

Facility Name: **Bayer CropScience – Woodbine Plant**

City: Woodbine

County: Camden

AIRS #: 04-13-039-00002

Application #: 17865

Date SIP Application Received: December 13, 2007

Date Title V Application Received: December 13, 2007

Permit No: 2879-039-00002-V-04-1

Program	Review Engineers	Review Managers
SSPP	Furqan Shaikh	David Matos
SSCP	Bob Shih / Don McHugh	Douglas Waldron
ISMP	Sid Stephens	Richard Taylor
TOXICS	Sherry Waldron	Karen Hays

Introduction

This narrative is being provided to assist the reader in understanding the content of the referenced SIP permit to construct and draft operating permit amendment. Complex issues and unusual items are explained in simpler terms and/or greater detail than is sometimes possible in the actual permit. This permit is being issued pursuant to: (1) Sections 391-3-1-.03(1) and 391-3-1-.03(10) of the Georgia Rules for Air Quality Control, (2) Part 70 of Chapter I of Title 40 of the Code of Federal Regulations, and (3) Title V of the Clean Air Act Amendments of 1990. The following narrative is designed to accompany the draft permit and is presented in the same general order as the permit. This narrative is intended only as an adjunct for the reviewer and has no legal standing. Any revisions made to the permit in response to comments received during the public comment period and EPA review process will be described in an addendum to this narrative.

I. Facility Description**A. Existing Permits**

Table 1 below lists the current Title V permit, and all administrative amendments, minor and significant modifications to that permit, and 502(b)(10) attachments. Comments are listed in Table 2 below.

Table 1: Current Title V Permit and Amendments

Permit/Amendment Number	Date of Issuance	Comments	
		Yes	No
2879-039-0002-V-04-0	February 27, 2006	✓	

Table 2: Comments on Specific Permits

Permit Number	Comments
2879-039-0002-V-04-0	Renewal Title V Operating Permit

B. Regulatory Status**1. PSD/NSR/RACT**

The facility is not a major source under PSD regulations and is located in an attainment area.

2. Title V Major Source Status by Pollutant**Table 3: Title V Major Source Status**

Pollutant	Is the Pollutant Emitted?	If emitted, what is the facility's Title V status for the Pollutant?		
		Major Source Status	Major Source Requesting SM Status	Non-Major Source Status
PM	✓			✓
PM ₁₀	✓			✓
SO ₂	✓			✓
VOC	✓	✓		
NO _x	✓			
CO	✓			✓
TRS	✓			✓
H ₂ S	✓			✓
Individual HAP	✓	✓		
Total HAPs	✓	✓		

II. Proposed Modification

A. Description of Modification

This application is processed as a significant modification with construction because this project constitutes a modification under provisions of 40 CFR 63 Subpart FFFF. This permit application is to authorize the construction and the operation of a Cryogenic Recovery Condenser Unit (APCD No. WDB1) to comply with the requirements in 40 CFR 63 Subpart FFFF, "Miscellaneous Organic Chemical Production and Processes (MON)." The facility proposes to commence construction on this project in March 2008 or upon issuance of this permit amendment.

This Cryogenic Recovery Condenser Unit will be used to reduce hazardous air pollutants (HAPs) emissions, mainly methylene chloride, methyl isocyanate and chloroform, by 95 percent from the facility's three existing operations to manufacture pesticides. The first miscellaneous organic chemical process unit (MPCU) consists of storage and transfer activities for the Adisol process (Process Group: PG04). The second MPCU is the batch formulation and drying of the product on a gypsum substrate (Process Group: PG02). The third MPCU is the batch formulation and drying of the product on a grit substrate (Process Group: PG01). These three manufacturing processes can operate independently of each other.

This Cryogenic Condenser Recovery Unit consists of pre-coolers, which are designed for energy recovery from the treatment process, and final cooling occurs in the dual cryogenic condensers where liquid nitrogen is used as the cooling media. This Cryogenic Recovery Unit is equipped with two condensers, such that at least one of the condensers is operating at all times of process operation. The cooling media temperature for the condenser is controlled by exit gas temperature. The lower the exit gas temperature, the higher is the product recovery for the condensed fraction for HAPs. In order to achieve a 95 percent product recovery, the facility expects to operate the Cryogenic Recovery Unit at a temperature around -70°F . In this permit application, the facility has proposed to monitor the exit gas temperature and plans to conduct the initial performance test on the Cryogenic Recovery Unit to determine the optimal operating temperature to comply with the 95 percent control efficiency for HAPs emissions.

