STATE OF MISSISSIPPI
AIR POLLUTION CONTROL
TITLE V PERMIT

TO OPERATE AIR EMISSIONS EQUIPMENT

THIS CERTIFIES THAT

Darling Ingredients Inc
1299 Prisock Road
Jackson, Mississippi
Hinds County

has been granted permission to operate air emissions equipment in accordance with emission limitations, monitoring requirements and conditions set forth herein. This permit is issued in accordance with Title V of the Federal Clean Air Act (42 U.S.C.A. § 7401 - 7671) and the provisions of the Mississippi Air and Water Pollution Control Law (Section 49-17-1 et. seq., Mississippi Code of 1972), and the regulations and standards adopted and promulgated thereunder.

Permit Issued: June 13, 2019

Effective Date: As specified herein.

MISSISSIPPI ENVIRONMENTAL QUALITY PERMIT BOARD

Krystal Rudolph

AUTHORIZED SIGNATURE
MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

Expires: May 31, 2024 **Permit No.: 1080-00040**

Modified: August 29, 2022

1099 PER20220001

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SECTION 1. GENERAL CONDITIONS

1.1 The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Federal Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(6)(a).)

1.2 It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(6)(b).)

1.3 This permit and/or any part thereof may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(6)(c).)

1.4 Prior to its expiration, this permit may be reopened in accordance with the provisions listed below.

(a) This permit shall be reopened and revised under any of the following circumstances:

(1) Additional applicable requirements under the Federal Act become applicable to a major Title V source with a remaining permit term of 3 or more years. Such a reopening shall be completed no later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended.

(2) Additional requirements (including excess emissions requirements) become applicable to an affected source under the acid rain program. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into the permit.

(3) The Permit Board or EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emission standards or other terms or conditions of the permit.

(4) The Administrator or the Permit Board determines that the permit must be revised or revoked to assure compliance with the applicable requirements.

(b) Proceedings to reopen and issue this permit shall follow the same procedures as apply to initial permit issuance and shall only affect those parts of the permit for which cause to reopen exists. Such reopening shall be made as expeditiously as practicable.

(c) Reopenings shall not be initiated before a notice of such intent is provided to the Title V source by the DEQ at least 30 days in advance of the date that the permit is to

be reopened, except that the Permit Board may provide a shorter time period in the case of an emergency.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.4.G.)

1.5 The permittee shall furnish to the DEQ within a reasonable time any information the DEQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the DEQ copies of records required to be kept by the permittee or, for information to be confidential, the permittee shall furnish such records to DEQ along with a claim of confidentiality. The permittee may furnish such records directly to the Administrator along with a claim of confidentiality.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(6)(e).)

1.6 This permit does not convey any property rights of any sort, or any exclusive privilege.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(6)(d).)

1.7 The provisions of this permit are severable. If any provision of this permit, or the application of any provision of this permit to any circumstances, is challenged or held invalid, the validity of the remaining permit provisions and/or portions thereof or their application to other persons or sets of circumstances, shall not be affected thereby.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(5).)

1.8 The permittee shall pay to the DEQ an annual permit fee. The amount of fee shall be determined each year based on the provisions of regulated pollutants for fee purposes and the fee schedule specified in the Commission on Environmental Quality's order which shall be issued in accordance with the procedure outlined in Regulation 11 Miss. Admin. Code Pt. 2, Ch. 6.

(a) For purposes of fee assessment and collection, the permittee shall elect for actual or allowable emissions to be used in determining the annual quantity of emissions unless the Commission determines by order that the method chosen by the applicant for calculating actual emissions fails to reasonably represent actual emissions. Actual emissions shall be calculated using emission monitoring data or direct emissions measurements for the pollutant(s); mass balance calculations such as the amounts of the pollutant(s) entering and leaving process equipment and where mass balance calculations can be supported by direct measurement of process parameters, such direct measurement data shall be supplied; published emission factors such as those relating release quantities to throughput or equipment type (e.g., air emission factors); or other approaches such as engineering calculations (e.g., estimating volatilization using published mathematical formulas) or best engineering judgments where such judgments are derived from process and/or emission data which supports the estimates of maximum actual emission.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.6.A(2).)

(b) If the Commission determines that there is not sufficient information available on a facility's emissions, the determination of the fee shall be based upon the permitted allowable emissions until such time as an adequate determination of actual emissions

is made. Such determination may be made anytime within one year of the submittal of actual emissions data by the permittee.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.6.A(2).)

(c) If at any time within the year the Commission determines that the information submitted by the permittee on actual emissions is insufficient or incorrect, the permittee will be notified of the deficiencies and the adjusted fee schedule. Past due fees from the adjusted fee schedule will be paid on the next scheduled quarterly payment time.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.6.D(2).)

(d) The fee shall be due September 1 of each year. By July 1 of each year, the permittee shall submit an inventory of emissions for the previous year on which the fee is to be assessed. The permittee may elect a quarterly payment method of four (4) equal payments; notification of the election of quarterly payments must be made to the DEQ by the first payment date of September 1. The permittee shall be liable for penalty as prescribed by State Law for failure to pay the fee or quarterly portion thereof by the date due.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.6.D.)

(e) If in disagreement with the calculation or applicability of the Title V permit fee, the permittee may petition the Commission in writing for a hearing in accordance with State Law. Any disputed portion of the fee for which a hearing has been requested will not incur any penalty or interest from and after the receipt by the Commission of the hearing petition.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.6.C.)

1.9 No permit revision shall be required under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are provided for in this permit.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(8).)

1.10 Any document required by this permit to be submitted to the DEQ shall contain a certification by a responsible official that states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.2.E.)

1.11 The permittee shall allow the DEQ, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to perform the following:

(a) enter upon the permittee's premises where a Title V source is located or emissions-related activity is conducted, or where records must be kept under the conditions of this permit;

(b) have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

(c) inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and

(d) as authorized by the Federal Act, sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the permit or applicable requirements.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.C(2).)

1.12 Except as otherwise specified or limited herein, the permittee shall have necessary sampling ports and ease of accessibility for any new air pollution control equipment, obtained after May 8, 1970, and vented to the atmosphere.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.3.I(1).)

1.13 Except as otherwise specified or limited herein, the permittee shall provide the necessary sampling ports and ease of accessibility when deemed necessary by the Permit Board for air pollution control equipment that was in existence prior to May 8, 1970.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.3.I(2).)

1.14 Compliance with the conditions of this permit shall be deemed compliance with any applicable requirements as of the date of permit issuance where such applicable requirements are included and are specifically identified in the permit or where the permit contains a determination, or summary thereof, by the Permit Board that requirements specifically identified previously are not applicable to the source.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.F(1).)

1.15 Nothing in this permit shall alter or affect the following:

(a) the provisions of Section 303 of the Federal Act (emergency orders), including the authority of the Administrator under that section;

(b) the liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;

(c) the applicable requirements of the acid rain program, consistent with Section 408(a) of the Federal Act.

(d) the ability of EPA to obtain information from a source pursuant to Section 114 of the Federal Act.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.F(2).)

1.16 The permittee shall comply with the requirement to register a Risk Management Plan if permittee's facility is required pursuant to Section 112(r) of the Act to register such a plan.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.H.)

1.17 Expiration of this permit terminates the permittee's right to operate unless a timely and complete renewal application has been submitted. A timely application is one which is submitted at least six (6) months prior to expiration of the Title V permit. If the permittee submits a timely and complete application, the failure to have a Title V permit is not a violation of regulations until the Permit Board takes final action on the permit application.

This protection shall cease to apply if, subsequent to the completeness determination, the permittee fails to submit by the deadline specified in writing by the DEQ any additional information identified as being needed to process the application.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.4.C(2)., R. 6.4.B., and R. 6.2.A(1)(c).)

1.18 The permittee is authorized to make changes within their facility without requiring a permit revision (ref: Section 502(b)(10) of the Act) if:

(a) the changes are not modifications under any provision of Title I of the Act;

(b) the changes do not exceed the emissions allowable under this permit;

(c) the permittee provides the Administrator and the Department with written notification in advance of the proposed changes (at least seven (7) days, or such other time frame as provided in other regulations for emergencies) and the notification includes:

(1) a brief description of the change(s),

(2) the date on which the change will occur,

(3) any change in emissions, and

(4) any permit term or condition that is no longer applicable as a result of the change;

(d) the permit shield shall not apply to any Section 502(b)(10) change.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.4.F(1).)

1.19 Should the Executive Director of the Mississippi Department of Environmental Quality declare an Air Pollution Emergency Episode, the permittee will be required to operate in accordance with the permittee's previously approved Emissions Reduction Schedule or, in the absence of an approved schedule, with the appropriate requirements specified in 11 Miss. Admin. Code Pt. 2, Ch. 3., "Regulations for the Prevention of Air Pollution Emergency Episodes" for the level of emergency declared.

(Ref.: 11 Miss. Admin. Code Pt. 2, Ch. 3.)

