Statement of Basis

Permit to Construct No. P-2015.0004
Project ID 61470

Darling Ingredients Inc.
Kuna, Idaho

Facility ID 001-00108

Final

February 5, 2015
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Senior Air Quality Engineer

The purpose of this Statement of Basis is to satisfy the requirements of IDAPA 58.01.01.et seq, Rules for the Control of Air Pollution in Idaho, for issuing air permits.
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ACRONYMS, UNITS, AND CHEMICAL NOMENCLATURE

AAC acceptable ambient concentrations
AACC acceptable ambient concentrations for carcinogens
acfm actual cubic feet per minute
ASTM American Society for Testing and Materials
BACT Best Available Control Technology
BMP best management practices
Btu British thermal units
CAA Clean Air Act
CAM Compliance Assurance Monitoring
CAS No. Chemical Abstracts Service registry number
CBP concrete batch plant
CEMS continuous emission monitoring systems
cfm cubic feet per minute
CFR Code of Federal Regulations
CI compression ignition
CMS continuous monitoring systems
CO carbon monoxide
CO$_2$ carbon dioxide
CO$_2$e CO$_2$ equivalent emissions
COMS continuous opacity monitoring systems
DEQ Department of Environmental Quality
dscf dry standard cubic feet
EL screening emission levels
EPA U.S. Environmental Protection Agency
FEC Facility Emissions Cap
GHG greenhouse gases
gph gallons per hour
gpm gallons per minute
gr grains (1 lb = 7,000 grains)
HAP hazardous air pollutants
HHV higher heating value
HMA hot mix asphalt
hp horsepower
hr/yr hours per consecutive 12 calendar month period
ICE internal combustion engines
IDAPA a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
iwg inches of water gauge
km kilometers
lb/hr pounds per hour
lb/qtr pound per quarter
m meters
MACT Maximum Achievable Control Technology
mg/dscm milligrams per dry standard cubic meter
MMBtu million British thermal units
MMscf million standard cubic feet
NAAQS National Ambient Air Quality Standard
NESHAP National Emission Standards for Hazardous Air Pollutants
NO$_2$ nitrogen dioxide
NO$_x$ nitrogen oxides
NSPS New Source Performance Standards
O&M  operation and maintenance
O<sub>2</sub>  oxygen
PAH  polyaromatic hydrocarbons
PC  permit condition
PCB  polychlorinated biphenyl
PERF  Portable Equipment Relocation Form
PM  particulate matter
PM<sub>2.5</sub>  particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers
PM<sub>10</sub>  particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
POM  polycyclic organic matter
ppm  parts per million
ppmw  parts per million by weight
PSD  Prevention of Significant Deterioration
psig  pounds per square inch gauge
PTC  permit to construct
PTC/T2  permit to construct and Tier II operating permit
PTE  potential to emit
PW  process weight rate
RAP  recycled asphalt pavement
RFO  reprocessed fuel oil
RICE  reciprocating internal combustion engines
Rules  Rules for the Control of Air Pollution in Idaho
scf  standard cubic feet
SCL  significant contribution limits
SIP  State Implementation Plan
SM  synthetic minor
SM<sub>80</sub>  synthetic minor facility with emissions greater than or equal to 80% of a major source threshold
SO<sub>2</sub>  sulfur dioxide
SO<sub>x</sub>  sulfur oxides
T/day  tons per calendar day
T/hr  tons per hour
T/yr  tons per consecutive 12 calendar month period
T2  Tier II operating permit
TAP  toxic air pollutants
TEQ  toxicity equivalent
T-RACT  Toxic Air Pollutant Reasonably Available Control Technology
ULSD  ultra-low sulfur diesel
VOC  volatile organic compounds
yd<sup>3</sup>  cubic yards
µg/m<sup>3</sup>  micrograms per cubic meter
FACILITY INFORMATION

Description
Darling Ingredients Inc. is a food processing by-products recycler processing approximately two million pounds of material per week. This material includes slaughterhouse offal, shop fat and bone, dead animal stock, and restaurant grease. The solid material is trucked to the facility, dumped into a receiving pit, and transported to an auger or a hog for size reduction. After crushing, the material is cooked in steam heated cookers. Steam heat is provided by the Superior and Kewanee boilers. The solid and liquid products are separated by screens with the solid material being processed into meat and bone meal. The liquid product is separated from the solid material by centrifuge. The tallow is stored in steam heated tanks. The restaurant grease is screened to remove the solids. The solids are processed as stated above while the yellow grease is stored in tanks. Both tallow and yellow grease can be used as fuel for the Superior boiler. All products manufactured at the facility are sold in the non-ruminant animal feed market.