B. Emissions Change

Table 4: Emissions Change Due to Modification

Pollutant	Is the Pollutant Emitted?	Net Actual Emissions Increase (Decrease) (tpy)	Net Potential Emissions Increase (Decrease) (tpy)
PM			
PM ₁₀			
SO ₂			
VOC	✓	(0.22)	(0.22)
NO _x			
CO			
TRS			
H ₂ S			
Individual HAP – Methylene Chloride	✓	(50.0)	(50.0)
Individual HAP –Methyl Isocyanate	✓	(0.15)	(0.15)
Individual HAP - Chloroform	✓	(0.12)	(0.12)
Total HAPs	✓	(50.3)	(50.3)

C. PSD/NSR Applicability

This proposed project is not a major modification for PSD (attainment areas) or Nonattainment NSR (nonattainment areas).

IV. Regulated Equipment Requirements**A. Brief Process Description**

A brief process description can be referenced in the narrative for the Renewal Title V Permit No. 2879-039-0002-V-04-0 and in Section II.A of this narrative.

B. Equipment List for the Process

Emission Units		Specific Limitations/Requirements		Air Pollution Control Devices	
ID No.	Description	Applicable Requirements/Standards	Corresponding Permit Conditions	ID No.	Description
PG01 Process Group – Grit Formulation					
GRT1	Nauta Mixers	40 CFR 63 Subpart FFFF 40 CFR 63 Subpart SS 40 CFR 63 Subpart H 391-3-1-.02(2)(a)(1) 391-3-1-.02(2)(b)	3.3.1, 3.3.2, 3.3.3, 3.3.4, 3.3.6, 3.3.7, 3.3.8, 3.3.9, 3.3.10, 3.4.1, 3.5.1, 4.2.1, 5.2.1, 5.2.3, 5.2.8, 6.1.7, 6.2.1, 6.2.4, 6.2.7 *	AP-2 WDB1	Condenser Cryogenic Recovery Unit
GRT2	Grit Blow Over	391-3-1-.02(2)(a)(1) 391-3-1-.02(2)(b) 391-3-1-.02(2)(e)	3.4.1, 3.4.2, 3.5.1, 3.5.2, 5.2.1 to 5.2.6, 6.1.7, 6.2.1, 6.2.4*	TG-1	Baghouses (2 in series)
GRT3	Grit Pack Out	391-3-1-.02(2)(a)(1) 391-3-1-.02(2)(b) 391-3-1-.02(2)(e)	3.4.1, 3.4.2, 3.5.1, 3.5.2, 5.2.1 to 5.2.6, 6.1.7, 6.2.1, 6.2.4*	TG-2	Baghouses (2 in series)
PG02 Process Group – Gypsum Formulation					
GYP1	Rotary Formulators	40 CFR 63 Subpart FFFF 40 CFR 63 Subpart SS 40 CFR 63 Subpart H 391-3-1-.02(2)(a)(1) 391-3-1-.02(2)(b)	3.3.1, 3.3.2, 3.3.3, 3.3.4, 3.3.6, 3.3.7, 3.3.8, 3.3.9, 3.3.10, 3.5.3, 3.4.1, 4.2.1, 5.2.1, 5.2.3, 5.2.8, 6.1.7, 6.2.1, 6.2.4, 6.2.7*	AP-5 WDB1	Condenser Cryogenic Recovery Unit
GYP2	Gypsum NAS	391-3-1-.02(2)(a)(1) 391-3-1-.02(2)(b) 391-3-1-.02(2)(e)	3.4.1, 3.4.2, 3.5.3, 3.5.4, 5.2.1 to 5.2.6, 6.1.7, 6.2.1, 6.2.4*	GF-4	Baghouses (2 in series)
PG04 Process Group – Storage Tanks					
ST01 ST02 ST03 ST04 ST05 ST09	Aldisol Storage Tank Aldisol Receiving Storage Tank Aldisol Storage Tank Recycled DCM Storage Vinyl Mixing Tank DCM Decant Tank	40 CFR 63 Subpart FFFF 40 CFR 63 Subpart SS 40 CFR 63 Subpart H 391-3-1-.02(2)(a)(1)	3.3.1, 3.3.2, 3.3.3 to 3.3.9, 3.3.10, 4.2.1, 5.2.1, 5.2.8, 6.1.7, 6.2.4, 6.2.7*	AP-2 WDB1	Condenser Cryogenic Recovery Unit
ST08	DCM Decant Tank	40 CFR 63 Subpart FFFF 40 CFR 63 Subpart SS 40 CFR 63 Subpart H 391-3-1-.02(2)(a)(1)	3.3.1, 3.3.2, 3.3.3 to 3.3.9, 3.3.10, 4.2.1, 5.2.1, 5.2.8, 6.1.7, 6.2.4, 6.2.7*	AP-5 WDB1	Condenser Cryogenic Recovery Unit

