

# 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.

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

1. POET Biorefining – Hanlontown, LLC, located at 3638 Fir Avenue, Hanlontown, IA 50444 has applied for a Title V Operating Permit. The designated responsible official of this facility is Benjamin Arentson.
2. POET Biorefining – Hanlontown, LLC is an ethanol production. This facility consists of 40 emission units with potential emissions of:

Pollutant	Abbreviation	Potential Emissions (Tons per Year)
Particulate Matter ( $\leq 2.5 \mu\text{m}$ )	PM <sub>2.5</sub>	123.47
Particulate Matter ( $\leq 10 \mu\text{m}$ )	PM <sub>10</sub>	136.05
Particulate Matter	PM	175.94
Sulfur Dioxide	SO <sub>2</sub>	3.74
Nitrogen Oxides	NO <sub>x</sub>	105.57
Volatile Organic Compounds	VOC	146.78
Carbon Monoxide	CO	82.12
Lead	Lead	0.00
Hazardous Air Pollutants <sup>(1)</sup>	HAP	22.32

<sup>(1)</sup> May include the following: Acetaldehyde, Acrolein, Arsenic, Benzene, Formaldehyde, Hexane, Methanol, Toluene and Xylenes.

1. POET Biorefining – Hanlontown, LLC submitted a Title V Operating Permit application on August 27, 2025. 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.
2. 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.

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

1. The public comment period for the draft permit will run from March 5, 2026 through April 4, 2026. 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 permit 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 R1 Review Notes**

Facility Name:	<b>POET Biorefining – Hanlontown, LLC</b>
City:	Hanlontown
County:	Worth
Facility #:	98-07-004
EIQ #:	92-6964
Renewal Application Received:	8/27/2025
Permit #:	21-TV-001R1
Reviewer:	Derek Wedemeier

**Background:**

POET Biorefining - Hanlontown, LLC is a fuel-grade ethanol production facility (SIC 2869). The facility consists of twenty-six (26) emission points, forty (40) emissions units and ten (10) insignificant units. Facility is limited to receiving 37.45 million bushels of grain per 12-month rolling.

**Title V Applicability**

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

**Program Applicability**

- PSD: No, this facility is a synthetic minor source.
- Title V: Yes
- Part 60 NSPS: Yes
  - 40 CFR 60 Subpart A – General Provisions
  - 40 CFR 60 Subpart Dc - Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units
  - 40 CFR 60 Subpart Kb - Standards of Performance for Volatile Organic Liquid Storage Vessels (including Petroleum Liquid Storage Vessels)
  - 40 CFR 60 Subpart VVa - Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry
  - 40 CFR 60 Subpart DD – Standards of Performance for Grain Elevators
- Part 61 NESHAP: No

- Major Source of HAPs: No.
- Part 63 NESHAP: Yes
  - 40 CFR 63 Subpart A - National Emission Standards for Hazardous Air Pollutants for Source Categories – General Provisions
  - 40 CFR 63 Subpart ZZZZ - National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines
  - 40 CFR 63 Subpart CCCCCC – National Emission Standards for Hazardous Air Pollutants for Source Categories: Gasoline Dispensing Facilities
- Acid Rain: No.
- Stratospheric Ozone Protection: No.
- Prevention of Accidental Releases: Yes.

**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 AP-42 emission factors for SO<sub>2</sub>, if available, were used instead of 500ppmv to provide a more realistic potential value when compared to the previous year’s emissions inventory.

**PTE Emission Values**

PM	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	NO <sub>x</sub>	VOC	CO	Lead	Total HAPs
<b>Potential Emissions</b>								
175.94	136.05	123.47	3.74	105.57	146.78	82.12	0.00	22.32
<b>Actual Emissions 2024</b>								
80.50	62.77	57.65	0.50	56.10	78.22	62.14	0.00	6.33

**Removed units**

SV29: 19-A-036-S4: To be rescinded – Hammermills were split up by units and repermited.  
 SV32: 19-A-0613 Rescinded 11/3/2021

**General Comments**

Facility indicates they are subject to CAM for CO. EPA Air Pollution Control Technology Fact Sheet on Regenerative Incinerators (RTO or RCO) states RTO systems do not reduce the levels of CO.

--"RCO systems using precious metal-based catalyst can destroy more than 98 percent of the CO in the VOC-laden air stream (Gay, 1997). RTO systems do not reduce the levels of CO."

