Commonwealth of Kentucky
Division for Air Quality

STATEMENT OF BASIS / SUMMARY

Conditional Major, Operating
Permit: F-26-039

Darling Ingredients Inc.
3080 Concord Road
Russellville, KY 42276-8511

August 28, 2026
Ossama Ateyeh, Reviewer

SOURCE ID:	21-141-00026
AGENCY INTEREST:	2753
ACTIVITY:	APE20260002

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SECTION 1 – SOURCE DESCRIPTION

SIC Code and description: 2077, Animal and Marine Fats and Oils (animal fats and oils)

Single Source Det. ☐ Yes ☒ No If Yes, Affiliated Source AI:

Source-wide Limit ☒ Yes ☐ No If Yes, See Section 4, Table A

28 Source Category ☐ Yes ☒ No If Yes, Category:

County: Logan
Nonattainment Area ☒ N/A ☐ PM_{10} ☐ $PM_{2.5}$ ☐ CO ☐ NO_X ☐ SO_2 ☐ Ozone ☐ Lead
If yes, list Classification:

PTE* greater than 100 tpy for any criteria air pollutant ☒ Yes ☐ No
If yes, for what pollutant(s)?
☐ PM_{10} ☐ $PM_{2.5}$ ☐ CO ☒ NO_X ☐ SO_2 ☐ VOC

PTE* greater than 250 tpy for any criteria air pollutant ☐ Yes ☒ No
If yes, for what pollutant(s)?
☐ PM_{10} ☐ $PM_{2.5}$ ☐ CO ☐ NO_X ☐ SO_2 ☐ VOC

PTE* greater than 10 tpy for any single hazardous air pollutant (HAP) ☐ Yes ☒ No
If yes, list which pollutant(s):

PTE* greater than 25 tpy for combined HAP ☐ Yes ☒ No

*PTE does not include self-imposed emission limitations.

Description of Facility:
The rendering and meat byproduct processing plant (NAICS code 311613) receives only poultry byproducts (meat, bone, blood, offal, and feathers) and spent hens and converts those materials into various protein meals and processed fat products. The facility processes described include two poultry byproduct processing lines (Cooker #2 and Cooker #3), and one feather processing line (Feather Line), collectively identified as EU-07 (Cooker Line #1, EU-03, has been removed). Heat for the processes is generated by the three on-site boilers as follows: three boilers (#3, #4, and #5 as EU-04, EU-05, and EU-06, respectively), each with rated heat inputs of 50.235 MMBtu/hr.

SECTION 2 – CURRENT APPLICATION AND EMISSION SUMMARY FORM

Permit Number: F-26-039 Activity: APE20260002

Application Received: April 16, 2026 Application Complete Date(s): August 27, 2026

Permit Action: ☐ Initial ☒ Renewal ☐ Significant Rev ☐ Minor Rev ☐ Administrative

Construction/Modification Requested? ☐Yes ☒No

Previous 502(b)(10) or Off-Permit Changes incorporated with this permit action ☐Yes ☒No

Description of Action:
The permittee submitted a renewal application to the Division on April 16, 2026. The application did not request any changes in the renewal permit. As part of the renewal process, the Division updated the permit language to be consistent and clear. The Division also updated regulatory language as appropriate to reflect changes in the applicable regulations since the last time the permit was issued or revised.

Note: The dramatic change in the Carbon Dioxide CO2 was result of faulty calculation in the previous permitting action.

F-26-039 Emission Summary				
Pollutant	2025 Actual (tpy)	PTE F-21-020 (tpy)	Change (tpy)	PTE F-26-039 (tpy)
CO	11.76	57.55	0	57.55
NOx	4.6	108.40	0	108.40
PT	5.64	13.42	0	13.42
PM_{10}	5.64	14.86	+0.03	14.89
$PM_{2.5}$	5.33	10.90	+0.10	11.0
SO_2	28.5	69.05	0	69.05
VOC	11.5	11.44	0	11.44
Lead	0.00007	0.00034	0	0.00034
Greenhouse Gases (GHGs)				
Carbon Dioxide	16,809	112,560	+188,610	301,170
Methane	0.32	1.58	0	1.58
Nitrous Oxide	0.31	1.51	0	1.51
CO_2 Equivalent (CO_2e)	16,900	113,085.55	188,528.45	301,614
Hazardous Air Pollutants (HAPs)				
Hexane	0.25	1.22	0	1.22
Formaldehyde	0.01	0.31	0	0.31
Combined HAPs:	0.26	1.60	0	1.60

