MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION

December 15, 2014

PERMIT TO INSTALL
84-96C

ISSUED TO
Bayer CropScience

LOCATED AT
1740 Whitehall Road
Muskegon, Michigan

IN THE COUNTY OF
Muskegon

STATE REGISTRATION NUMBER
B6643

The Air Quality Division has approved this Permit to Install, pursuant to the delegation of authority from the Michigan Department of Environmental Quality. This permit is hereby issued in accordance with and subject to Section 5505(1) of Article II, Chapter I, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Pursuant to Air Pollution Control Rule 336.1201(1), this permit constitutes the permittee's authority to install the identified emission unit(s) in accordance with all administrative rules of the Department and the attached conditions. Operation of the emission unit(s) identified in this Permit to Install is allowed pursuant to Rule 336.1201(6).

DATE OF RECEIPT OF ALL INFORMATION REQUIRED BY RULE 203: **November 14, 2014**	
DATE PERMIT TO INSTALL APPROVED: **December 15, 2014**	SIGNATURE:
DATE PERMIT VOIDED:	SIGNATURE:
DATE PERMIT REVOKED:	SIGNATURE:

PERMIT TO INSTALL

Table of Contents

Section **Page**

Common Abbreviations / Acronyms

Common Acronyms		Pollutant / Measurement Abbreviations	
AQD	Air Quality Division	BTU	British Thermal Unit
BACT	Best Available Control Technology	°C	Degrees Celsius
CAA	Clean Air Act	CO	Carbon Monoxide
CEM	Continuous Emission Monitoring	dscf	Dry standard cubic foot
CFR	Code of Federal Regulations	dscm	Dry standard cubic meter
CO_2e	Carbon Dioxide Equivalent	°F	Degrees Fahrenheit
COM	Continuous Opacity Monitoring	gr	Grains
EPA	Environmental Protection Agency	Hg	Mercury
EU	Emission Unit	hr	Hour
FG	Flexible Group	H_2S	Hydrogen Sulfide
GACS	Gallon of Applied Coating Solids	hp	Horsepower
GC	General Condition	lb	Pound
GHGs	Greenhouse Gases	kW	Kilowatt
HAP	Hazardous Air Pollutant	m	Meter
HVLP	High Volume Low Pressure *	mg	Milligram
ID	Identification	mm	Millimeter
LAER	Lowest Achievable Emission Rate	MM	Million
MACT	Maximum Achievable Control Technology	MW	Megawatts
MAERS	Michigan Air Emissions Reporting System	ng	Nanogram
MAP	Malfunction Abatement Plan	NO_x	Oxides of Nitrogen
MDEQ	Michigan Department of Environmental Quality (Department)	PM	Particulate Matter
MSDS	Material Safety Data Sheet	PM10	PM with aerodynamic diameter ≤10 microns
NESHAP	National Emission Standard for Hazardous Air Pollutants	PM2.5	PM with aerodynamic diameter ≤ 2.5 microns
NSPS	New Source Performance Standards	pph	Pounds per hour
NSR	New Source Review	ppm	Parts per million
PS	Performance Specification	ppmv	Parts per million by volume
PSD	Prevention of Significant Deterioration	ppmw	Parts per million by weight
PTE	Permanent Total Enclosure	psia	Pounds per square inch absolute
PTI	Permit to Install	psig	Pounds per square inch gauge
RACT	Reasonably Available Control Technology	scf	Standard cubic feet
ROP	Renewable Operating Permit	sec	Seconds
SC	Special Condition	SO_2	Sulfur Dioxide
SCR	Selective Catalytic Reduction	THC	Total Hydrocarbons
SRN	State Registration Number	tpy	Tons per year
TAC	Toxic Air Contaminant	µg	Microgram
TEQ	Toxicity Equivalence Quotient	VOC	Volatile Organic Compound
VE	Visible Emissions	yr	Year

* For High Volume Low Pressure (HVLP) applicators, the pressure measured at the HVLP gun air cap shall not exceed ten (10) pounds per square inch gauge (psig).

