MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION

September 16, 2016

PERMIT TO INSTALL
6-15A

ISSUED TO
Clemens Food Group

LOCATED AT
Newton Road
Coldwater, Michigan

IN THE COUNTY OF
Branch

STATE REGISTRATION NUMBER
P0585

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: **August 19, 2016**	
DATE PERMIT TO INSTALL APPROVED: **September 16, 2016**	SIGNATURE:
DATE PERMIT VOIDED:	SIGNATURE:
DATE PERMIT REVOKED:	SIGNATURE:

PERMIT TO INSTALL

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Common Abbreviations / Acronyms

Common Acronyms		Pollutant / Measurement Abbreviations	
AQD	Air Quality Division	acfm	Actual cubic feet per minute
BACT	Best Available Control Technology	BTU	British Thermal Unit
CAA	Clean Air Act	°C	Degrees Celsius
CAM	Compliance Assurance Monitoring	CO	Carbon Monoxide
CEM	Continuous Emission Monitoring	CO_2e	Carbon Dioxide Equivalent
CFR	Code of Federal Regulations	dscf	Dry standard cubic foot
COM	Continuous Opacity Monitoring	dscm	Dry standard cubic meter
Department/ department	Michigan Department of Environmental Quality	°F	Degrees Fahrenheit
		gr	Grains
EU	Emission Unit	HAP	Hazardous Air Pollutant
FG	Flexible Group	Hg	Mercury
GACS	Gallons of Applied Coating Solids	hr	Hour
GC	General Condition	HP	Horsepower
GHGs	Greenhouse Gases	H_2S	Hydrogen Sulfide
HVLP	High Volume Low Pressure*	kW	Kilowatt
ID	Identification	lb	Pound
IRSL	Initial Risk Screening Level	m	Meter
ITSL	Initial Threshold Screening Level	mg	Milligram
LAER	Lowest Achievable Emission Rate	mm	Millimeter
MACT	Maximum Achievable Control Technology	MM	Million
MAERS	Michigan Air Emissions Reporting System	MW	Megawatts
MAP	Malfunction Abatement Plan	NMOC	Non-methane Organic Compounds
MDEQ	Michigan Department of Environmental Quality	NO_x	Oxides of Nitrogen
		ng	Nanogram
MSDS	Material Safety Data Sheet	PM	Particulate Matter
NA	Not Applicable	PM10	Particulate Matter equal to or less than 10 microns in diameter
NAAQS	National Ambient Air Quality Standards		
NESHAP	National Emission Standard for Hazardous Air Pollutants	PM2.5	Particulate Matter equal to or less than 2.5 microns in diameter
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	Reasonable Available Control Technology	scf	Standard cubic feet
ROP	Renewable Operating Permit	sec	Seconds
SC	Special Condition	SO_2	Sulfur Dioxide
SCR	Selective Catalytic Reduction	TAC	Toxic Air Contaminant
SNCR	Selective Non-Catalytic Reduction	Temp	Temperature
SRN	State Registration Number	THC	Total Hydrocarbons
TEQ	Toxicity Equivalence Quotient	tpy	Tons per year
USEPA/EPA	United States Environmental Protection Agency	µg	Microgram
		µm	Micrometer or Micron
VE	Visible Emissions	VOC	Volatile Organic Compounds
		yr	Year

*For HVLP applicators, the pressure measured at the gun air cap shall not exceed 10 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
EUBoiler1	Multi-fuel boiler with nameplate output of 1200 HP and heat input of approximately 50.21 million BTU/hr. Capable of firing natural gas, distillate oil, and animal fat/vegetable oil. Approximate oil firing rate is 359 gallons/hr distillate oil and 372 gallons/hr animal fat/vegetable oil. The boiler is subject to 40 CFR Part 60, Subpart Dc, and to 40 CFR Part 63, Subpart JJJJJJ.	FGBoilers, FGFACILITY
EUBoiler2	Multi-fuel boiler with nameplate output of 1200 HP and heat input of approximately 50.21 million BTU/hr. Capable of firing natural gas, distillate oil, and animal fat/vegetable oil. Approximate oil firing rate is 359 gallons/hr distillate oil and 372 gallons/hr animal fat/vegetable oil. The boiler is subject to 40 CFR Part 60, Subpart Dc, and to 40 CFR Part 63, Subpart JJJJJJ.	FGBoilers, FGFACILITY
EUBoiler3	Multi-fuel boiler with nameplate output of 1200 HP and heat input of approximately 50.21 million BTU/hr. Capable of firing natural gas, distillate oil, and animal fat/vegetable oil. Approximate oil firing rate is 359 gallons/hr distillate oil and 372 gallons/hr animal fat/vegetable oil. The boiler is subject to 40 CFR Part 60, Subpart Dc, and to 40 CFR Part 63, Subpart JJJJJJ.	FGBoilers, FGFACILITY
EUBoiler4	Multi-fuel boiler with nameplate output of 1200 HP and heat input of approximately 50.21 million BTU/hr. Capable of firing natural gas, distillate oil, and animal fat/vegetable oil. Approximate oil firing rate is 359 gallons/hr distillate oil and 372 gallons/hr animal fat/vegetable oil. The boiler is subject to 40 CFR Part 60, Subpart Dc, and to 40 CFR Part 63, Subpart JJJJJJ.	FGBoilers, FGFACILITY
EUGen1	200 ekW natural gas-fueled emergency generator rated at approximately 268 horsepower, with heat input rate of 2.6 MMBtu per hour. The generator is subject to 40 CFR Part 60, Subpart JJJJ, and to 40 CFR Part 63, Subpart ZZZZ.	FGGenerators, FGFACILITY
EUGen2	200 ekW natural gas-fueled emergency generator rated at approximately 268 horsepower, with heat input rate of 2.6 MMBtu per hour. The generator is subject to 40 CFR Part 60, Subpart JJJJ, and to 40 CFR Part 63, Subpart ZZZZ.	FGGenerators, FGFACILITY
EUGen3	200 ekW natural gas-fueled emergency generator rated at approximately 268 horsepower, with heat input rate of 2.6 MMBtu per hour. The generator is subject to 40 CFR Part 60, Subpart JJJJ, and to 40 CFR Part 63, Subpart ZZZZ.	FGGenerators, FGFACILITY