1.20 Except as otherwise provided herein, a modification of the facility may require a Permit to Construct in accordance with the provisions of Regulations 11 Miss. Admin. Code Pt. 2, Ch. 2., "Permit Regulations for the Construction and/or Operation of Air Emissions Equipment," and may require modification of this permit in accordance with Regulations 11 Miss. Admin. Code Pt. 2, Ch. 6., "Air Emissions Operating Permit Regulations for the Purposes of Title V of the Federal Clean Air Act." Modification is defined as [a]ny physical change in or change in the method of operation of a facility which increases the actual emissions or the potential uncontrolled emissions of any air pollutant subject to regulation under the Federal Act emitted into the atmosphere by that facility or which results in the emission of any air pollutant subject to regulation under the Federal Act into the atmosphere not previously emitted. A physical change or change in the method of operation shall not include:

(a) routine maintenance, repair, and replacement;

(b) use of an alternative fuel or raw material by reason of an order under Sections 2 (a) and (b) of the Federal Energy Supply and Environmental Coordination Act of 1974 (or any superseding legislation) or by reason of a natural gas curtailment plan pursuant to the Federal Power Act;

(c) use of an alternative fuel by reason of an order or rule under Section 125 of the Federal Act;

(d) use of an alternative fuel or raw material by a stationary source which:

(1) the source was capable of accommodating before January 6, 1975, unless such change would be prohibited under any federally enforceable permit condition which was established after January 6, 1975, pursuant to 40 CFR 52.21 or under regulations approved pursuant to 40 CFR 51, Subpart I, or 40 CFR 51.166; or

(2) the source is approved to use under any permit issued under 40 CFR 52.21 or under regulations approved pursuant to 40 CFR Part 51, Subpart I, or 40 CFR 51.166;

(e) an increase in the hours of operation or in the production rate unless such change would be prohibited under any federally enforceable permit condition which was established after January 6, 1975, pursuant to 40 CFR 52.21 or under regulations approved pursuant to 40 CFR Subpart I or 40 CFR 51.166; or

(f) any change in ownership of the stationary source.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.1.C(15).)

1.21 Any change in ownership or operational control must be approved by the Permit Board.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.4.D(4).)

1.22 This permit is a Federally approved operating permit under Title V of the Federal Clean Air Act as amended in 1990. All terms and conditions, including any designed to limit the source's potential to emit, are enforceable by the Administrator and citizens under the Federal Act as well as the Commission.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.B(1).)

1.23 Except as otherwise specified or limited herein, the open burning of residential, commercial, institutional, or industrial solid waste, is prohibited. This prohibition does not apply to infrequent burning of agricultural wastes in the field, silvicultural wastes for forest management purposes, land-clearing debris, debris from emergency clean-up operations, and ordnance. Open burning of land-clearing debris must not use starter or auxiliary fuels which cause excessive smoke (rubber tires, plastics, etc.); must not be performed if prohibited by local ordinances; must not cause a traffic hazard; must not take place where there is a High Fire Danger Alert declared by the Mississippi Forestry Commission or Emergency Air Pollution Episode Alert imposed by the Executive Director and must meet the following buffer zones.

(a) Open burning without a forced-draft air system must not occur within 500 yards of an occupied dwelling.

(b) Open burning utilizing a forced-draft air system on all fires to improve the combustion rate and reduce smoke may be done within 500 yards of but not within 50 yards of an occupied dwelling.

(c) Burning must not occur within 500 yards of commercial airport property, private airfields, or marked off-runway aircraft approach corridors unless written approval to conduct burning is secured from the proper airport authority, owner or operator.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.3.G.)

1.24 Except as otherwise specified herein, the permittee shall be subject to the following provision with respect to emergencies:

(a) Except as otherwise specified herein, an "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

(b) An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions specified in (c) following are met.

(c) The affirmative defense of emergency shall be demonstrated through properly signed contemporaneous operating logs, or other relevant evidence that include information as follows:

(1) an emergency occurred and that the permittee can identify the cause(s) of the emergency;

(2) the permitted facility was at the time being properly operated;

(3) during the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and

(4) the permittee submitted notice of the emergency to the DEQ within 2 working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

(d) In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof.

(e) This provision is in addition to any emergency or upset provision contained in any applicable requirement specified elsewhere herein.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.G.)

1.25 Except as otherwise specified herein, the permittee shall be subject to the following provisions with respect to upsets, startups, and shutdowns.

(a) Upsets (as defined in 11 Miss. Admin. Code Pt. 2, R. 1.2.)

(1) For an upset, the Commission may pursue an enforcement action for noncompliance with an emission standard or other requirement of an applicable rule, regulation, or permit. In determining whether to pursue enforcement action, and/or the appropriate enforcement action to take, the Commission may consider whether the source has demonstrated through properly signed contemporaneous operating logs or other relevant evidence the following:

(i) An upset occurred and that the source can identify the cause(s) of the upset;

(ii) The source was at the time being properly operated;

(iii) During the upset the source took all reasonable steps to minimize levels of emissions that exceeded the emission standard or other requirement of an applicable rule, regulation, or permit;

(iv) That within 5 working days of the time the upset began, the source submitted a written report to the Department describing the upset, the steps taken to mitigate excess emissions or any other noncompliance, and the corrective actions taken and;

(v) That as soon as practicable but no later than 24 hours of becoming aware of an upset that caused an immediate adverse impact to human health or the environment beyond the source boundary or caused a general nuisance to the public, the source provided notification to the Department.

(2) In any enforcement proceeding by the Commission, the source seeking to establish the occurrence of an upset has the burden of proof.

(3) This provision is in addition to any upset provision contained in any applicable requirement.

(4) These upset provisions apply only to enforcement actions by the Commission and are not intended to prohibit EPA or third party enforcement actions.

(b) Startups and Shutdowns (as defined in 11 Miss. Admin. Code Pt. 2, R. 1.2.)

(1) Startups and shutdowns are part of normal source operation. Emission limitations apply during startups and shutdowns unless source specific emission limitations or work practice standards for startups and shutdowns are defined by an applicable rule, regulation, or permit.

(2) Where the source is unable to comply with existing emission limitations established under the State Implementation Plan (SIP) and defined in this regulation, 11 Mississippi Administrative Code, Part 2, Chapter 1, the Department will consider establishing source specific emission limitations or work practice standards for startups and shutdowns. Source specific emission limitations or work practice standards established for startups and shutdowns are subject to the requirements prescribed in 11 Miss. Admin. Code Pt. 2, R. 1.10.B(2)(a) through (e).

(3) Where an upset as defined in Rule 1.2 occurs during startup or shutdown, see the upset requirements above.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.10.)

1.26 The permittee shall comply with all applicable standards for demolition and renovation activities pursuant to the requirements of 40 CFR Part 61, Subpart M, as adopted by reference in Regulation 11 Miss Admin. Code Pt. 2, R. 1.8. The permittee shall not be required to obtain a modification of this permit in order to perform the referenced activities.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.8.)

SECTION 2. EMISSION POINTS & POLLUTION CONTROL DEVICES

Emission Point	Description
AA-003	15,600-gallon fuel oil storage tank
AA-004a	Venturi Scrubber controlling emissions from the Recycling Process (AA-009, AA-010, AA-016, AA-019, and AA-026); the gas stream from the scrubber is then routed through the Regenerative Thermal Oxidizer (RTO) (AA-027)
AA-004b	Packed Tower Scrubber contingency unit to control emissions from the Recycling Process (AA-009, AA-010, and AA-016)
AA-005	Cross Flow Scrubber which collects and controls fugitive malodor emissions from the process building
AA-009	54.42 TPH Poultry Line with #1, #2, and #4 cookers with emissions controlled by AA-004a and AA-027 operating in series; fugitive malodor emissions are controlled by AA-005
AA-010	10.07 TPH Poultry Line with #3 cooker with emissions controlled by AA-004a and AA-027 operating in series; fugitive malodor emissions are controlled by AA-005
AA-013	8.8 TPH Restaurant Cooking Oil Line which consists of receiving, screening, storing, heating, gravity separation, and product storage equipment
AA-016	10 TPH Steam-tube Blood Dryer Line with process emissions controlled by AA-004a and AA-027 operating in series; fugitive malodor emissions are controlled by AA-005 (AA-004b as backup)
AA-017	High Intensity Scrubber System (Packed Tower Scrubber) which is a backup to AA-027 and would be used to control process emissions from AA-019 and AA-026
AA-018	Cross Flow Scrubber which collects and controls fugitive malodor emissions from the process building
AA-019	25.0 TPH Steam-tube Feather Dryer Line with process emissions controlled by AA-004a and AA-027 operating in series; fugitive malodor emissions are controlled by AA-018 (AA-017 is backup)
AA-020	50.4 MMBTU/hr (1,200 HP or 895 kW) Hurst Boiler combusting natural gas, low-sulfur diesel fuel, or processed fats
AA-021	50.4 MMBTU/hr (1,200 HP or 895 kW) Hurst Boiler combusting natural gas, low-sulfur diesel fuel, or processed fats-
AA-022	50.4 MMBTU/hr (1,200 HP or 895 kW) Hurst Boiler combusting natural gas, low-sulfur diesel fuel, or processed fats
AA-023	50.4 MMBTU/hr (1,200 HP or 895 kW) Hurst Boiler combusting natural gas, low-sulfur diesel fuel, or processed fats
AA-024	48 MMBTU/hr (1,150 HP or 858 kW) Hurst Boiler combusting natural gas, low-sulfur diesel fuel, or processed fats
AA-025	48 MMBTU/hr (1,150 HP or 858 kW) Hurst Boiler combusting natural gas, low-sulfur diesel fuel, or processed fats
AA-026	23.33 TPH Poultry Line with #5 cooker with emissions controlled by AA-004a and AA-027 operating in series; fugitive malodor emissions are controlled by AA-018 (AA-017 is backup)
AA-027	5.0 MMBTU/hr Regenerative Thermal Oxidizer (RTO)controlling emissions from the scrubber AA-004a, which is controlling emissions from AA-009, AA-010, AA-016, AA-019, and AA-026
AA-028	67 HP (40 kW or 0.509 MMBTU/hr) natural gas-fired, spark ignition, 4-stroke lean-burn emergency generator (WINCO – Model Year 2014) used to provide emergency power for AA-027
AA-029	Biogas Flare used to combust biogas emissions generated from the anaerobic lagoon
AA-030	29.5 HP (22 kW or 0.322 MMBTU/hr) natural gas-fired, spark ignition, 4-stroke lean-burn emergency generator (GENERAC – Model Year 2022)

SECTION 3. EMISSION LIMITATIONS & STANDARDS

A. Facility-Wide Emission Limitations & Standards

3.A.1 Except as otherwise specified or limited herein, the permittee shall not cause, permit, or allow the emission of smoke from a point source into the open air from any manufacturing, industrial, commercial or waste disposal process which exceeds forty (40) percent opacity subject to the exceptions provided in (a) & (b).

