

**ENGINEERING ANALYSIS
WAYNE-SANDERSON FARMS, LLC
DECATUR PREPARED FOODS
DECATUR, MORGAN COUNTY
FACILITY NO. 712-0091
SMOP NO. X005 & LINE 55**

On April 24, 2026, the Air Division received a complete Air Permit application from Wayne-Sanderson Farms, LLC (WSF) for the proposed installation of a new cooking line (Line 55), including a new 13.793 MMBtu/hr Fulton thermal fluid heater, a new 7.5 TPH Nothum ProTherm fryer, and a new 7.5 TPH Marel modular oven at the west plant of the Decatur Prepared Foods processing plant located in Decatur, Morgan County. The facility is currently a minor source under Title V regulations and PSD regulations. WSF previously requested a facility-wide natural gas usage limit of 911.12 MMcf to reduce its potential emissions of CO₂e. The limit remains in place to keep facility-wide NO_x emissions below the major source threshold with regard to Title V regulations. After the installation of the proposed equipment, the facility would become a synthetic minor source under Title V regulations and remain a minor source under PSD regulations. Synthetic Minor Operating Permit (SMOP) No. 712-0091-X005 would be issued to reflect the addition of the proposed fluid heater to be included with the existing fuel-burning equipment subject to NSPS, Subpart Dc, and Air Permit No. 712-0091-X004 would be voided. No Air Permit would be required for the proposed fryer and oven.

Proposed Construction

Line 55 (new processing line)

(Unpermitted)

- Install a new 7.5 TPH Nothum ProTherm Fryer w/ Quickdraft filter (Source No. 54)
- Install a new 7.5 TPH Marel Modular Oven (Source No. 55)

SMOP X005 (formerly Air Permit X004)

- Install a new 13.793 MMBtu/hr Fulton Thermal Fluid Heater (Source No. 56)

Facility Operations

Wayne-Sanderson Farms currently operates the following emissions sources:

East Plant

- Cooking Line 48
- Two (2) 7.49 MMBtu/hr Thermal Fluid Heaters (Source No. 11 & 12, Supplying Line 48)
- Cooking Line 45
- Cooking Line 46
- Two (2) 7.49 MMBtu/hr Thermal Fluid Heaters (Source No. 13 & 14, Supplying Line 45 and Line)
- Cooking Line 49
- Boiler No. 1 – 25.1 MMBtu/hr Cleaver Brooks Boiler (Source No. 19)
- Boiler No. 2 – 25.1 MMBtu/hr Cleaver Brooks Boiler (Source No. 20)
- Boiler No. 3 – 25.1 MMBtu/hr Cleaver Brooks Boiler (Source No. 21)
- Water Heater No. 1 – 15.0 MMBtu/hr Quikwater Water Heater (Source No. 22)
- 132 hp Kohler Emergency Generator (Source No. 23)

West Plant

- Cooking Line 51
- Cooking Line 52
- Two (2) 9.99 MMBtu/hr Thermal Fluid Heaters (Source No. 29a & 29b, Supplying Line 51 and Line 52)
- Cooking Line 53
- 12.49 MMBtu/hr Thermal Fluid Heater (Supplying Line 53) (Source No. 36)
- Boiler No. 4 – 16.8 MMBtu/hr Johnston Boiler (Source No. 43)
- Boiler No. 5 – 16.8 MMBtu/hr Cleaver Brooks Boiler (Source No. 52)
- Boiler No. 6 – 16.329 MMBtu/hr Cleaver Brooks Boiler (Source No. 37)
- Water Heater No. 2 – 25.05 MMBtu/hr Kemco Water Heater (Source No. 53)
- 260 hp Kohler Emergency Generator (Source No. 33)
- 210 hp Clarke Emergency Fire Pump Engine

Customer Innovation Center

- 1.26 MMBtu/hr Hurst NGF boiler
- 0.199 MMBtu/hr AO Smith NGF water heater
- 0.25 TPH Northum Protherm Fryer (Source No. 49)
- 0.25 TPH Marlen Steam Oven (Source No. 50)
- 0.92 MMBtu/hr Fulton Fluid Heater (Source No. 51, Supplying heat for the fryer)

Emissions

The pollutants of concern emitted from the proposed fluid heater, fryer, and oven would be the products of combustion (nitrogen oxide (NO_x), carbon monoxide (CO), volatile organic compounds (VOC), sulfur dioxide (SO₂), and particulates (TSP, PM₁₀/PM_{2.5}). Emission calculations and a facility wide emission summary are included as Appendix A. Emissions from the fuel-burning equipment were estimated using the appropriate AP-42 emissions factors. A facility-wide emissions summary is included as Appendix A and unit specific emissions calculations are included in Appendix B.

State Regulations

ADEM Admin. Code r. 335-3-4-.01, “Control of Particulate Emissions: Visible Emissions”

The proposed units would be subject to the State visible emission standards of ADEM Admin. Code r. 335-3-4-.01(1), which states that no air emission source may emit particulate of an opacity greater than 20% (as measured by a six-minute average) more than once during any 60-minute period and at no time shall emit particulate of an opacity greater than 40% (as measured by a six-minute average).