SECTION 3 – EMISSIONS, LIMITATIONS AND BASIS

Emission Units EU04, EU05, and EU06 Three Gas-Fired Indirect Heat Exchangers				
Pollutant	**Emission Limit or Standard**	**Regulatory Basis for Emission Limit or Standard**	**Emission Factor Used and Basis**	**Compliance Method**
PM	0.26 lb/MMBtu	401 KAR 59:015, Section 4(1)(c)	**Processed Fats:** 1.26 lbs/Mgal (Test) **Natural Gas:** 7.6 lbs/MMscf (AP-42 Table 1.4-2) **Fuel Oil No. 2:** 2 lbs/Mgal (AP-42 Table 1.3-1)	All units are assumed to be in compliance with the PM standard, while burning natural gas, processed fats, or low sulfur diesel.
Opacity	20%, except one 6-minute period of 27% per hour when burning fuel oil no. 2	**Natural Gas**: 401 KAR 59:015, Section 4(2) **Fuel Oil No. 2:** 40 CFR 60.42c(c) **Processed Fats:** 401 KAR 59:015, Section 4(2)	N/A	Method 9 shall be performed while burning low sulfur diesel and processed fats. Compliance with opacity standards is assumed while burning natural gas.
SO_2	**Natural Gas:** 0.81 lbs/MMBtu **Fuel Oil No. 2:** 0.50 lbs/MMBtu **Processed Fats:** 0.50 lbs/MMBtu	**Natural Gas:** 401 KAR 59:015, Section 5(1)(c)(2) **Fuel Oil No. 2:** 40 CFR 60.42c(d) **Processed Fats:** 40 CFR 60.42c(d)	**Processed Fats:** 0.87 lbs/Mgal (Test) **Natural Gas:** 0.6 lbs/MMscf (AP-42 Table 1.4-1) **Fuel Oil No. 2:** 7.1 lbs/Mgal (AP-42 Table 1.3-1)	While burning processed fats and low sulfur diesel, compliance with SO_2 is shown through fuel sampling.

Initial Construction Date: 8/1/*2006*

Process Description:
Three 50.235 MMBtu/hr, Hurst S4X-GA2-1200-150 boilers – These boilers are used to supply heat to the processes at the facility. These units can burn processed fats, natural gas, and low sulfur diesel.

Applicable Regulation:
401 KAR 59:015, *New indirect heat exchangers,* applies to indirect heat exchangers having a heat input capacity greater than one MMBtu/hour and commenced on or after April 9, 1972. Emissions of PM, SO_2, and opacity are limited by the standards in this regulation.

401 KAR 60:005, Section 2(2)(d), 40 C.F.R. 60.40c through 60.48c (**Subpart Dc**), *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units,* applies to each steam generating unit with a maximum design heat input capacity of 100 MMBtu/hr or less, but more than 10 MMBtu/hr, constructed after June 9, 1989. Emission Units 04 – 06 are subject to emission standards for SO_2 and opacity under this subpart.

Emission Units EU04, EU05, and EU06 Three Gas-Fired Indirect Heat Exchangers

Precluded Regulations:
401 KAR 63:002, Section 2(4)(jjjjj), 40 C.F.R. 63.11193 through 63.11237, Tables 1 through 8 (**Subpart JJJJJJ**), *National Emission Standards of Performance for Industrial, Commercial, and Institutional Boilers Area Sources*¸ does not apply to boilers that meet the definition of gas-fired boilers.

Comments:
Potential emissions for natural gas and low sulfur diesel were calculated using emission factors from AP-42. Potential emissions for processed fats were developed by Darling based on an emissions engineering test performed at another Darling facility on a boiler equipped with a low NOx burner and were provided by the facility in the application received on January 25, 2016, and deemed acceptable by the Division.

