

Fact Sheet



For Final Renewal Permitting Action Under 45CSR30 and Title V of the Clean Air Act

Permit Number: **R30-00900001-2014**

Application Received: **July 7, 2010**

Plant Identification Number: **03-54-009-00001**

Permittee: **Koppers Inc.**

Mailing Address: **810 Koppers Road, P. O. Box 665, Follansbee, WV 26037**

Physical Location:	Follansbee, Brooke County, West Virginia
UTM Coordinates:	533.46 km Easting • 4465.02 km Northing • Zone 17
Directions:	Take Route 2 North about 19 miles from Wheeling to Follansbee. Travel through town and at sixth traffic light, turn left at Veteran's Drive. Follow road to plant site.

Facility Description

Koppers Inc., Follansbee Tar Plant has a Standard Industrial Classification (SIC) code of 2865 and North American Industry Classification System (NAICS) code of 325192. The Follansbee Tar Plant is involved in coal tar / petroleum (tar and decant oil) refining and naphthalene production. The facility produces pavement sealer bases, refined tars, distillates (coal tar and petroleum), coal tar solvent, various grades of coal tar/petroleum pitch, and refined chemical oil (RCO). The plant also produces naphthalene from RCO and blends different coal tar/petroleum distillates to produce creosote solution. The plant consists of a tar stills, a debenzolizer unit, acid washers, a naphthalene distillation unit, a pencil pitch unit, a base plant, a boiler house, storage tanks, loading racks, tank car cleaning, recycling operations, and an on-site wastewater treatment plant. The tar plant has the maximum capacity to produce 165,650 tons per year of Carbon Pitch as well as specialty pitches and refined tars. The Chemical Plant at the Tar Plant has the capability of recovering 98,156 tons of Naphthalene per year. The facility has the potential to operate twenty-four (24) hours a day for seven (7) days per week and fifty-two (52) weeks per year.

Emissions Summary

Plantwide Emissions Summary [Tons per Year]		
Regulated Pollutants	Potential Emissions	2012 Actual Emissions
Carbon Monoxide (CO)	134	22.619
Nitrogen Oxides (NO _x)	297	132.30
Lead (Pb)	< 1	0
Particulate Matter (PM _{2.5})	31	3.01
Particulate Matter (PM ₁₀)	41	3.23
Total Particulate Matter (TSP)	54	4.23
Sulfur Dioxide (SO ₂)	361.51	34.35
Volatile Organic Compounds (VOC)	44	8.48
<i>PM₁₀ is a component of TSP.</i>		
Hazardous Air Pollutants	Potential Emissions	2012 Actual Emissions
Benzene	3.4	2.148
Hexane	1.64	0.37
Naphthalene	6.0	1.72
Polycyclic Organic Matter (POM)	9.9	0.772
Total HAPs	24.2	6.33
<i>Some of the above HAPs may be counted as PM or VOCs.</i>		

This facility does not have the potential to emit equal to or greater than 100,000 tons per year of carbon dioxide equivalent (CO₂e) and 100 tons per year of greenhouse gases (GHGs) on a mass basis.

Title V Program Applicability Basis

This facility has the potential to emit more than 100 tons per year of Nitrogen Oxides (NO_x), Carbon Monoxide (CO), and Sulfur Dioxide (SO₂). Due to this facility's potential to emit over 100 tons per year of criteria pollutant, Koppers Inc. is required to have an operating permit pursuant to Title V of the Federal Clean Air Act as amended and 45CSR30.

Legal and Factual Basis for Permit Conditions

The State and Federally-enforceable conditions of the Title V Operating Permits are based upon the requirements of the State of West Virginia Operating Permit Rule 45CSR30 for the purposes of Title V of the Federal Clean Air Act and the underlying applicable requirements in other state and federal rules.

This facility has been found to be subject to the following applicable rules:

Federal and State:	45CSR2	To Prevent and Control Particulate Air Pollution from Combustion of Fuel in Indirect Heat Exchanger
	45CSR2A	Testing, Monitoring, Record Keeping, and Reporting Requirements under 45CSR2.
	45CSR6	To Prevent and Control Air Pollution from Combustion of Refuse. Open burning prohibited.

45CSR7	To Prevent and Control Particulate Air Pollution from Manufacturing Process Operations
45CSR10	To Prevent and Control Air Pollution from the Emissions of Sulfur Dioxides
45CSR10A	Testing, Monitoring, Record Keeping, and Reporting Requirements under 45CSR10
45CSR11	Standby plans for emergency episodes.
45CSR13	Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Administrative Updates, Temporary Permits, General Permits, Permission to Commence Construction, and Procedures for Evaluation
45CSR16	Standards of Performance for New Stationary Sources Pursuant to 40 C.F.R. Part 60
WV Code § 22-5-4 (a) (14)	The Secretary can request any pertinent information such as annual emission inventory reporting
45CSR30	Operating permit requirement.
45CSR34	Emission Standards for Hazardous Air Pollutants
45CSR38	Air Quality Management Rules
40 C.F.R. Part 60 Subpart Dc	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units
40 C.F.R. Part 60 Subpart K	Standards of Performance for Storage Vessels for Petroleum Liquids for which Construction, Reconstruction, or Modification Commenced after June 11, 1973 and Prior to May 19, 1978
40 C.F.R. Part 60 Subpart Kb	Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for which Construction, Reconstruction, or Modification Commenced after July 23, 1984
40 C.F.R. Part 61 Subpart J	National Emission Standard for Equipment Leaks (Fugitive Emission Source) of Benzene
40 C.F.R. Part 61 Subpart M	Asbestos inspection and removal
40 C.F.R. Part 61 Subpart V	National Emission Standard for Equipment Leaks (Fugitive Emission Source)
40 C.F.R. Part 61 Subpart FF	National Emission Standard for Benzene Waste Operation
40 C.F.R. Part 63 Subpart F	National Emission Standards for Hazardous Air Pollutants from Synthetic Organic Chemical Manufacturing Industries
40 C.F.R. Part 63 Subpart G	National Emission Standards for Hazardous Air Pollutants from Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations and Wastewater
40 C.F.R. Part 63 Subpart H	National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks

	40 C.F.R. Part 63 Subpart MMM	National Emission Standards for Pesticide Active Ingredient Production
	40 C.F.R. Part 63 Subpart JJJJJ	National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources
	40 C.F.R. Part 63 Subpart VVVVVV	National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources
	40 C.F.R. Part 64	Compliance Assurance Monitoring
	40 C.F.R. Part 82 Subpart A&C	Chemical Action Prevention Provisions
	40 C.F.R. Part 82 Subpart B	Servicing of Motor Vehicle Air Conditioners
	40 C.F.R. Part 82 Subpart F	Recycling and Emissions Reduction
State Only:	45CSR4	No objectionable odors.
	45CSR7A	Compliance Test Procedures 45CSR7 (Sections of this rule are Federally enforceable since those sections have been SIPed.)
	45CSR27	To Prevent and Control the Emissions of Toxic Air Pollutants

Each State and Federally-enforceable condition of the draft Title V Operating Permit references the specific relevant requirements of 45CSR30 or the applicable requirement upon which it is based. Any condition of the draft Title V permit that is enforceable by the State but is not Federally-enforceable is identified in the draft Title V permit as such.

The Secretary's authority to require standards under 40 C.F.R. Part 60 (NSPS), 40 C.F.R. Part 61 (NESHAPs), and 40 C.F.R. Part 63 (NESHAPs MACT) is provided in West Virginia Code §§ 22-5-1 *et seq.*, 45CSR16, 45CSR34 and 45CSR30.

Active Permits/Consent Orders

Permit or Consent Order Number	Date of Issuance	Permit Determinations or Amendments That Affect the Permit (if any)
R13-2274J	February 20, 2014	NA

Conditions from this facility's Rule 13 permit(s) governing construction-related specifications and timing requirements will not be included in the Title V Operating Permit but will remain independently enforceable under the applicable Rule 13 permit(s). All other conditions from this facility's Rule 13 permit(s) governing the source's operation and compliance have been incorporated into this Title V permit in accordance with the "General Requirement Comparison Table," which may be downloaded from DAQ's website.

Determinations and Justifications

Since the most recent permit R30-00900001-2006 (SM02) was issued, Class I administrative update R13-2774I and modification permit R13-2274J have been issued. R13-2274I was submitted as a combined NSR/Title V application for a Class I administrative update and Title V administrative amendment R30-00900001-2006 (AA01). R13-2274J was submitted as a combined NSR/Title V application for a modification and Title V minor modification R30-00900001-2006 (MM01). The Title V administrative amendment and minor modification will be included in this Title V renewal permit and not in separate Title V permit actions.

In addition to the R13-2274I and R13-2274J changes, an off permit change, a request for operational flexibility, and a permit determination PD10-007 will also be included in this Title V permit renewal.

1. Off-Permit Change for addition of the 32 Decanter Tank:

Koppers submitted an off-permit change for the installation of a decanter tank (designated 32 Decanter Tank) for the #32 Column at the Naphthalene Distillation Unit (NDU). The 32 Decanter Tank will remove process water from the solvent prior to the solvent returning to the column as flex or being removed as product. The tank is a vertical tank with a capacity of 5,200 gallons. The emissions from the decanter tank flow to the closed vent system then to the thermal oxidizer or flare (774a or 778). The potential emissions were estimated at 0.100 lb/hour of VOC and 0.02 lb/year of HAP, for an estimated five (5) turnovers of 100% unwashed solvent per year.

The decanter tank is in solvent service (Naphthalene Distillation Group 005), which is regulated by 40 C.F.R. Part 63 Subparts F, G, and H.

Koppers concluded that a construction/modification permit was not required for the installation of the decanter tank. The 32 Decanter Tank was added to Section 1.1 – Emission Units Table as Emission Unit ID VT33.

2. Request for Operational Flexibility with the addition of a Railcar Residue Recycling Operation:

Koppers notified us that they would be installing new pumps and piping to facilitate operation of a railcar residue recycling operation where railcars are cleaned off-site and residue is placed in a roll-off box. The roll-off boxes are then transferred on-site and staged near Tank 48, where they are heated. The roll-off boxes have mixers to recover material. The material is pumped back, depending on the product recovered, tar or RCO. Then the roll-off boxes are loaded off-site at the railcar cleaning location for heating. The roll-off boxes may have a diluent added to them before heating. Potential emissions were estimated at 0.01 lb/hr of VOC and 0.005 TPY of HAP. These emissions were based on processing 52 roll-off boxes per year.

The railcar residue recycling operation is in residue service (coal tar distillate, refined chemical oil and crude coke oven tar), which is not regulated by 40 C.F.R. Part 63 Subparts F, G, and H. The Follansbee Tar Plant has committed to a plant wide LDAR program and the railcar residue recycling operation was incorporated into this program.

This addition did not affect the emissions limitations for VOC, Naphthalene, Total POM and Total HAP. Koppers Inc. concluded that a construction application was not required for the installation of the railcar residue recycling operation. The railcar residue recycling operation was added to Section 1.1 – Emission Units Table as Emission Unit ID Z02.

