



STATEMENT OF BASIS
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BAQ Engineering Services Division

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|-----------------------|--|-----------------------|----------------------|
| Company Name | South Carolina Pet Food Solutions, LLC | Permit Writer: | Michael G. Daugherty |
| Permit Number: | 1940-0022-CA | Date: | July 5, 2017 |

EXPEDITED REVIEW: Accepted March 23, 2017

DATE APPLICATION RECEIVED: March 16, 2017

PROJECT DESCRIPTION

SC Pet Food Solutions LLC. submitted a public and a confidential construction permit application to construct a new manufacturing facility. The new facility is to be located at 1299 Duncan Road, Ward, South Carolina, 29166. SCPFS is requesting to construct a new Poultry Protein Conversion Plant (PPCP) to recover products from the processing of co-products (chicken backs, frames, necks, skin, viscera, bones, blood, and feathers). The facility will consist of four (4) process lines (A-D).

The co-products will be transported from the live poultry processing plant in special trailers to the PPCP. At the PPCP the co-products will be unloaded from the trailers and placed in the appropriate receiving bins and tanks. Once in the appropriate tanks the co-products will be fed to the four process lines.

Line A - Poultry Processing Line will be fed from the appropriate receiving bins or tanks as required and processed through several different types of processing equipment and into a final product.

Line B - Poultry By-Product High Efficiency Processing Line will be fed from the appropriate receiving bins or tanks as required and processed through several different types of processing equipment and into a final product.

Line C - Poultry By-Product Conventional Processing Line will be fed from the appropriate receiving bins or tanks as required and processed through several different types of processing equipment and into a final product.

Line D - Feather/Blood Processing Line will be fed from the appropriate receiving bins or tanks as required and processed through several different types of processing equipment and into a final product.

Waste Water Treatment Plant (WWTP) – The lagoon at the WWTP will be covered in order to trap the odors and route those odors to the flare which is voluntary and will control odors from the lagoon. The flare will be operated when the level of gas in the covered lagoon is at a level that the flare can sustain ignition of the gases. If there is not enough gas, the vent will be closed and gas will be trapped in the lagoon until such time as there is enough gas to support combustion by the flare.

The facility will also include the installation of three (3) 62.77 MMBtu/hr natural gas fired boilers equipped with low NO_x burners. The facility's demand for steam will require two (2) boilers to be used with a third boiler used as a back-up boiler.

COLLOCATION DETERMINATION

The facility submitted a collocation determination for SCPFS and Amick Farms LLC. (1940-0016) which addressed Title V, PSD, and Title III.

Collocation looks at three criteria to determine if facilities are collocated.

1. Do the facilities share the same SIC codes?



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SCPFS does not share the same SIC codes as other Amick Farm facilities.

2. Are the facilities contiguous or adjacent?
 SCPFS is approximately six miles from the nearest Amick Farm facility which is greater than 1/4 mile per BAQ's Memorandum entitled "Guidance for Collocation/Single Source Determinations" (October 28, 2016); therefore, they are not considered contiguous or adjacent.

3. Do the facilities share common control?
 The SCPFS does share common control as defined between the two facilities.

For a source to be considered collocated for Title V and PSD, SCPFS would have to answer yes to 1, 2, and 3 above. They did not; therefore, they are not collocated.

For a source to be considered collocated for Title III, SCPFS would have to answer yes to 2 and 3 above. They did not; therefore, it is not considered collocated for Title III.

Conclusion: The facility is not collocated for Title V, PSD, or Title III.

SOURCE TEST

Due to uncontrolled VOC emission being 98.22 tpy, which is very close to the Title V threshold of 100 tpy, the facility is being required to perform a onetime source test to verify the process VOC emissions routed to the RTO are below major source threshold for Title V and to establish site specific emission factors for both uncontrolled and controlled VOC emissions.

EMISSIONS

All emissions from the facility are calculated as if all equipment is needed to operate the facility and considered uncontrolled because the scrubbers, RTOs, and flare are installed for odor control and there are no regulatory requirements for the control devices.

| FACILITY WIDE EMISSIONS | | |
|--------------------------------|-------------------------------|-------------------------------------|
| Pollutant | Uncontrolled Emissions | Controlled/Limited Emissions |
| | TPY | TPY |
| PM | 29.32 | N/A |
| PM ₁₀ | 27.84 | N/A |
| PM _{2.5} | 26.82 | N/A |
| SO ₂ | 27.70 | N/A |
| NO _x | 52.73 | N/A |
| CO | 77.52 | N/A |
| VOC | 98.22 | N/A |
| Lead | 0.000429 | N/A |
| Single HAP | 3.79 | N/A |
| Total HAP | 5.41 | N/A |

Emissions from the facility were estimated using the following emission factors that were deemed to be appropriate:



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Combustion emissions were determined using emission factors from AP-42 Chapter 1 and manufacture guarantees. Process PM emissions were determined using emission factors from AP-42 Chapter 9 and Oregon Department of Environmental Quality.