GENERAL CONDITIONS

1. The process or process equipment covered by this permit shall not be reconstructed, relocated, or modified, unless a Permit to Install authorizing such action is issued by the Department, except to the extent such action is exempt from the Permit to Install requirements by any applicable rule. **(R 336.1201(1))**

2. If the installation, construction, reconstruction, relocation, or modification of the equipment for which this permit has been approved has not commenced within 18 months, or has been interrupted for 18 months, this permit shall become void unless otherwise authorized by the Department. Furthermore, the permittee or the designated authorized agent shall notify the Department via the Supervisor, Permit Section, Air Quality Division, Michigan Department of Environmental Quality, P.O. Box 30260, Lansing, Michigan 48909-7760, if it is decided not to pursue the installation, construction, reconstruction, relocation, or modification of the equipment allowed by this Permit to Install. **(R 336.1201(4))**

3. If this Permit to Install is issued for a process or process equipment located at a stationary source that is not subject to the Renewable Operating Permit program requirements pursuant to R 336.1210, operation of the process or process equipment is allowed by this permit if the equipment performs in accordance with the terms and conditions of this Permit to Install. **(R 336.1201(6)(b))**

4. The Department may, after notice and opportunity for a hearing, revoke this Permit to Install if evidence indicates the process or process equipment is not performing in accordance with the terms and conditions of this permit or is violating the Department's rules or the Clean Air Act. **(R 336.1201(8), Section 5510 of Act 451, PA 1994)**

5. The terms and conditions of this Permit to Install shall apply to any person or legal entity that now or hereafter owns or operates the process or process equipment at the location authorized by this Permit to Install. If the new owner or operator submits a written request to the Department pursuant to R 336.1219 and the Department approves the request, this permit will be amended to reflect the change of ownership or operational control. The request must include all of the information required by subrules (1)(a), (b), and (c) of R 336.1219 and shall be sent to the District Supervisor, Air Quality Division, Michigan Department of Environmental Quality. **(R 336.1219)**

6. Operation of this equipment shall not result in the emission of an air contaminant which causes injurious effects to human health or safety, animal life, plant life of significant economic value, or property, or which causes unreasonable interference with the comfortable enjoyment of life and property. **(R 336.1901)**

7. The permittee shall provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant which continue for more than one hour in excess of any applicable standard or limitation, or emissions of any air contaminant continuing for more than two hours in excess of an applicable standard or limitation, as required in Rule 912, to the Department. The notice shall be provided not later than two business days after start-up, shutdown, or discovery of the abnormal condition or malfunction. Written reports, if required, must be filed with the Department within 10 days after the start-up or shutdown occurred, within 10 days after the abnormal conditions or malfunction has been corrected, or within 30 days of discovery of the abnormal condition or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5). **(R 336.1912)**

8. Approval of this permit does not exempt the permittee from complying with any future applicable requirements which may be promulgated under Part 55 of 1994 PA 451, as amended or the Federal Clean Air Act.

9. Approval of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.

10. Operation of this equipment may be subject to other requirements of Part 55 of 1994 PA 451, as amended and the rules promulgated thereunder.

11. Except as provided in subrules (2) and (3) or unless the special conditions of the Permit to Install include an alternate opacity limit established pursuant to subrule (4) of R 336.1301, the permittee shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of density greater than the most stringent of the following. The grading of visible emissions shall be determined in accordance with R 336.1303. **(R 336.1301)**
    a) A six-minute average of 20 percent opacity, except for one six-minute average per hour of not more than 27 percent opacity.
    b) A visible emission limit specified by an applicable federal new source performance standard.
    c) A visible emission limit specified as a condition of this Permit to Install.