3. PD10-007:

PD10-007 was for the use of a new feedstock at the Follansbee Tar Plant. The new feedstock is Marathon Carbon black Feedstock (Decant Oil). The facility is a synthetic minor for total HAPs, VOCs, benzene, naphthalene and total POM. Koppers indicated that use of the new feed stock would decrease all of these emissions. Therefore, their status as a synthetic minor would not change with the use of the new feedstock. A permit was not required since the increase in emissions did not exceed two (2) lb/hour or five (5) tons per year of total Hazardous Air Pollutant (HAP) and six (6) lb/hour and ten (10) TPY of any regulated pollutant; or, trigger a substantive requirement of any State or Federal air quality regulation.

The use of the new feedstock did not require any changes to the Title V permit.

4. Class I Administrative Update R13-2274I and R30-00900001-2006 (AA01):

The Class I Administrative Update R13-2274I and Title V administrative amendment R30-00900001-2006 (AA01) were submitted in accordance with the Administrative Compliance Order by Consent (Docket No. CAA-03-2012-0159DA). Requirements from CAA-03-2012-0159DA were added as condition 4.1.24 of R13-2274I (Title V condition 13.2.2).

In addition to changes related to the Administrative Compliance Order, R13-2274I corrected typos in Conditions 4.1.23, 4.2.5, 4.3.1, 4.4.6, and 4.4.7, which correspond to Sections 19.1.12, 13.2.1, 19.3.1, 13.4.1, and 19.4.3 in the Title V permit. Since the typos in the underlying R13 permit were already corrected during the last Title V permit modification R30-00900001-2006 (SM02), no corrections to the Title V permit were needed.

Background for CAA-03-2012-0159DA

USEPA Region 3 filed a “Finding of Violation (FOV)” [Docket No: CAA-III-010-10] on August 13, 2010 for alleged Clean Air Act violations found during a March 10, 2009 EPA inspection of the Koppers Follansbee Tar Plant. As a result of the FOV, an Administrative Complaint [Docket No. CAA-03-2011-0313], dated September 29, 2011, was filed.

In the Consent Agreement and Final Order [Docket No. CAA-03-2011-0313] filed on March 23, 2012, EPA resolved four of the six claims raised in the September 29, 2011 Administrative Complaint (Counts I, II, III, and VI). The remaining two claims (Counts IV and V) were addressed in Administrative Compliance Order by Consent [Docket No. CAA-03-2012-0159DA signed by EPA on March 22, 2012] as follows:

- a. “Within 180 days of signature of this Compliance Order by EPA, install on the fan feeding gases to the Thermal Oxidizer a seal system that includes a barrier fluid system that prevents leakage of process fluid to the atmosphere. Koppers shall provide EPA with written documentation confirming that the proper seal was installed, and the date of installation.” (Koppers installed a John Crane Canada Inc. Segmental Bushing Double Seal on March 22, 2012. The seal uses air as a barrier fluid between the 2 seals to prevent leakage to the atmosphere. Written documentation confirming the seal was installed and the date of installation was provided on November 26, 2012.)
- b. “Within 180 days of signature of this Order by EPA, Koppers shall commence individually monitoring the 138 components which connect Tanks 221 through 224 to the thermal oxidizer by following the monitoring frequency and method for the type of component and nature of service in 40 C.F.R. Part 63, Subpart H, including 40 C.F.R. § 63.163 (pumps in light liquid service), § 63.168 (valves in gas vapor service and/or in light liquid service), § 63.169 (pumps, valves, connectors and agitators in heavy liquid service; instrumentation systems; and pressure relief devices in liquid service), § 63.174 (connectors in gas/vapor service and in light liquid service), and any other section of 40 C.F.R. Part 63 Subpart H that would be applicable to the individual component and service for each of the 138 components connecting tanks 221 through 224, as if these component were subject to subpart H. Koppers shall initially monitor each component at the most frequent monitoring interval applicable to the type of component and nature of service, but may reduce the monitoring frequencies in accordance with Subpart H based on the leak rates for the relevant component and service. By agreeing to this monitoring schedule, Koppers is not agreeing that these 138 components are subject to the LDAR requirements in 40 C.F.R. Part 63, Subparts H or MMM.
- c. “Within 270 days of EPA’s signature on this compliance order, Koppers shall submit to WVDEP, with a copy to EPA Region 3, a complete application for a permit amendment under West Virginia Regulation 13 in order to memorialize in an enforceable permit the revised leak detection and repair program to be applied to the 138 components connecting tanks 221 through 224 to the thermal oxidizer.”

The Class I Administrative Update R13-2274I and Title V administrative amendment R30-00900001-2006 (AA01) were submitted on November 28, 2012 in accordance with the Administrative Compliance Order by Consent [Docket No. CAA-03-2012-0159DA]. R13-2274I revised the leak detection and repair program for Tanks 221, 222, 223, and 224 associated with the Follansbee Tar Plant Creosote process. LDAR requirements for Tank 221, Tank 222, Tank 223, and Tank 224 were included in Section 13.2.2 of the Title V permit which corresponds to Condition 4.1.24 of R13-2274I.

5. Modification permit R13-2274J and R30-00900001-2006 (MM01):

Modification permit R13-2274J was issued on February 20, 2014 for the installation of Boiler #6 (Emission Unit 996). Boiler #6 replaced Boiler #5 (Emission Unit 995) which has been shut down. Boiler #6 was originally permitted under temporary permit R13-3014T as Emission Unit 995a. The R13-2274J modification permit application also included a request for a Title V minor modification, R30-00900001-2006 (MM01) to incorporate these changes.