(a) Startup operations may produce emissions which exceed 40% opacity for up to fifteen (15) minutes per startup in any one hour and not to exceed three (3) startups per stack in any twenty-four (24) hour period.

(b) Emissions resulting from soot blowing operations shall be permitted provided such emissions do not exceed 60 percent opacity, and provided further that the aggregate duration of such emissions during any twenty-four (24) hour period does not exceed ten (10) minutes per billion BTU gross heating value of fuel in any one hour.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.3.A.)

3.A.2 Except as otherwise specified or limited herein, the permittee shall not cause, allow, or permit the discharge into the ambient air from any point source or emissions, any air contaminant of such opacity as to obscure an observer's view to a degree in excess of 40% opacity, equivalent to that provided in Condition 3.A.1. This shall not apply to vision obscuration caused by uncombined water droplets.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.3.B.)

3.A.3 For the entire facility, the permittee shall not cause, permit, or allow the emission of particles or any contaminants in sufficient amounts or of such duration from any process as to be injurious to humans, animals, plants, or property, or to be a public nuisance, or create a condition of air pollution.

(a) The permittee shall not cause or permit the handling, transporting, or storage of any material in a manner which allows or may allow unnecessary amounts of particulate matter to become airborne.

(b) When dust, fumes, gases, mist, odorous matter, vapors, or any combination thereof escape from a building or equipment in such a manner and amount as to cause a nuisance to property other than that from which it originated or to violate any other provision of 11 Miss. Admin. Code Pt. 2, Ch. 1, the Commission may order such corrected in a way that all air and gases or air and gasborne material leaving the building or equipment are controlled or removed prior to discharge to the open air.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.3.C.)

B. Emission Point Specific Emission Limitations & Standards

Emission Point(s)	Applicable Requirement	Condition Number(s)	Pollutant/ Parameter	Limit/Standard

AA-009 AA-010 AA-013 AA-016 AA-019 AA-026	11 Miss. Admin. Code Pt. 2, R. 1.3.F(1).	3.B.1	PM (filterable only)	$E = 4.1 \times p^{0.67}$
AA-020 AA-021 AA-022 AA-023 AA-024 AA-025	11 Miss. Admin. Code Pt. 2, R. 1.4.A(1).	3.B.2	SO_2	4.8 lbs/MMBTUH
	11 Miss. Admin. Code Pt. 2, R. 1.3.D(1)(b)	3.B.3	PM (filterable only)	$E = 0.8808*I^{-0.1667}$
	11 Miss. Admin. Code Pt. 2, R. 2.2.B(10).	3.B.4	Fuel Restrictions	Fuels limited to natural gas, low sulfur diesel fuel, or processed fats
	Permit to Construct issued December 17, 2012	3.B.5	Operating Restriction	The combined heat input from all boilers is limited to 249.9 MMBTU/hr
AA-020 AA-021 AA-022 AA-023 AA-024 AA-025	40 CFR 60, Subpart Dc Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units 40 CFR 60.40c(a), Subpart Dc	3.B.6	PM, SO_2, Opacity	Applicability
	40 CFR 60.42c(d) and (i), Subpart Dc	3.B.7	SO_2	Sulfur content ≤0.5 weight percent
	40 CFR 60.43c(c), (d), and (e)(4), Subpart Dc	3.B.8	PM Opacity	PM exemption Opacity ≤ 20 % (6-minute average) except for one 6-minute period per hour not to exceed 27%
AA-020 AA-021 AA-022 AA-023 AA-024 AA-025	40 CFR 63, Subpart JJJJJJ National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources 40 CFR 63.11193, 63.11194(a)(2), (b), and (c), 63.11195(e), and 63.11237, Subpart JJJJJJ	3.B.9	HAP	Applicability
AA-004a AA-004b AA-005 AA-017 AA-018 AA-027	Title V Operating Permit issued January 9, 2009	3.B.10	Operating Requirement	Control devices must operate and be inspected in accordance with the approved Operating Plan
AA-027	Title V Operating Permit issued December 2, 2013 and modified August 3, 2016, and February 14, 2017	3.B.11	Temperature	Combustion chamber temperature ≥ 1,300 °F
	11 Miss. Admin. Code Pt. 2, R. 1.3.D(1)(a).	3.B.16	PM (filterable only)	0.6 lbs/MMBTU

AA-028 AA-030	40 CFR 63, Subpart ZZZZ National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines 40 CFR 63.6580, 63.6585(a) and (c), and 63.6590(a)(2)(iii) and (c)(1), Subpart ZZZZ	3.B.12	HAP	Applicability
	40 CFR 60 Subpart JJJJ Standards of Performance for Stationary Spark Ignition Internal Combustion Engines 40 CFR 60.4230(a)(4)(iv)	3.B.13	NOx, CO, and VOC	Applicability
	40 CFR 60.4233(d), 60.4234, and Table 1, Subpart JJJJ	3.B.14		$NO_X \leq 10$ g/HP-hr CO ≤ 387 g/HP-hr
	40 CFR 60.4243(d)(1)-(3)	3.B.15		Emergency operation requirements
	11 Miss. Admin. Code Pt. 2, R. 1.3.D(1)(a).	3.B.16	PM (filterable only)	0.6 lbs/MMBTU
AA-029	11 Miss. Admin. Code Pt. 2, R. 1.4.B(2).	3.B.17	H2S	≤ 1.0 g/100 scf

3.B.1 For all processing areas, the permittee shall not cause, permit, or allow the emissions of particulate matter from each independent manufacturing process, in any one hour from any point source, in total quantities in excess of the amount determined by the relationship:

$$E=4.1 \times p^{0.67}$$

where E is the emission rate in pounds per hour and p is the process weight input rate in tons per hour.

For the permittee, the independent processes shall be the Poultry Lines (Emission Points AA-009 and AA-026); the Poultry Line (Emission Point AA-010); Restaurant Cooking Oil Line (Emission Point AA-013); Steam-tube Blood Dryer Line (Emission Point AA-016); and Steam-tube Feather Dryer Line (Emission Point AA-019). Conveyor discharge of coarse solid matter may be allowed if no nuisance is created beyond the property boundary where the discharge occurs.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.3.F(1).)

3.B.2 For Emission Points AA-020 through AA-025, the maximum discharge of sulfur oxides from any fuel burning equipment in which the fuel is burned primarily to produce heat or power by indirect heat transfer shall not exceed 4.8 pounds (measured as sulfur dioxide) per million BTU heat input.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.4.A(1).)

3.B.3 For Emission Points AA-020 through AA-025, the permittee shall not allow ash and/or particulate matter to exceed an emission rate as determined by the relationship

$$E = 0.8808 \times I^{-0.1667}$$

where E is the emission rate in pounds per million BTU per hour heat input and I is the heat input in millions of BTU per hour

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.3.D(1)(b).)

3.B.4 For Emission Points AA-020 through AA-025, the permittee shall not fire any fuels other than natural gas, low sulfur diesel fuel (defined as ≤0.05 wt% sulfur), or processed fats. While the permittee is allowed to burn any of the fuels identified above, additional fuel burning restrictions are contained in Condition 3.B.9.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10).)

3.B.5 For Emission Points AA-020 through AA-025, the permittee shall not exceed the combined boiler usage limit of 249.9 MMBTU/hr heat input at any given time.

(Ref.: Permit to Construct issued December 17, 2012)

3.B.6 Emission Points AA-020 through AA-025 are subject to the applicable requirements of the Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60, Subpart Dc.

(Ref.: 40 CFR 60.40c(a), Subpart Dc)

3.B.7 For Emission Points AA-020 through AA-025, the permittee shall not combust any oil containing greater than 0.5 weight percent sulfur. This limit shall apply at all times, including periods of startup, shutdown, and malfunction.

(Ref.: 40 CFR 60.42c(d) and (i))

3.B.8 For Emission Points AA-020 through AA-025, during combustion of low sulfur diesel fuel, the permittee shall not cause or discharge any gases that exhibit greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity. The opacity limit applies at all times, except during startup, shutdown or malfunction.

Since Emission Points AA-020 through AA-025 are only allowed to combust natural gas, low sulfur diesel fuel containing ≤0.05 wt% sulfur, or processed fats, they meet the exemption in 40 CFR 60.43c(e)(4) and are not subject to the emission limit for particulate matter in 40 CFR 60.43c(e)(1).

