

Iowa Department of Natural Resources

Draft Title V Operating Permit Fact Sheet

This document has been prepared to fulfill the public participation requirements of 40 CFR Part 70 and 567 Iowa Administrative Code (IAC) 24.107(6). 40 CFR Part 70 contains operating permit regulations pursuant to Title V of the Clean Air Act.

The Iowa Department of Natural Resources (DNR) finds that:

1. Smithfield Fresh Meats Corp., located at 800 Industrial Drive, Denison, IA 51442 has applied to renew their Title V Operating Permit. The designated responsible official of this facility is Timbra Thies.
2. Smithfield Fresh Meats Corp. is a meat packing plant. This facility consists of 33 emission units with potential emissions of:

Pollutant	Abbreviation	Potential Emissions (Tons per Year)
Particulate Matter ($\leq 2.5 \mu\text{m}$)	PM _{2.5}	44.99
Particulate Matter ($\leq 10 \mu\text{m}$)	PM ₁₀	44.99
Particulate Matter	PM	44.99
Sulfur Dioxide	SO ₂	0.53
Nitrogen Oxides	NO _x	77.96
Volatile Organic Compounds	VOC	48.51
Carbon Monoxide	CO	221.03
Lead	Lead	0.08
Hazardous Air Pollutants ⁽¹⁾	HAP	6.33

⁽¹⁾ May include the following: Formaldehyde and Hexane.

3. Smithfield Fresh Meats Corp submitted a Title V Operating Permit renewal application on September 6, 2024. Based on the information provided in these documents, DNR has made an initial determination that the facility meets all the applicable criteria for the issuance of an operating permit specified in 567 IAC 24.107.
4. DNR has complied with the procedures set forth in 567 IAC 24.107, including those regarding public notice, opportunity for public hearing, and notification of EPA and surrounding state and local air pollution programs.

DNR procedures for reaching a final decision on the draft permit:

1. The public comment period for the draft permit will run from July 3, 2025 through August 2, 2025. During the public comment period, anyone may submit written comments on the permit. Mail signed comments to Derek Wedemeier at the DNR address shown below. The beginning date of this public comment period also serves as the beginning of the U.S. Environmental Protection Agency's (EPA) 45-day review period, provided the EPA does not seek a separate review period.
2. Written requests for a public hearing concerning the permit may also be submitted during the comment period. Any hearing request must state the person's interest in the subject matter, and the nature of the issues proposed to be raised at the hearing. DNR will hold a public hearing upon finding, on the basis of requests, a significant degree of relevant public interest in a draft permit. Mail hearing requests to Derek Wedemeier at the DNR address shown below.
3. DNR will keep a record of the issues raised during the public participation process, and will prepare written responses to all comments received. The comments and responses will be compiled into a responsiveness summary document. After the close of the public comment period, DNR will make a final decision on the renewal application. The responsiveness summary and the final permit will be available to the public upon request.

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DNR concludes that:

1. DNR has authority under 455B.133 Code of Iowa to promulgate rules contained in 567 IAC Chapters 21-33, including, but not limited to, rules containing emission limits, providing for compliance schedules, compliance determination methods and issuance of permits.
2. DNR has the authority to issue operating permits for air contaminant sources and to include conditions in such permits under 455B.134 Code of Iowa.
3. The emission limits included in this permit are authorized by 455B.133 Code of Iowa and 567 IAC Chapters 21-33.
4. DNR is required to comply with 567 IAC Chapter 24 in conjunction with issuing a Title V Operating Permit.
5. The issuance of this permit does not preclude the DNR from pursuing enforcement action for any violation.

Title V Permit Renewal Review Notes

Facility Name:	Smithfield Fresh Meats Corp.
City:	Denison
County:	Crawford
Facility #:	24-01-001
EIQ #:	92-1927
Application Received:	9/6/2024
Permit #:	20-TV-003R1
Reviewer:	Derek Wedemeier

Background:

Smithfield Fresh Meats Corporation has applied for a renewal Title V Operating Permit for their meat smoking/packing facility located in Denison. The facility currently consists of thirty-two (32) significant emission units and nineteen (19) insignificant emission units.

Title V Applicability

Pollutant	Major for Title V?
PM ₁₀	<input type="checkbox"/>
SO ₂	<input type="checkbox"/>
NO _x	<input type="checkbox"/>
VOC	<input type="checkbox"/>
CO	<input checked="" type="checkbox"/>
Lead	<input type="checkbox"/>
Individual HAP	<input type="checkbox"/>
Total HAPs	<input type="checkbox"/>

Program Applicability

- PSD: Facility is a synthetic minor stationary source for PSD program. Facility is a major stationary source for purposes of Title V due to Carbon Monoxide emissions.
- Part 61 NESHAP: No
- NSPS: Yes
 - 40 CFR 60 Subpart A, Standards of Performance for New Stationary Sources – General Provisions
 - 40 CFR 60 Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units
- Major Source of HAPs: No
- Part 63 NESHAP: Yes
 - 40 CFR 63 Subpart A, National Emission Standards for Hazardous Air Pollutants for Source Category: General Provisions

- 40 CFR 63 Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE)
- 40 CFR 63 Subpart CCCCCC, National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities
- Acid Rain: No
- Stratospheric Ozone Protection: No
- Prevention of Accidental Releases: No

Emission Estimations

The potential emissions calculations were based off of construction permit limits, AP-42 emission factors, stack test data, mass balance and engineering estimates provided by the facility. The 500ppmv allowable SO₂ SIP limit overestimates the potential emissions. The AP-42 emission factors for SO₂, if available, were used instead and provide a more realistic potential value when compared to the previous year's emissions inventory.