Emission Unit ID	Emission Unit Description (Process Equipment & Control Devices)	Flexible Group ID
EUGen4	200 ekW natural gas-fueled emergency generator rated at approximately 268 horsepower, with heat input rate of 2.6 MMBtu per hour. The generator is subject to 40 CFR Part 60, Subpart JJJJ, and to 40 CFR Part 63, Subpart ZZZZ.	FGGenerators, FGFACILITY
EUGen5	200 ekW natural gas-fueled emergency generator rated at approximately 268 horsepower, with heat input rate of 2.6 MMBtu per hour. The generator is subject to 40 CFR Part 60, Subpart JJJJ, and to 40 CFR Part 63, Subpart ZZZZ.	FGGenerators, FGFACILITY
EUAMUnits	Ten natural gas-fired air makeup units with a combined total heat input of approximately 52.62 million BTU/hr. Six units are rated at 6.48 MMBtu/hr each, three are rated at 3.89 MMBTU/hr each, and one is rated at 2.07 MMBtu/hr.	FGNatGas, FGFACILITY
EUMiscHeaters	68 small miscellaneous natural gas-fired air handling units and heaters with approximate combined total heat input rate of 15.2 MMBTU/hr	FGNatGas, FGFACILITY
EUBloodTank1	The blood tanks receive blood drained from the carcasses and store it for further processing. Nominal capacity of each tank is 5,000 gallons. Emissions from the blood tank area will be exhausted to the atmosphere through the 100,000 cfm scrubber, and may be captured and ducted first to the inlet of the venturi scrubber.	FG100KScrubber, FGFACILITY
EUBloodTank2	The blood tanks receive blood drained from the carcasses and store it for further processing. Nominal capacity of each tank is 5,000 gallons. Emissions from the blood tank area will be exhausted to the atmosphere through the 100,000 cfm scrubber, and may be captured and ducted first to the inlet of the venturi scrubber.	FG100KScrubber, FGFACILITY
EUBloodCoagCent	Decanters, centrifuges, and a coagulator are used to separate solids from liquids and separate white blood cells from the rest of the blood. The stream containing the white blood cells is transferred to tank trucks and shipped offsite for processing. The stream containing red blood cells is coagulated using steam and then further centrifuged to separate the liquid from the solid proteins. The liquid from the centrifuge is pre-treated and sent to the industrial pretreatment plant, and the blood proteins are sent to the blood dryer. Emissions from the area of the centrifuges and coagulator will be exhausted to the atmosphere through the 100,000 cfm scrubber, and may be captured and ducted first to the inlet of the venturi scrubber.	FG100KScrubber, FGFACILITY
EUBloodDryer	The blood dryer receives the blood proteins stream from EUBloodCoagCent, along with proteins from the hydrolyzer, and produces dried protein meal. The dried protein meal is stored in silos and sold for use in pet food or fertilizers. Emissions from the blood dryer are exhausted to the inlet of the spray tower and from there to the 20,000 cfm packed bed scrubber for emission control. The blood dryer fires natural gas and has a heat input rate of approximately 5.6 MMBtu/hr.	FGNatGas, FG20KScrubber, FGFACILITY

Emission Unit ID	Emission Unit Description (Process Equipment & Control Devices)	Flexible Group ID
EUHydrolyzer	The hydrolyzer processes hair removed from the carcasses, producing moist protein that proceeds to the blood dryer, along with the solid portion from the centrifuges following the cooker. Emissions from the shaft of the hydrolyzer will be captured and ducted to the inlet of the venturi scrubber. Emissions from the remaining area around the hydrolyzer will be exhausted to the atmosphere through the 100,000 cfm scrubber, and may be captured and ducted first to the inlet of the venturi scrubber.	FG25KScrubbers, FG100KScrubber, FGFACILITY
EUCooker	Materials that are not for human consumption proceed through a screw conveyor and grinder to the cooker. The cooker uses steam to heat ground materials under pressure to prepare them for further processing in EUInedible. Emissions from the cooker are routed to the venturi scrubber for emission control.	FG25KScrubbers, FG100KScrubber, FGFACILITY
EUInedible	Inedible processing following the cooker continues with presses, a centrifuge, and additional screw conveyors. The presses and centrifuge separate fat from other materials. Emissions from the area of the presses, the centrifuge, and the initial screw conveyor are captured and ducted to the inlet of the venturi scrubber for emission control. Emissions from the area of the additional screw conveyors will be exhausted to the atmosphere through the 100,000 cfm scrubber, and may be captured and ducted first to the inlet of the venturi scrubber.	FG25KScrubbers, FG100KScrubber, FGFACILITY
EUMillingRoom	The milling room is exhausted through a 5,200 cfm baghouse dust collector and from there to the 20,000 cfm packed bed scrubber.	F20KScrubber, FGFACILITY
EURawMaterials	Raw materials are stored in silos and bins before further processing. Exhaust from these areas is ducted to the venturi scrubber for emission control and from there to the atmosphere through the 100,000 cfm scrubber.	FG25KScrubbers, FG100KScrubber, FGFACILITY
EUIPPDryer	Industrial pretreatment plant sludge dryer fueled with natural gas, with heat input of approximately 3 MMBTU/hr. Emissions from the IPP dryer exhaust through a dual cyclone to the biofilter. The dryer is subject to 40 CFR Part 61 Subpart E.	FGNatGas, FGFACILITY
EUSinger1	Singer 1: a natural gas-fired torch used to remove hair from carcasses. Heat input rating is 8.1 million BTU/hr.	FGNatGas, FGFACILITY
EUSinger2	Singer 2: a natural gas-fired torch used to remove hair from carcasses. Heat input rating is 8.1 million BTU/hr.	FGNatGas, FGFACILITY
EUSinger3	Singer 3: a natural gas-fired torch used to remove hair from carcasses. Heat input rating is 4 million BTU/hr.	FGNatGas, FGFACILITY
EUAmmoniaRef	A refrigeration system that includes ammonia storage tanks and piping with total capacity of approximately 27,300 gallons.	FGFACILITY
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.		