R13-2274J included the following changes which were incorporated into the Title V permit:

- 5.1. Emissions from Loading Rack LR 4-3 were routed to the flare or thermal oxidizer (774a or 778).
- 5.2. Emissions from Tank 363 were routed to the flare or thermal oxidizer (774a or 778).
- 5.3. Condition 4.1.9 of R13-2274J (Title V condition 9.1.2) was revised as follows: “The permittee shall not load [CCOT into](#) barges and tank trucks/railcars simultaneously.”
- 5.4. Condition 4.4.5 of R13-2274J (Title V conditions 5.4.1, 6.4.1, and 7.4.1) was revised as follows: “Operating hours of the [process\(s\)](#), boilers and process heaters.”
- 5.5. The emission limits in condition 5.1.1 were revised to remove emissions from Boiler #5 which has been permanently shut down.
- 5.6. Previous condition 5.1.4 for Boiler #5 was deleted. Boiler #6 requirements were added as conditions 5.1.4 and 5.4.4 (Title V conditions 4.1.2 and 4.2.4).
- 5.7. Addition of the following to condition 5.1.8.c of R13-2274J (Title V condition 7.1.2.c):
[“iii. The tube heater shall be limited to 254.13 MMcf of natural gas and no other fuel combusted during any consecutive 12 month period.”](#)
- 5.8. Revised condition 5.2.1 of R13-2274J (Title V condition 4.2.2) to remove Boiler #5 and to add requirements for Boilers #2 and #6.
- 5.9. Notification requirements for replacement of Tube Heater #31 in condition 5.5.1 (Title V condition 7.5.1) were deleted.

Applicable Requirements for New Boiler #6

45CSR2 – To Prevent and Control Particulate Air Pollution from Combustion of Fuel in Indirect Heat Exchangers

Boiler #6 is subject to the ten (10) percent opacity requirements of 45CSR§2-3.1 and the hourly particulate matter emission limits of 45CSR§2-4. 45CSR§2-4.1.b states that hourly particulate matter emission limits from type 'b' fuel burning units shall be calculated by multiplying 0.09 by the total design heat input. Boiler #6 has a maximum design heat input of 92 MMBtu/hr. The corresponding 45CSR§2-4.1.b limit is 8.28 lb/hr. To demonstrate compliance with both the

45CSR§2-3.1 opacity limit and the 45CSR§2-4.1.b hourly particulate matter emission limit, the permittee will be required to burn only pipeline quality natural gas as stated in condition 4.1.2 of the Title V permit (R13-2334J, condition 5.1.4).

45CSR§2-8.4.b and 45CSR§2A-3.1.a exempt fuel burning units which combust only natural gas from the testing requirements of 45CSR§2-8.1.a and 45CSR§2A-5; and the monitoring requirements of 45CSR§2-8.2 and 45CSR§2A-6. The permittee is required to maintain records of the operating schedule and the quantity of fuel consumed in each fuel burning unit on a monthly basis in accordance with 45CSR§2-8.3.c and 45CSR§2A-7.1.a.1.

45CSR10 – To Prevent and Control Air Pollution from the Emission of Sulfur Oxides

Boiler #6 is subject to the sulfur dioxide emission limits of 45CSR§10-3.1.e. 45CSR§10-3.1.e states that hourly sulfur dioxide emission limits from type 'b' fuel burning units shall be calculated by multiplying 3.1 by the total design heat input. Boiler #6 has a maximum design heat input of 92 MMBtu/hr. The corresponding 45CSR§10-3.1.e limit is 285 lb/hr. To demonstrate compliance with the 45CSR§10-3.1.e hourly sulfur dioxide emission limit, the permittee will be required to burn only pipeline quality natural gas as stated in condition 4.1.2 of the Title V permit (R13-2334J, condition 5.1.4).

45CSR§10-10.3 exempts fuel burning units which combust only natural gas from the testing, monitoring, recordkeeping and reporting requirements 45CSR§10-8.

40 C.F.R. 60 Subpart Dc - Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

Since Boiler #6 only combusts natural gas, it is not subject to emissions standards for sulfur dioxide or particulate matter. The only 40 C.F.R. 60 Subpart Dc applicable requirement for a natural gas boiler is recordkeeping under 40 C.F.R. §60.48c(g)(2) which requires the facility to record and maintain records of the amount of fuel combusted during each calendar month. This requirement is in condition 4.2.2 of the Title V permit.

In addition to the changes described above, the following supplementary updates were made to this Title V renewal:

1. The Emission Unit Table 1.1 was revised in accordance with Attachment D of Koppers Inc.'s Follansbee Tar Facility Title V Renewal Application.
 - 1.1. Scrubbers A, B, C, and D were removed from service when the existing flare (774a) and new thermal oxidizer (778) were linked together to receive emissions from various emission units including the emission units that were previously served by Scrubbers A, B, C, and D.
 - 1.2. The Base Plant Group 006 (BW02 and BW02) has been removed from the Emission Unit Table Section 1.1 and from Section 7.0 since this group is no longer operating.
 - 1.3. Tank 3N was rebuilt in 2009. The design capacity of Tank 3N was revised from "25,564 gallons" to "15,348 gallons."
 - 1.4. The design capacity for Tank 5 was revised from "518,077 Gallons" to "514,077 Gallons."