12. Collected air contaminants shall be removed as necessary to maintain the equipment at the required operating efficiency. The collection and disposal of air contaminants shall be performed in a manner so as to minimize the introduction of contaminants to the outer air. Transport of collected air contaminants in Priority I and II areas requires the use of material handling methods specified in R 336.1370(2). **(R 336.1370)**

13. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with R 336.2001 and R 336.2003, under any of the conditions listed in R 336.2001. **(R 336.2001)**

SPECIAL CONDITIONS

EMISSION UNIT SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Emission Unit ID	Emission Unit Description (Process Equipment & Control Devices)	Flexible Group ID
EU-GA	Process equipment used to manufacture glufosinate ammonium (GA), all located inside the Liberty™ building at the facility. This emission unit includes process tanks used in the process and located inside the building, but does not include storage tanks located outside the building. It also includes an ammonia recovery system (D-610), a methanol recovery system (D-550/D-570), and a cryogenic cooling system (H-660/H-665) for further solvent recovery and reuse. The cryogenic cooling system comprises a cryogenic pre-condenser and a condenser. Equipment D-610, D-550/D-570 and H-660/H-665 recover materials for reuse in the process. Emission controls include dust collectors for ammonium chloride packaging (I-350) and a wet scrubber (D-680 Main Plant Scrubber) following the cryogenic cooling system.	FG-GA
EU-FlexTk105	50,000-gallon tank (T-105) to store (3-acetoxy-3-cyanopropyl)methyl phosphinic acid butyl ester (ACM) or GA-containing product. Tank vents to D-610.	FG-GA
EU-FlexTk107	50,000-gallon tank (T-107) to ACM or GA-containing product. Tank vents to D-610.	FG-GA
EU-FlexTk108	50,000-gallon tank (T-108) to store ACM or GA-containing product. Tank vents to D-610.	FG-GA
EU-FlexTk110	50,000-gallon tank (T-110) to store ACM or GA-containing product. Tank vents to D-610.	FG-GA
EU-FlexTk115	50,000-gallon tank (T-115) to store ACM or GA-containing product. Tank vents to D-610.	FG-GA
EU-FlexTk120	50,000-gallon tank (T-120) to store ACM or GA-containing product. Tank vents to D-610.	FG-GA
EU-FlexTk125	50,000-gallon tank (T-125) to store dipropylene glycol, ACM, or GA-containing product. Tank vents to D-610.	FG-GA
EU-MethnolTk130	14,000-gallon tank (T-130) to store methanol. Tank vents to D-610.	FG-GA
EU-MethnolTk132	9,100-gallon tank (T-132) to store methanol. Tank vents to D-610.	FG-GA
EU-MethnolTk1010	5,000 gallon tank (T-1010) to store methanol with conservation vent and vapor balance	FG-GA
EU-MLiqResTk135	14,000-gallon tank (T-135) to store mother liquor residue. Tank vents to D-610.	FG-GA
EU-UpPhaseTk140	15,000-gallon tank (T-140) to store upper phase from separation step. Tank vents to D-610.	FG-GA
EU-HCLTk150	30,000-gallon tank (T-150) to store aqueous HCl (typically 30-37% by weight). Emissions controlled by the HCl tank farm scrubber (D-155)	FG-GA

Emission Unit ID	Emission Unit Description (Process Equipment & Control Devices)	Flexible Group ID
EU-HCLTk152	30,000-gallon tank (T-152) to store aqueous HCl (typically 30-37% by weight). Emissions controlled by the HCl tank farm scrubber (D-155)	FG-GA
EU-FlexTk160	50,000-gallon tank (T-160) to store ACM or GA-containing product. Tank vents to D-610.	FG-GA
EU-FlexTk161	50,000-gallon tank (T-161) to store ACM or GA-containing product. Tank vents to D-610.	FG-GA
EU-FlexTk162	50,000-gallon tank (T-162) to store ACM or GA-containing product. Tank vents to D-610.	FG-GA
EU-AddtvTk165	50,000-gallon tank (T-165) to store a water-based additive. Tank vents to D-610.	FG-GA
EU-AddtvTk175	50,000 gallon tank (T-175) to store a water-based additive. Tank vents to atmosphere.	FG-GA
EU-SurfTk176	20,000 gallon tank (T-176) to store 1-methoxy-2-propanol. Tank vents to atmosphere.	FG-GA
EU-AmmoniaTk180	13,000-gallon tank (T-180) to store ammonia. Pressure tank that vents to D-610 in the event of overpressure.	FG-AmmoniaTks
EU-AmmoniaTk185	13,000-gallon tank (T-185) to store ammonia. Pressure tank that vents to D-610 in the event of overpressure.	FG-AmmoniaTks
Changes to the equipment described in this table are subject to the requirements of R 336.1201, except as allowed by R 336.1278 to R 336.1290.		