The following conditions apply to:
EUIPPDryer

DESCRIPTION: Industrial pretreatment plant sludge dryer fueled with natural gas, with heat input of approximately 3 MMBTU/hr. Emissions from the IPP dryer exhaust through a dual cyclone to the biofilter. The dryer is subject to 40 CFR Part 61 Subpart E.

Flexible Group ID: FGNatGas, FGFACILITY

POLLUTION CONTROL EQUIPMENT:
Dual cyclone
Biofilter

I. EMISSION LIMITS

NA

II. MATERIAL LIMITS

Material	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. Mercury content of sludge dried	100 ppmw	Test protocol*	EUIPPDryer	SC V.1, VI.2	40 CFR 61.52, 40 CFR 61.54
2. Mercury content of sludge dried	0.2 ppmw [1]	Test protocol*	EUIPPDryer	SC V.2, VI.3	R 336.1228
* Test protocol shall specify averaging time.					

III. PROCESS/OPERATIONAL RESTRICTIONS

NA

IV. DESIGN/EQUIPMENT PARAMETERS

1. The maximum design capacity of EUIPPDryer shall not exceed 30,500 kilograms per day of sludge, on a dry basis. **(R 336.1228, 40 CFR Part 61 Subpart E)**

2. The permittee shall not operate EUIPPDryer unless the dual cyclone and the biofilter are installed, maintained, and operated in a satisfactory manner. Satisfactory operation of the biofilter includes maintaining the operating parameters listed below within the ranges specified in the Nuisance Minimization Plan for Odor ("Plan") as representing satisfactory operation of the biofilter.[1] **(R 336.1901)**
   a. Differential pressure drop across the biofilter.
   b. Inlet temperature of exhaust gases to the biofilter.
   c. Operating parameters identified in the Plan as representing satisfactory operation of the biofilter.

3. The permittee shall equip and maintain EUIPPDryer and the biofilter with devices to monitor the following parameters. **(R 336.1910)**
   a. Differential pressure drop across the biofilter.
   b. Inlet temperature of exhaust gases to the biofilter.
   c. Other operating parameters identified in the Plan as representing satisfactory operation of the biofilter.

V. TESTING/SAMPLING

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

1. Within 90 days after initial startup of EUIPPDryer, and thereafter at least once per year, the permittee shall determine the mercury content of the sludge dried in EUIPPDryer, as required by federal National Emission Standards for Hazardous Air Pollutants, by sampling and analysis at owner's expense, in accordance with 40 CFR Part 61 Subpart E. The permittee shall notify the AQD District Supervisor in writing within 15 days after the date of initial startup in accordance with 40 CFR 61.09(a)(2). Sludge sampling procedures and analysis methods shall be in accordance with the applicable federal requirements in 40 CFR 61.54(c). No less than 30 days prior to testing, the permittee shall submit a complete sampling and analysis plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing. Determination of mercury content includes the submittal of a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(40 CFR 61.54, 40 CFR 61.55(a))**

2. Within 90 days after initial startup of EUIPPDryer, and thereafter at least twice per year, the permittee shall determine the mercury content of the sludge dried in EUIPPDryer, by sampling and analysis at owner's expense, in accordance with Department requirements. No less than 30 days prior to testing, the permittee shall submit a complete sampling and analysis plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing. Determination of mercury content includes the submittal of a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test.[1] **(R 336.1228)**

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall monitor and record, in a satisfactory manner, the operating parameters for the biofilter identified in EUIPPDryer SC IV.1 once each day that EUIPPDryer operates. The permittee shall keep these records on file at the facility and make them available to the Department upon request. **(R 336.1910)**

2. The permittee shall keep, in a satisfactory manner, all records of sludge sampling, charging rate determination, and other data needed to determine mercury content of the sludge dried in EUIPPDryer on file at the facility and make them available to the Department upon request. **(40 CFR 61.54(g))**

3. The permittee shall keep, in a satisfactory manner, all records of sludge sampling and other data needed to demonstrate compliance with EUIPPDryer SC II.2 on file at the facility and make them available to the Department upon request.[1] **(R 336.1228)**

VII. REPORTING

1. The permittee shall provide written notification of the anticipated and actual dates of initial startup to comply with the federal National Emission Standards for Hazardous Air Pollutants, 40 CFR 61.09. The permittee shall submit these notifications to the AQD District Supervisor within the time frames specified in 40 CFR 61.09. **(40 CFR 61.09)**

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-BioFilter1	Equivalent diameter 24	30	R 336.1225, 40 CFR 52.21(c)&(d)
2. SV-BioFilter2	Equivalent diameter 24	30	R 336.1225, 40 CFR 52.21(c)&(d)

IX. OTHER REQUIREMENTS

1. The permittee shall comply with all provisions of the National Emission Standards for Hazardous Air Pollutants as specified in 40 CFR Part 61 Subparts A and E, as they apply to EUIPPDryer. **(40 CFR Part 61 Subparts A & E)**

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

The following conditions apply to:
EUAmmoniaRef

DESCRIPTION: A refrigeration system that includes ammonia storage tanks with combined total capacity of approximately 27,300 gallons.

Flexible Group ID: FGFACILITY

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, EUAmmoniaRef shall comply with "Part 78, Storage and Handling of Anhydrous Ammonia" (MIOSHA 1910.111), hereinafter Rule 7801. 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, shall be maintained for inspection at the facility.[1] **(R 336.1901)**

2. The permittee shall not operate EUAmmoniaRef unless the inspection and maintenance program specified in Appendix A has been implemented and maintained.[1] **(R 336.1901)**

3. The permittee shall not operate EUAmmoniaRef 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 June 30 each year, the permittee shall review this plan with the local fire department or emergency response agency and make any necessary updates.[1] **(R 336.1901)**

4. The permittee shall not operate EUAmmoniaRef 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.[1] **(R 336.1901)**

5. Vapor return lines shall be employed whenever necessary to ensure an accidental release from pressure relief valves will not occur during ammonia transfer operations.[1] **(R 336.1901)**

6. Nitrogen stabilizer shall not be added to any permanent stationary storage tank or to rail or truck transport tanks.[1] **(R 336.1901)**