(Ref.: 40 CFR 60.43c(c), (d), and (e)(4), Subpart Dc)

3.B.9 Emission Points AA-020 through AA-025 are subject to the applicable requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers at Area Sources, 40 CFR 63, Subpart JJJJJJ.

For purposes of determining applicability to Subpart JJJJJJ, Emission Points AA-020 through AA-025 meet the definition of a gas-fired boiler and, as such, are not subject to any other requirements of Subpart JJJJJJ. If the permittee fires any fuel other than natural gas such that the boiler(s) no longer meets the definition of a gas-fired boiler in Subpart JJJJJJ, the boiler(s) must immediately begin meeting the requirements of Subpart JJJJJJ applicable to the boiler subcategory. If such a change does occur and one or more boilers become subject to Subpart JJJJJJ, Emission Points AA-020 through AA-022 would be considered existing sources while Emission Points AA-023 through AA-025 would be considered new sources for purposes of determining the applicable requirements.

(Ref.: 40 CFR 63.11193, 63.11194(a)(2), (b), and (c), 63.11195(e), and 63.11237, Subpart JJJJJJ)

3.B.10 For Emission Points AA-004a, AA-004b, AA-005, AA-017, AA-018, and AA-027, the permittee must operate and inspect all control devices in accordance with the approved Operating Plan.

(Ref.: Title V Operating Permit issued January 9, 2009)

3.B.11 For Emission Point AA-027, the permittee shall maintain a minimum operating temperature in the combustion chamber of 1,300 °F.

(Ref.: Title V Operating Permit issued December 13, 2013, and modified August 3, 2016, and February 14, 2017)

3.B.12 For Emission Points AA-028 and AA-030, the permittee is subject to the requirements of the NESHAP for Stationary Reciprocating Internal Combustion Engines, 40 CFR 63, Subpart ZZZZ. For purposes of this subpart, the engine is considered a new, emergency engine located at an area source of HAP. As such, the permittee shall meet the requirements of Subpart ZZZZ by meeting the requirements of 40 CFR 60, Subpart JJJJ.

(Ref.: 40 CFR 63.6580, 63.6585(a) and (c), and 63.6590(a)(2)(iii) and (c)(1), Subpart ZZZZ)

3.B.13 For Emission Points AA-028 and AA-030, the permittee is subject to the requirements of the Standards of Performance for Stationary Spark Ignition Internal Combustion Engines, 40 CFR 60, Subpart JJJJ.

(Ref.: 40 CFR 60.4230(a)(4)(iv), Subpart JJJJ)

3.B.14 For Emission Points AA-028 and AA-030, the engine shall comply with the following emission standards over the entire life of the engine:

(a) $NO_x \leq 10$ g/HP-hr (measured as NO_x + HC)

(b) CO ≤ 387 g/HP-hr

(Ref.: 40 CFR 60.4233(d), 60.4234, and Table 1, Subpart JJJJ)

3.B.15 For Emission Points AA-028 and AA-030, the engines shall be considered an emergency stationary engine under Subpart JJJJ provided the engine only operates in an emergency, during maintenance and testing, and during non-emergency situations for 50 hours per year as described in (c) below. If the permittee does not operate the engine according to the requirements in (a)-(c) below, the engine will not be considered an emergency engine under Subpart JJJJ and must meet all requirements for non-emergency engines.

(a) There is no limit on the use of the engine during an emergency situation.

(b) The permittee may operate the engine for maintenance checks and readiness testing for a maximum 100 hours per calendar year provided the tests are recommended by federal, state, or local government, the manufacturer, the vendor, the regional transmission operator, or the insurance company associated with the engine. The permittee may petition the MDEQ for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating the federal, state, or local standards require maintenance testing of an engine beyond 100 hours per calendar year.

(c) The emergency engine may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are

counted as part of the 100 hours per calendar year for maintenance and testing provided in paragraph (b). Except as provided in 60.4243(d)(3)(i), the 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

(Ref.: 40 CFR 60.4243(d)(1)-(3), Subpart JJJJ)

3.B.16 For Emission Points AA-028 and AA-030, the maximum permissible emission of ash and/or particulate matter from fossil fuel burning installations of less than 10 million BTU per hour heat input shall not exceed 0.6 pounds per million BTU per hour heat input.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.3.D(1)(a).)

3.B.17 For Emission Point AA-029, the permittee shall install, maintain, and operate a combustion flare to reduce the hydrogen sulfide (H_2S) concentration in the gas collected from the anaerobic lagoon to a level at or below one (1) grain per 100 standard cubic feet. Gas streams containing H_2S in excess of one grain per 100 standard cubic feet shall be incinerated at temperatures of not less than 1600° F for a period of not less than 0.5 seconds or processed in such a manner which is equivalent to or more effective for the removal of H_2S. To ensure compliance with this standard, the permittee shall not vent any gas stream from the lagoon without the presence of a flame.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.4.B(2).)

C. Insignificant and Trivial Activity Emission Limitations & Standards

Applicable Requirement	Condition Number(s)	Pollutant/ Parameter	Limit/Standard
11 Miss. Admin. Code Pt. 2, R. 1.3.D(1)(a).	3.C.1	PM	0.6 lbs/MMBTU
11 Miss. Admin. Code Pt. 2, R. 1.4.A(1).	3.C.2	SO_2	4.8 lbs/MMBTU

3.C.1 The maximum permissible emission of ash and/or particulate matter from fossil fuel burning installations of less than 10 million BTU per hour heat input shall not exceed 0.6 pounds per million BTU per hour heat input.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.3.D(1)(a).)

3.C.2 The maximum discharge of sulfur oxides from any fuel burning installation in which the fuel is burned primarily to produce heat or power by indirect heat transfer shall not exceed 4.8 pounds (measured as sulfur dioxide) per million BTU heat input.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.4.A(1).)

SECTION 4. COMPLIANCE SCHEDULE

4.1 Unless otherwise specified herein, the permittee shall be in compliance with all requirements contained herein upon issuance of this permit.

4.2 Except as otherwise specified herein, the permittee shall submit to the Permit Board and to the Administrator of EPA Region IV a certification of compliance with permit terms and conditions, including emission limitations, standards, or work practices, by January 31 for the preceding calendar year. If the permit was reissued or modified during the course of the preceding calendar year, the compliance certification shall address each version of the permit. Each compliance certification shall include the following:

(a) the identification of each term or condition of the permit that is the basis of the certification;

(b) the compliance status;

(c) whether compliance was continuous or intermittent;

(d) the method(s) used for determining the compliance status of the source, currently and over the applicable reporting period;

(e) such other facts as may be specified as pertinent in specific conditions elsewhere in this permit.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.C(5)(a), (c), & (d).)

SECTION 5. MONITORING, RECORDKEEPING & REPORTING REQUIREMENTS

A. General Monitoring, Recordkeeping and Reporting Requirements

5.A.1 The permittee shall install, maintain, and operate equipment and/or institute procedures as necessary to perform the monitoring and recordkeeping specified below.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3).)

5.A.2 In addition to the recordkeeping specified below, the permittee shall include with all records of required monitoring information the following:

(a) the date, place as defined in the permit, and time of sampling or measurements;

(b) the date(s) analyses were performed;

(c) the company or entity that performed the analyses;

(d) the analytical techniques or methods used;

(e) the results of such analyses; and

(f) the operating conditions existing at the time of sampling or measurement.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(b)(1).)

5.A.3 Except where a longer duration is specified in an applicable requirement, the permittee shall retain records of all required monitoring data and support information for a period of at least five (5) years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records, all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(b)(2).)

5.A.4 Except as otherwise specified herein, the permittee shall submit reports of any required monitoring by July 31 and January 31 for the preceding six-month period. All instances of deviations from permit requirements must be clearly identified in such reports and all required reports must be certified by a responsible official consistent with 11 Miss. Admin. Code Pt. 2, R. 6.2.E. For applicable periodic reporting requirements in 40 CFR Parts 60, 61, and 63, the permittee shall comply with the deadlines in this condition for reporting conducted on a semiannual basis. Additionally, any required quarterly reports shall be submitted by the end of the month following each calendar quarter (i.e., April 30th, July 31st, October 31st, and January 31st), and any required annual reports shall be submitted by January 31st following each calendar year.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(c)(1)., 40 CFR 60.19(c), 61.10(g), and 63.10(a)(5))

5.A.5 Except as otherwise specified herein, the permittee shall report all deviations from permit requirements, including those attributable to upsets, the probable cause of such deviations, and any corrective actions or preventive measures taken. Said report shall be made within five (5) working days of the time the deviation began.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(c)(2).)

5.A.6 Except as otherwise specified herein, the permittee shall perform emissions sampling and analysis in accordance with EPA Test Methods and with any continuous emission monitoring requirements, if applicable. All test methods shall be those versions or their equivalents approved by the DEQ and the EPA.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3).)

5.A.7 The permittee shall maintain records of any alterations, additions, or changes in equipment or operation.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3).)

5.A.8 Unless otherwise specified in Section 4, upon permit issuance, the monitoring, testing, recordkeeping, and reporting requirements of Section 5 herein supersede the requirements of any preceding permit to construct and/or operate.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3).)