* Generally applicable requirements contained in this permit may also apply to emission units listed above.

C. Equipment & Rule Applicability

This facility is classified as an existing major source of HAPs emissions and is subject to the requirements of 40 CFR 63, Subpart FFFF, “Miscellaneous Organic Chemical Production and Processes (MON).” The facility’s existing three manufacturing operations (Process Groups: PG01, PG02, PG04) are subject to the requirements of 40 CFR 63 Subpart FFFF, and they will comply by reducing HAPs emissions by installing a Cryogenic Recovery Unit (Source Code: WDB1). This facility is subject to the following requirements in 40 CFR 63, Subpart FFFF:

- Batch Process Vents [40 CFR 63.2460, Table 2]
- Storage Tanks [40 CFR 63.2470, Table 4]
- Transfer Racks [40 CFR 63.2475, Table 5]
- Equipment Leaks [40 CFR 63.2480 and 40 CFR 63 Subpart H]

This Cryogenic Recovery Unit (Source Code: WDB1) is subject to 40 CFR 63 Subpart SS, “National Emission Standards for Closed Vent Systems, Control Devices, Recovery Devices and Routing to a Fuel Gas System or a Process” because this control equipment meets the definition of a closed vent system.

The facility will also be required to comply with the requirements of 40 CFR 63 Subpart H, “National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks” for any equipment leaks in the Grit Formulation (Process Group: PG01), Gypsum formulation (Process Group: PG02) and Adisol Handling (Process Group: PG04) Processes.

D. Compliance Status

The facility did not indicate that they are out of compliance with any applicable rules and regulations in the application for this modification.

E. Operational Flexibility

There are no requests for operational flexibility for this modification.

F. Permit Conditions

Condition 3.3.2 is updated to subject the facility to the general applicability condition for 40 CFR 63 Subpart FFFF requirements. The condition is updated with the correct compliance date of May 10, 2008 for the MON MACT.

New Condition 3.3.3 requires the facility to comply with 40 CFR 63.2460 (Table 2) for any process batch vents. The facility has elected to comply with the requirements by reducing HAPs emissions by 95 percent or more from the batch process vents in the Grit Formulation (Process Group: PG01), the Gypsum formulation (Process Group: PG02) and the Adisol Handling Process (Process Group: PG04). The facility will reduce HAPs emissions by venting the emissions to the Cryogenic Recovery Condenser Unit, which is a closed vent system.

New Condition 3.3.4 requires the facility to comply with 40 CFR 63.2470 (Table 4) for storage tanks at this facility. The facility has elected to comply with the requirements by reducing HAPs

emissions by 95 percent or more from any subject storage tank and venting the emissions to the Cryogenic Recovery Condenser Unit, which is a closed vent system.

New Condition 3.3.5 requires the facility to comply with 40 CFR 63.2475 (Table 5) for transfer racks in the Adisol Handling Process at this facility. The facility has elected to use a vapor-balancing system, which is designed to collect vapors, to show compliance with this requirement.