FLEXIBLE GROUP SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FG-GA	All equipment used to manufacture glufosinate ammonium (GA), except for the ammonia storage tanks. This includes all the other storage tanks located outside the building that are part of the process and all the equipment located inside the Liberty™ building.	EU-GA, EU-FlexTk105, EU-FlexTk107, EU-FlexTk108, EU-FlexTk110, EU-FlexTk115, EU-FlexTk120, EU-FlexTk125, EU-MethnolTk130, EU-MethnolTk132, EU-MethnolTk1010, EU-MLiqResTk135, EU-UpPhaseTk140, EU-HCLTk150, EU-HCLTk152, EU-FlexTk160, EU-FlexTk161, EU-FlexTk162, EU-AddtvTk165, EU-AddtvTk175, EU-SurfTk176
FG-AmmoniaTks	Ammonia storage tanks for the GA production process.	EU-AmmoniaTk180, EU-AmmoniaTk185
FGFACILITY	All process equipment source-wide including equipment covered by other permits, grand-fathered equipment and exempt equipment.	

The following conditions apply to: FG-GA

DESCRIPTION: All equipment used to manufacture glufosinate ammonium (GA), except for the ammonia storage tanks. This includes all the other storage tanks located outside the building that are part of the process and all the equipment located inside the Liberty™ building.

Emission Units: EU-GA, EU-FlexTk105, EU-FlexTk107, EU-FlexTk108, EU-FlexTk110, EU-FlexTk115, EU-FlexTk120, EU-FlexTk125, EU-MethnolTk130, EU-MethnolTk132, EU-MethnolTk1010, EU-MLiqResTk135, EU-UpPhaseTk140, EU-HCLTk150, EU-HCLTk152, EU-FlexTk160, EU-FlexTk161, EU-FlexTk162, EU-AddtvTk165, EU-AddtvTk175, EU-SurfTk176

POLLUTION CONTROL EQUIPMENT:

Main Plant Scrubber (D-680)
Maintenance scrubber (D-640)
Dust collector for the packaging area (I-350)
Hydrochloric acid tank farm scrubber (D-155)

I. EMISSION LIMITS

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. VOC	2.7 lb per ton of product (as 100% glufosinate ammonium)	Test protocol *	FG-GA	GC 13	R 336.1702(a)
2. PM	0.08 lb/hr	Test protocol *	Packaging area of FG-GA	GC 13	R 336.1224, R 336.1225, R 336.1331
* Test protocol shall specify averaging time.					

II. MATERIAL LIMITS

Material	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. Product (as 100% glufosinate ammonium) produced	8,800 tons per year	12-month rolling time period as determined at the end of each calendar month	FG-GA	SC VI.1	R 336.1205, R 336.1702(a)

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall not operate EU-GA unless the Main Plant Scrubber (D-680) is installed, maintained, and operated in a satisfactory manner. Satisfactory operation includes operating with the scrubber liquid flow rate in the range identified in the malfunction abatement plan required by SC III.5. **(R 336.1224, R 336.1225, R 336.1702(a), R 336.1910)**

2. The permittee shall not package ammonium chloride unless the dust collector (I-350) is installed, maintained, and operated in a satisfactory manner. Satisfactory operation includes operating with the dust collector pressure drop in the range identified in the malfunction abatement plan required by SC III.5. **(R 336.1224, R 336.1225, R 336.1301, R 336.1331, R 336.1910)**