IV. DESIGN/EQUIPMENT PARAMETERS

1. All containers shall be fitted with safety relief valves in accordance with Rule 7801(b)(9). Such valves shall be stamped with the date manufactured, and shall be replaced, or re-tested and re-certified, at least every five years or more often if there is evidence of damage or deterioration.[1] **(R 336.1225, R 336.1901)**

2. The permittee shall not operate EUAmmoniaRef 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.[1] **(R 336.1225, R 336.1901)**

3. The permittee shall not operate EUAmmoniaRef 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.[1] **(R 336.1225, R 336.1901)**

4. The permittee shall not operate EUAmmoniaRef unless any 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. These valves shall be installed on the main container side of the predictable break point at the bulkhead.[1] **(R 336.1225, R 336.1901)**

5. All hoses shall be replaced five years after date of manufacture or more often if there is evidence of damage or deterioration.[1] **(R 336.1225, R 336.1901)**

6. Any vapor or liquid line, exclusive of couplings, requiring venting after ammonia transfer shall be vented through a water trap of 55 gallons minimum size or following an equivalent or better procedure, as determined by the Department. Safety water shall not be used for this purpose.[1] **(R 336.1225, R 336.1901)**

7. A sign shall be present and conspicuously placed at the facility entrance stating the emergency phone numbers for the owner, primary operator, local and state police, local fire department, and ambulance service.[1] **(R 336.1901)**

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 keep, in a satisfactory manner, records of the date, duration, and description of any malfunction or spill occurring from EUAmmoniaRef, including the estimated amount of ammonia released into the atmosphere. Do not include trace amounts from normal hose coupling bleed downs. The permittee shall make the records available to the Department upon request. **(R 336.1201(3))**

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 make the records available to the Department upon request. **(R 336.1201(3))**

VII. REPORTING

1. The permittee shall notify the Pollution Emergency Alerting System (PEAS) 1-800-292-4706 and/or the AQD District Supervisor immediately of any abnormal release of anhydrous ammonia from EUAmmoniaRef. 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).

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
FGBoilers	Four multi-fuel boilers, each capable of firing natural gas, distillate oil, and animal fat/vegetable oil. Each boiler is subject to 40 CFR Part 60, Subpart Dc, and to 40 CFR Part 63, Subpart JJJJJJ.	EUBoiler1, EUBoiler2, EUBoiler3, EUBoiler4
FGGenerators	Five natural gas-fired emergency generators. Each generator is subject to 40 CFR Part 60, Subpart JJJJ, and to 40 CFR Part 63, Subpart ZZZZ.	EUGen1, EUGen2, EUGen3, EUGen4, EUGen5
FG20KScrubber	All equipment at the facility that is exhausted to the 20,000 cfm scrubber.	EUBloodDryer, EUMillingRoom
FG25KScrubbers	All equipment at the facility that is required to be exhausted to the inlet of the venturi scrubber, including the rendering operations other than the blood dryer. Two 25,000 cfm scrubbers operate in series, with the venturi scrubber exhausting to the packed bed scrubber. The packed bed scrubber then exhausts to the 100,000 cfm scrubber.	EUHydrolyzer, EUCooker, EUInedible
FG100KScrubber	All equipment at the facility that is exhausted to the 100,000 cfm packed bed scrubber. This scrubber receives the exhaust from FG25KScrubbers (the 25,000 cfm venturi scrubber followed by the 25,000 cfm packed bed scrubber) along with the exhaust from the inedible processing operations and the rendering operations other than the blood dryer.	EUBloodTank1, EUBloodTank2, EUBloodCoagCent, EUHydrolyzer, EUCooker, EUInedible
FGNatGas	All equipment at the facility that burns natural gas exclusively, except for the emergency generators. The group consists of the three natural gas-fired singers, the blood dryer, the industrial pre-treatment plant sludge dryer, the air make-up units, and the miscellaneous heaters. This flexible group does not include any boiler in FGBoilers.	EUSinger1, EUSinger2, EUSinger3, EUBloodDryer, EUIPPDryer, EUAMUnits, EUMiscHeaters
FGFACILITY	All process equipment source-wide including equipment covered by other permits, grand-fathered equipment and exempt equipment.	

The following conditions apply to:
FGBoilers

DESCRIPTION: Four multi-fuel boilers, each capable of firing natural gas, distillate oil, and animal fat/vegetable oil. Each boiler is subject to 40 CFR Part 60, Subpart Dc, and to 40 CFR Part 63, Subpart JJJJJJ.

Emission Units: EUBoiler1, EUBoiler2, EUBoiler3, EUBoiler4

POLLUTION CONTROL EQUIPMENT: NA

I. EMISSION LIMITS

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. NO_X	0.038 lb per MMBTU heat input	Test protocol*	Each boiler in FGBoilers while burning natural gas	GC 13	R 336.1205(3), 40 CFR 52.21(c)&(d)
2. NO_X	0.12 lb per MMBTU heat input	Test protocol*	Each boiler in FGBoilers while burning distillate oil	GC 13	R 336.1205(3), 40 CFR 52.21(c)&(d)
3. NO_X	0.071 lb per MMBTU heat input	Test protocol*	Each boiler in FGBoilers while burning animal fat or vegetable oil	GC 13	R 336.1205(3), 40 CFR 52.21(c)&(d)
* Test protocol shall specify averaging time.					

4. Visible emissions from each boiler in FGBoilers shall not exceed 20 percent opacity except as specified in the federal Standards of Performance for New Stationary Sources, 40 CFR Part 60 Subparts A and Dc. **(40 CFR 60.43c(c), 40 CFR Part 60 Subparts A and Dc)**

II. MATERIAL LIMITS

Material	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. Sulfur content of liquid fuel* burned	600 ppmw	Each sample tested	Each boiler in FGBoilers, while burning liquid fuel	SC VI.2	R 336.1205(3), 40 CFR 52.21(c)&(d), 40 CFR 60.42c(d)
* "Liquid fuel" consists of distillate oil, animal fat, and vegetable oil.					