- 1.5. The following “Emission Unit IDs” were renamed:
 - 1.5.1. The “CCOT Barge Heating” changed from “Z01-1” to “Z02-2.”
 - 1.5.2. The “RCO Barge Heating” changed from “Z01-2” to “Z01-3.”
 - 1.5.3. The “RCO Tankcars Heating” changed from “Z01-3” to “Z01-4.”
 - 1.5.4. The “Tankcar Cleaning Station” changed from “00E” to “Z02.”
- 1.6. Emission Point IDs for Tank 540 and Tank 541 were changed from “540” and “541” to “Aeration Basin.”
2. 45CSR34 is cited with 40 C.F.R. Part 61. The citation for 3.1.3 has been revised accordingly.
3. Section 3.1.5 was removed from the Title V permit since it was “Reserved” and the remaining sections were renumbered accordingly.
4. Section 3.1.17 was removed since it was “Reserved” and the remaining sections were renumbered accordingly.
5. Sections 3.5.3 and 3.5.5 were revised according to US EPA Region 3’s request that all annual compliance certifications be submitted electronically (e-mail). This is a general change to the boiler plate language.
6. Sections 4.1.8 and 4.1.13 (formerly section 4.1.14) were revised to remove references to Boiler #5 which has been shut down.
7. Section 4.1.13 was removed since it was “Reserved” and the remaining sections were renumbered accordingly.
8. Section 7.1.5 was removed since it was “Reserved” and the remaining sections were renumbered accordingly.
9. Revised Condition 16.1.2.3 from:

“These facilities are located at a major source as defined in Section 112(a) of the CAA. The Follansbee Tar Plant site is a major source as defined in section 112(a) of the Clean Air Act.”

To:

“Are located at a plant site that is a major source as defined in Section 112(a) of the CAA. The Follansbee Tar Plant site was a major source as defined in section 112(a) of the Clean Air Act on the “first compliance date” of 40 C.F.R. Part 63 Subparts F, G, and H.”
10. Section 20.0, which was “Reserved,” was replaced with 40 C.F.R. Part 63 Subpart JJJJJ applicable requirements for Boilers #2 and #3.
11. The 40 C.F.R. Part 63 Subpart MMM requirements in Section 21.0 were revised according to March 27, 2014 changes to the regulation.
12. The Koppers Follansbee Tar Plant is subject to the Chemical Manufacturing GACT Rule, 40 C.F.R. Part 63 Subpart VVVVVV. Chemical Manufacturing GACT Rule requirements were included as Section 22 in the Title V permit.

13. All references to the Pencil Pitch “Baghouse” (771) were changed to “Dust Collector” or “Cartridge Filter Dust Collector.” This control device is not a baghouse, but a cartridge filter dust collector manufactured by Wheelabrator.

New Applicable Requirements Included in the Title V Renewal

40 C.F.R. Part 63 Subpart JJJJJJ - National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Source

The Koppers Follansbee Tar Plant is subject to 40 C.F.R. Part 63 Subpart JJJJJJ because the plant operates industrial boilers and is designated as an area source of hazardous air pollutant (HAP) emissions. The plant has two (2) boilers that fire liquid fuel and are considered affected sources in the “Oil-fired Subcategory.” These boilers are Boiler #2 (992) and Boiler #3 (993). Koppers submitted their initial notification on September 9, 2011 for Boiler #2 (992) and Boiler #3 (993).

The Follansbee Tar Plant affected sources (Boilers #2 and #3) are not subject to any emission limitations. These sources are subject to work practice standards requiring biennial tune-ups and a one-time energy assessment.

Boiler #6 is a natural gas fired boiler that is not subject to 40 C.F.R. Part 63 Subpart JJJJJJ according to 40 C.F.R. § 63.11195 (e).

40 C.F.R. Part 63 Subpart VVVVVV - National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources

Koppers Follansbee Tar Plant is subject to 40 C.F.R. Part 63 Subpart VVVVVV (also referred to as the Chemical Manufacturing GACT Rule). Koppers has the following chemical manufacturing process units (CMPUs) at the Follansbee Tar Plant: (1) Refined Tar Production, (2) Naphthalene Distillation Unit (Group 005), and (3) Creosote Processing Unit (Group 00F). These units meet the applicability under 40 C.F.R. §§63.11494(a)(1) and (a)(2)(ii) because they are operated within an area source of hazardous air pollutant emissions and quinoline is generated as byproduct and is present in the CMPU in any liquid stream at a concentration greater than 1.0 percent by weight. The applicable 40 C.F.R. 63 Subpart VVVVVV requirements for Koppers have been provided in Section 22 of the Title V permit.

Koppers’ Notification of Compliance Status [NOCS] was received on May 20, 2013. In the NOCS, Koppers identified the following types of emission sources in their CMPUs: batch process vents, continuous process vents, storage vessels, wastewater, transfer operations, equipment (i.e. valves, pumps, compressors, etc.), and heat exchange systems.

Batch Process Vents

The Refined Tar Manufacturing Unit and the Creosote Processing Unit (Group 00F) contain batch process vents. The Naphthalene Distillation Unit (Group 005) does not contain batch process vents. For batch process vents, you must comply with the requirements in 40 C.F.R. §§63.11496(a)(1) through (4) for organic HAP emissions from your batch process vents for each CMPU using Table 1 organic HAP. These requirements have been provided in condition 22.1.8.

If uncontrolled organic HAP emissions from all batch process vents from a CMPU subject to 40 C.F.R. 63 Subpart VVVVVV are equal to or greater than 10,000 pounds per year (lb/yr), you must also comply with the emission limits and other requirements in Table 2 of 40 C.F.R. 63 Subpart VVVVVV. Although both the Refined Tar Manufacturing Unit and the Creosote Processing Unit (00F) are controlled, only the Refined Tar Manufacturing Unit has organic HAP emissions which are greater than 10,000 lbs/year and subject to Table 2 of 40 C.F.R. 63 Subpart VVVVVV. The control device used by Koppers is either the

Thermal Oxidizer (778) or Flare (774a). Table 2 requirements for batch process vents in a CMPU at an existing source have been added to condition 22.1.8.