3. The permittee shall not transfer material to EU-MethnolTk1010 unless the conservation vent and the vapor balancing system for the tank are installed, maintained, and operated in a satisfactory manner. **(R 336.1225, R 336.1702(a), R 336.1910)**

4. The permittee shall not transfer material to EU-HCLTk150 or EU-HCLTk152 unless the vapor balancing system for the HCl storage tanks and the hydrochloric acid tank farm scrubber (D-155) are installed, maintained, and operated in a satisfactory manner. **(R 336.1224, R 336.1225, R 336.1910)**

5. The permittee shall not operate FG-GA unless the approved malfunction abatement plan (MAP) for FG-GA and for ammonia storage, receipt, and transfer is implemented and maintained. If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 45 days after such an event occurs. The permittee shall also amend the MAP within 45 days, if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the MAP or amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits. **(R 336.1225, R 336.1702(a), R 336.1910, R 336.1911)**

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall equip and maintain the Main Plant Scrubber (D-680) with a liquid flow indicator. **(R 336.1910)**

2. The permittee shall equip and maintain the hydrochloric acid tank farm scrubber (D-155) with a liquid flow indicator. **(R 336.1910)**

3. The permittee shall equip and maintain the dust collector (I-350) with a pressure drop indicator. **(R 336.1910)**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall record the amount of product (as 100% glufosinate ammonium) produced in EU-GA monthly, for the preceding 12-month rolling time period, using a method acceptable to the AQD District Supervisor. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205, R 336.1702(a))**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTIONS

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter/Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-SW-1	8	102	R 336.1225, 40 CFR 52.21(c)&(d)
2. SV-SW-2	6	102	R 336.1225, 40 CFR 52.21(c)&(d)
3. SV-NW-1	6	102	R 336.1225, 40 CFR 52.21(c)&(d)
4. SV-TF-1	2	22	R 336.1225, 40 CFR 52.21(c)&(d)

IX. OTHER REQUIREMENTS

NA

Footnotes:
[1]This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

The following conditions apply to: FG-AmmoniaTks

DESCRIPTION: Ammonia storage tanks for the GA production process.

Emission Units: EU-AmmoniaTk180, EU-AmmoniaTk185

POLLUTION CONTROL EQUIPMENT: NA

I. EMISSION LIMITS

NA

II. MATERIAL LIMITS

NA

III. PROCESS/OPERATIONAL RESTRICTIONS

1. Except where specific requirements of these special conditions are applicable and more stringent, FG-AmmoniaTks shall comply with "Part 78, Storage and Handling of Anhydrous Ammonia" (MIOSHA 1910.111), hereinafter Rule 7801. The permittee shall maintain a copy of this standard, which may be obtained by contacting the Michigan Department of Consumer and Industry Services, Bureau of Safety and Regulations, Safety Standards Division, 7150 Harris Drive, P.O. Box 30643, Lansing, MI 48909-8143, for inspection at the facility. **(R 336.1901)**

2. The permittee shall not operate any tank in FG-AmmoniaTks unless the inspection and maintenance program specified in Appendix A has been implemented and maintained. **(R 336.1901)**

3. The permittee shall not operate FG-AmmoniaTks unless all transfer operations, including transport deliveries, are performed by a reliable person properly trained and made responsible for proper compliance with all applicable procedures. **(R 336.1901)**

4. The permittee shall fill each tank in FG-AmmoniaTks to no more than 85 percent of liquid capacity by volume. The permittee may fill storage tanks according to temperature density correction tables in Rule 7801(b)(11) where tanks have a thermometer well and suitable level gauge. **(R 336.1901)**

5. The permittee shall not operate FG-AmmoniaTks unless an emergency response plan, to be followed in the event of an emergency, has been approved by the local fire department or county emergency response agency and is implemented and maintained. By May 1 each year, the permittee shall review this plan with the local fire department or emergency response agency and make any necessary updates. **(R 336.1901)**