2. The permittee shall burn only natural gas, distillate oil, animal fat, and vegetable oil in FGBoilers. **(40 CFR 52.21(c)&(d))**

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall not burn liquid fuel in more than two of the boilers in FGBoilers at the same time. **(R 336.1205(3), 40 CFR 52.21(c)&(d))**

IV. DESIGN/EQUIPMENT PARAMETERS

NA

V. TESTING/SAMPLING

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

1. Within 180 days after the first time the permittee burns more than 100,000 gallons of animal fat and/or vegetable oil in FGBoilers during a calendar year, the permittee shall verify NO_X emission rates from one boiler in FGBoilers while burning animal fat and/or vegetable oil by testing at owner's expense, in accordance with Department requirements. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1205(3), R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(c)&(d))**

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall prepare all required records and 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), 40 CFR 52.21(c)&(d))**

2. The permittee shall monitor and record, in a satisfactory manner, the sulfur content of all liquid fuels burned in FGBoilers, as required by 40 CFR 60.44c(g) or (h). The permittee shall keep the record on file at the facility and make it available to the Department upon request. **(R 336.1205(3), 40 CFR 52.21(c)&(d), 40 CFR 60.42c(d), 40 CFR 60.44c(g), 40 CFR 60.44c(h))**

3. For each fuel listed below, the permittee shall keep, in a satisfactory manner, monthly and 12-month rolling time period records of the amount of the fuel burned in FGBoilers during each month and during each 12-month rolling time period. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(3), 40 CFR 52.21(c)&(d), 40 CFR 60.48c(g))**
   a. Natural gas
   b. Distillate oil
   c. Animal fat and vegetable oil

4. The permittee shall keep monthly records of boiler operation and of fuels burned in the boilers to demonstrate compliance with FGBoilers SC III.1. The permittee shall keep these records on file at the facility and make them available to the Department upon request. **(R 336.1205(3), 40 CFR 52.21(c)&(d))**

5. If fuel supplier certification is used to demonstrate compliance with 40 CFR 60.42c(d) for any liquid fuel, the permittee shall maintain, in a satisfactory manner, certification records verifying that the sulfur content of that liquid fuel is in compliance with the sulfur in fuel limitation contained in SC II.1. These records shall include the name of the oil supplier and a statement from the oil supplier that the oil complies with the specifications under definition of distillate oil in 40 CFR 60, Subpart Dc, Section 60.41c. . **(40 CFR 60.48c(e)(11)&(f)(1))**

VII. REPORTING

1. The permittee shall provide written notification of the actual date of initial startup of each boiler in FGBoilers to comply with the federal Standards of Performance for New Stationary Sources, 40 CFR 60.7. The permittee shall submit this notification to the AQD District Supervisor within the time frames specified in 40 CFR 60.7. The notification shall include the following: **(40 CFR 60.7, 40 CFR 60.48c)**
   a. The design heat input capacity of the boiler and identification of fuels to be combusted in the boiler.
   b. If applicable, a copy of any federally enforceable requirement that limits the annual capacity factor for any fuel or mixture of fuels under 40 CFR 60.42c or 60.43c.
   c. The annual capacity factor at which the owner or operator anticipates operating the boiler based on all fuels fired and based on each individual fuel fired.
   d. Notification if an emerging technology will be used for controlling SO_2 emissions.

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-Boiler1	32	62.2	R 336.1225, 40 CFR 52.21(c)&(d)
2. SV-Boiler2	32	62.2	R 336.1225, 40 CFR 52.21(c)&(d)
3. SV-Boiler3	32	62.2	R 336.1225, 40 CFR 52.21(c)&(d)
4. SV-Boiler4	32	62.2	R 336.1225, 40 CFR 52.21(c)&(d)

IX. OTHER REQUIREMENTS

1. The permittee shall comply with all provisions of the federal Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60 Subparts A and Dc, as they apply to each boiler in FGBoilers. **(40 CFR Part 60 Subparts A & Dc)**

2. The permittee shall comply with all provisions of the National Emission Standards for Hazardous Air Pollutants as specified in 40 CFR Part 63 Subparts A and JJJJJJ, as they apply to each boiler in FGBoilers. **(40 CFR Part 63 Subparts A & JJJJJJ)**

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

The following conditions apply to:
FGGenerators

DESCRIPTION: Five natural gas-fired emergency generators. Each generator is subject to 40 CFR Part 60, Subpart JJJJ, and to 40 CFR Part 63, Subpart ZZZZ.

Emission Units: EUGen1, EUGen2, EUGen3, EUGen4, EUGen5

POLLUTION CONTROL EQUIPMENT: NA

I. EMISSION LIMITS

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. NO_X	2.0 grams per HP-hr	Test protocol*	Each generator engine in FGGenerators	SC VI.2	40 CFR 60.4233(e)
2. CO	4.0 grams per HP-hr	Test protocol*	Each generator engine in FGGenerators	SC VI.2	40 CFR 60.4233(e)
3. VOC	1.0 gram per HP-hr	Test protocol*	Each generator engine in FGGenerators	SC VI.2	R 336.1702(b), 40 CFR 60.4233(e)
* Test protocol shall specify averaging time.					

II. MATERIAL LIMITS

1. The permittee shall burn only pipeline quality natural gas in the equipment in FGGenerators. **(R 336.1224, R 336.1225, 40 CFR 52.21(c)&(d))**

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall not operate any generator engine in FGGenerators for more than 500 hours per year on a 12-month rolling time period basis as determined at the end of each calendar month, including the hours as specified in SC III.2. **(R 336.1205(1)(a), R 336.1225, R 336.1702(a), 40 CFR 52.21(c)&(d))**

2. The permittee may operate each generator engine in FGGenerators for no more than 100 hours per calendar year for the purpose of necessary maintenance checks and readiness testing, provided that the tests are recommended by Federal, State, or local government, the manufacturer, the vendor, or the insurance company associated with the engine. The permittee may petition the Department for approval of additional hours to be used for maintenance checks and readiness testing. A petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency internal combustion engines beyond 100 hours per calendar year. Each generator engine in FGGenerators may operate up to 50 hours per calendar year in non-emergency situations, but those 50 hours are counted towards the 100 hours per calendar year provided for maintenance and testing. The 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply non-emergency power as part of a financial arrangement with another entity. **(40 CFR 60.4243(d))**