To preclude the applicability of 40 CFR 63, Subpart JJJJJJ, the permittee shall meet the definition of a gas-fired boiler, specified in 40 CFR 63.11237. Each boiler shall only burn gaseous fuels not combined with any solid fuels except that the permittee may burn liquid fuel during periods of gas curtailment, gas supply interruption, startups, or periodic testing on liquid fuel. Periodic testing of liquid fuel shall not exceed a combined total of 48 hours during any calendar year [40 CFR 63.11195(e)].

Emission Unit EU07 Rendering Process #2 and #3, Feather Process, and Finished Product Handling				
Pollutant	**Emission Limit or Standard**	**Regulatory Basis for Emission Limit or Standard**	**Emission Factor Used and Basis**	**Compliance Method**
PM	2.34 lb/hr for $P \leq 0.5$ $3.59P^{0.62}$ lb/hr for $0.5 < P \leq 30$ $17.31P^{0.16}$ for $P > 30$ (P in tons/hr)	401 KAR 59:010, Section 3(2)	**Rendering/ Feather process:** 0.095 lbs/ton (Test) **Natural Gas:** 7.6 lbs/MMscf (AP-42 Table 1.4-2)	Operation of scrubber system at all times
Opacity	20%	401 KAR 59:010, Section 3(1)	N/A	Operation of scrubber system at all times
Odor	7/1 ratio of odorless air to ambient air	401 KAR 53:010, Section 1	N/A	Investigated by field office upon receipt of a complaint

Initial Construction Date: 8/1/*2006 (rendering process) and 2007 (feather process)*

Process Description:
This unit receives poultry byproducts (meat, bone, blood, offal, and feathers) and spent hens and converts those materials into various protein meals and processed fat products.

Applicable Regulation:
401 KAR 59:010, *New process operations*, applies to process operations not subject to another emission standard, with respect to particulates, in 401 KAR Chapter 59, for which construction commenced after July 2, 1975. There is a PM emission limit which varies based on the process weight rate.

401 KAR 53:010, *Ambient air quality standards*,. With respect to odors, a mixture of one volume of ambient air and seven volumes of odorless air shall have no detectable odor at any time.

Comments:
Potential emissions for particulate matter created by the natural gas combustion of the regenerative thermal oxidizer unit (RTO) were calculated using emission factors from AP-42. Particulate matter emissions resulting from the rendering and feather processes were calculated using emission factors provided by Darling in the application for F-16-011 received on January 25, 2016. The emission factors were developed by Darling based on compliance tests performed at another Darling facility. These emission factors were developed by the applicant in order to more accurately represent the PM emission factors than the AP-42 emission factors for blood dryers which had historically been used.

Emission Unit 08 Natural Gas-Fired Emergency RICE

Initial Construction Date: 2020

Process Description:
The 2017 132 HP Generac Model EGENX32KNAN 2.4L total displacement spark ignition natural gas-fired emergency reciprocating internal combustion engine (RICE) is available to power the regenerative thermal oxidizer (RTO) during emergency situations.

Applicable Regulation:
401 KAR 63:002, Section 2(4)(eeee), 40 C.F.R. 63.6580 through 63.6675, Tables 1a through 8, and Appendix A (**Subpart ZZZZ**), *National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines,* is applicable, however, pursuant to 40 CFR 63.6590 (c) new stationary RICE located at area source must comply with requirements of Subpart ZZZZ by meeting the requirements of 40 CFR 60, Subpart JJJJ. No further requirements apply to these under 40 CFR Part 63.

401 KAR 60:005, Section 2(2)(pppp), 40 C.F.R. 60.4230 through 60.4248, Tables 1 through 4 (**Subpart JJJJ**), *Standards of Performance for Stationary Spark Ignition Internal Combustion Engines* is applicable to stationary spark ignition (SI) emergency generator engines greater than 25 hp for which construction is commenced after June 12, 2006, and which are manufactured after January 1, 2009.

Comments:
A non-resettable hour meter shall be installed.

Fuel usage (in MMscf) and hours of operation shall be monitored and recorded on a monthly basis.