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall fit each tank in FG-AmmoniaTks with safety relief valves in accordance with Rule 7801(b)(9). The permittee shall stamp such valves with the date manufactured, and shall replace, or re-test and re-certify the valves, at least every five (5) years or more often if there is evidence of damage or deterioration. **(R 336.1224, R 336.1225, R 336.1901)**

2. The permittee shall not operate FG-AmmoniaTks unless a remotely operated internal or external positive shut-off valve is installed to allow access for emergency shut-off of all flow from stationary storage containers. **(R 336.1224, R 336.1225, R 336.1901)**

3. The permittee shall not operate FG-AmmoniaTks unless a bulkhead, anchorage, or equivalent system is used at each transfer area so that any break resulting from a pull will occur at a predictable location while retaining intact the valves and piping on the plant side of the transfer area. **(R 336.1224, R 336.1225, R 336.1901)**

4. The permittee shall not operate FG-AmmoniaTks unless liquid lines in rail and transport transfer areas are equipped with back pressure check valves and all liquid lines not requiring a back check valve and all vapor lines are equipped with properly sized excess flow valves. The permittee shall install these valves on the main container side of the predictable break point at the bulkhead. **(R 336.1224, R 336.1225, R 336.1901)**

5. All hoses used in FG-AmmoniaTks shall be replaced five (5) years after date of manufacture or more often if there is evidence of damage or deterioration. **(R 336.1224, R 336.1225, R 336.1901)**

6. The permittee shall vent any vapor or liquid line, exclusive of couplings, requiring venting after ammonia transfer through a water trap of 55 gallons minimum size or the ammonia recovery system. The permittee shall not use safety water for this purpose. **(R 336.1224, R 336.1225, R 336.1901)**

V. TESTING/SAMPLING

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall keep, in a satisfactory manner, records of the date, duration, and description of any malfunction or spill occurring from FG-AmmoniaTks, including the estimated amount of ammonia released into the atmosphere. Do not include trace amounts from normal hose coupling bleed downs. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1901)**

2. The permittee shall keep, in a satisfactory manner, records of the date of annual review and approval of the emergency response plan with the local fire department or emergency response agency. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1901)**

VII. REPORTING

1. The permittee shall notify the Pollution Emergency Alert System (PEAS) 1-800-292-4706 and/or the AQD District Supervisor immediately of any abnormal release of anhydrous ammonia from FG-AmmoniaTks. A normal release includes only hose coupling bleed downs, operation of hydrostatic relief valves, and normal pressure relief from the safety relief valve(s). Relief due to overfilling is not normal. **(R 336.1201(3), R 336.1901)**

VIII. STACK/VENT RESTRICTIONS

NA

IX. OTHER REQUIREMENTS

NA

Footnotes:
[1]This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

The following conditions apply Source-Wide to: FGFACILITY

POLLUTION CONTROL EQUIPMENT: NA

I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. VOC	34.0 tpy	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	FG-GA SC VI.1, FGFACILITY SC II.1, II.2, VI.2	R 336.1205(3)
2. Individual HAP	Less than 9 tpy	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	FG-GA SC VI.1, FGFACILITY SC II.1, II.2, VI.3	R 336.1205(3)
3. Aggregate HAPs	Less than 22.5 tpy	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	FG-GA SC VI.1, FGFACILITY SC II.1, II.2, VI.4	R 336.1205(3)

II. MATERIAL LIMITS

Material	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. Material produced in processes that use HAPs that are volatile organics	3,000 tons per year	12-month rolling time period as determined at the end of each calendar month	FG-Multipurpose2	FGFACILITY SC VI.5	R 336.1205(3)
2. Material produced in processes that do not use HAPs that are volatile organics	9,000 tons per year	12-month rolling time period as determined at the end of each calendar month	FG-Multipurpose2	FGFACILITY SC VI.6	R 336.1205(3)

III. PROCESS/OPERATIONAL RESTRICTIONS

NA

IV. DESIGN/EQUIPMENT PARAMETERS

NA

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205(3))**

2. The permittee shall calculate the VOC emission rate from FGFACILITY monthly, for the preceding 12-month rolling time period, using a method acceptable to the AQD District Supervisor. Emission calculations shall be based on emission factors used in Permit to Install review or shall use other methods acceptable to the AQD District Supervisor. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(3))**