3. If the permittee purchased a certified engine, according to procedures specified in 40 CFR Part 60 Subpart JJJJ, for the same model year, the permittee shall meet the following requirements for each generator engine in FGGenerators:
   a. Operate and maintain each generator engine in FGGenerators and control device according to the manufacturer's emission-related written instructions,
   b. The permittee may only change those settings that are permitted by the manufacturer. If you do not operate and maintain the engine and control device according to the manufacturer's emission-related written instructions, the engine must demonstrate compliance as specified in SC III.4, and
   c. Meet the requirements as specified in 40 CFR Part 89, as it applies to you.
   (40 CFR 60.4243(a))

4. If the permittee purchased a non-certified engine or a certified engine operating in a non-certified manner, the permittee shall keep a maintenance plan for each such engine and shall, to the extent practicable, maintain and operate each such engine in a manner consistent with good air pollution control practice for minimizing emissions. **(40 CFR 60.4243(a)(2)(ii))**

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall equip and maintain each engine in FGGenerators with a non-resettable hour meter to track the operating hours. **(R 336.1205(1)(a), 40 CFR 60.4237(b))**

2. The nameplate capacity of each engine in FGGenerators shall not exceed 200 kilowatts, as certified by the equipment manufacturer. **(R 336.1205(1)(a), 40 CFR 60.4231, 40 CFR 89.112(a))**

V. TESTING/SAMPLING

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

1. The permittee shall conduct an initial performance test for each engine in FGGenerators within one year after startup of the engine to demonstrate compliance with the emission limits in 40 CFR 60.4233 unless the engine has been certified by the manufacturer and the permittee maintains the engine as required by 40 CFR Part 60 Subpart JJJJ. If a performance test is required, the performance tests shall be conducted according to 40 CFR 60.4244. No less than 30 days prior to testing, a complete test plan shall be submitted to the AQD. The final plan must be approved by the AQD prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD within 60 days following the last date of the test. **(40 CFR 60.4243, 40 CFR 60.4244, 40 CFR Part 60 Subpart JJJJ)**

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(1)(a), 40 CFR 52.21(c)&(d))**

2. The permittee shall keep, in a satisfactory manner, records of testing required in SC V.1 or manufacturer certification documentation indicating that each engine in FGGenerators meets the applicable emission limitations contained in the federal Standards of Performance for New Stationary Sources, 40 CFR Part 60 Subpart JJJJ. If any engine in FGGenerators becomes uncertified, then the permittee must also keep records of a maintenance plan and maintenance activities. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(40 CFR 60.4243)**

3. The permittee shall monitor and record the total hours of operation and the hours of operation during non-emergencies for each engine in FGGenerators, on a monthly and 12-month rolling time period basis, in a manner acceptable to the AQD District Supervisor. The permittee shall document how many hours are spent for emergency operation of each engine in FGGenerators, including what classified the operation as emergency and how many hours are spent for non-emergency operation. **(R 336.1205(1)(a), 40 CFR 60.4243)**

VII. REPORTING

1. The permittee shall provide written notification of the actual date of initial startup of each generator in FGGenerators to comply with the federal Standards of Performance for New Stationary Sources, 40 CFR 60.7. The permittee shall submit this notification to the AQD District Supervisor within the time frames specified in 40 CFR 60.7. **(40 CFR 60.7)**

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-Gen1 [A]	5	6	R 336.1225, 40 CFR 52.21(c)&(d)
2. SV-Gen2 [A]	5	6	R 336.1225, 40 CFR 52.21(c)&(d)
3. SV-Gen3 [A]	5	6	R 336.1225, 40 CFR 52.21(c)&(d)
4. SV-Gen4 [A]	5	6	R 336.1225, 40 CFR 52.21(c)&(d)
5. SV-Gen5 [A]	5	6	R 336.1225, 40 CFR 52.21(c)&(d)
[A] This vent is allowed to discharge horizontally.			

IX. OTHER REQUIREMENTS

1. The permittee shall comply with all provisions of the federal Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60 Subparts A and JJJJ, as they apply to each engine in FGGenerators. **(40 CFR Part 60 Subparts A & JJJJ)**

2. The permittee shall comply with all provisions of the National Emission Standards for Hazardous Air Pollutants as specified in 40 CFR Part 63 Subparts A and ZZZZ, as they apply to each engine in FGGenerators. **(40 CFR Part 63 Subparts A & ZZZZ)**

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

The following conditions apply to:
FG20KScrubber

DESCRIPTION: All equipment at the facility that is exhausted to the 20,000 cfm scrubber.

Emission Units: EUBloodDryer, EUMillingRoom

POLLUTION CONTROL EQUIPMENT:
Spray tower that exhausts to the 20,000 cfm packed bed scrubber
Baghouse dust collector that exhausts to the 20,000 cfm packed bed scrubber
Packed bed scrubber designed for gas flow rate of 20,000 acfm

I. EMISSION LIMITS

NA

II. MATERIAL LIMITS

NA

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall direct to the inlet of the spray tower all emissions from EUBloodDryer.[1] **(R 336.1224, R 336.1225, R 336.1901)**

2. The total exhaust flow directed to the 20,000 cfm packed bed scrubber shall not exceed a maximum of 20,000 actual cubic feet per minute. **(R 336.1224, R 336.1901, R 336.1910)**

3. When any process equipment in FG20KScrubber is operating, the permittee shall maintain the values of all operating parameters for the 20,000 cfm packed bed scrubber within the ranges specified in the approved Nuisance Minimization Plan for Odor. **(R 336.1901, R 336.1910)**

4. The permittee shall not operate an emission unit listed below unless a malfunction abatement plan (MAP), as described in Rule 911(2), for the associated emission control device preceding the 20,000 cfm packed bed scrubber has been submitted and 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 336.1910, R 336.1911)**

Emission Unit	Associated emission control device preceding the 20,000 cfm packed bed scrubber
a. EUBloodDryer	Spray tower
b. EUMillingRoom	Baghouse dust collector

