

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) 22.107(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. Siculus, Inc., located at 100 Share Way, Altoona, Iowa 50009 has applied to renew their Title V Operating Permit. The designated responsible official of this facility is Ms. Kathy Rushmore, Manager, Environment and Water.
2. Siculus, Inc. is a Computer Processing, Data Preparation and Processing Services facility, (SIC: 7374) (NAICS Code: 518210). This facility consists of 115 significant emission units with potential emissions of:

Pollutant	Abbreviation	Potential Emissions (Tons per Year)
Particulate Matter ($\leq 2.5 \mu\text{m}$)	PM _{2.5}	10.61
Particulate Matter ($\leq 10 \mu\text{m}$)	PM ₁₀	10.61
Particulate Matter	PM	10.61
Sulfur Dioxide	SO ₂	0.16
Nitrogen Oxides	NO _x	248.07
Volatile Organic Compounds	VOC	47.73
Carbon Monoxide	CO	132.51
Hazardous Air Pollutants ⁽¹⁾	HAP	0.16

⁽¹⁾ May include the following: Benzene, Toluene, Xylene (mixed isomers), Formaldehyde, Acetaldehyde, Acrolein, and total PAH.

3. Siculus, Inc. submitted a Title V Operating Permit renewal application on December 21, 2022. 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 22.107.
4. DNR has complied with the procedures set forth in 567 IAC 22.107, 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 February 29, 2024 through March 29, 2024. 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. During this time, anyone may submit written comments on the permit. Mail signed comments to Jeff Gabby at the Polk County address shown below.
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 Jeff Gabby at the Polk County 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 20-35, 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 20-35.
4. DNR is required to comply with 567 IAC Chapter 22 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.

Worksheet of Air Operating Permit**SIC 7374: Computer Processing and Data Preparation and Processing Services****NAICS Code 518210: Data Processing, Hosting, and Related Services**

Applicant: Siculus, Inc.

EIQ Number: 92-6998

Facility File Number: 77-07-010

Review Engineer:

Jeff Gabby

Application Evaluation**A. Project Briefing:**

Siculus, Inc. became a Part 70 Major Source on May 12, 2017, when the facility was issued a construction permit that allowed for emissions at the site to exceed Title V Major Source thresholds. This project regards a Part 70 Title V permit renewal to operate application for one (1) 600kW Caterpillar Model C18 diesel fired emergency generator; two (2) 1,000 kW Caterpillar Model C32 diesel fired emergency generators; eighty (80) 3,000 kW Caterpillar Model C175-16 diesel fired emergency generators, four (4) 3,100 kW Caterpillar Model C175-16 diesel fired emergency generators, twenty-four (24) 3,000 kW Cummins Model QSK95-G11 diesel fired emergency generators, one (1) 1,000 kW Cummins Model QST30-G5 NR2 diesel fired emergency generator, , and three (3) 2,645 gallon/ minute Baltimore Aircoil Company Cooling Towers. All of the diesel engines at the facility are emergency engines and they are all Tier 2 certified engines.

Insignificant equipment, per 567 IAC 22.103, consists of 3 MW and 3.1 MW Engines – Diesel Belly Tanks- CAT (84 Total) (7,600 – 8,500 gallons, each); 600 kW Engine – Diesel Belly Tank (1 Total) (1,560 gallons), 1.0 MW Engines – Diesel Belly Tanks (2 Total) (2,200 gallons), 1.0 MW Engine – Diesel Belly Tank (1 Total) (2,130 gallons), and 3 MW– Diesel Belly Tanks- Cummins (24 Total) (6,480 gallons, each).

Title V Major Source Status by Pollutant

Pollutant	Major for Title V?
PM ₁₀	<input type="checkbox"/>
SO ₂	<input type="checkbox"/>
NO _x	<input checked="" 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"/>

HAPs include Benzene, Toluene, Xylene (mixed isomers), Formaldehyde, Acetaldehyde, Acrolein, and total PAH.

B. Applicable rules and regulations:

1. Emission limits and conditions:

Opacity: Polk County Board of Health Rules and Regulations: Chapter V, Article IV, Section 5-9 limits opacity to < 20%. The diesel generators are subject to 20% opacity during acceleration mode (NSPS III §89.113(a)(1)), 15% opacity during the lugging mode (NSPS III §89.113(a)(2)) and opacity peaks in acceleration or lugging mode of 50% (NSPS III §89.113(a)(3)).

PM: Polk County Board of Health Rules and Regulations: Chapter V, Article VI, Section 5-14(b) limits PM to 0.10 gr./dscf for all of the diesel generators. NSPS III §89.112 Table 1 limits PM to 0.20 grams/kW-hr. This NSPS III limit is met through manufacturer engine certification.

SO₂: Polk County Board of Health Rules and Regulations: Chapter V, Article IX, Section 5-27 limits the SO₂ to 0.5 lbs SO₂ / MMBtu for the diesel generators using fuel oil.

The Polk County Chapter V limit of 0.5 lbs SO₂ / MMBtu is more restrictive than the corresponding DNR- AQB Rule (2.5 lbs SO₂ / MMBtu) and therefore the DNR Rule is not referenced as the authority for requirement. Fuel sulfur content is limited to 0.0015% S, by weight in each of their respective AQD Construction Permits.