SECTION 3 – EMISSIONS, LIMITATIONS AND BASIS (CONTINUED)

Testing Requirements\Results

Emission Unit(s)	Control Device	Parameter	Regulatory Basis	Frequency	Test Method	Permit Limit	Test Result	Thruput and Operating Parameter(s) Established During Test	Activity Graybar	Date of last Compliance Testing
02	None	NO_x	401 KAR 50:045	Within 30 days of combusting processed fats	Method 7c	N/A	0.238 lb/MMBtu	N/A	CMN 2012 0002	04/24/2012
02	None	PM	401 KAR 50:055	Within 12 months of issuance of V-05-025 R1 (No longer required)	Method 5	0.32 lb/ MMBtu	0.13 lb/ MMBtu	N/A	CMN 2007 0001	05/08/2007

Footnotes:

SECTION 4 – SOURCE INFORMATION AND REQUIREMENTS

Table A - Group Requirements:

Emission and Operating Limit	Regulation	Emission Unit
90 tpy of NOx emissions	To preclude 401 KAR 52:020, *Title V permits*	Source-wide

Table B - Summary of Applicable Regulations:

Applicable Regulations	Emission Unit
401 KAR 59:015, *New indirect heat exchangers*	EU04, EU05 & EU06
401 KAR 60:005 Section 2(2)(d) 40 C.F.R. 60.40c through 60.48c (**Subpart Dc**) *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units.*	EU04, EU05 & EU06
401 KAR 59:010, *New process operations.*	EU07
401 KAR 53:010, *Ambient air quality standards.*	EU07
401 KAR 60:005, Section 2(2)(pppp), 40 C.F.R. 60.4230 through 60.4248, Tables 1 through 4 (**Subpart JJJJ**), *Standards of Performance for Stationary Spark Ignition Internal Combustion Engines.*	EU08
401 KAR 63:002 Section 2(4)(eeee), 40 C.F.R. 63.6580 through 63.6675, Tables 1a through 8, and Appendix A (**Subpart ZZZZ**) *National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.*	EU08

Table C - Summary of Precluded Regulations:

Precluded Regulations	Emission Unit
401 KAR 63:002, Section 2(4)(jjjjj), 40 C.F.R. 63.11193 through 63.11237, Tables 1 through 8 (**Subpart JJJJJJ**), *National Emission Standards of Performance for Industrial, Commercial, and Institutional Boilers Area Sources.*	EU04. EU05 &EU06
401 KAR 52:020, *Title V permits*	Source-wide

Table D - Summary of Non-Applicable Regulations:
N/A

Air Toxic Analysis
N/A

Single Source Determination
N/A

SECTION 5 – PERMITTING HISTORY

Permit	Permit Type	Log or Activity#	Complete Date	Issuance Date	Summary of Action	PSD/Syn Minor
C-73-030 O-75-066	Construction/ Operating	1317 3251	03/13/1973 05/30/1975	04/02/1973 05/30/1975	Original construction and operation of rendering plant	N/A
C-84-042 O-84-201	Construction/ Operating	7496 7921	01/13/1984 10/04/1984	03/20/1984 11/02/1984	Install two new cookers and update operating permit	N/A
C-88-055 O-88-021	Construction/ Operating	9654 9542	04/04/1988 11/07/1987	08/05/1988 04/29/1988	Install two oil fired boilers	N/A
S-94-031	Construction/ Operating	D167	03/25/1994	04/07/1994	Install oil-fired boiler	N/A
S-00-137	Construction/ Operating	51325	10/05/2000	09/20/2000	Install oil-fired boiler and new cooker line	N/A
V-05-025	Initial	APE2004002	2/12/1998	06/07/2006	TV Initial, Removal of two oil-fired boilers	N/A
V-05-025 R1	Significant Revision	APE2004002	12/8/2005	06/07/2006	Added on-spec used oil as a boiler fuel	N/A
V-05-025 R2	Significant Revision	APE2006001	09/08/2006	02/20/2007	Install 2 process lines and 3 new boilers	N/A
V-05-025 R3	Minor Revision	APE2007001	04/10/2007	05/25/2007	Correct PM standard ref. for new boilers	N/A
V-11-001	Renewal	APE2010001	01/14/2011	07/20/2011	Operating with emission limits for criteria and hazardous air pollutants	N/A
V-11-001 R1	Minor Revision	APE20130003	11/29/2013	04/18/2014	Convert EU01 and EU02 to “limited use” boilers and correct existing reference errors. Convert EU03, EU04 and, EU05 from dualfired boilers to natural gasfired boilers	N/A