B. Specific Monitoring and Recordkeeping Requirements

Emission Point(s)	Applicable Requirement	Condition Number	Pollutant/Parameter Monitored	Monitoring/Recordkeeping Requirement
AA-020 AA-021 AA-022 AA-023 AA-024 AA-025	11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2). and 40 CFR 63.11237, Subpart JJJJJJ	5.B.1	Fuel Usage	Monitor and record fuel usage
	Permit to Construct issued December 17, 2012	5.B.2	Heat Input	Monitor and record boiler usage
	40 CFR 60.44c(h) and 60.48c(f), (g)(3), and (i), Subpart Dc and 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(3).	5.B.3	SO_2	Maintain fuel supplier certifications
	40 CFR 60.45c(a)(8), 60.47c(c), and 60.48c(c)(1) and 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2).	5.B.4	Opacity	Annual VEE
AA-004a AA-004b AA-005 AA-017 AA-018 AA-027	11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2). and Title V Operating Permit issued January 9, 2009	5.B.5	Control Equipment Operating Plan	Develop/implement plan to operate control devices and monitor operating parameters
AA-027	11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2).	5.B.6	Temperature	Monitor and record combustion chamber temperature
AA-028 AA-030	40 CFR 60.4237(c) and 60.4245(b), Subpart JJJJ	5.B.7	NO_x, CO, and VOC	Install non-resettable hour meter and record hours of operation
	40 CFR 60.4243(b)(1) and 60.4245(a)(2) and	5.B.8		Recordkeeping

Emission Point(s)	Applicable Requirement	Condition Number	Pollutant/Parameter Monitored	Monitoring/Recordkeeping Requirement
	(3), Subpart JJJJ			
AA-029	11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2).	5.B.9	Operating Requirements	Install automated shutdown system to monitor flame presence; flare maintenance

5.B.1 For Emission Points AA-020 through AA-025, the permittee shall monitor the amount and type of fuel(s) fired in each boiler on a daily basis. If the permittee burns any fuel other than natural gas, the permittee shall identify the duration and amount of fuel fired in each boiler on a daily basis and also identify the reason such fuel was burned. Gas-fired boilers under Subpart JJJJJJ may burn liquid fuels during periods of gas curtailment, gas supply interruption, startups, periodic testing, maintenance, or operator training. There are no limits on burning liquid fuel during periods of gas curtailment, gas supply interruption or startups; however, the permittee is limited to periodic testing, maintenance, or operator training on liquid fuel for each boiler such that it does not exceed a combined total of 48 hours during any calendar year.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2). and 40 CFR 63.11237, Subpart JJJJJJ)

5.B.2 For Emission Points AA-020 through AA-025, the permittee shall keep operating records on a daily basis for each boiler to demonstrate compliance with the combined boiler usage limitation. If the permittee is demonstrating compliance by operating five (5) of the six (6) boilers, then the permittee shall record which boilers were in operation. If there are any periods where all boilers are in operation at the same time, the permittee shall keep records concerning the specific heat input for each boiler to demonstrate compliance with the usage limitation.

(Ref.: Permit to Construct issued December 17, 2012)

5.B.3 For Emission Points AA-020 through AA-025, the permittee shall keep records of the fuel supplier certifications for the low sulfur diesel fuel to demonstrate compliance with the fuel sulfur content limitations. The fuel supplier certification for each shipment shall contain the name of the fuel supplier, the sulfur content or maximum sulfur content of the fuel, and a statement from the fuel supplier that the fuel complies with the specifications under the definition of distillate oil as defined in 40 CFR 60.41c. These records shall be maintained on site for a period of five (5) years following the date of such record or as long as the fuel is kept on site, whichever is longer.

(Ref.: 40 CFR 60.44c(h) and 60.48c(f), (g)(3), and (i), Subpart Dc and 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(3).)

5.B.4 For Emission Points AA-020 through AA-025, the permittee shall demonstrate compliance with the opacity limit by completing a Visible Emissions Evaluation (VEE) per EPA Reference Method 9 from 40 CFR 60, Appendix A while burning low sulfur diesel fuel once per year. If low sulfur diesel fuel is not burned for at least three (3) consecutive hours in a given year, the requirement to conduct a VEE is waived. For each VEE conducted, the permittee shall keep records of the following information:

(a) Dates and time intervals of all opacity observation periods;

(b) Name, affiliation, and copy of current visible emission reading certification for each visible emission observer participating in the performance test; and

(c) Copies of all visible emission observer opacity field data sheets;

The permittee is not required to install and operate a Continuous Opacity Monitoring System (COMS) as long as the facility continues to keep the fuel supplier certification records required in Condition 5.B.3.

(Ref.: 40 CFR 60.45c(a)(8), 60.47c(c) and 60.48c(c)(1) and 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2).)

5.B.5 For Emission Points AA-004a, AA-004b, AA-005, AA-017, AA-018, and AA-027, the permittee shall maintain an updated MDEQ approved Operating Plan. This Plan shall indicate the steps that are to be taken should any control device become non-operational. Additionally, the Plan shall include all necessary operating parameters and ranges that will demonstrate a reasonable margin of compliance with the limitations found in Section 3 of this permit. The operating ranges for each control device shall be derived from stack test data, vendor certification, operational history, visual inspections, and/or olfactory observations, the combination of which demonstrate the proper operation of the equipment. Updated ranges, with supporting information, shall be submitted to the Environmental Permits Division of MDEQ within 60 days of the update. MDEQ reserves the right to comment and request changes to the Plan upon review.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2). and Title V Operating Permit issued January 9, 2009)

5.B.6 For Emission Point AA-027, the permittee shall install, calibrate, maintain, and operate temperature monitoring equipment according to the manufacturer's specifications to demonstrate compliance with the combustion chamber temperature limitation. The calibration of the temperature indicator must be verified according to the manufacturer's specifications or the indicator must be replaced. The permittee must replace the equipment either if the permittee chooses not to perform the calibration or if the equipment cannot be calibrated properly. Each temperature monitoring device must have an accuracy of +/- 1% of the temperature being monitored in degrees Fahrenheit. The sensor or thermocouple shall be installed in the combustion chamber at the location in the combustion zone recommended by the manufacturer or based on best engineering judgement.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2).)

5.B.7 For Emission Points AA-028 and AA-030, the permittee shall install a non-resettable hour meter on the engine, if one is not already installed. The permittee shall keep records of the operation of the engine in emergency and non-emergency service that are recorded through the hour meter. The permittee shall record the time of operation and the reason the engine was in operation during that time.

(Ref.: 40 CFR 60.4237(c) and 60.4245(b), Subpart JJJJ)

5.B.8 For Emission Points AA-028 and AA-030, the permittee shall keep a record of the manufacturer's engine certification to demonstrate compliance with the emission limitations from Subpart JJJJ. The permittee shall operate and maintain the engine in accordance with the manufacturer's emission-related written instructions and keep records

of all maintenance on the engine. The engine shall be considered out of compliance if any adjustments are made to the engine's settings that are not according to and consistent with the manufacturer's instructions.

(Ref.: 40 CFR 60.4243(b)(1) and 60.4245(a)(2) and (3), Subpart JJJJ)

5.B.9 For Emission Point AA-029, the permittee shall equip the flare with an automated shutdown system, which prevents further venting of the biogas in the event the main flame is extinguished. The permittee shall conduct maintenance on the flare, including infrared and temperature sensors and automated controls, in accordance with the manufacturer's recommendations. Records of all maintenance conducted on the flare shall be maintained in accordance with Condition 5.A.3.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(a)(2).)

C. Specific Reporting Requirements

Emission Point(s)	Applicable Requirement	Condition Number	Pollutant/Parameter Monitored	Reporting Requirement
AA-020 AA-021 AA-022 AA-023 AA-024 AA-025	11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(c).	5.C.1	Fuel Usage	Semi-annual report
	Permit to Construct issued December 17, 2012	5.C.2	Heat Input	
	40 CFR 60.48c(d), (e)(11), and (j), Subpart Dc	5.C.3	Sulfur content	Fuel supplier certifications and certifying statement
	40 CFR 60.48c(c) and (j), Subpart Dc	5.C.4	Opacity	Test report results
AA-004a AA-004b AA-005 AA-017 AA-018 AA-027	11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(c).	5.C.5	Control Equipment Operating Plan	Deviation reporting
AA-027	11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(c).	5.C.6	Combustion Chamber Temperature	
AA-028 AA-030	11 Miss. Admin. Code Pt. 2, R. 2.2.B(11).	5.C.7	Hours of Operation	Reporting
AA-029	11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(c).	5.C.8	Flare Monitoring	Deviation reporting

5.C.1 For Emission Points AA-020 through AA-025, the permittee shall submit a semi-annual report in accordance with Condition 5.A.4 containing a summary of the type and amount of fuel fired in each boiler for the reporting period.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(c).)

5.C.2 For Emission Points AA-020 through AA-025, the permittee shall submit a semi-annual report in accordance with Condition 5.A.4 containing a summary of the total combined heat input from the boilers on a daily basis recorded during the reporting period.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(c).)

5.C.3 For Emission Points AA-020 through AA-025, the permittee shall submit a semi-annual report in accordance with Condition 5.A.4 that contains a copy of all fuel supplier certifications for low sulfur diesel fuel delivered during the reporting period. The report shall also contain a certification statement that all fuel supplier certifications that have been submitted represent all of the liquid fossil fuel(s) combusted during the reporting period.

(Ref.: 40 CFR 60.48c(d), (e)(11), and (j), Subpart Dc)

5.C.4 For Emission Points AA-020 through AA-025, the permittee shall submit the results from any VEEs conducted during the semi-annual period addressed by the report required in Condition 5.A.4.