PTE emission calculations for all diesel generators at the facility are based on a maximum of 500 hours of total operation per rolling 12-month period, rolled monthly, per generator. The total stationary internal combustion engines at the facility are limited to combusting a maximum of 1,493,720 gallons of diesel fuel per rolling 12-month period, rolled monthly. This fuel use limit locks the facility pollutant PTE values, (see Siculus, Inc. PTE spreadsheet). The fuel use limit was chosen in order to avoid PSD, i.e., NO_x PTE is 248.07 TPY. Individual EU's allowable hourly and yearly emission rates are listed in the permit. These are maximum amounts per EU based on 500 hours/ year operation. The facility wide PTE is restricted by the yearly fuel use limit of 1,493,720 gallons of diesel fuel per rolling 12-month period, rolled monthly.

2. Opacity for the facility: Less than 20% opacity. Polk County Board of Health Rules and Regulations: Chapter V, Article IV, Section 5-9, which is more restrictive than the corresponding DNR-AQB Rule and hence the DNR Rule is not referenced as the authority for requirement.

3. NSPS: 40 CFR 60 Subpart IIII-Standards of Performance for Stationary Compression Ignition Internal Combustion Engines applies to each of the generators. Applicable conditions have been transferred into the Title V permit from the subpart and AQD construction permits.

4. NESHAP: 40 CFR 63 Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines applies to each of the generators. Applicable conditions have been transferred into the Title V permit from the subpart and AQD construction permits. Per §63.6590(c)(1) the facility satisfies all requirements of this subpart by complying with 40 CFR 60 subpart IIII.

5. PSD: Source is minor (PSD) for PM/ PM₁₀/ PM_{2.5}, SO₂, NO_x, VOC, and CO. The facility is not subject to NSR unless the company makes a qualifying change. Facility PTE is limited by plant-wide diesel fuel use (1,493,720 gallons diesel per 12-month rolling period, rolled monthly) limit, which yields a PTE of 248.07 TPY NO_x.

6. NAAQS: Facility is located in an attainment area. Air modeling is not required at this time.

7. Title IV: Not applicable.

8. Stratospheric ozone: the only ozone depleting chemicals (regulated by 40 CFR 82) at Siculus, Inc. are those used for air conditioning. 40 CFR 82, Subpart F, applies to the maintenance, service, repair, and disposal of appliances (e.g., air conditioners) containing Class I or Class II substances or non-exempt substitutes.

C. Monitoring consideration:

PM_{2.5}, PM₁₀, PM, SO_x, NO_x, VOC, and CO

Monitoring requirements are evaluated on DNR's Monitoring Guidance Document. Generators at the facility are each limited to no more than 500 hours operation per 12-month period, rolled monthly. Limitations in their respective AQD construction permits makes each individual generator synthetic minor for all pollutants. Under DNR's Monitoring Guidance Policy, no additional monitoring is required. Compliance with AQD construction permits and NSPS Subpart IIII will ensure monitoring compliance.

PC #3272 Modified required a 1,000 kW Caterpillar Generator (EU ATN3-EGA1 / EP ATN3-EGA1) to be tested within 180 days of initial startup for PM_{2.5}, PM₁₀, opacity, and NO_x. Compliance demonstration testing was successfully completed 8/3-7/2020.

PR-000338-2019 required four (4) 3,000 kW Caterpillar Generators to be tested within 180 days of initial startup for PM_{2.5}, PM₁₀, opacity, and NO_x. Compliance demonstration testing was successfully completed 8/3-7/2020. PR-000338-2019 also requires one (1) 3.1 MW Emergency Generator to be tested within 180 days of initial startup for PM_{2.5}, PM₁₀, opacity, and NO_x. At time of permit issuance, the facility had not reached the end of the 180-day window for stack testing yet, so stack testing is to occur at a later date.

PR-000443-2020 required testing any three (3) emission points (1 out of emission units PCI1-EGRA, PCI1-EGRB and PCI1-EGRC and 2 out of emission units PCI1-EGN1, PCI1-EGN2, PCI1-EGN3, PCI1-EGN4, PCI2-EGN1, PCI2-EGN2, PCI2-EGN3, PCI2-EGN4), no later than April 17, 2022. Each point shall be tested for NO_x, PM₁₀, and

PM2.5. The results of the tests is considered representative for the group of emission points from the PR-000443-2020 emission group. Compliance demonstration on generators EU PC11-EGN4, PC11-EGRA, and PC11-EGN1 testing was successfully completed 4/12-15/2022.

Opacity, (for each generator):

Visible Emissions (VE) shall be observed during testing and maintenance periods to ensure none occur during steady state conditions of the unit. No visible emissions are expected from this emission point under steady state conditions. If visible emissions are observed, corrective action will be taken as soon as possible, but no later than the next scheduled maintenance or testing operation. If corrective action does not return the observation to no visible emissions, then a Method 9 observation will be required. If an opacity greater than or equal to 20 % is observed, this would be a violation and corrective action will be taken as soon as possible, but no later than the next scheduled maintenance or testing operation. If weather conditions prevent the observer from conducting a VE observation, the observer shall note such conditions on the data observation sheet. A VE observation shall be made during the next testing and maintenance period where weather permits.

The cooling towers, CT1, CT2, and CT3, are not expected to have any observable emissions and hence monitoring for VEs will not be required.

D. CAM:

Generators at the facility do not have control devices and are therefore not subject to CAM.

The cooling towers, CT1, CT2, and CT3 do not have uncontrolled PTE > 100 TPY and are therefore not subject to CAM.

E. Responsible Official: Ms. Kathy Rushmore, Manager, Environment and Water, is in charge of a principle business function, that of overseeing regulatory environmental compliance for Siculus, Inc. She meets the definition of a Responsible Official found in 567 IAC 22.100.