–EPA-452/F-03-021

Stack testing data provided by Iowa Renewable Fuels indicated that the concentrations of acetaldehyde in the liquid and gas stream in the processes of fermentation and distillation are less than the threshold of 0.1% for NESHAP Subpart VVVVVV - National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources.

POET Biorefining – Hanlontown chooses to comply with the provisions of NSPS Subpart VVa, 40 CFR Part 6 §60.480a to satisfy the requirements of NSPS VV. All emission points were updated to reflect VVa.

SV33 - TK012 – This gasoline tank is subject to 40 CFR 63 Subpart CCCCCC. Assigned EP Number and added to Equipment List.

**Emission Point Comments**

SV1 – Construction permit 03-A-382-S9 was modified by adding EU34, DDGS Loadout, to the list of equipment for SV1. The emission limit for PM was decreased to 0.32lb/hr as well.

Grain received limited to 37.45 million bushels of grain per 12 month rolling. The 3 grain receiving pits have a maximum rated capacity of 840 tons of grain per hour. Limited to receiving grain 5,840 hours/year (5am - 9pm)

Operating hours were determined to be:

$37,450,000 \text{ bushels/year} \times 56 \text{ lb/bushel} / 2000\text{lb} = 1,048,600 \text{ tons/year}$

$1,048,600 \text{ tons per year} / 840 \text{ tons per hour} = 1,248.33 \text{ operating hours/year}$

SV2 – No changes.

SV3, SV18, SV19 SV24, SV28 - Hammermills 1-5: Construction permits were issued for each individual Hammermill. These units previously vented out of 1 single emission point. All hammermills are limited to a total of 120 tons/hr, combined. Condition B requires stack testing if grain processed by the hammermills exceeds 30% sorghum or 10% wheat. The facility reported these units have only ground corn historically. The requirement will remain if processed grain changes in the future.

SV4 – No changes. The RTO bypass stack is limited to 500hr/12 month rolling period. 2025 Inspection documents state the hours of operation are monitored and recorded by the facility and have not exceeded the operating limit.

SV7 – No changes.

SV8, SV9 – No changes.

SV10 – Engine is limited to 1000 operating hours in any 12-month period. Non-emergency use is allowed between operating hours of 7AM to 10PM. Subject to 40 CFR 63 Subpart ZZZZ. Engine is not subject to 40 CFR 60 Subpart III as the construction date is January 2005. 40 CFR 63 Subpart ZZZZ requires testing every 3 years unless the facility runs engine less than 100 hours/year, then every 5 years. Last test was done 6/30/2021. According to Field Office inspection on 9/29/2025, the 12-month rolling hours of operation was 91 hours. References to 80.510(b) have been updated to 1090.305(b)

SV20 and SV26 – Boilers are not subject to 40 CFR 63 Subpart JJJJJ as they are natural gas-fired boilers.

SV25 – Construction permit 03-A-387-S16 was modified since the previous renewal. Changes included updating the equipment list and removing the TPY emission limits. Operating conditions were also updated. Testing is required by the construction permit for both normal and bypass operation. The most recent test was completed to satisfy the 3-year testing requirement. Multiclones CS6 & CS7 are considered product separators for the DDG conveyance and not as control equipment based on original construction permit application. Construction permit conditions require the facility to maintain the multiclones according to manufacture's specifications. No additional periodic monitoring will be required for CS6 and CS7.

SV-FLARE – Construction permit 04-A-025-S6 was updated to correct stack height and diameter.

Maximum product loadout on 109,023,000 gallons/year; 9,170,000 gallons of natural gasoline and 14,300,000 gallons E85.

109,023,000 gallons per year / 36,000 gallons per hour = 3028.4 operating hours/year (Flare Combustion)

The product loadout operation is not an affected emission unit under 40 CFR Part 63, Subpart BBBBBB – National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities, because this facility (Plant No. 98-01-003) only receives natural gasoline to be used as denaturant and natural gasoline does not meet the definition of "gasoline" in 40 CFR §63.11100.

PTE for VOC, CO and Total HAPs were based on worst case scenario:

- All product loading is done simultaneously by rail and truck
- Maximum annual product loading of 109,023,000 gallons
- Product loading emissions are not controlled by a flare

PTE for PM, SO<sub>2</sub>, Lead and Single HAPs utilized AP42 combustion emission factors

### **Periodic Monitoring Guidance**

SV1 –Operating conditions listed in the permit for SV1 meet the requirements for a Facility O&M plan. No additional monitoring plan will be required. Weekly visible emissions monitoring is required to ensure compliance with the 0% opacity limit. Precontrol PTE does not exceed the major source threshold based on AP42 emission factors and throughput limits. Stack testing is not recommended for PM.