New Condition 3.3.6 requires the facility to comply with the general requirements of 40 CFR 63 Subpart H for any equipment leaks. This requirement comes from 40 CFR 63.2480.

New Condition 3.3.7 subjects the Cryogenic Recovery Condenser Unit (Source Code WDB1) to the general requirements of 40 CFR 63 Subpart SS. This control device meets the definition of a closed vent system. New Condition 3.3.8 lists the specific requirements in 40 CFR 63.983(a) for closed vent systems.

New Condition 3.3.9 requires the facility to comply with the requirements in 40 CFR 63 Subpart FFFF for subject storage tanks, transfer racks and equipment leaks, as specified in Conditions 3.3.4, 3.3.5 and 3.3.6.

New Condition 3.3.10 requires the facility to develop and follow a Startup, Shutdown and Malfunction (SSM) Plan under the provisions of 40 CFR 63 Subpart A to comply with 40 CFR 63 Subpart FFFF requirements.

V. Testing Requirements (with Associated Record Keeping and Reporting)

Condition 4.2.1 requires the facility to conduct the initial HAPs reduction performance test on the Cryogenic Recovery Unit as required per 40 CFR 63.2460, §63.2450(g) and §63.997. This testing is required to demonstrate compliance with Conditions 3.3.3 and 3.3.4. This test requires the facility to follow all procedures outlined in 40 CFR 63.2460, §63.2450(g) and §63.997. This test will be used to establish a compliant operating temperature of the exit gas from the Cryogenic Recovery Unit in order to achieve the 95 percent HAPs reduction.

Method 25A is added in Condition 4.1.3.i for the facility to measure the control efficiency of the Cryogenic Condenser Recovery Unit. In this situation, Method 25A would be the best method to use since the outlet concentrations of total organic compounds from the condensers must be less than 50 ppm, as carbon.

Existing Condition 4.1.3.g allows the facility to use Method 18 to measure gaseous organic compound emissions by gas chromatography. In lieu of Method 25A, the facility may choose to use Method 18 to measure the outlet concentration of total organic compounds to determine compliance with the 20 ppmv limit.

VI. Monitoring Requirements (with Associated Record Keeping and Reporting)

In accordance with the requirements in 40 CFR 63 Subpart SS (40 CFR 63.990(c)), Condition 5.2.8.a requires the facility to monitor the exit temperature on the product side for the Cryogenic Condenser Recovery Unit WDB1. The facility shall be required to record the gas temperature once every 15 minutes of operation. This monitoring is required to ensure proper operation of the Cryogenic Condenser Recovery Unit and to determine ongoing compliance with the 95 percent HAPs reduction limits in Condition 3.3.3 and 3.3.4.

No additional monitoring is required in accordance with any rules for this project.

VII. Other Record Keeping and Reporting Requirements

Condition 6.1.7.c.v requires the facility to report an excursion for the average daily exit gas temperature of the Cryogenic Condenser Recovery Unit.

Condition 6.1.7.d.i requires the facility to report if the Cryogenic Condenser Recovery Unit is not operating after the MON MACT compliance date of May 10, 2008.

Condition 6.2.5 requires the facility to submit a compliance status report to the Division by October 7, 2009 as required in accordance with 40 CFR 63.2520(d). Condition 6.2.6 requires the facility to submit semi annual compliance reports to the Division as outlined in 40 CFR 63.2520(b), 40 CFR 63.2520(e) and 40 CFR 63.2450(m).

Condition 6.2.7 requires the facility to keep any records listed in 40 CFR 63.2525.

VIII. Specific Requirements

C. Insignificant Activities

Refer to <http://airpermit.dnr.state.ga.us/GATV/default.asp> for the Online Title V Application.

Refer to the following forms in the Title V permit application:

- Form D.1 (Insignificant Activities Checklist)
- Form D.3 (Generic Fuel Burning Equipment)
- Form D.6 (Insignificant Activities Based on Emission Levels of the Title V permit application)

Addendum to Narrative

The 30-day public review started on April 16, 2008 and ended on May 16, 2008. Comments were not received by the Division.

A typo is corrected in Condition 6.2.5.