinator  
Chevron Research and Technology Company  
100 Chevron Way  
Richmond, California 94802-0627

Dear Mr. Spiridakis:

I am writing in response to your letter of July 18, 1991 to John Rasnic of EPA's Stationary Source Compliance Division (SSCD). In your letter, you request that EPA review the drain configuration at a Chevron facility for equivalency to the controls required by the Benzene Waste Operations NESHAP (40 CFR Part 61, Subpart FF).

Standards for individual drain systems are in 61.346 of the regulation. The EPA's intent in establishing standards for drain systems is to ensure that benzene-containing wastes subject to the rule are collected in closed systems that contain potential benzene emissions prior to treatment.

The basic control requirement is that each drain system be equipped with a cover and closed vent system and control device that routes organic vapors from the drain system to a control device (61.346(a)). As an alternative, an owner or operator may comply with 61.346(b). The alternative requirements are basically those for individual drain systems in the new source performance standards (NSPS) for petroleum refinery wastewater systems, i.e., each drain must be equipped with water seal controls or a tightly sealed cap or plug and sewer lines shall not be open to the atmosphere. Additionally, each junction box must either be covered and equipped with a system to prevent the flow of organic vapors to the atmosphere (such as water seals) during normal operation or the junction box vent pipe must be connected to a closed vent system and control device.

Control systems other than those prescribed in the rule may be allowed if it is demonstrated that the alternative

controls will achieve an emission reduction at least equivalent to that achieved by the prescribed controls. After reviewing the multiple-hub drain configuration described in your letter, it is my opinion that it is not an equivalent system to those allowable under the alternative requirements of 61.346(b). The Chevron multiple-hub drain configuration differs from the alternative control requirements because each drain does not have water seal controls or a tightly sealed cap or plug. As shown in your figure, sewer lines are open to the atmosphere in three to six different locations. This creates the potential for air flow through the system. Site visits by EPA to facilities employing drain systems similar to the Chevron system have found that these convective emissions can be significant. Our current model and most recent data for drain systems indicate that convection is a far greater factor than diffusion in the generation of emissions. Therefore, a drain configuration with the potential for convective emissions cannot be considered equivalent to a drain configuration that eliminates convective emissions.

Based on our model, the application of controls as specified in the regulation will achieve greater than 90 percent reduction in benzene emissions as compared to emissions from an open drain system. To achieve equivalent emission reduction, each drain in the Chevron system would need controls or a tightly sealed cap or plug. Contrary to Chevron's contention, our models show that this would achieve substantial reduction in benzene emissions as compared to the present configuration.

Please note that these responses represent the pinion of my office based on general information supplied in your letter. Final determination on the applicability of the Subpart FF to specific facilities should be obtained from the appropriate EPA regional offices.

If you have any questions concerning this letter, please call me at (919) 541-0884.

Sincerely,

Robert B. Lucas  
Chemicals and Petroleum Branch

cc: Dan Couturier, EPA/SSCD  
Angelia Hill, Air Enforcement Branch, Region IV

---

---

Control Number: PA04

Category: NESHAP  
Region: ESD  
Date: 06/26/1992  
Title: Equivalence Determ-Process Wastewater Drains  
Recipient: Hull, Patricia D.  
Author: Jordan, Bruce C.  
Comments:

Subparts: Part 60 QQQ Petrol. Ref.-Wastewater Systems  
Part 61 FF Benzene Waste Operations

References: 60.690  
60.692  
60.692-2(a)(1) 61.340  
61.346(b)(1)

Abstract:

How should a conflict between NESHAP and NSPS requirements for process drains be resolved?

Process drains in active service must be equipped with water seal controls and be inspected monthly. Drains not in active service can use a tightly sealed cap or plug with semi-annual inspections as an alternative. However due to the intermittent use of the drains at Conoco and the possibility of water seals freezing, it is acceptable to apply caps to all drains at Conoco. Also see PS19 (NSPS).

Letter:

Control Number: PA04

June 26, 1992

MEMORANDUM

SUBJECT: Equivalence Determination for Process Wastewater Drains at the Conoco Refinery in Billings, Montana

FROM: Bruce C. Jordan, Director  
Emission Standards Division (MD-13)

TO: Patricia D. Hull, Director  
Air, Radiation and Toxics Division  
Region VIII (8ART-AP)

I am responding to your June 9, 1992, memorandum in which you explained proposed modifications to the Billings, Montana Refinery. This response has been coordinated with the Stationary Source Compliance Division. Conoco's proposal to comply with the National Emission Standard for Hazardous Air Pollutants (NESHAP) for Benzene Waste Operations (Part 61, Subpart FF) includes a request to use the control technique for individual drain systems to simultaneously comply with Subpart QQQ, the New Source Performance Standards (NSPS) for Petroleum Refinery Wastewater Systems (Part 60).

The NESHAP requires that process drains be equipped with water seal controls or a tightly sealed cap or plug (61.346(b)(1)) and inspected quarterly. The NSPS requires that process drains in active service be equipped with water seal controls and inspected monthly (60.692-2(a)(1)). For drains not in active service the NSPS allows, as an alternative to water seal controls, the use of a tightly sealed cap or plug and semiannual inspections.

The difference in the standards for drains in Subpart QQQ (promulgated November 1988) and Subject FF (promulgated March 1990) is a result of the standard development process and based on knowledge gained in the period between promulgation of the two standards. A tightly sealed cap, which is properly installed on the drain, undoubtedly can be as efficient as water seal controls. The intermittent use of the drains at the Conoco refinery and the possibility of the water seals freezing in the drains make a cap more practical.