3. For each HAP emitted from FGFACILITY, the permittee shall calculate the individual HAP emission rate from FGFACILITY monthly, for the preceding 12-month rolling time period, using a method acceptable to the AQD District Supervisor. Emission calculations shall be based on emission factors used in Permit to Install review or shall use other methods acceptable to the AQD District Supervisor. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(3))**

4. The permittee shall calculate the aggregate HAPs emission rate from FGFACILITY monthly, for the preceding 12-month rolling time period, using a method acceptable to the AQD District Supervisor. Emission calculations shall be based on emission factors used in Permit to Install review or shall use other methods acceptable to the AQD District Supervisor. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(3))**

5. Each calendar month, for the 12-month rolling time period ending that month, the permittee shall monitor and record, in a satisfactory manner, the amount of material produced in FG-Multipurpose2 processes that use HAPs that are volatile organics. **(R 336.1205(3))**

6. Each calendar month, for the 12-month rolling time period ending that month, the permittee shall monitor and record, in a satisfactory manner, the amount of material produced in FG-Multipurpose2 processes that do not use HAPs that are volatile organics. **(R 336.1205(3))**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTIONS

NA

IX. OTHER REQUIREMENTS

NA

Footnotes:

[1]This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

APPENDIX A
Inspection and Maintenance Program, Page 1 of 2
Permanent Ammonia Storage Tank

Inspection Items 1-15 of 30:	Satisfactory?			Action(s) Taken to Correct Deficiency:
	Yes	No	Date*	
1. Tank free of leaks				
2. Tank supports in good condition (no cracked or crumbled concrete, etc.)				
3. Paint in good condition				
4. Equipment locked when not in use				
5. Tank properly labeled				
6. Valves and fittings free from leaks and in good condition				
7. Piping properly supported and guards in place				
8. Pipes free of physical damage and rust and properly painted				
9. Employees trained in proper filling procedures				
10. Provisions provided for bleeding of transfer hose from the transport truck				
11. Wheels properly chocked on the transport truck or rail tank car while unloading				
12. Information and warning signs displayed and in good condition				
13. Area free of weeds, trash and other unsafe conditions				
14. Unused equipment stored out of the way				
15. Chemical safety goggles available and in good condition				

Date Inspected: _____ Inspector: _____

* For each item, check if condition is satisfactory or not satisfactory. If condition is not satisfactory, complete date when corrected and record action(s) taken to correct. If condition is not applicable, write NA.

Appendix A
Inspection and Maintenance Program, Page 2 of 2
Permanent Ammonia Storage Tank

Inspection Items 16-30 of 30:	Satisfactory?			Action(s) Taken to Correct Deficiency:
	Yes	No	Date*	
16. Protective gloves, boots, suits or slickers available and in good condition				
17. Gas masks with ammonia type canisters and refill canisters within date limits available				
18. Emergency clean water, shower or 75 gallon tank available nearby				
19. Hoses in good condition				
20. Hoses no older than five years from date of manufacture and marked				
21. Vapor and liquid hoses are proper ammonia- type and free of damage or deterioration				
22. Hoses suitably racked to prevent kinking				
23. Hoses, including those on nurse tanks, securely clamped to the nipples				
24. Gages, pressure and liquid level, operable				
25. Valves properly labeled “liquid” and “vapor”				
26. Safety relief valves within five years of manufacture or recertification and marked				
27. Outlet openings on valves and lines free of dirt and rust with protective caps in place				
28. Safety relief valves free of debris with rain caps installed				
29. Safety relief valve manifold operable				
30. Remote shut-off valve in working order				

Date Inspected: _____ Inspector: _____

* For each item, check if condition is satisfactory or not satisfactory. If condition is not satisfactory, complete date when corrected and record action(s) taken to correct. If condition is not applicable, write NA.