



Region 2 Enforcement & Compliance Assurance Division  
Air Compliance Branch  
CAA Inspection Report

Inspection Date: 11/7/2024  
Facility Name: Darling Ingredients  
Facility Address: 825 Wilson Ave Newark, NJ 07105  
ICIS-Air ID #: NJ0000003401305574  
EPA Lead Inspector: Katherine Marmanides (212)637-4063  
EPA Asst. Inspector: Victor Tu (212)637-3476  
Facility Contact: Matthew Appleby, o: (973)474-5908 c: (201)240-1679, MAppleby@darlingii.com  
State Inspector(s): State inspector name, title, phone number.  
Other Inspector(s): Other inspector name, title, phone number.

### Background

Darling Ingredients (“Darling”) is located at 825 Wilson Avenue, Newark, NJ, in a heavily industrialized area. Darling is located in the metropolitan area which is a nonattainment zone for ozone and NOx. In their two Preconstruction permits (PCP220004 – Rendering and Oil refining Operations and PCP220001 – Permit for Victor and Nebraska Boilers) Darling indicated that it is subject to a threshold of 25 TPY of NOx and 10 TPY of VOCs. The facility operates a food processing/byproduct conversion facility that produces natural animal and vegetable derived protein and fat ingredients, which are used in the production of food, feed, fuel, and organic fertilizer. Darling receives “grease” (used cooking oil (UCO)) by truck from roughly 12,000 restaurants and food processors. The UCO is refined to remove solids, water, and stored in internal tanks or in the outdoor tank farm. The refined product is shipped to customers by tanker truck or by marine vessel, for primary use as an ingredient in the production of animal feed and/or renewable fuel. Darling also receives food processing byproducts (poultry, pork, beef, feathers, surplus meat, meat/fat/bone scraps, etc.) from roughly 1,200 slaughterhouses, butcher shops, meat markets and grocery stores. This material is processed (rendered) to separate it into two products: fats and proteins. Rendering involves a complex combination of thermal and mechanical separation steps with a primary focus on removing moisture. The fat is further refined to produce a marketable ingredient used primarily in the production of animal feed and/or renewable fuel. The protein is further refined to produce a marketable ingredient used primarily in the production of animal feed and organic fertilizer. Fats are shipped as a bulk liquid to customers by tanker truck or marine vessel. Protein is shipped to customers in bulk by truck.

The facility’s processing rates are limited in the permit as follows:

Rendering Process:

71,500 pounds/hour  
1,716,000 pounds/day  
267,696 tons/year

Grease House Process:

800,000 pounds/day  
146,000 tons/year

Darling Ingredients has an Odor Control Plan (OCP), referenced in their permit, that was implemented in 2019/2020. The raw material is weighed using a truck scale at entry to the property. The scale house attendant will keep a log of unloading prioritization on Incoming Raw Materials Daily Log. There are four (4) odor control systems at the facility that can operate independently, though there is some overlap in the sources that are captured and treated. All four systems include gas collection ductwork, a final packed tower

scrubber, an induced draft fan, and a discharge stack. Three of the systems also include primary treatment of high intensity sources in a venturi scrubber and high intensity packed tower scrubber prior to final treatment. The high intensity packed tower (PTSS/CD3306) takes the venturi exhaust and provides wet scrubbing through chemical oxidation of odor compounds.

- PTS-1/CD3302 – low pH rendering scrubber.
- PTS-2/CD3303 – low pH rendering scrubber.
- PTS-3/CD3305 – low pH rendering scrubber.
- PTS-4/CD3202 – neutral pH grease scrubber.
- PTS-5/CD3306 – high pH rendering scrubber.

		2019 (TPY)	2020 (TPY)	2021 (TPY)	2022 (TPY)	2023 (TPY)	
5574	DARLING INGREDIENTS INC	CO	2.87	3.19	3.89	3.7	4.19
		NOx (Total)	12.1	11.08	13.73	7.66	5.81
		VOC (Total)	12.6	12.03	10.65	11.18	11.51

Table 1, Facility Emissions Reported to NJDEP annually from 2019 to 2023.

### Pertinent Regulatory Requirements

In ECHO, Darling Ingredients is operating as an SM80 for VOC's. Darling is subject to SIP N.J.A.C. 7:27–16.16 Control and Prohibition of Air Pollution by Volatile Organic Compounds.

Darling is also subject to:

- NSPS 40 CFR 60 Subpart 4J - Standards of Performance for Stationary Spark Ignition Internal Combustion Engines
- MACT 40 CFR 63 Subpart 4Z - National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

Darling recently submitted a permit modification on November 4, 2024, to remove their ABCO boiler (E2).

### Summary of Onsite Observations

EPA's last visit was on July 17, 2024, during which the facility was offline. It was also shared by NJDEP that during their last visit earlier this year, Darling was offline.