ADEM Admin. Code r. 335-3-4-.03, “Control of Particulate Emissions: Fuel Burning Equipment”

Per Appendix A in ADEM Admin. Code div. 335-3, Morgan County is designated as a Class I County for PM emissions. The proposed fluid heater would be subject to the State particulate emission standard found in ADEM Admin. Code r. 335-3-4-.03(1) and would be subject to the

applicable emission rates for a new source as calculated by the equation $E = 1.38H^{-0.44}$, where E = emissions in lb/million BTU and H = heat input in millions of BTU/hr. The proposed unit would be expected to be able to comply with the applicable standards since the unit would utilize natural gas only.

ADEM Admin. Code r. 335-3-4-.04, "Control of Particulate Emissions: Process Industries - General"

Per Appendix A in ADEM Admin. Code div. 335-3, Morgan County is designated as a Class I County for PM emissions. The proposed fryer and oven would be subject to the State allowable emission limit for TSP for general process industries found in ADEM Admin. Code r. 335-3-4-.04(1). The process rates for the proposed fryer and oven would not be used as the process weight because the total input weight of raw meat could not become airborne. Therefore, a conservative value of 20% of the raw meat input would be used to estimate the process weight for this unit. Based on the process weight equation ($E = 3.59P^{0.62}$) the State allowable TSP emission rates for the proposed fryer would be 4.02 lb/hr. Based on unit specific calculations in Appendix B, the proposed fryer and oven would each be expected to comply with the State allowable TSP emission rate.

ADEM Admin. Code r. 335-3-5-.01, "Control of Sulfur Compound Emissions: Fuel Combustion"

Per Appendix B in ADEM Admin. Code Division 335-3, Morgan County is designated as a Category II County for SO₂ emissions. The proposed fluid heater would be subject to ADEM Admin. Code r. 335-3-5-.01(1)(b), the State SO₂ emission standard of 4.0 pounds per million BTU heat input. The proposed unit would be expected to be able to comply with the applicable standard because the unit would utilize natural gas only.

Federal Regulations

Title V

For the purposes of Title V, PM₁₀ rather than PM, is considered for applicability. The facility is currently a minor source under Title V regulations. After installation of the proposed equipment, the facility would become a synthetic minor source under Title V regulations because the potential emissions for NO_x would exceed 100 TPY without the retention of the facility-wide natural gas usage limit of 911.12 MMcf to remain below the major source threshold for Title V. After installation of the proposed equipment, the potential emissions of each individual hazardous air pollutant (HAP) would remain below 10 TPY, and the potential emissions of combined HAP would remain below 25 TPY.

PSD

The facility operations are not one of the 28 listed major source categories, and the facility is located in an attainment area for all criteria pollutants. Therefore, the major source threshold of concern is 250 TPY for criteria pollutants. This facility is currently a minor source under PSD regulations. However, WSF previously requested a facility-wide natural gas usage limit of 911.12 MMcf to reduce its potential emissions of CO₂e. The limit remains in place to keep facility-wide NO_x emissions below the major source threshold with regard to Title V regulations.

After installation of the proposed equipment, the facility would remain a minor source under PSD regulations.

NSPS

40 CFR Part 60, Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units (Subpart Dc) [Adopted by reference in ADEM Admin. Code r. 335-3-10-.02(2)(c)]

Based on the size (13.793 MMBtu/hr) and date of manufacture (2026), the proposed thermal fluid heater would be subject to 40 CFR Part 60, Subpart Dc, New Source Performance Standards for Small Industrial, Commercial, and Institutional Steam Generating Units (Subpart Dc). The unit would be exclusively natural gas-fired; therefore, the facility would be subject to the recordkeeping requirements listed in 40 CFR §60.48c(g) to maintain fuel usage records.

NESHAP/MACT

Per 40 CFR §63.2 this facility is considered an area source for hazardous air pollutants (HAP) because potential emissions do not exceed 10 tons per year or more of any single HAP or 25 tons per year or more of any combination of HAP.

40 CFR Part 63, Subpart JJJJJ, the National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources (Subpart JJJJJ)

The proposed thermal fluid heater meets the definition of a gas-fired boiler as listed in 40 CFR §63.11237; therefore, in accordance with 40 CFR §63.11195(e), the proposed thermal fluid heater would not be subject to this Subpart.

Air Quality Impact

This facility is located in Morgan County, an attainment area for all criteria pollutants, and is located ~47 km from the Sipsey Wilderness Area, the nearest Class I Area. However, emissions from the proposed equipment would not be expected to significantly impact this area.

Emission Testing

I recommend that no emissions testing be required at this time because unit specific calculations in Appendix B indicate the proposed equipment would be expected to be able to comply with all State and federal emission standards.

Public Comment

A 15-day public comment period would be required because the proposed equipment would require the issuance of a Synthetic Minor Operating Permit to establish federally enforceable limitations to limit the facility-wide NO_x emissions below the Title V major source thresholds.

Recommendations

I recommend that a letter be issued to WSF stating that no Air Permit would be required for the proposed 7.5 TPH Nothum Protherm fryer (Source No. 54) and the proposed 7.5 TPH Marel oven (Source No. 55) associated with new cooking Line 55. However, if emission problems are

Engineering Analysis

observed, a valid complaint is filed with this office, or an increase in the potential emission rate is anticipated, a reassessment of this determination may be made at that time. I recommend that SMOP No. 712-0091-X005 be issued to WSF for the proposed 13.793 MMBtu/hr Fulton thermal fluid heater (Source No. 56) associated with Cooking Line 55. Upon issuance of SMOP No. 712-0091-X005, Air Permit No. 712-0091-X004 would be voided.

Sabrina Kliner

Sabrina Kliner
Chemical Branch
Air Division

May 12, 2026
Date

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