In light of the extreme weather conditions in Montana (frost penetration reported to be at five feet) and the non-continuous use of the drains, it would be acceptable to

apply Subpart FF Controls to all drains at the Conoco Refinery in Billings, Montana in order to comply with NSPS Subpart QQQ.

If you have any further questions, please contact Randy McDonald of my staff at (919) 541-5402.

cc: Dan Couturier, SSCD (EN-341W)  
Robert B. Lucas, ESD/CPB (Md-13)  
John Rasnic, SSCD (EN-341W)  
Cindy Reynolds, Region VIII (8ART-AP)

=====

Control Number: PA03

Category: NESHAP  
Region:  
Date: 03/06/1992  
Title: Unopened Containers  
Recipient: Kuhn, Scott  
Author: Lucas, Robert B.  
Comments:

Subparts: Part 61 FF Benzene Waste Operations  
References: 61.340  
61.342(e)(2)  
61.345  
61.345(a)(1)(i)  
61.355(a)

Abstract:

Does the amount of benzene in unopened waste containers count in the determination of total annual benzene quantity?

Benzene in all waste counts towards the TAB. However, covered containers are in compliance pending annual monitoring of no detectable emissions.

Letter:

Control Number: PA03

March 6, 1992

Mr. Scott Kuhn  
Corporate Compliance Manager  
Laidlaw Environmental Services, Inc.  
P.O. Box 210799  
Columbia, SC 29221

Dear Mr. Kuhn:

I am writing in response to your letter of November 18, 1991 in which you requested clarification on the applicability of the benzene waste operations NESHAP (40 CFR Part 61, Subpart FF) to storage and transfer facilities. Your questions concerned the application of the NESHAP to containers that are not opened at storage/transfer facilities. Your specific questions and my responses are presented below:

Question: Are containers which are not opened at the facility required to be counted as part of the total annual benzene quantity from facility waste determination (61.355(a))?

Response: The benzene in all wastes received from petroleum refineries, chemical plants, and coke by-product plants should be included in the determination of total annual benzene quantity (TAB) for the facility. If the facility's TAB is equal to or greater than 10 megagrams per year (Mg/yr), then all waste management units at the facility in which these wastes are managed are subject to the control requirements of the rule. The management of wastes in covered containers as you described would be in compliance with the standards for containers (□61.345), provided that annual monitoring was done to demonstrate no detectable emissions as specified in 61.345(a)(1)(i).

Question: Are these containers subject to the container standards of 61.345?

Response: A container at a transfer/storage facility would be subject to the control requirements in 61.345 if either of the following conditions exists: 1) the facility has a TAB equal to or greater than 10 Mg/yr based on the wastes received from petroleum refineries, chemical plants, and

coke by-product plants and the waste in the container does not qualify for any of the exemptions in the rule; or 2) the generator of the waste notifies your facility that the waste must be controlled to meet Subpart FF as required by 61.342(e)(2) if a generator ships offsite a waste that would have had to be controlled at the generator site.

Please note that these responses represent the opinion of my office based on the general information supplied in your letter. Final determinations on the applicability of Subpart FF to facilities in South Carolina should be obtained from the EPA Region IV Office in Atlanta.

Sincerely yours,

Robert B. Lucas  
Chemicals and Petroleum Branch

cc: Daniel Couturier (EN-341W)  
K.C. Hustvedt (MD-13)

---

Control Number: PA01

Category: NESHAP  
Region: SSCD  
Date: 10/31/1991  
Title: Equivalence Determination-Subpart FF  
Recipient: Spiridakis, Nicholas J.  
Author: Rasnic, John B.  
Comments:

Subparts: Part 61 FF Benzene Waste Operations  
References: 61.340

Abstract:

Is a facility which has submitted an equivalent control proposal, which has not yet been approved or denied, subject to NESHAP standards?

The facility remains subject to all standards until the

proposal is determined to be acceptable.

Letter:

Control Number: PA01

October 31, 1991

Mr. Nicholas J. Spiridakis  
Benzene NESHAP Coordinator  
Chevron Research and Technology Company  
100 Chevron Way  
Richmond, California 94802-0627

RE: Request for Equivalence Determination for Subpart FF.

Mr. Spiridakis:

This letter regards your July 18, 1991 request for review of a drain configuration to determine whether it is equivalent to the standards in the Benzene Waste Operations NESHAP, 40 CFR Part 61, Subpart FF. We are sending you this letter to inform you that your request was forwarded in late July to the Emissions Standards Division in the Office of Air Quality Planning and Standards for a technical review.

As indicated in your letter, the compliance date for this standard is March 7, 1992. You had requested that review of your request be expedited given the approaching compliance date. The Emission Standards Division is reviewing your request; however, you should be aware that until such time as an equivalent control proposal is determined to be acceptable, Chevron remains subject to the standards as promulgated at Subpart FF.

If you have any questions, please contact Daniel Couturier, of my staff, at (703) 308-8678, or K.C. Hustvedt in the Emission Standards Division at (919) 541-5402.

Sincerely,

John B. Rasnic, Director  
Stationary Source Compliance Division  
Office of Air Quality Planning and Standards

cc: K.C. Hustvedt (MD-13)  
Gail Lacy (MD-13)

---

---

Control Number: NS15

Category: NESHAP  
Region: SSCD  
Date: 02/15/1991  
Title: Organic Waste Streams in TAB  
Recipient: Skie, Douglas M.  
Author: Miller, Mamie R.  
Comments:

Subparts: Part 61 FF Benzene Waste Operations  
References: 61.340  
61.341  
61.342(a)

Abstract:

Letter:

When are organic streams mixed with aqueous streams to be included in TAB calculations?

Organic streams combined with aqueous streams have increased potential for emissions and must be included in TAB calculations.

---

---