Inspectors Victor Tu and Katherine Marmanides arrived at Darling Ingredients on November 7, 2024, at 6:16 PM. It was 59°F, and the winds were coming from the west, northwest. We went through their property gate and the security directed us where to go and park. There, we were greeted by Mr. Johnny Medic who is the 2<sup>nd</sup> shift supervisor. Odors were apparent when driving onto facility grounds. The PID read 0.225 PPM in the parking lot. We explained to Mr. Medic our reason for our unannounced inspection and that we will be walking around with a FLIR camera and PID. We asked Mr. Medic to direct us to their control room. To get to the control room, we had to walk through their rendering room to go upstairs to the control room. At the time of the inspection, the odor inside the facility was extremely pungent. At the bottom of the stairs, the PID read 0.950 PPM. There we were also met with Ashir, control room operator. In the control room, the PID read 0.375 PPM. He went through all the screens. The following is what Ashir showed us.

#### Below is what we observed in the control room:

Rendering Processing Controls	Observed	Permit Conditions	Notes
Scrubber (PDI_955) (low level scrubber)	3.2pH	pH of the Scrubbing Solution at the Inlet of the Scrubber $\geq$ 2.5 and pH of the Scrubbing Solution at the Inlet of the Scrubber $\leq$ 5.5 standard units. [N.J.A.C.7:27- 8.13(a)].	
	1,037.2 GPM	Flowrate of Scrubbing Medium at Scrubber Inlet $\geq$ 600 and Flowrate of Scrubbing Medium at Scrubber Inlet $\leq$ 1,200 gal/min. [N.J.A.C. 7:27- 8.13(a)].	
	3.1" w.c.	Pressure Drop Across the Scrubber $\geq$ 1 and Pressure Drop Across the Scrubber $\leq$ 7 inches w.c. [N.J.A.C. 7:27- 8.13(a)].	
Scrubber (PDI_975) *	3.4pH	pH of the Scrubbing Solution at the Inlet of the Scrubber $\geq$ 2.5 and pH of the Scrubbing Solution at the Inlet of the Scrubber $\leq$ 5.5 standard units. [N.J.A.C.7:27- 8.13(a)].	

	1,054.1 GPM	Flowrate of Scrubbing Medium at Scrubber Inlet $\geq$ 600 and Flowrate of Scrubbing Medium at Scrubber Inlet $\leq$ 1,200 gal/min. [N.J.A.C. 7:27- 8.13(a)].	
	3.2" w.c.	Pressure Drop Across the Scrubber $\geq$ 1 and Pressure Drop Across the Scrubber $\leq$ 7 inches w.c. [N.J.A.C. 7:27- 8.13(a)].	
Scrubber (PDI_990) (low level scrubber)	3.0pH	pH of the Scrubbing Solution at the Inlet of the Scrubber $\geq$ 2.5 and pH of the Scrubbing Solution at the Inlet of the Scrubber $\leq$ 5.5 standard units. [N.J.A.C.7:27- 8.13(a)].	
	1,554.6 GPM	Flowrate of Scrubbing Medium at Scrubber Inlet $\geq$ 600 and Flowrate of Scrubbing Medium at Scrubber Inlet $\leq$ 1,200 gal/min. [N.J.A.C. 7:27- 8.13(a)].	Operating outside of permit condition.
	2.6" w.c.	Pressure Drop Across the Scrubber $\geq$ 1 and Pressure Drop Across the Scrubber $\leq$ 7 inches w.c. [N.J.A.C. 7:27- 8.13(a)].	
Venturi (PDI_123)	74.9 GPM	Flowrate of Scrubbing Medium at Scrubber Inlet $\geq$ 15 and Flowrate of Scrubbing Medium at Scrubber Inlet $\leq$ 75 gal/min. [N.J.A.C. 7:27- 8.13(a)].	
	2.9" w.c.	Pressure Drop Across the Scrubber $\geq$ 2 and Pressure Drop Across the Scrubber $\leq$ 10 inches w.c. [N.J.A.C. 7:27- 8.13(a)].	
Scrubber (PDI_133) (High intensity)	9.7pH	pH of the Scrubbing Solution at the Inlet of the Scrubber $\geq$ 8.5 and pH of the Scrubbing Solution at the Inlet of the Scrubber $\leq$ 11.5 standard units. [N.J.A.C.7:27- 8.13(a)]	
	155.5 GPM	Flowrate of Scrubbing Medium at Scrubber Inlet $\geq$ 40 and Flowrate of Scrubbing Medium at Scrubber Inlet $\leq$ 120 gal/min. [N.J.A.C. 7:27- 8.13(a)]	Operating outside of permit condition.
	19.1" w.c.	Pressure Drop Across the Scrubber $\geq$ 1 and Pressure Drop Across the Scrubber $\leq$ 4 inches w.c. [N.J.A.C. 7:27- 8.13(a)]	Operating outside of permit condition.