Continuous Process Vents

Only the Naphthalene Distillation Unit (Group 005) contains a continuous process vent. The Refined Tar Manufacturing Unit and the Creosote Processing Unit (Group 00F) do not contain continuous process vents. For continuous process vents, you must comply with the requirements in 40 C.F.R. §§63.11496(b)(1) through (3) for organic HAP emissions from your continuous process vents for each CMPU using Table 1 organic HAP. These requirements have been provided in condition 22.1.9.

If the total resource-effectiveness (TRE) index value for a continuous process vent is less than or equal to 1.0, you must also comply with the emission limits and other requirements in Table 3 to 40 C.F.R. 63 Subpart VVVVVV. Since the TRE index value of the continuous process vent in the Naphthalene Distillation Unit (Group 005) is greater than 1.0, it is not subject to the emission limits and other requirements in Table 3 to 40 C.F.R. 63 Subpart VVVVVV.

Halogenated Streams

Koppers does not have any halogenated vent streams. Requirements for halogenated vent streams were not included in the Title V permit renewal.

Metal HAP Process Vents

Koppers does not have any metal HAP process vents. 40 C.F.R. 63 Subpart VVVVVV requirements for metal HAP process vents were not included in the Title V permit renewal.

Storage Tanks

Koppers has storage tanks with a design capacity equal to or greater than 20,000 gallons storing a liquid that contains organic HAP listed in Table 1 to 40 C.F.R. 63 Subpart VVVVVV, but the maximum true vapor pressure (MTVP) of total organic HAP at the storage temperature is less than 5.2 kPa, therefore the requirements in Table 5 of 40 C.F.R. 63 Subpart VVVVVV do not apply.

Surge Control Vessels and Bottoms Receivers

Koppers does not have any surge control vessels or bottoms receivers that meet the applicability criteria for storage tanks as specified in Table 5 of 40 C.F.R. 63 Subpart VVVVVV.

Wastewater Systems

Koppers has wastewater which comes from an applicable CMPU (Naphthalene Distillation Unit – Group 005). They are required to comply with the wastewater system requirements of 40 C.F.R. §§63.11498(a)(1) and (2) and Table 6, Item 1 of 40 C.F.R. 63 Subpart VVVVVV. These requirements are provided in condition 22.1.14. If the partially soluble HAP concentration in a wastewater stream is equal to or greater than 10,000 parts per million by weight (ppm_w) and the wastewater stream contains a separate organic phase, then you must also comply with Table 6, Item 2. Koppers determined that the concentration of partially soluble HAPs was less than 10,000 ppm, therefore Item 2 is not applicable.

Heat Exchange Systems

Koppers has small heat exchange systems associated with only the Naphthalene Distillation Unit (Group 005). These heat exchange systems have a cooling water flow rate less than 8,000 gallons per minute. They are subject to the requirements of 40 C.F.R. §63.11495(b) and must do the following: 1) develop and operate in accordance with a heat exchange system inspection plan; 2) perform repairs to eliminate the leak and any indications of a leak within 45 calendar days of detection; and 3) keep records of the dates and results of each inspection.

Koppers does not have any large heat exchange systems greater than or equal to 8,000 gallons per minute subject to 40 C.F.R. §63.11499 and Table 8 of 40 C.F.R. 63 Subpart VVVVVV.

40 C.F.R. Part 64 - Compliance Assurance Monitoring (CAM)

The Thermal Oxidizer (778) and Flare (774a) are necessary for controlling the emissions from the Debenzolizer Vent; Columns (#1, #2, #4, #4 Pitch, #32); Melt Pot Tank; Decanters (#63, #64, #65, #32); Loading Racks (LR 2-2, 3-2, 4-1, 4-2, 4-3, 5-2, and 5-3); Storage Tanks (2N, 3N, 6, 7, 9, 10, 11, 13, 14, 17, 30, 40, 41, 48, 49, 50, 55, 56, 58, 82, 83, 89, 126, 127, 251, 252, 253, 254, 363, 382, 406, 407, 623, 221, 222, 223, 224); and RCO Tankcars Heating (Z01-4). These sources are pollutant-specific emissions units (PSEUs) for benzene, naphthalene, VOCs, Total POM, and Total HAPS. The Pencil Pitch Dust Collector (771) is essential for controlling emissions from the Pencil Pitch Dryer (008-02) which is a pollutant-specific emissions unit (PSEU) for particulate matter (PM and PM₁₀). The PSEUs meet all of the applicability criteria in 40 C.F.R. §§ 64.2 (a) (1) - (3). That is, the PSEUs are subject to an emission limit or standard for the applicable regulated air pollutant; the units use the Thermal Oxidizer (778), Flare (774a), and Dust Collector (771) as control devices to achieve compliance with the emission limits; and the units have potential pre-control device emissions greater than the amount required for the sources to be classified as major. Furthermore, the PSEUs do not meet any of the exemptions given under 40 C.F.R. § 64.2 (b). Since the potential to emit after controls for these PSEUs is less than major source thresholds, the frequency of data collection is in accordance with 40 C.F.R. §64.3(b)(4)(iii) which states that monitoring shall include some data collection at least once per 24-hour period.

Since the thermal oxidizer and flare are common to more than one PSEU, a monitoring plan for these control devices was submitted in accordance with 40 C.F.R. § 64.4 (f). CAM for the Thermal Oxidizer (778) consists of continuously monitoring the combustion temperature using a thermocouple placed in the firebox or ductwork immediately downstream of the firebox. CAM for the Flare (774a) consists of monitoring for the presence of a pilot or flare flame using a thermocouple and operating fuel flow meters to determine the net heating value of natural gas and waste gas to the Flare. Sections 19.2.5 through 19.2.11, 19.4.4, 19.4.5, 19.4.6, and 19.5.1 contain the CAM requirements for the Thermal Oxidizer (778) and Flare (774a).