(Ref.: 40 CFR 60.48c(c) and (j), Subpart Dc)

5.C.5 For Emission Points AA-004a, AA-004b, AA-005, AA-017, AA-018, and AA-027, the permittee shall report any deviations of the Operating Plan in accordance with Condition 5.A.5. The information shall include, but not be limited to, a description of the deviation, cause, duration, and resolution or corrective actions taken to return the control equipment within the normal operating range(s) identified in the MDEQ approved Operating Plan.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(c).)

5.C.6 For Emission Point AA-027, the permittee shall report in accordance with Condition 5.A.5 any periods of operation where the monitored combustion chamber temperature falls below the required value. The report shall include the cause, duration, and resolution or corrective action(s) taken to return the combustion chamber temperature to the proper value.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(c).)

5.C.7 For Emission Points AA-028 and AA-030, the permittee shall report the hours of operation of the engine that is recorded through the non-resettable hour meter in accordance with Condition 5.A.4. The report shall contain how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(11).)

5.C.8 For Emission Point AA-029, in the event the automated shutdown system fails when the flame is extinguished and biogas is vented to the atmosphere, the permittee shall report the event as a deviation in accordance with Condition 5.A.5.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 6.3.A(3)(c).)

SECTION 6. ALTERNATIVE OPERATING SCENARIOS

6.1 None permitted.

SECTION 7. TITLE VI REQUIREMENTS

The following are applicable or potentially applicable requirements originating from Title VI of the Clean Air Act – Stratospheric Ozone Protection. The full text of the referenced regulations may be found on-line at **http://www.ecfr.gov/** under Title 40, or DEQ shall provide a copy upon request from the permittee.

7.1 If the permittee produces, transforms, destroys, imports or exports a controlled substance or imports or exports a controlled product, the permittee shall comply with the applicable requirements of 40 CFR Part 82, Subpart A – Production and Consumption Controls.

7.2 If the permittee performs service on a motor vehicle for consideration when this service involves the refrigerant in the motor vehicle air conditioner (MVAC), the permittee shall comply with the applicable requirements of 40 CFR Part 82, Subpart B – Servicing of Motor Vehicle Air Conditioners.

7.3 The permittee shall comply with the applicable requirements of 40 CFR Part 82, Subpart E – The Labeling of Products Using Ozone-Depleting Substances, for the following containers and products:

(a) All containers in which a class I or class II substance is stored or transported;

(b) All products containing a class I substance; and

(c) All products directly manufactured with a process that uses a class I substance, unless otherwise exempted by this subpart or, unless EPA determines for a particular product that there are no substitute products or manufacturing processes for such product that do not rely on the use of a class I substance, that reduce overall risk to human health and the environment, and that are currently or potentially available. If the EPA makes such a determination for a particular product, then the requirements of this subpart are effective for such product no later than January 1, 2015.

7.4 If the permittee performs any of the following activities, the permittee shall comply with the applicable requirements of 40 CFR Part 82, Subpart F – Recycling and Emissions Reduction:

(a) Servicing, maintaining, or repairing appliances containing class I, class II or non-exempt substitute refrigerants;

(b) Disposing of appliances, including small appliances and motor vehicle air conditioners; or

(c) Refrigerant reclaimers, technician certifying programs, appliance owners and operators, manufacturers of appliances, manufacturers of recycling and recovery equipment, approved recycling and recovery equipment testing organizations, as well as persons selling, offering for sale, and/or purchasing class I, class II, or non-exempt substitute refrigerants.

7.5 The permittee shall be allowed to switch from any ozone-depleting substance to any acceptable alternative that is listed in the Significant New Alternatives Policy (SNAP) program promulgated pursuant to 40 CFR Part 82, Subpart G – Significant New Alternatives Policy Program. The permittee shall also comply with any use conditions for the acceptable alternative substance.

7.6 If the permittee performs any of the following activities, the permittee shall comply with the applicable requirements of 40 CFR Part 82, Subpart H – Halon Emissions Reduction:

(a) Any person testing, servicing, maintaining, repairing, or disposing of equipment that contains halons or using such equipment during technician training;

(b) Any person disposing of halons;

(c) Manufacturers of halon blends; or

(d) Organizations that employ technicians who service halon-containing equipment.

APPENDIX A

List of Abbreviations Used In this Permit

BACT	Best Available Control Technology
CEM	Continuous Emission Monitor
CEMS	Continuous Emission Monitoring System
CFR	Code of Federal Regulations
CO	Carbon Monoxide
COM	Continuous Opacity Monitor
COMS	Continuous Opacity Monitoring System
DEQ	Mississippi Department of Environmental Quality
EPA	United States Environmental Protection Agency
gr/dscf	Grains Per Dry Standard Cubic Foot
HP	Horsepower
HAP	Hazardous Air Pollutant
lb/hr	Pounds per Hour
M or K	Thousand
MACT	Maximum Achievable Control Technology
MM	Million
MMBTUH	Million British Thermal Units per Hour
NA	Not Applicable
NAAQS	National Ambient Air Quality Standards
NESHAP	National Emissions Standards for Hazardous Air Pollutants, 40 CFR 61, or National Emission Standards for Hazardous Air Pollutants for Source Categories, 40 CFR 63
NMVOC	Non-Methane Volatile Organic Compounds
NO_x	Nitrogen Oxides
NSPS	New Source Performance Standards, 40 CFR 60
O&M	Operation and Maintenance
PM	Particulate Matter
PM_{10}	Particulate Matter less than 10 μm in diameter
$PM_{2.5}$	Particulate Matter less than 2.5 μm in diameter
ppm	Parts per Million
PSD	Prevention of Significant Deterioration
SIP	State Implementation Plan
SO_2	Sulfur Dioxide
SSM	Startup, Shutdown, and Malfunction
TPY	Tons per Year
TRS	Total Reduced Sulfur
VEE	Visible Emissions Evaluation
VHAP	Volatile Hazardous Air Pollutant
VOHAP	Volatile Organic Hazardous Air Pollutant
VOC	Volatile Organic Compound

APPENDIX B

Scrubber Operations Plan

DARLING INGREDIENTS INC.

1299 Prisock Road

Jackson, MS 39272

AI ID # 1099

Scrubber/RTO System Operational Plan

Title V Operating Permit No. 1080-00040

December 12, 2019

(Replaces Plan dated December 4, 2017)

General Information

The wet scrubber systems at the Darling Ingredients Inc. (Darling) Jackson, Mississippi, facility were originally designed for non-speciated and unquantified malodor compound control, and not specifically designed for criteria pollutant (particulate matter [PM] or volatile organic compound [VOC]) control. However, there is an inherent amount of PM and VOC control in wet scrubbers (especially those that use oxidizing or pH control chemistry). The Jackson facility has installed a regenerative thermal oxidizer (RTO) system where PM and malodorous non-condensable vapors (including hydrogen sulfide [H_2S] and VOC) are significantly thermally destroyed. See the last page of this Plan for a schematic of the scrubber/RTO systems setup.

The venturi scrubber (AA-004a) controls all process emissions from the Poultry Lines (AA-009 – Cookers #1, #2, and #4), Poultry Lines (AA-010 – Cooker #3), Blood Line (AA-016), Feather Line (AA-019), and Poultry Line (AA-026 – Cooker #5). The air flow from AA-004a is directed to the packed tower scrubber (AA-004b) and ultimately discharges to the RTO (AA-027), which discharges to the atmosphere.

In the event of AA-027 maintenance or failure, process emissions from AA-009, AA-010, AA-016, AA-019 and AA-026 would continue to be directed to AA-004a and discharged directly to the atmosphere from AA-004b.

In the Title V Permit application iteration of 2015 (RTO modification), Darling utilized filterable PM emissions performance/testing data for rendering operations from two compliance tests conducted at Darling's facility in Butler, Kentucky, in February 2004 and October 2009. These tests were conducted on the exhaust of a high intensity scrubber system (wet venturi scrubber followed by a wet packed tower scrubber) for a single cooker line. Darling monitored the production rate during these tests and converted the PM emissions rate into a finished protein meal weight-rate based emission factor (EF) (pursuant to EPA's AP-42 document that also provides EFs on finished meal weight-rate basis). The resulting EFs of these two PM compliance tests were 0.059 and 0.021 lbs PM/ton of finished meal, respectively (versus the AP-42 EF of 1.22 lbs/ton for direct-fired high airflow rate dryers).

Darling did not conduct particle size distribution or condensable emissions (EPA Method 202) testing at the Butler facility. Similar to the AP-42, Darling assumed that all filterable PM emissions were filterable PM less than 10 microns (PM_{10}) emissions. For condensable PM emissions, rather than claiming that there were none present, Darling conservatively assumed that the condensable and filterable emissions at the Butler tests were at the same ratio as those in the AP-42 results for blood dryers (1.65:1 filterable to condensable). This ratio would result in condensable PM emission rates of 0.036 and 0.013 lbs/ton for the two tests, respectively. In accordance with Darling's understanding of the most recent EPA (and Mississippi Department of Environmental Quality [MDEQ]) position on this subject, Darling counted the condensable emissions as both PM_{10} and PM less than 2.5 microns ($PM_{2.5}$) emissions.

