

Fact Sheet



For Draft/Proposed Significant Modification Permitting Action Under 45CSR30 and Title V of the Clean Air Act

This Fact Sheet serves to address the changes specific to this Significant Modification, and shall be considered a supplement to the Fact Sheet corresponding with the Title V operating permit issued on December 29, 2010.

Permit Number: **R30-03900007-2010**
Application Received: **February 11, 2014**
Plant Identification Number: **03-54-03900007**
Permittee: **Bayer CropScience**
(Powerhouses/Maintenance/WWTU/Laboratory)
(Group 1 of 8)
Facility Name: **Institute Site**
Mailing Address: **P.O. Box 1005**
Institute, WV 25112

Permit Action Number: SM02 Revised: Draft/Proposed

Physical Location: Institute, Kanawha County, West Virginia
UTM Coordinates: 432.0 km Easting • 4,248.3 km Northing • Zone 17
Directions: The facility is located west of Institute, WV, adjacent to State Route 25
and West Virginia State College.

Facility Description

Bayer CropScience is a chemical plant that produces LARVIN brand thiodicarb, which is used as an agricultural chemical. SIC Codes: 2879; 2869

Group Description

The facility was divided into 8 Title V Permits. They were broken down as follows:
Group 1 – Powerhouses, Maintenance, Wastewater Treatment Unit, Laboratories
Group 2 – Rhodimet (This Permit was made inactive on December 23, 2013)

- Group 3 – Carbofuran Unit, Carbosulfan Unit (This Permit was made inactive on December 23, 2013)
- Group 4 – Aldicarb, BPMC, Oxamyl (This Permit was made inactive on December 23, 2013)
- Group 5 – Polymers (Note this process was closed in 2004 and no Title V Group 5 Permit was issued)
- Group 6 – Larvin Unit
- Group 7 – Naphthol Unit, PANA, Jet (This Permit was made inactive on December 23, 2013)
- Group 8 – Phosgene, MIC, SEVIN (This Permit was made inactive on December 23, 2013)

Emissions Summary

This significant modification SM02 incorporates the R13-3111A applicable requirements resulting from the installation of one 27.3 MM BTU/hr natural gas boiler (Boiler 15).

The addition of Boiler 15 will generate the following emissions:

Table #1 – Emissions from Boiler #15		
Pollutant	Hourly Rate (lb/hr)	Annual Rate (tpy)
PM Filterable+ Condensable Fraction	0.01	0.06
PM ₁₀	0.01	0.06
PM _{2.5}	0.01	0.05
Sulfur Dioxide (SO ₂)	0.02	0.07
Oxides of Nitrogen (NO _x)	1.00	4.35
Carbon Monoxide (CO)	1.01	4.41
Volatile Organic Compounds (VOCs)	0.15	0.64
Total Hazardous Air Pollutants (HAPs)	0.05	0.22
Carbon Dioxide equivalents (CO ₂ e)	3,196.78	14,001.88

Title V Program Applicability Basis

This facility still has the potential to emit over 100 TPY of criteria pollutants and over 25 TPY of aggregate HAPs. Due to this facility's potential to emit over 100 tons per year of criteria pollutant, and over 25 tons per year of aggregate HAPs, Bayer CropScience's Institute Site 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.

The modification to this facility has been found to be subject to the following applicable rules:

- | | |
|---|---|
| Federal and State:
45CSR2
45CSR10
45CSR13

45CSR16
45CSR30
45CSR34 | Particulate Matter emissions
Sulfur Oxide emissions
Permits for construction, modification, relocation, etc.
New Stationary Sources
Operating permit requirement.
Hazardous Air Pollutants |
|---|---|

40 C.F.R. Part 60, Subpart Dc Standards of Performance for Small Industrial Steam Generating Units
 40 C.F.R. Part 63 Subpart DDDDD NESHAP for Boilers and Process Heaters

State Only: N/A

Each State and Federally-enforceable condition of the Title V Operating Permit references the specific relevant requirements of 45CSR30 or the applicable requirement upon which it is based. Any condition of the Title V permit that is enforceable by the State but is not Federally-enforceable is identified in the 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)
R13-3111A	March 31, 2014	

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 B," which may be downloaded from DAQ's website.

Determinations and Justifications

45CSR2 - To Prevent and Control Air Pollution from Combustion of Fuel in indirect heat exchangers.
 Boiler 15 is subject to the opacity requirements of 45CSR§2-3.1. This is given in Condition 4.1.4. As the boiler uses natural gas, 45CSR§2-8.4.b exempts it from opacity monitoring or testing.

The particulate matter limit for the boiler is derived from 45CSR§2-4.1.b for Type "b" fuel burning units. The PM limit is calculated as follows:

Boiler	Heat Input	Type 'b'	PM Limit
	(MMBTU)	Factor	(lbs/hr)
#15	27.3 x	0.09 =	2.5

The R13-3111A application shows a PM emission calculation of 0.01 lbs/hr for this boiler which is much less than the 45CSR§2-4.1.b limit. Compliance with the particulate matter limit will be shown by Condition 4.1.5.c, which requires that only pipeline natural gas be used as fuel for the boiler.