CAM for the Pencil Pitch Dryer (771) consists of daily monitoring of the pressure drop across the cartridge filter dust collector and visual inspections of the cartridge filter dust collector and the ductwork leading from the Pencil Pitch Dryer (771) to the cartridge filter dust collector. Sections 8.2.2 through 8.2.7, 8.4.1, 8.4.2, and 8.5.1 contain the CAM requirements for the pencil pitch dust collector.

Scrubber (777) controls emissions from Tanks 801, 802, 804, 805, 806, 808 and Loading Racks LR 4-4, 4-5, 5-4, 5-5, and 5-6. Scrubber (777) is not subject to CAM since the potential pre-control device emissions are less than 100 tons per year of regulated pollutants, less than 10 tons per year of any hazardous air pollutants, and 25 tons per year of any combination of hazardous air pollutants.

Thermal Oxidizer (778) CAM Plan

Monitoring per the CAM Plan for thermal oxidizer will be as follows:

Thermal Oxidizer (778)	Indicator No. 1
I. Indicator Measurement Approach	Combustion temperature Combustion temperature is measured by a thermocouple placed inside the firebox or ductwork immediately downstream of the firebox. Data is collected by a data acquisition system (DAS). (Section 19.2.5)
II. Indicator Range	An excursion is defined as a daily 24-hour average combustion temperature that is lower than the temperature recorded during the most recent performance test (1308 °F). (Section 19.2.5)
III. Performance Criteria	
A. Data Representativeness	The temperature monitoring and data acquisition systems are installed according to manufacturer's specification. The temperature gauge is placed inside combustion chamber. The accuracy of the temperature monitoring device ± 2 °F. (Section 19.2.5)
B. Verification of Operational Status	Not applicable.
C. QA/QC Practices and Criteria	Monitoring of the temperature monitoring device on a monthly basis to determine that the accuracy of the device is maintained. (Section 19.2.5)
D. Monitoring Frequency	Temperature is monitored continuously. Temperature data is recorded at least once every 15 minutes, and a daily 24-hour average temperature is calculated. (Sections 19.2.5 and 19.4.4)
Data Collection Procedure	Recorded least every 15 minutes (Sections 19.2.5 and 19.4.4)
Averaging Period	Daily 24-hour average (Sections 19.2.1.c and 19.2.5)

Flare (774a) CAM Plan

Monitoring per the CAM Plan for the flare will be as follows:

Flare (774a)	Indicator No. 1	Indicator No. 2
I. Indicator	Presence of Pilot or Flare Flame	Net Heating Value determined by fuel flow monitoring and exit velocity calculation.
Measurement Approach	The presence of a pilot or flare flame is determined by monitoring temperature using a thermocouple. (Section 19.2.6.1)	Net heating value is determined by fuel flow monitoring of the waste gas and natural gas using a Coriolis flow meter and pitot tube. Exit velocity is determined by a one-time calculation showing the maximum velocity could never exceed 60 feet per second. (Sections 19.1.1.2, 19.1.1.3, and 19.2.6.2)
II. Indicator Range	An excursion is defined as when the flare or pilot flame is absent. (Section 19.2.6.1)	An excursion is when the natural gas flow is less than 25% by volume of the total fuel flow. (Section 19.2.6.2)
III. Performance Criteria		
A. Data Representativeness	The monitoring device is installed according to manufacturer's specification. The accuracy of the temperature monitoring device is ± 2 °F. (Section 19.2.6.1)	The fuel flow meters are installed according to manufacturer's specification. (Section 19.2.6.2)
B. Verification of Operational Status	Not applicable.	Not applicable.
C. QA/QC Practices and Criteria	Monitoring of the temperature monitoring device on a monthly basis to determine that the accuracy of the device is maintained. (Section 19.2.6.1)	Calibration of the flow meters will be conducted in accordance with manufacturer's instructions and frequencies, but at a minimum of annually. The pitot tube will be checked according to 19.2.2.c. (Section 19.2.6.2)
D. Monitoring Frequency	Temperature is monitored continuously. (Section 19.2.6.1)	Waste gas and natural gas flow is measured continuously. (Section 19.2.6.2)
Data Collection Procedure	Temperature data is recorded at least once every hour. (Sections 19.2.6.1 and 19.4.5).	Waste gas and natural gas flow is recorded at least once every hour. (Sections 19.2.6.2 and 19.4.5)
Averaging Period	Not applicable.	Hourly (Section 19.2.6.2)

Pencil Pitch Dryer (771) and Cartridge Filter Dust Collector CAM Plan

Monitoring per the CAM Plan for Pencil Pitch Dryer (771) and Cartridge Filter Dust Collector will be as follows:

Pencil Pitch Dryer (771) and Cartridge Filter Dust Collector	Indicator No. 1	Indicator No. 2
I. Indicator Measurement Approach	Pressure Drop Pressure drop across the dust collector is measured with a differential pressure gauge. (Section 8.2.2.1)	Visual Inspection Visual inspection of the control device and the ductwork leading from the Pencil Pitch Dryer to the cartridge filter dust collector. (Section 8.2.2.2)
II. Indicator Range	An excursion is defined as a pressure drop greater than 6 inches of H ₂ O or less than 1 inch of H ₂ O. (Section 8.2.2.1)	An excursion is defined as any leaks or structural deficiencies discovered during the inspections or at any other time (Section 8.2.2.2)
III. Performance Criteria		
A. Data Representativeness	Pressure taps are located at the dust collector inlet and outlet. The pressure gauge has a minimum accuracy of $\pm 2\%$. (Section 8.2.2.1)	External inspections and internal inspections by trained personnel.
B. Verification of Operational Status	Not applicable.	Not applicable.
C. QA/QC Practices and Criteria	The pressure gauge is calibrated according to manufacturer's recommendations annually. (Section 8.2.2.1)	Inspectors are trained on Method 9 or 22 and shall follow a standard operating procedure for conducting inspections. (Section 8.2.2.2)
D. Monitoring Frequency	The differential pressure is recorded once per 24 hours. (Section 8.4.1)	Monthly external inspections and annual internal inspections. (Section 8.2.2.2)
Data Collection Procedure	The differential pressures are manually recorded.	Inspection records are maintained. (Section 8.4.1)
Averaging Period	Not applicable.	Not applicable

Non-Applicability Determinations

The following requirements have been determined not to be applicable to the subject facility due to the following:

45CSR33	Acid Rain Provisions and Permits do not apply to Koppers Inc. Follansbee Tar Plant because it is not considered a Title IV (Acid Rain) Source.
40 C.F.R. Part 60 Subpart VV	National Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry does not apply to Koppers Inc. Follansbee Tar Plant because the facility was constructed prior to January 5, 1981.
40 C.F.R. Part 60 Subpart DDD	Standards of Performance for Volatile Organic Compound (VOC) Emissions from the Polymer Manufacturing Industry does not apply to Koppers Inc. Follansbee Tar Plant because the facility is not in the polymer industry.
40 C.F.R. Part 60 Subpart NNN	Standards of Performance for Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations do not apply to Koppers because all distillation units except the Debenzolizer were constructed before December 1983. The Debenzolizer does not produce any chemicals listed in the rule. It produces concentrated solvent (55% benzene, but different CAS number) and benzene free chemical oil.
40 C.F.R. Part 60 Subpart RRR	National Standards of Performance for Volatile Organic Compounds (VOC) Emissions from Synthetic Organic Chemicals Manufacturing Industry (SOCMI) Reactor Processes does not apply to Koppers Inc. Follansbee Tar Plant because they do not operate reactors (defined as units in which one or more chemicals or reactants other than air are combined or decomposed in such a way that their molecular structures are altered and one or more new organic compounds are formed). Furthermore, Koppers does not produce any chemicals listed in 40 C.F.R. § 60.707 except naphthalene, which the naphthalene production commenced construction prior to June 29, 1990.
40 C.F.R. Part 61 Subpart L	National Emission Standards for Benzene Emission from Coke By-Product Recovery Plants is not applicable to Koppers Inc. Follansbee Tar Plant since the facility does not operate a coke by-product recovery plant.
40 C.F.R. Part 61 Subpart Y	National Emission Standards for Benzene Emissions from Benzene Storage Vessels is not applicable to Koppers Inc. Follansbee Tar Plant because they do not store benzene within the specific gravity range. (Note benzene is not defined so it is assumed to be benzene with CAS No.71-43-2).
40 C.F.R. Part 61 Subpart BB	National Emission Standards for Benzene Emissions from Benzene Transfer Operations Plants is not applicable to Koppers Inc. Follansbee Tar Plant because they do not transfer benzene. (Note benzene is not defined so it is assumed to be benzene with CAS No.71-43-2).
40 C.F.R. Part 63 Subpart Y	National Emission Standards for Hazardous Air Pollutants for Marine Tank Vessel Loading Operations does not apply to Koppers Inc. Follansbee Tar Plant because its loading facilities are not an affected source.
40 C.F.R. Part 63 Subpart EEEE	National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution (OLD) does not apply to Koppers Inc. Follansbee Tar Plant because its transfer racks and storage tanks do not process or store a liquid that exceeds liquid vapor pressure of 0.1 psia.

40 C.F.R. Part 63 Subpart FFFF	National Emission Standards for Hazardous Air Pollutants for Miscellaneous Organic Chemical Manufacturing (MON). Koppers is implementing plant wide leak detection and repair (LDAR) program (40 C.F.R. Part 63 Subpart H), installing a thermal oxidizer, and modifying the vent and vapor streams from the processes with stainless piping to one flare or thermal oxidizer to reduce their HAPs below major source thresholds. Thus, Koppers Inc. Follansbee Tar Plant is not subject to this rule, which applies to major sources of HAPs.
40 C.F.R. Part 63 Subpart DDDDD	National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters. Since the Follansbee Tar Plant is not a major source of HAPs (10 tons per year or more of one HAP or 25 tons per year or more of total HAPs), its boilers are not subject to 40 C.F.R. Part 63 Subpart DDDDD according to 40 C.F.R. § 63.7485.
40 C.F.R. Part 72	Acid Rain Program General Provisions does not apply to Koppers Inc. Follansbee Tar Plant because it is not considered a Title IV (Acid Rain) Source.

Request for Variances or Alternatives

None

Insignificant Activities

Insignificant emission unit(s) and activities are identified in the Title V application.

Comment Period

Beginning Date: May 9, 2014
Ending Date: June 9, 2014

Point of Contact

All written comments should be addressed to the following individual and office:

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Procedure for Requesting Public Hearing

During the public comment period, any interested person may submit written comments on the draft permit and may request a public hearing, if no public hearing has already been scheduled. A request for public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. The Secretary shall grant such a request for a hearing if he/she concludes that a public hearing is appropriate. Any public hearing shall be held in the general area in which the facility is located.

Response to Comments (Statement of Basis)

No comments were received.