Permitting History
The following information was derived from a review of the permit files available to DEQ. Permit status is noted as active and in effect (A) or superseded (S).

April 25, 2002 001-00108, allowing combustion of grease and tallow in existing Superior boiler, Permit status (S)
October 4, 2006 P-060003, addition of an existing natural gas-fired Kewanee boiler. Permit status (A, but will become S upon issuance of this permit)

Application Scope
This PTC is a revision of an existing PTC for a facility name change.

Application Chronology
January 12, 2015 DEQ received an application.
February 5, 2015 DEQ issued the final permit and statement of basis.

TECHNICAL ANALYSIS

Emissions Units and Control Equipment

Table 1  EMISSIONS UNIT AND CONTROL EQUIPMENT INFORMATION

<table>
<thead>
<tr>
<th>Sources</th>
<th>Control Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Superior Boiler</td>
<td>None</td>
</tr>
<tr>
<td>Manufacturer: Superior Boiler Works</td>
<td></td>
</tr>
<tr>
<td>Model: 6-X-5000-5150-1CCF-GA-2 boiler</td>
<td></td>
</tr>
<tr>
<td>Heat input rate: 41.84 MMBtu/hr</td>
<td></td>
</tr>
<tr>
<td>Fuel: natural gas, no. 2 fuel oil, yellow grease or tallow</td>
<td></td>
</tr>
<tr>
<td>Constructed date: 1997</td>
<td></td>
</tr>
<tr>
<td>Kewanee Boiler</td>
<td>None</td>
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<tr>
<td>Manufacturer: Kewanee Boiler Corporation</td>
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</tr>
<tr>
<td>Heat input rate: 31.38 MMBtu/hr.</td>
<td></td>
</tr>
<tr>
<td>Fuel: natural gas fired</td>
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</tr>
<tr>
<td>Constructed date: 1974</td>
<td></td>
</tr>
</tbody>
</table>
Emissions Inventories
This permitting action is for a facility name change. Emissions inventories are not required.

Ambient Air Quality Impact Analyses
This permitting action is for a facility name change. Ambient air quality impact analyses are not required.

REGULATORY ANALYSIS

Attainment Designation (40 CFR 81.313)
The facility is located in Ada County, which is designated as attainment or unclassifiable for PM$_{2.5}$, PM$_{10}$, SO$_2$, NO$_2$, CO, and Ozone. Refer to 40 CFR 81.313 for additional information.

Facility Classification
Darling Ingredients Inc. is classified as a minor facility because the facility’s potential to emit is less than major source thresholds without requiring limits on its potential to emit. The classification is B.

Permit to Construct (IDAPA 58.01.01.201)
IDAPA 58.01.01.201 ............................................ Permit to Construct Required

The permittee has requested that a PTC be issued to the facility for a facility name change. Therefore, a PTC is required to be issued in accordance with IDAPA 58.01.01.220. This permitting action is processed in accordance with the procedures of IDAPA 58.01.01.200-228.

Visible Emissions (IDAPA 58.01.01.625)
IDAPA 58.01.01.625 ............................................ Visible Emissions

The sources of PM$_{10}$ emissions at this facility are subject to the State of Idaho visible emissions standard of 20% opacity. This requirement is assured by Permit Conditions 2.4 and 3.4.