Process gas emission were determined using manufacture guarantees and back calculating through control efficiencies

OPERATING PERMIT STATUS

The facility is a new facility and is required to apply for a State Operating Permit within 15 days of the initial startup.

| REGULATORY APPLICABILITY REVIEW | |
|--|--|
| Regulations | Comments/Periodic Monitoring Requirements |
| Section II.E – Synthetic Minor | The project is for a new facility which is a true minor source. |
| Standard No. 1 | The boilers are natural gas fired and will be subject to the opacity, PM, and SO ₂ limits imposed by the standard. |
| Standard No. 3 (state only) | <p>The facility will use one regenerative thermal oxidizer to control odors. RTOs are considered industrial incinerators and will be subject to opacity of less than 20% and PM emissions of less than 0.5 lb/MMBtu total heat input.</p> <p>The facility will also use a flare to control odors from the covered lagoon and it will also be subject to an opacity of less than 20% and PM emissions of less than 0.5 lb/MMBtu total heat input.</p> <p>(S.C. Regulation 61-62.5, Standard No. 3, Section IX.D) An exemption from all of the Operator Training Requirements in S.C. Regulations 61-62.5, Standard No. 3, Section IX.C has been granted for RTOs and Flare. The operator training will be waived due to the operation of the units being controlled by programmable logic controllers (PLCs).</p> <p>The combustion units are voluntary and are being used for odor control therefore the waste gases are exempt from the waste analysis.</p> |
| Standard No. 4 | <p>The facility will have process weight rate PM limits and an opacity limit of 20% for process line A, Process Line B, Process Line C, and Process Line D.</p> <p>The RTOs and the flare are subject to Standard 3.</p> |
| Standard No. 5 | The facility was not in existence in 1979 or 1980 and is not one of the facilities listed in the standard. |
| Standard No. 5.2 | The boilers are new boilers and will be subject to a 0.036 lb/MMBtu for NO _x . Information provided by the manufacture states that at 25%, 50%, 75%, and 100% firing rate of the boilers emissions for NO _x will be 0.035 lb/MMBtu throughout the entire firing rate which is below the limit of 0.036 lb/MMBtu imposed by the standard for natural gas fired boilers. The boilers will be required to perform burner tune ups every 24 months. |
| Standard No. 7 | The project emissions are below 100 tpy and therefore is a minor source for PSD and is not one of the PSD 28 source categories. |



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| REGULATORY APPLICABILITY REVIEW | |
|--|--|
| Regulations | Comments/Periodic Monitoring Requirements |
| 61-62.6 | The project will not produce any fugitive PM emissions. |
| 40 CFR 60 and 61-62.60 | The boilers will be subject to 40 CFR 60 Subpart Dc. The boilers are 62.77 MMBtu each are subject to Subpart Dc because the affected facility to which this subpart applies is each steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/h)) or less, but greater than or equal to 2.9 MW (10 MMBtu/h). |
| 40 CFR 61 and 61-62.61 | The facility does not emit the pollutants subject to this standard (asbestos, benzene, beryllium, coke oven emissions, arsenic, mercury, radio nuclide, radon, or vinyl chloride). |
| 40 CFR 63 and 61-62.63 | The facility is a minor source of HAPs. The boilers at the facility will burn only natural gas as a fuel therefore they are not subject to Subpart JJJJJJ. The facility will use a lagoon at the waste water treatment facility. The facility will not be subject to Subpart QQ because no other Subpart either in 40 CFR 60, 61, or 63 references it to be applicable. The facility will produce ingredients for pet food and does not use chromium or manganese therefore it is not Subject to DDDDDDD. |
| 61-62.68 | The facility will not use or store chemicals subject to 112(r) in quantities above threshold limits. |
| 40 CFR 64 (CAM) | The facility will not be subject to Title V Therefore the regulation does not apply. |

| AMBIENT AIR STANDARDS REVIEW | |
|-------------------------------------|---|
| Regulations | Comments/Periodic Monitoring Requirements |
| Standard No. 2 | The facility has shown compliance through modeling; Refer to modeling summary dated March 28, 2017. |
| Standard No. 8 (state only) | The facility has shown compliance through modeling; Refer to modeling summary dated March 28, 2017. |

PUBLIC NOTICE
 A public notice was not required for this permit.

SUMMARY AND CONCLUSIONS
 It has been determined that this source, if operated in accordance with the submitted application, will meet all applicable requirements and emission standards.