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall not operate the equipment listed below unless emissions from the equipment are exhausted to the emission control devices listed below and the emission control devices are installed, maintained, and operated in a satisfactory manner. Satisfactory operation of the spray tower includes operating the spray tower in conformance with the approved MAP. Satisfactory operation of the 20,000 cfm packed bed scrubber includes maintaining the values of the operating parameters listed in FG20KScrubber SC IV.2 within the ranges specified in the approved Nuisance Minimization Plan for Odor. Satisfactory operation of the baghouse dust collector includes operating the baghouse dust collector in conformance with the approved MAP. **(R 336.1901, R 336.1910)**

Equipment/process	Emission control devices
a. EUBloodDryer	Spray tower and 20,000 cfm packed bed scrubber
b. EUMillingRoom	Baghouse dust collector and 20,000 cfm packed bed scrubber

2. The permittee shall equip and maintain the 20,000 cfm packed bed scrubber with devices to monitor the following parameters.[1] **(R 336.1901)**
   a. Differential pressure across the scrubber
   b. Liquid flow rate of scrubbing solution to the packing section
   c. Oxidation-reduction potential (ORP) in the scrubbing solution

3. If the approved MAP for the spray tower specifies monitoring of any operating parameters for the spray tower, the permittee shall equip and maintain the spray tower with devices to monitor the specified parameters. **(R 336.1910)**

4. If the approved MAP for the baghouse dust collector specifies monitoring of any operating parameters for the baghouse dust collector, the permittee shall equip and maintain the baghouse dust collector with devices to monitor the specified parameters. **(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 monitor, in a satisfactory manner, the parameters specified in FG20KScrubber SC IV.2 for the 20,000 cfm packed bed scrubber on a continuous basis. **(R 336.1910)**

2. Once each day that any process equipment listed below operates, the permittee shall record, in a satisfactory manner, the values of all parameters specified below. The permittee shall keep the records on file at the facility and make them available to the Department upon request. **(R 336.1910)**

Equipment/process	Parameters to be recorded
a. EUBloodDryer	As specified in the approved MAP for the spray tower.
b. EUMillingRoom	As specified in the approved MAP for the baghouse dust collector.

3. If the approved MAP for the spray tower or for the baghouse dust collector identifies any work practices necessary to ensuring the device operates in a satisfactory manner, the permittee shall keep a record, in a manner acceptable to the AQD District Supervisor, of information related to the specified work practices. The record shall contain information described in the MAP for the work practices, and shall be recorded at the frequency specified in the approved MAP. **(R 336.1910)**

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. SV20KScrubber	27.1	55	R 336.1225, R 336.1901, 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:
FG25KScrubbers

DESCRIPTION: All equipment at the facility that is required to be exhausted to the inlet of the venturi scrubber, including the rendering operations other than the blood dryer. Two 25,000 cfm scrubbers operate in series, with the venturi scrubber exhausting to the packed bed scrubber. The packed bed scrubber then exhausts to the 100,000 cfm scrubber.

Emission Units: EUHydrolyzer, EUCooker, EUInedible

POLLUTION CONTROL EQUIPMENT:
Two scrubbers in series:
Venturi scrubber
Packed bed scrubber

I. EMISSION LIMITS

NA

II. MATERIAL LIMITS

NA

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall direct to the inlet of the venturi scrubber all emissions from rendering operations, including the EUHydrolyzer shaft, EUCooker, EUInedible (including areas around the presses, centrifuge, and initial screw conveyor), and other equipment identified in the Nuisance Minimization Plan for Odor.[1] **(R 336.1901)**

2. The total exhaust flow directed to the venturi scrubber shall not exceed a maximum of 25,000 actual cubic feet per minute. **(R 336.1901, R 336.1910)**

3. When any process equipment in FG25KScrubbers is operating, the permittee shall maintain the values of all operating parameters for the venturi scrubber and the 25,000 cfm packed bed scrubber within the ranges specified in the approved Nuisance Minimization Plan for Odor. **(R 336.1901, R 336.1910)**

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall not operate any process equipment in FG25KScrubbers unless the venturi scrubber and the 25,000 cfm packed bed scrubber are both installed, maintained, and operated in a satisfactory manner. Satisfactory operation of each scrubber includes maintaining the values of the operating parameters listed in FG25KScrubbers SC IV.2 and IV.3 within the ranges specified in the approved Nuisance Minimization Plan for Odor. **(R 336.1901, R 336.1910)**

2. The permittee shall equip and maintain the venturi scrubber with devices to monitor the following parameters. **(R 336.1910)**
   a. Differential pressure across the venturi throat
   b. Liquid flow rate of scrubbing solution to the venturi throat

3. The permittee shall equip and maintain the 25,000 cfm packed bed scrubber with devices to monitor the following parameters.[1] **(R 336.1901)**
   a. Differential pressure across the scrubber
   b. Liquid flow rate of scrubbing solution to the packing section
   c. ORP in the scrubbing solution

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 monitor, in a satisfactory manner, the parameters specified in FG25KScrubbers SC IV.2 and IV.3 for the venturi scrubber and for the 25,000 cfm packed bed scrubber on a continuous basis. **(R 336.1910)**

2. Once each day that any process equipment operates that is required by FG25KScrubbers SC III.1 to exhaust to the venturi scrubber, the permittee shall record, in a satisfactory manner, the values of all parameters specified in FG25KScrubbers SC IV.2 and IV.3. The permittee shall keep the records on file at the facility and make them available to the Department upon request. **(R 336.1910)**

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).

The following conditions apply to:
FG100KScrubber

DESCRIPTION: All equipment at the facility that is exhausted to the 100,000 cfm packed bed scrubber. This scrubber receives the exhaust from FG25KScrubbers (the 25,000 cfm venturi scrubber followed by the 25,000 cfm packed bed scrubber) along with the exhaust from the inedible processing operations and the rendering operations other than the blood dryer.