PTE Emission Values								
PM	PM₁₀	PM_{2.5}	SO₂	NO_x	VOC	CO	Lead	Total HAPs
Potential Emissions								
44.99	44.99	44.99	0.53	77.96	48.51	221.03	0.08	6.33
Actual Emissions 2024								
12.39*	12.39	12.17	0.15	25.66	10.65	64.71	0.00	0.48

*PM not reported in 2024 emissions inventory.

Insignificant Activities

EU-18 listed each individual natural gas heater in the previous renewal. The emission unit description has been condensed and is now listed as "Natural Gas Heaters (32 total) <10 MMBtu/hr each".

EU-37, Vacuum Pump, was not included in the R1 application. This unit was removed from the permit.

Rescinded Construction Permit

78-A-104-S3: 4/3/2020

97-A-055: 4/3/2020

General Comments

EP-1 through EP-4, and EP-6

Boilers #1-4, and 6 are of the source category but not subject to 40 CFR Part 63, Subpart JJJJJJ (*National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources*), because each of these units meets the definition of "gas-fired boiler" in §63.11237 of Subpart JJJJJJ. These boilers are subject to NSPS Dc. Emission limits for PM_{2.5} and PM₁₀ have been included in the applicable emission limits section. Previously these were included by footnote.

EP-7 & EP-8: Hog Singers

Emission limits for PM_{2.5} and PM₁₀ have been included in the applicable emission limits section. Previously these were included by footnote. No other changes have been made to these units.

EP-9 through EP-15A: Smokehouse Ovens and Smoke Generators:

The amount of wood used for the meat smoking operation at Plant Number 24-01-001 shall not exceed 563 tons per 12-month rolling period. The owner or operator may use one or two smoke generators to feed smoke to any of the smokehouse ovens. Recordkeeping is required for this scenario. Emission limits for PM_{2.5} and PM₁₀ have been included in the applicable emission limits section. Previously these were included by footnote.

The average emission factors for meat smokehouses are shown in AP42 Tables 9.5.2-1 and 9.5.2-2. These emission factors are presented in units of mass of pollutant emitted per mass of wood used to generate smoke. Normally, emission factors are based on either units of raw material or units of product. In this industry, the amount of smoke flavor applied to the meats varies; consequently the emissions are dependent on the quantity of wood (or liquid smoke) used, rather than the quantity of meat processed. The emission factors presented in Tables 9.5.2-1 and 9.5.2-2 were developed using data from only two facilities and, consequently, may not be representative of the entire industry.

Emission Units 9, 10, 11, 12, 13, 14, 15A – PTE calculations in spreadsheet represent Natural gas combustion (emission factors from AP-42).

CO emission factor for wood - The Department determined the upper level emission factor of the 95% confidence interval for the May 2019 stack test as 599.70 lb CO/ton wood. Additional stack testing for CO when using two (2) smoke generators is not recommended when using the CO emission limit of 19.20 lb/hr based on PMG.

EP-17: Emission limits for PM_{2.5} and PM₁₀ have been included in the applicable emission limits section. Previously these were included by footnote. No other changes have been made.

EP-22: Is subject to NESHAP CCCCCC.

EP-29 & EP-31: No changes.

EP-33A, 33B, & 33C:

These are emergency compression ignition engines subject to NESHAP ZZZZ. For clarification: Emission Points 33A, 33B and 33C are not subject to 40 CFR 60 Subpart IIII as construction commenced before July 11, 2005 and/or were manufactured before April 1, 2006 and were not modified or reconstructed after July 11, 2005.

EP-36, EP-41: No changes

EP-42:

Emission limits for PM_{2.5} and PM₁₀ have been included in the applicable emission limits section. Previously these were included by footnote. The construction permit was updated 1/15/2020 to change the description of the control equipment from two sequential scrubbers to a Contact Spray

Condenser (CE-42A) followed by Packed Bed Scrubber (CE-42B). The PM emission limit was reduced to 0.75 lb/hr and stack characteristics were updated.

Stack testing was completed on 6/18/2019 and resulted in a passing test for PM at approximately 63% of the emission limit. Facility provided CAM calculations for PM do not exceed the major source threshold based on this stack test data. CAM does not apply. The operating conditions listed within the permit are consistent with the requirements of an Agency O&M so no additional periodic monitoring will be required by the Title V permit.

Periodic Monitoring Guidance - Testing

Packed Bed Scrubber for EP-31 (Rendering Process) is for odor control. No testing is required or additional monitoring is required.

EP-36 is controlled by CE-36: Cyclone. Guidance does not recommend any additional O&M plan or testing because precontrol emission do not exceed the significant or major source threshold for PM or PM10. CAM does not apply.

Periodic monitoring recommends 1 test for PM. EP-42 was tested on 6/18/2019 and passed with an average PM emission rate of 0.47lb/hr, approximately 63% of the emission limit. Based on the margin of compliance a stack test will not be required during this renewal at EP-42. As discussed above, CAM does not apply.