Standards for New Sources (IDAPA 58.01.01.676)
IDAPA 58.01.01.676 ............................................ Standards for New Sources

The fuel burning equipment located at this facility, with a maximum rated input of ten (10) million BTU per hour or more, are subject to a particulate matter limitation of 0.015 gr/dscf of effluent gas corrected to 3% oxygen by volume when combusting gaseous fuels and 0.050 gr/dscf of effluent gas corrected to 3% oxygen by volume when combusting liquid fuels. Fuel-Burning Equipment is defined as any furnace, boiler, apparatus, stack and all appurtenances thereto, used in the process of burning fuel for the primary purpose of producing heat or power by indirect heat transfer. This requirement is assured by Permit Conditions 2.5 and 3.5.

Title V Classification (IDAPA 58.01.01.300, 40 CFR Part 70)
IDAPA 58.01.01.301 ............................................ Requirement to Obtain Tier I Operating Permit

The facility is a minor source and is not a Tier I source in accordance with IDAPA 58.01.01.006; the requirements of IDAPA 58.01.01.301 do not apply.

PSD Classification (40 CFR 52.21)
40 CFR 52.21 .................................................. Prevention of Significant Deterioration of Air Quality

The facility is not a major stationary source as defined in 40 CFR 52.21(b)(1), nor is it undergoing any physical change at a stationary source not otherwise qualifying under paragraph 40 CFR 52.21(b)(1) as a major stationary source, that would constitute a major stationary source by itself as defined in 40 CFR 52. Therefore in accordance
with 40 CFR 52.21(a)(2), PSD requirements are not applicable to this permitting action. The facility is not a designated facility as defined in 40 CFR 52.21(b)(1)(i)(a) and does not have facility-wide emissions of any criteria pollutant that exceed 250 T/yr.

**NSPS Applicability (40 CFR 60)**

The Superior boiler is subject to 40 CFR 60, Subpart Dc. Refer to the statement of basis for the existing PTC issued on 10/4/2006. (2011AAG2451)

**NESHAP Applicability (40 CFR 61)**

The facility is not subject to any NESHAP requirements in 40 CFR 61.

**MACT Applicability (40 CFR 63)**

The facility is subject to 40 CFR 63, Subpart JJJJJ - National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources.

The Superior boiler is an industrial boiler as defined in 40 CFR 63.11237, is located at an area source of hazardous air pollutants (HAP), as defined in 40 CFR 63.2, and is not exempt under 40 CFR 63.11195; therefore, it is subject to this subpart. The Superior boiler belongs to Oil subcategories as listed in 40 CFR 63.11200 and defined in 40 CFR 63.11237. The Superior boiler was constructed in 1997, after June 4, 2010, and is therefore an existing source.

Because this is a minor source, the requirements of this subpart are not explicitly detailed out in the PTC.

**Permit Conditions Review**

This section describes only those permit conditions that have been added, revised, modified or deleted as a result of this permitting action.

**SUPERIOR BOILER**

Permit Condition 2.5

A minor correction is made to Permit Condition 2.5. “No. 2 fuel oil” is added to the permit condition as it was unintentionally missed. The revised Permit Condition 2.5 reads as follows:

“2.5 Grain Loading Limits

In accordance with IDAPA 58.01.01.676, the permittee shall not discharge to the atmosphere from any fuel-burning equipment with a maximum rated input of 10 MMBtu/hr or more, and commencing operation on or after October 1, 1979, PM in excess of 0.015 gr/dscf when burning gas or 0.050 gr/dscf when burning **No. 2 fuel oil**, yellow grease or tallow, both standards of which shall be corrected to 3% oxygen.”

New Permit Condition 2.12

The facility is subject to 40 CFR 63, Subpart JJJJJJ because the Superior boiler is an affected source for the subpart. New Permit Condition 2.12 states “The permittee shall comply with 40 CFR 63, Subpart JJJJJJ for the Superior boiler.”

**GENERAL PROVISIONS**

As a result of using the most recent PTC template, permit condition numbering is changed. In addition, the new General Provisions from the current template is used.
PUBLIC REVIEW

Public Comment Opportunity

Because this permitting action does not authorize an increase in emissions, an opportunity for public comment period was not required or provided in accordance with IDAPA 58.01.01.209.04.