Emission Units: EUBloodTank1, EUBloodTank2, EUBloodCoagCent, EUHydrolyzer, EUCooker, EUInedible

POLLUTION CONTROL EQUIPMENT:
Packed bed scrubber

I. EMISSION LIMITS

NA

II. MATERIAL LIMITS

NA

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall direct all emissions from the equipment listed below to the inlet of the 100,000 cfm packed bed scrubber.[1] **(R 336.1901)**
   a. The exhaust from FG25KScrubbers.
   b. Inedible processing operations, including EUBloodTank1, EUBloodTank2, the area around EUBloodCoagCent, the EUHydrolyzer exhaust, and the conveyors and grinder associated with EUCooker.
   c. Other equipment identified in the Nuisance Minimization Plan for Odor as having emissions exhausted to the inlet of the 100,000 cfm scrubber.

2. The total exhaust flow directed to the 100,000 cfm scrubber shall not exceed a maximum of 100,000 actual cubic feet per minute. **(R 336.1901, R 336.1910)**

3. When any process equipment in FG100KScrubbers is operating, the permittee shall maintain the values of all operating parameters for the 100,000 cfm packed bed scrubber within the ranges specified in the approved Nuisance Minimization Plan for Odor. **(R 336.1901, R 336.1910)**

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall not operate any process equipment in FG100KScrubber unless the scrubber is installed, maintained, and operated in a satisfactory manner. Satisfactory operation of the scrubber includes maintaining the values of the operating parameters listed in FG100KScrubber SC IV.2 within the ranges specified in the approved Nuisance Minimization Plan for Odor. **(R 336.1901, R 336.1910)**

2. The permittee shall equip and maintain the 100,000 cfm packed bed scrubber with devices to monitor the following parameters. **(R 336.1901)**
   a. Differential pressure across the scrubber
   b. Liquid flow rate of scrubbing solution to the packing section
   c. ORP in the scrubbing solution

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 monitor, in a satisfactory manner, the parameters specified in FG100KScrubber SC IV.2 for the scrubber on a continuous basis. **(R 336.1910)**

2. Once each day that any process equipment operates that is required by FG100KScrubber SC III.1 to exhaust to the 100,000 cfm packed bed scrubber, the permittee shall record, in a satisfactory manner, the values of all parameters specified in FG100KScrubber SC IV.2. The permittee shall keep the records on file at the facility and make them available to the Department upon request. **(R 336.1910)**

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-Scrubbers	60.6	65	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:
FGNatGas

DESCRIPTION: All equipment at the facility that burns natural gas exclusively, except for the emergency generators. The group consists of the three natural gas-fired singers, the blood dryer, the industrial pre-treatment plant sludge dryer, the air make-up units, and the miscellaneous heaters. This flexible group does not include any boiler in FGBoilers.

Emission Units: EUSinger1, EUSinger2, EUSinger3, EUBloodDryer, EUIPPDryer, EUAMUnits, EUMiscHeaters

POLLUTION CONTROL EQUIPMENT: NA

I. EMISSION LIMITS

NA

II. MATERIAL LIMITS

1. The permittee shall burn only pipeline quality natural gas in the equipment in FGNatGas. **(R 336.1224, R 336.1225, 40 CFR 52.21(c)&(d))**

III. PROCESS/OPERATIONAL RESTRICTIONS

NA

IV. DESIGN/EQUIPMENT PARAMETERS

1. The total nameplate heat input capacity of FGNatGas shall not exceed 96.7 million BTU per hour. **(R 336.1205(3), R 336.1224, R 336.1225, 40 CFR 52.21(c)&(d)**

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 monitor and record, in a satisfactory manner, the natural gas usage for FGNatGas on a monthly basis. **(R 336.1205(3))**

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-Singer1	Equivalent diameter 38	31.3	R 336.1225, 40 CFR 52.21(c)&(d)
2. SV-Singer2	Equivalent diameter 38	31.3	R 336.1225, 40 CFR 52.21(c)&(d)
3. SV-Singer3	Equivalent diameter 28	31.3	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 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. NO_X	78.1 tpy	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	FGFACILITY SC VI.2, FGBoilers SC VI.3	R 336.1205(3), 40 CFR 52.21(c)&(d)

II. MATERIAL LIMITS

NA

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall not operate FGFACILITY unless a Nuisance Minimization Plan for Odor ("Plan") is implemented and maintained. The permittee shall amend the Plan to update the acceptable operating parameters for scrubber and biofilter operation within 60 days of commencing trial operation of the facility. Within 120 days after commencing trial operation of the facility, the permittee shall submit an intermediate amendment to the Plan for these operating parameters or shall notify the AQD District Supervisor, in writing, that facility startup did not lead to any further amendments to the Plan for these operating parameters. The permittee shall also amend the Plan within 45 days if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the Plan and any amendments to the Plan to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the Plan or amended Plan shall be considered approved. Until an amended Plan is approved, the permittee shall implement corrective procedures or operational changes to prevent objectionable odors offsite.[1] **(R 336.1901)**

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 NO_X emission rates from FGFACILITY monthly, for the preceding 12-month rolling time period, using emission factors and fuel usage data, in a method acceptable to the AQD District Supervisor. Emission factors shall be as specified below or as approved by the AQD District Supervisor. In lieu of the emission factors listed below for boilers, the permittee shall use boiler-specific emission factors (i.e., emission factors derived from stack testing) if that data is available. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(3))**
   a. NO_X emission factor for boilers while firing natural gas = 0.038 lb/MMBTU heat input
   b. NO_X emission factor for boilers while firing animal fat or vegetable oil = 0.07 lb/MMBTU heat input
   c. NO_X emission factor for boilers while firing distillate oil = 0.12 lb/MMBTU heat input
   d. NO_X emission factor for equipment in FGNatGas = 100 lb/million cubic feet of gas burned
   e. NO_X emission factor for generator engines while firing diesel fuel = 2.7 g/kilowatt-hour of energy output

VII. REPORTING

1. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of any equipment exhausted to the biofilter, to the 20,000 cfm packed bed scrubber, to the venturi scrubber, or to the 100,000 cfm packed bed scrubber. **(R 336.1201(7)(a))**

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).

APPENDICES
APPENDIX A: Inspection and Maintenance for Ammonia Storage Tanks

For each ammonia storage tank, the permittee shall conduct inspections and complete this form at least twice per year.

Tank Identification:	Satisfactory?		
	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			

	Satisfactory?		
	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. If condition is not applicable, write NA.