As previously provided and accepted by the MDEQ, Darling, most conservatively, uses the higher of the two actual weight-based test results (0.059 lbs/ton filterable PM_{10} and 0.036 lbs/ton condensable PM for a total PM of 0.095 lbs/ton) as the EF for calculating Jackson's PM (or total PM_{10}) emission from the rendering operations. $PM_{2.5}$ emissions are limited to only condensable emissions (0.036 lbs/ton). This is a most conservative approach for two reasons. First, this uses the higher of the two Butler compliance test results. Second, actual RTO emissions testing data from site specific emissions testing at Darling's Bakery Feeds' facilities that produce carbohydrate meals show an average 93 percent (%) destruction of that organic PM, versus industry-accepted standard of 80% destruction of PM with wet scrubber technology.

VOC emissions engineering tests conducted by Environmental Monitoring Laboratory (EML) at the Jackson facility included test runs with the scrubber systems operating and with the scrubber systems not operating (only for the tests – one-time event) to determine controlled and

uncontrolled emissions respectively, and therefore conclude any VOC control efficiency from the scrubbers. The tests indicated VOC "control efficiencies" across the scrubber systems of between 33 % and 68%. These apparently low (33% to 68%) efficiencies were due to the already low uncontrolled VOC concentrations entering the scrubber systems. The uncontrolled process VOC emission weight-rate EF for the feather line was 0.513 lb/ton finished meal (and resulting 0.344 lb/ton controlled [at 33%]); and the uncontrolled EF for the blood/red meat/poultry lines was 0.576 lb/ton (and resulting 0.386 lb/ton controlled [at 33%]).

RTO control efficiency for VOC emissions is known to be on the order of 98%+ (conventional use of RTO technology is for control of VOC [from such as painting operations] and VOC control efficiencies are well understood to commonly exceed 98%). Ignoring the wet venturi scrubber followed by the wet packed tower scrubber conditioning efficiency that is known to exist and using only the RTO control efficiency of at least 95% (most conservative), an overall assumed VOC control efficiency of 95% used in the RTO modification application was reasonable and conservative. The total process emissions controlled through the RTO (AA-027) at 95% efficiency provides a controlled process VOC emissions weight-rate EF of 0.029 lb/ton finished meal for the blood/poultry lines and 0.026 lb/ton for the feather line.

Darling has provided evidence and asserts that the Jackson facility scrubber/RTO systems accomplish more than just malodor compound control, that a given level of control efficiency is also obtained for PM, VOC, and H_2S (conversion to sulfur dioxide [SO_2]). The proper operation and maintenance of these scrubber/RTO systems is very important to ensure that emissions of malodorous compounds, as well as PM, VOCs, and H_2S, are controlled. Darling will abide by the maintenance, operating conditions, and monitoring schedules specified in this Plan. If, for some unforeseen reason, a scrubber/RTO system described herein becomes non-operational, Darling will make immediate repairs and return the system to normal operation within a reasonable time or will shut the related process operation(s) down until such repairs are made and the system is again returned to normal operation.

Darling Ingredients Inc.
Jackson, MS.
Emission Unit AA-004a
Venturi Scrubber Operation

The venturi scrubber (AA-004a) is a type of wet scrubber that uses only water as the treating solution and is used to precondition the process gas stream prior to additional controls. AA-004a works by cooling the process gases and by wetting PM for removal from the gas stream to the treating solution. The AA-004a process gas stream inlet is located at the top of the unit and the gas stream flows in vertical direction downward through the scrubber, passing through a cross flow water spray located in the throat or "venturi" of the scrubber. As the gas stream passes through this reduced venturi water spray and cools, the pressure drops and the velocity of the air flow increases causing the gas steam to become turbulent, thereby mixing the water and process gas stream and transferring a significant amount of PM to the scrubbing liquid. A blow-down (bleed) of the solution is maintained to remove contaminants from the system. Makeup liquid is provided via overflow from the packed tower scrubber (AA-004b).

It is important to keep this unit cleaned and air tight. This unit is shut down weekly for inspection and maintenance.

Maintenance:
Weekly: Clean and inspect throat and nozzles

Operating Parameters:

Parameter	Range
Recirculating Scrubber Solution Pressure	10 – 50 PSI

Monitoring:

Parameter:	Frequency:
Recirculating Scrubber Solution Pressure	Once per operating day

Darling Ingredients Inc.
Jackson, MS.
Emission Unit AA-004b
Packed Tower Scrubber Operation

The packed tower scrubber (AA-004b) is used to treat high-intensity concentrated contaminant odors as well as PM and VOC. AA-004b is located downstream of AA-004a where the process gas stream is preconditioned (See discussion of AA-004a above). This equipment is constructed of a non-corrosive type material and is cylindrical shaped, containing hundreds of cubic feet of "packing" material. Spray nozzles are located above the packing directing a spray of scrubbing liquid downward, counter current to the air flow. A reservoir is located below the packing material. The scrubber may utilize either oxidizer control chemistry (chlorine dioxide, sodium hypochlorite, or similar) or elevated pH control chemistry (sodium hydroxide, potassium hydroxide, or similar). As the scrubbing solution is being pumped from the reservoir to the spray nozzles, control chemistry is metered into the solution stream. This solution is pumped through the spray nozzles and cascades downward through the packing material as the process gas stream passes up through the packing. The packing material provides significant surface area for the solution to contact the air stream and shears the solution into smaller and smaller droplets. As the droplets become smaller, the surface area of the treating solution available for gas treatment increases. As this countercurrent flow occurs, the odors in the gas stream come in contact with the control chemicals in the solution droplets and are either oxidized and/or absorbed (depending on the control chemistry). The solution cascades down through the packing back into the reservoir where it is pumped back to the top of AA-004a. A blow-down (bleed) of the solution is maintained to remove contaminants from the system. Virgin city water is used to provide makeup scrubbing liquid; although the recycled water from the on-site wastewater treatment system may also be used. To ensure proper and efficient operation, the packing requires periodic inspection and cleaning. This unit is shut down weekly for inspection and maintenance.

Maintenance

Weekly:	Drain and clean unit
	Inspect packing
	Clean and inspect nozzles

Operating Parameters

Parameter:	Range:
Recirculating Scrubber Solution Pressure	10 – 50 PSI
Chlorine Residual	> 0.50 ppm
pH	8.0 – 12.0 s.u.
Pressure Drop	0.1 – 8.5 inches of water (process flow dependent)

Monitoring

Parameter:	Frequency:
Recirculating Scrubber Solution Pressure	Once per operating day
Chlorine Residual	Once per operating day *(if using oxidizing control chemistry)*
pH	Once per operating day *(if using elevated pH control chemistry)*
Pressure Drop	Once per operating day

Darling Ingredients Inc.
Jackson, MS.
Emission Unit / Emission Point AA-027
Regenerative Thermal Oxidizer

This RTO (AA-027) is made up of two chambers packed with ceramic media and a combustion zone located between the two chambers. As the air flow enters AA-027 through one of the ceramic packed chambers, the air stream is preheated by the ceramic media. This preheated air enters the combustion zone where PM and malodorous non-condensable vapors (including H_2S and VOC) are significantly thermally destroyed. After exiting the combustion zone, the air flow enters the second ceramic filled chamber where it releases heat to the ceramic media prior to being discharged to the atmosphere. At a preset temperature in the ceramic media, the incoming air flow is reversed and the air stream now enters the newly heated chamber and the air flow exiting the combustion zone enters the opposite chamber releasing heat to the now cooled chamber.

Maintenance:

Weekly: Inspect AA-027 burner, switching valves, and ceramic beds
Maintain thermocouples per manufacture recommendations
Clean as needed

Operating Parameters:

Parameter	Range
Combustion Zone Temperature	≥ 1,300 °F

Monitoring:

Parameter	Frequency
Combustion Zone Temperature	Once per operating day

Darling Ingredients Inc.
Jackson, MS.
Emission Unit / Emission Point AA-005
Room Air Scrubber Operation

The room air scrubber (AA-005) is designed to treat high air flow rates with relatively low concentrations of contaminants (malodors, PM and VOC). AA-005 is constructed of a non-corrosive type material and is rectangular in shape and has two horizontal air flow chambers. Each chamber has spray nozzles that spray into (countercurrent) the air flow direction, followed by a section of mist eliminators to collect and remove water droplets from the air stream. The second chamber contains packing that the gas stream flows through. Spray nozzles are located at the inlet of each chamber, and a reservoir of treating solution is located below. The scrubber may utilize either oxidizer control chemistry (chlorine dioxide, sodium hypochlorite, or similar) or elevated pH control chemistry (sodium hydroxide, potassium hydroxide, or similar). As the scrubbing solution is being pumped from the reservoir to the spray nozzles, control chemistry is metered into the solution stream. As the countercurrent flow occurs, the gas stream comes into contact with the control chemicals in the scrubbing solution and either oxidizes and/or absorbs (depending on the control chemistry) the odor from the gas stream. The solution returns to the reservoir, where it is collected and pumped back to the inlet of the scrubber chambers. A blow-down (bleed) of the solution is maintained to remove contaminants from the system. Virgin city water is used to provide makeup scrubbing liquid; although the recycled water from the on-site wastewater treatment system may also be used.

The primary purpose of AA-005 is to induce negative pressure on the interior of the building, and capture and treat fugitive low-intensity malodors from within the building. The treated air stream will then be discharged to the atmosphere.