SECTION 5 – PERMITTING HISTORY (CONTINUED)

Permit	Permit Type	Log or Activity#	Complete Date	Issuance Date	Summary of Action	PSD/Syn Minor
V-11-001 R2	Minor Revision	APE20140001	11/29/2014	1/14/2015	Make corrections to the "limited use" potential to emit determined by Griffin and The Division as well as correct existing reference errors.	N/A
F-16-011	Initial Admin Amend	APE20160004 APE20160002	3/27/2016	10/27/2016	Volunteered to accept permit conditions to limit emissions below the major source thresholds. Name Change from Griffin Industries LLC to Darling Ingredients Inc.	N/A
F-16-011 R1	Minor Revision	APE20200002	04/24/2020	6/15/2020	Added RTO and associated stationary emergency RICE	N/A
F-21-020	Renewal	APE20210001	06/08/2021	10/17/2021	Renewal and removal of EUs 01 & 02	N/A

SECTION 6 – PERMIT APPLICATION HISTORY

N/A

APPENDIX A – ABBREVIATIONS AND ACRONYMS

AAQS – Ambient Air Quality Standards
BACT – Best Available Control Technology
Btu – British thermal unit
CAM – Compliance Assurance Monitoring
CO – Carbon Monoxide
Division – Kentucky Division for Air Quality
ESP – Electrostatic Precipitator
GHG – Greenhouse Gas
HAP – Hazardous Air Pollutant
HF – Hydrogen Fluoride (Gaseous)
MSDS – Material Safety Data Sheets
mmHg – Millimeter of mercury column height
NAAQS – National Ambient Air Quality Standards
NESHAP – National Emissions Standards for Hazardous Air Pollutants
NO_x – Nitrogen Oxides
NSR – New Source Review
PM – Particulate Matter
PM_{10} – Particulate Matter equal to or smaller than 10 micrometers
$PM_{2.5}$ – Particulate Matter equal to or smaller than 2.5 micrometers
PSD – Prevention of Significant Deterioration
PTE – Potential to Emit
SO_2 – Sulfur Dioxide
TF – Total Fluoride (Particulate & Gaseous)
VOC – Volatile Organic Compounds

APPENDIX B – INDIRECT HEAT EXCHANGER EMISSIONS LIMITATIONS

EU	Fuel	Capacity (MMBtu/hr)	Construction Date	Notes/ Removal Date	Basis for PM Limit	Total Heat Input Capacity for PM Limit (MMBtu/hr)	Basis for SO_2 Limit	Total Heat Input Capacity for SO_2 Limit (MMBtu/hr)
EU01	Processed Fats; Low Sulfur Diesel, Natural Gas	46.2	1983 (Installed 1994)	1/21/2020	404 KAR 59:015, Section 4(1)(c)	92.4	404 KAR 59:015, Section 5(1)(c)	92.4
EU02	Processed Fats; Low Sulfur Diesel, Natural Gas	46.2	1987 (Installed 2000)	1/21/2020	404 KAR 59:015, Section 4(1)(c)	92.4	404 KAR 59:015, Section 5(1)(c)	92.4
EU04	Natural Gas; Processed Fats, Low Sulfur Diesel	50.235	2006	N/A	404 KAR 59:015, Section 4(1)(c)	243.105	404 KAR 59:015, Section 5(1)(c)	243.105
EU05	Natural Gas; Processed Fats, Low Sulfur Diesel	50.235	2006	N/A	404 KAR 59:015, Section 4(1)(c)	243.105	404 KAR 59:015, Section 5(1)(c)	243.105
EU06	Natural Gas; Processed Fats, Low Sulfur Diesel	50.235	2006	N/A	404 KAR 59:015, Section 4(1)(c)	243.105	404 KAR 59:015, Section 5(1)(c)	243.105

PM limit $E_P = 0.9634 (T^{-0.2356})$ where T is the total heat input capacity
SO_2 limit $E_S = 7.7223 (T^{-0.4106})$ where T is the total heat input capacity