SV2 –Operating conditions listed in the permit for SV2 meet the requirements for a Facility O&M plan. No additional monitoring plan will be required. Precontrol emission for PM do not exceed the major source threshold. Testing is not recommended during this renewal. CAM does not apply.

SV3, SV18, SV19, SV24, SV28 – Operating conditions listed in the permit for these emission points meet the requirements for a Facility O&M plan. No additional plan will be required. Stack testing is not recommended based on PMG.

SV4 – Operation is limited to 500hr annually and operating conditions that meet the requirements of a Facility O&M and CAM plan. No additional CAM plan will be required for

this. Testing will not be required since this unit has limited operation totaling less than 10%, annually.

SV7 – Facility O & M is required for PM; The department waives stack testing at this time. Stack testing was conducted March 2019 and passed. CAM is applicable for Baghouse CS9. An additional Facility O&M Plan will not be required.

SV8, SV9 - Operating conditions listed in the permit meet the requirements for a Facility O&M plan. No additional monitoring plan will be required. Precontrol emission for PM do not exceed the major source threshold at either emission point. Testing is not recommended during this renewal. CAM does not apply.

SV17 - Operating conditions listed in the permit for SV17 meet the requirements for a Facility O&M plan. No additional monitoring plan will be required. Precontrol emission for PM do not exceed the major source threshold. Testing is not recommended during this renewal. CAM does not apply.

SV25 – Stack tests are required by the construction permit so no additional testing will be required. CAM is required for the RTO.

Flare – Operating conditions meet the requirements of CAM for VOC and HAP. Periodic monitoring recommends testing for VOC and HAP. Department waives stack testing requirement.

Cooling towers - Facility O & M and stack tests are recommended for PM and PM<sub>10</sub>. Department waives Facility O & M and stack tests as construction permit has water sampling requirements.

**Stack Testing**

SV1 – PM and PM<sub>10</sub> testing was conducted July 10, 2019 and demonstrated compliance.

Emission Point	Permit	Pollutant	Result	Limit
Grain Receiving	03-A-382-	PM	0.01 lb/hr	0.5 lb/hr
Baghouse EP SV1	S6	PM10	0.01 lb/hr	0.5 lb/hr

The average flow for the EP SV1 compliance test was 15,139 scfm, 64.6% of the permitted flow (23,450 scfm). CP # 03-A-382-S8 addresses flow rate compliance. Results would be in compliance with the new 03-A-382-S9, 0.36 lb/hr, emission limit.

SV7 – Initial stack testing for CP #03-A-388-S6 was conducted March 26, 2019 and demonstrated compliance.

Emission Point	Permit #	Pollutant	Result	Limit
DDG Fluid Bed Cooler EP SV7	03-A-388-S6	VOC	3.82 lb/hr	6.0 lb/hr
		Total HAP	0.09 lb/hr	1.50 lb/hr
		Single HAP*	0.06 lb/hr	0.60 lb/hr
		PM	0.004 gr/dscf	0.1 gr/dscf
		PM	0.37 lb/hr	0.78 lb/hr

\*-Highest emitted Single HAP was Methanol

Construction permit was modified to correct exhaust flow rate based off stack testing.

SV25 – Stack testing was conducted June 25, 2024 and October 30, 2024. Test results from June showed failing CO levels. Retesting in October demonstrated compliance with limits described below.

Emission Point	Permit #	Pollutant	Result	Limit
EP-SV25 RTO	03-A-387-S16	VOC	9.31 lb/hr	15.0 lb/hr
		Total HAP	0.67 lb/hr	1.24 lb/hr
		Single HA <sup>(1)</sup>	0.31 lb/hr	0.60 lb/hr
		CO	6.19 lb/hr	11.0 lb.hr
		NOx	5.86 lb/hr	11.24 lb/hr
		PM <sup>(2)</sup>	13.09 lb/hr	22.0 lb/hr

<sup>(1)</sup>-Highest emitted Single HAP was Methanol

<sup>(2)</sup> Test results from June 25, 2024

Testing is due in 2027 during the months of June, July or August.

### **CAM Applicability**

Emission Point	EP Description	Pollutant
SV7	DDGS Fluid Bed Cooler	PM
SV25	Fermentation/Distillation/Dryers	PM, PM <sub>10</sub> , VOC, HAP