\*Inspectors at the time were not able to identify whether the scrubber is high or low intensity.

At the time, there was a red high alarm lit. But Mr. Ashir and Mr. Medic told us that there are always "power glitches" and it's not supposed to show that on the screen.

Grease Processing Controls	Observed	Permit Conditions	Notes
Grease venturi (PDI_130)	38.8GPM	Flowrate of Scrubbing Medium at Scrubber Inlet $\geq$ 12 and Flowrate of Scrubbing Medium at Scrubber Inlet $\leq$ 50 gal/min. [N.J.A.C. 7:27- 8.13(a)].	
	7.6" w.c.	Pressure Drop Across the Scrubber $\geq$ 2 and Pressure Drop Across the Scrubber $\leq$ 10 inches w.c. [N.J.A.C. 7:27- 8.13(a)].	
Grease scrubber (PDI_120)	6.6pH	pH of the Scrubbing Solution at the Inlet of the Scrubber $\geq$ 5.5 and pH of the Scrubbing Solution at the Inlet of the Scrubber $\leq$ 8.5 standard units. [N.J.A.C.7:27- 8.13(a)]	
	295.4 GPM	Flowrate of Scrubbing Medium at Scrubber Inlet $\geq$ 200 and Flowrate of Scrubbing Medium at Scrubber Inlet $\leq$ 320 gal/min. [N.J.A.C. 7:27- 8.13(a)]	
	3.6" w.c.	Pressure Drop Across the Scrubber $\geq$ 1 and Pressure Drop Across the Scrubber $\leq$ 4 inches w.c. [N.J.A.C. 7:27- 8.13(a)]	

After Mr. Ashir and Mr. Medic walked us through everything in the control room, we went back into the rendering room. There is a hood in the rendering room which has a fan and draws all the rendering room air through it (see figure #3). It collects vapor and gases that go through a scrubber and venturi. Mr. Medic said that the hood oversees the entire rendering process room. The PID read as high as 1.950 PPM around the roto shear. The hood is located directly above a roto shear (see figure #4 & figure #5). There were sections of the floor that were covered with slippery & foamy residual material.



(Figure #3 – hood)



(Figure #4 – roto shear)



(Figure #5 – roto shear)

While walking around the rendering room, the PID was reading consistently above 0.700 PPM. Mr. Medic escorted us to dryer #2 and the exhaust for dryer #2. The PID read 0.700 PPM. We also saw dryer #1 and the exhaust for dryer #1. The PID read 0.550 PPM.

We walked to the grease processing area where we saw the grease pit and roto shear. At the time the grease process was not in operation. The PID read 0.200 PPM. The bay doors were closed. We went outside and Mr. Medic showed us a stack, which we eventually traced back to a water wash tank. There is no scrubber attached to that stack. The PID read 0.200 PPM.

We continued to walk outside where the stack located at 40.7142267, -74.1238282 draws from scrubbers #2 & #3. The stack next to it located at 40.7139009, -74.1237044 draws from scrubber #1. Mr. Ashir stated that scrubbers #1 & #3 are the low-level scrubbers and scrubber #2 is the high intensity scrubber. The stack directly next to the #2 scrubber stack, with a mushroom cap, is attached to their Victory boiler. The PID read 0 PPM.

We continued to walk around towards the grinding room. The back bay had a 6" opening on the bottom and the front bay was completely open.

We gained access to the roof where we traced where the grease stacks are located. At the time, Mr. Ashir stated that they were not heating anything so therefore there should be nothing coming out of the grease stack.

Directly in front of the grease stack is a boiler stack. The boiler stack is attached to the Nebraska boiler. Mr. Medic told us that their Nebraska boiler has been out of service for months.

From the roof, we were able to see the first 3 stacks that we walked by. We recorded a FLIR camera video, 103\_FLIR.mov.

We were told that Mr. Appleby asked to make copies of our credentials before departure. We explained that our credentials were not to be photographed. We thanked Mr. Medic and Mr. Ashir for their time and patience for explaining the process to us. We departed the facility around 8:00 PM.

We reached out to NJDEP for copies of the stack test reports, as we did not receive them last time. The State notified us that the last scrubber stack test results were done in 1995. They were able to give us Darling Ingredients last stack test from 2006 which was on their ABCO boiler stack test results.

Lead Inspector's Name: Katherine Marmanides

**Katherine G.**  
**X Marmanides** Digitally signed by  
Katherine G. Marmanides  
Date: 2024.12.20  
13:32:13 -05'00'

Lead Inspector

Assisting Inspector's Name: Victor Tu

**HARISH**  
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Assisting Inspector

Supervisor's Name: Harish Patel

**HARISH**  
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15:00:25 -05'00'

Supervisor