45CSR10 - To Prevent and Control Air Pollution From the Emission of Sulfur Oxides:
 The boiler has a Rule 10 applicable SO₂ limit which is based upon 45CSR§10-3.2.c for Type 'b' sources. The SO₂ limit was calculated as follows.

Boiler	Heat Input	Type 'b'	SO ₂ Limit
	(MMBTU)	Factor	(lbs/hr)
15	27.3 x	1.6 =	43.7

The R13-3111A application shows an SO₂ emission calculation of 0.02 lbs/hr for the boiler. Compliance with the SO₂ limit will be shown by Condition 4.1.5.c, which requires that only pipeline natural gas be used as fuel for the boiler. Since the boiler uses only natural gas as fuel, 45CSR§10-10.3 exempts the boiler from the Testing, Monitoring, Recordkeeping, and Reporting requirements of 45CSR§10-8.

Other changes made to the Title V Permit as part of this significant modification are summarized below:

1. The emission unit table in Section 1.1 has been revised. Boiler 15 has been added.
2. R13-3111A has been added to Section 1.2 and Condition 3.1.10.
3. Previous Condition 4.1.1.d has been moved to 4.1.6. This more easily shows that the condition applies to all three boilers. This Condition requires that the boilers meet the 40 CFR 63 Subpart DDDDD requirements for annual tune-ups from 40 CFR §63.7495(a), 40 CFR §63.7500(a)(1), §63.7505(a), §63.7510(g), §63.7515(d), §63.7540(a)(10), and Table 3 to Subpart DDDDD of Part 63—Work Practice Standards.
4. New Condition 4.1.5 provides specific emission limits for Boiler 15. There is also a requirement to use only pipeline quality natural gas with an annual limit of consumption of 234.5 MM cubic feet. Using only pipeline quality natural gas meets the requirements of 45CSR§2-3.1., 45CSR§2-4.1.b., and 45CSR§10-3.
5. Condition 4.1.2 requires a one time energy assessment of the facility that now additionally includes Boiler 15. This is a requirement from 40 CFR §63.7500(a)(1), §63.7505(a), and Table 3 of 40 CFR 63 Subpart DDDDD.
6. Boiler 15 was added to Condition 4.1.3 to require the permittee to operate all pollution control equipment related to the three boilers in a manner consistent with safety and good air pollution control practices.
7. Boiler 15 was added to Conditions 4.4.1 through 4.4.3 to require the facility to keep records of monitoring, maintenance, and malfunctions of the three boilers. Boiler 15 has been added to Condition 4.4.4 which requires records of concentrations of Carbon Monoxide (CO) in the effluent stream, oxygen in volume percent, as well as a description of any corrective action taken as a part of a tune-up. This is a requirement from 40CFR§§63.7540(a)(10)(vi)(A) and (B). Condition 4.4.5 requires the permittee to record the hours of operation and amount of natural gas consumed by each boiler. This Condition has been updated to include Boiler 15.
8. Previous Condition 4.5.1 of this Permit required the Permittee to provide reports regarding the boilers to the Director. This Condition has been revised and moved to new Condition 4.5.2. Condition 4.5.2 requires the Permittee to submit their annual “Compliance Reports” for the three boilers electronically through the EPA’s Center Data Exchange. This requirement comes from 40CFR§§63.7550(b), (b)(1), (c)(1), (c)(5)(i) through (iv), (xiv), and (h)(3). New Condition 4.5.1 requires the Permittee to submit a “Notification of Compliance Status” for the three boilers on or before the sixtieth day after completion of the initial compliance demonstration. This requirement comes from 40CFR§§63.7545(e) and 63.7530(d and e).
9. Boiler 15 is subject to 40CFR60, Subpart Dc. This subpart provides requirements for Boilers built after June 9, 1989 that are between 10 and 100 MMBtu/hr. Since Boiler 15 burns natural gas only, it is not subject to the SO₂ and PM standards, emission testing, or monitoring. It is only subject to monthly recordkeeping under 40CFR§60.48c(g)(2). Condition 4.4.5 requires the Permittee to record and maintain records of the amount of natural gas combusted during each calendar month. This meets the requirements of 40CFR§60.48c(g)(2).

Non-Applicability Determinations

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

1. 40 C.F.R. Part 64 - Compliance Assurance Monitoring (CAM)

Boiler 15 has been added as a result of this Significant Modification. This boiler is not subject to CAM for the following reason:

40CFR§64.2(a)(2) – The boiler does not use a control device to achieve compliance with an emission limitation or standard.

2. Greenhouse Gas Tailoring Rule

This modification did not trigger a PSD permit. As such, there are no applicable GHG permitting requirements.

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: June 5, 2014

Ending Date: July 7, 2014

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

Mike Egnor
Title V Permit Writer
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street SE
Charleston, WV 25304

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.

Point of Contact

Mike Egnor
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street SE
Charleston, WV 25304
Phone: 304/926-0499 ext. 1208 • Fax: 304/926-0478

Response to Comments (Statement of Basis)

None