Maintenance

Weekly:	Drain and clean unit
	Inspect Packing
	Clean and inspect nozzles

Operating Parameters

Parameter:	Range:
Recirculating Scrubber Solution Pressure	10 – 50 PSI
Chlorine Residual	> 0.50 ppm
pH	8.0 – 12.0 s.u.
Pressure Drop	0.5 – 5.0 inches of water (process flow dependent)

Monitoring

Parameter:	Frequency
Recirculating Scrubber Solution Pressure	Once per operating day
Chlorine Residual	Once per operating day *(if using oxidizing control chemistry)*
pH	Once per operating day *(if using elevated pH control chemistry)*
Pressure Drop	Once per operating day

Darling Ingredients Inc.
Jackson, MS.
Emission Unit / Emission Point AA-018
Room Air Scrubber

The room air scrubber (AA-018) is designed to treat high air flow rates with relatively low concentrations of contaminants (malodors, PM and VOC). AA-018 is constructed of a non-corrosive type material and is rectangular in shape and has two horizontal air flow chambers. Each chamber has spray nozzles that spray into (countercurrent) the air flow direction, followed by a section of mist eliminators to collect and remove water droplets from the air stream. Spray nozzles are located at the inlet of each chamber, and a reservoir of treating solution is located below. The scrubber may utilize either oxidizer control chemistry (chlorine dioxide, sodium hypochlorite, or similar) or elevated pH control chemistry (sodium hydroxide, potassium hydroxide, or similar). As the scrubbing solution is being pumped from the reservoir to the spray nozzles, control chemistry is metered into the solution stream. As the countercurrent flow occurs, the gas stream comes into contact with the control chemicals in the scrubbing solution and either oxidizes and/or absorbs the odor from the gas stream. The solution returns to the reservoir, where it is collected and pumped back to the inlet of the scrubber chambers. A blow-down (bleed) of the solution is maintained to remove contaminants from the system. Virgin city water is used to provide makeup scrubbing liquid; although the recycled water from the on-site wastewater treatment system may also be used.

The primary purpose of AA-018 is to induce negative pressure on the interior of the building, and capture and treat fugitive low-intensity malodors from within the building. The treated air stream will then be discharged to the atmosphere.

Maintenance:
Weekly: Drain and clean unit
Clean and inspect nozzles

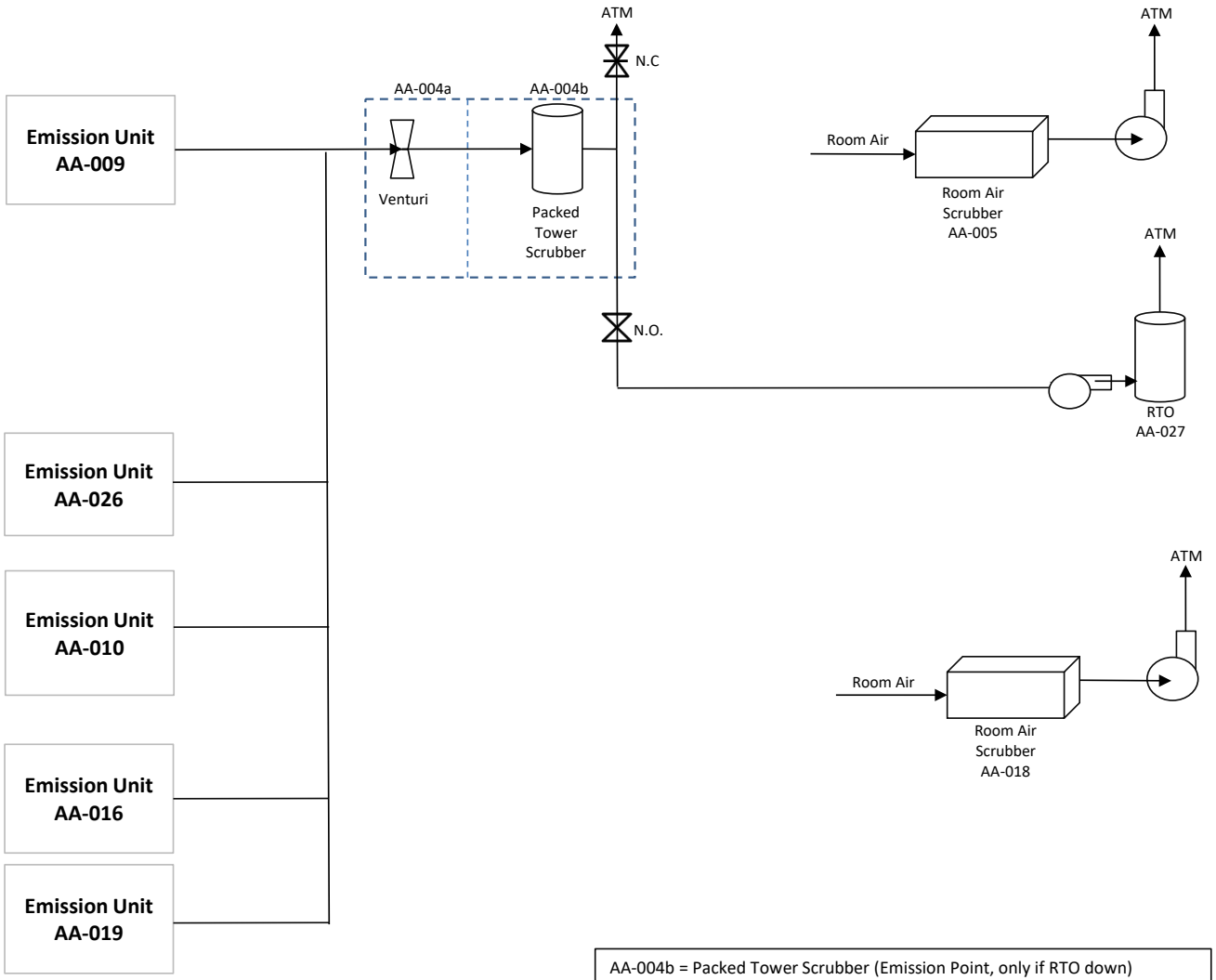
Operating Parameters:

Parameter	Range
Recirculating Scrubber Solution Pressure Stage 1	10 - 45 PSI
Recirculating Scrubber Solution Pressure Stage 2	10 - 45 PSI
Chlorine Residual	> 0.50 ppm
pH	8.0 – 12.0 s.u.
Pressure Drop	0.5 – 5.0 inches of water (process flow dependent)

Monitoring:

Parameter	Frequency	
Recirculating Scrubber Solution Pressure Stage 1	Once per operating day	
Recirculating Scrubber Solution Pressure Stage 2	Once per operating day	
Chlorine Residual	Once per operating day	*(if using oxidizing control chemistry)*
pH	Once per operating day	*(if using elevated pH control chemistry)*
Pressure Drop	Once per operating day	

Darling Ingredients Inc.
Emissions Control System Schematic



N.O. = Normally Open Duct Gate

N.C. = Normally Closed Duct Gate

AA-004b = Packed Tower Scrubber (Emission Point, only if RTO down)
AA-005 = Room Air Scrubber (Emission Point)
AA-009 = Poultry Lines (Cookers #1, #2, and #4)
AA-010 = Red Meat/Poultry Line (Cooker #3)
AA-016 = Blood Line
AA-018 = Room Air Scrubber (Emission Point)
AA-019 = Feather Line
AA-026 = Poultry Line with Cooker #5
AA-027 = Regenerative Thermal Oxidizer (Emission Point)

Darling Ingredients Inc., Jackson Plant, Daily Readings for TITLE V Permit

Date: _____

Time: _____

Scrubber Operating Logs														
RTO	**Venturi**	**Packed Tower Scrubber**				**Room Air Scrubber**					**Room Air Scrubber**			
AA-027	**AA-004a**	**AA-004b**				**AA-018**					**AA-005**			
Combustion Zone Temperature	**Recirculating Scrubber Solution Pressure**	**Recirculating Scrubber Solution Pressure**	**Chlorine Residual[1]**	**pH[2]**	**Pressure Drop**	**Recirculating Scrubber Solution Pressure Stage 1**	**Recirculating Scrubber Solution Pressure Stage 2**	**Chlorine Residual[1]**	**pH[2]**	**Pressure Drop**	**Recirculating Scrubber Solution Pressure**	**Chlorine Residual[1]**	**pH[2]**	**Pressure Drop**
≥ 1,300 °F	10 - 50 PSI	10 - 50 PSI	> 0.50 ppm	8.0 - 12.0 s.u.	0.1" - 8.5"	10 - 45 PSI	10 - 45 PSI	> 0.50 ppm	8.0 - 12.0 s.u.	0.5" - 5.0"	10 - 50 PSI	> 0.50 ppm	8.0 - 12.0 s.u.	0.5" - 5.0"

☐ Oxidizer Scrubber Chemistry[1] requires daily chlorine residual monitoring

☐ Elevated pH Scrubber Chemistry[2] requires daily pH monitoring

Time: _____

Boiler/RTO/RTO Generator Fuel Usage Log					
Ref.	**Emission Point**	**Description**	**PSI (N.GAS)**	**N. Gas Usage Reading**	**Liquid Fuel Usage Reading**
Boiler #1	AA-020	50.4 MMBTU/HR Hurst Boiler			
Boiler #2	AA-021	50.4 MMBTU/HR Hurst Boiler			
Boiler #3	AA-022	50.4 MMBTU/HR Hurst Boiler			
Boiler #4	AA-023	50.4 MMBTU/HR Hurst Boiler			
Boiler #5	AA-024	48 MMBTU/HR Hurst Boiler			
Boiler #6	AA-025	48 MMBTU/HR Hurst Boiler			
RTO	AA-027	5 MMBTU/HR Burner			
RTO Generator	AA-028	67 HP Emergency Generator			