

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. CB&I Clive Plant, located at 9600 Hickman Road, Clive, Iowa 50325 has applied to renew their Title V Operating Permit. The designated responsible official of this facility is Mr. Norm Rockey, Plant Manager.
2. CB&I Clive Plant is a tank fabrication facility, SIC 3443, NAICS 332420. This facility consists of five (5) significant emission units with potential emissions of:

Pollutant	Abbreviation	Potential Emissions (Tons per Year)
Particulate Matter ($\leq 10 \mu\text{m}$)	PM ₁₀	887.73
Particulate Matter	PM	887.73
Sulfur Dioxide	SO ₂	0
Nitrogen Oxides	NO _x	0
Volatile Organic Compounds	VOC	542.48
Carbon Monoxide	CO	0
Lead	Lead	0
Hazardous Air Pollutants ⁽¹⁾	HAP	287.80

⁽¹⁾ May include the following: Xylene (mixed isomers), Toluene, Methyl Isobutyl Ketone (MIBK), 4,4- Methylene diphenyl Diisocyanate (MDI), Ethyl Benzene, Cumene, Manganese Compounds, Chromium Compounds, Nickel Compounds, and Cobalt Compounds.

3. CB&I Clive Plant submitted a Title V Operating Permit renewal application on December 16, 2019 and any additional information describing the facility on 1/16/2020 and 10/8/2020. 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 November 5, 2020 through December 5, 2020. 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 or Polk County AQD from pursuing enforcement action for any violation.

Worksheet of Air Operating Permit
Manufacturer of water storage tanks

SIC: 3443 Tank Fabrication
NAICS: 332420 Metal Tank Manufacturing

Applicant: CB&I Clive Plant
EIQ Number: 92-6752
Facility File Number: 77-10-002

Review Engineer:
Jeff Gabby

Application Evaluation

A. Project Briefing:

This project regards a Part 70 Title V permit renewal application to operate the following significant emission units: one Wheelabrator Model 4 Wheel Vertical Plate Wheelabrator Grit Blaster with Wheelabrator Model 36 WCC Size 57 High Energy Pulse Dust Collector (EU 1 / CE 1 / EP 1); Welding Area (EU 2 / EP 2); one Graco Paint Booth with 2 sets of dry fabric filters venting internally (EU 3 / CE 2, CE 3 / EP 3); Schmidt Portable Blast Unit with a Tenkay Model 16D Cartridge Collector, (EU 20 / CE 4 / EP 4); and the Clemco Blast Booth with Clemco Dust Collector, (EU 21 / CE 21 / EP 5). Conditions transfer into the Title V Operating Permit from the following Polk County Construction Permits: PC 2042 (*which replaced PC 0621*): (EP 1 / CE 1 / EU 1) for Wheelabrator Model 4 Wheel Vertical Plate Wheelabrator Grit Blaster with Wheelabrator Model 36 WCC Size 57 High Energy Pulse Dust Collector; PC 1768: (EU 20 / CE 4 / EP 4) for the Schmidt Portable Blast Unit with a Tenkay Model 16D Cartridge Collector; and PC 1781: (EU 21 / CE 21 / EP 5) for the Clemco Blast Booth with Clemco Dust Collector.

The following emission units are insignificant, per 567 IAC 22.103(2): one (1) 500 gal. gasoline storage tank, one (1) 500 gal. diesel storage tank, one (1) parts washer, one (1) plasma torch, one (1) oxy-fuel torch, hydraulic oil tanks, solvent storage area, paint storage area, two (2) Dravo Furnaces, 1.875 MM BTU/ Hr., one (1) Dravo Furnace, 2.50 MM BTU/ Hr., one (1) Reznor Furnace (Warehouse), 0.40 MM BTU/ Hr., one (1) Dayton Furnace, 0.225 MM BTU/ Hr., and one (1) Carrier Furnace (Office), 0.150 MM BTU/ Hr.

Email notes regarding insignificant activities:

#1. Since CB&I submitted their Title V application they have taken (EU 4) & (EU 5) Gas/Diesel storage tanks out of commission in the fall 2014. They are no-longer in use, but they would like to keep it in the Title V Permit, in case they change their mind on fuel storage at their facility.

#2. This is a small parts washer through Safety-Kleen. Small sprockets, chain links, etc. are cleaned in it. It's a wash table approximately 2' x 3'. It is not used as part of the surface coating operations, and hence not subject to NESHAP Subpart M.

#3. The solvent storage is outside under a canopy roof with containment and then piped into the paint shop, which is gravity fed. Paint storage area is used only for paint storage, no mixing. It is therefore not subject to NESHAP Subpart M MMM. All paints are mixed in the paint shop on containment palettes.

#4. The facility does not have generators. They instead have battery back-ups on emergency lights.

#5. Furnaces are all natural gas fired, used for heating the fabrication shop, warehouse, and office space. They are not boilers or process heaters, and therefore not subject to NESHAP Subpart D D D D D.

B. Applicable rules and regulations:

1. Emission limits and conditions: Polk County Construction Permit # 2042 limits PM / PM₁₀ emissions to 6.00 lbs./ hr, 26.28 tons per 12-month period rolled monthly, and 0.05 gr./ dscf from the Wheelabrator Model 4 Wheel Vertical Plate Wheelabrator Grit Blaster with Wheelabrator Model 36 WCC Size 57 High Energy Pulse Dust Collector (EU 1 / CE 1 / EP 1). Opacity limited to <20%.

Polk County Construction Permit # 1768 limits PM / PM₁₀ to 4.11 lbs./ hr and 3.08 TPY and 0.05 gr./ dscf for the Schmidt Portable Blast Unit with a Tenkay Model 16D Cartridge Collector, (EU 20 / CE 4 / EP 4). Opacity is limited to no visible emissions.

Polk County Construction Permit # 1781 limits PM / PM₁₀ to 8.83 lbs./ hr and 6.62 TPY and 0.05 gr./ dscf for the Clemco Blast Booth with Clemco Dust Collector, (EU 21 / CE 21 / EP 5). Opacity is limited to no visible emissions.

2. Opacity is limited to <20% for the Wheelabrator Model 4 Wheel Vertical Plate Wheelabrator Grit Blaster with Wheelabrator Model 36 WCC Size 57 High Energy Pulse Dust Collector (EU 1 / CE 1 / EP 1); no visible emissions for the Schmidt Portable Blast Unit with a Tenkay Model 16D Cartridge Collector, (EU 20 / CE 4 / EP 4), and the Clemco Blast Booth with Clemco Dust Collector, (EU 21 / CE 21 / EP 5).

Opacity for the remainder of the facility: Less than 20% opacity- Polk County Board of Health Rules and Regulations: Chapter V, Article IV, Section 5-9.

3. NSPS: Not applicable at this time.
4. NESHAP: Miscellaneous Metal Parts and Products (Surface Coating), Subpart M MMM, was promulgated 1/2/2004 and applies to (EU 3 / CE 2, 3 / EP 3). The compliance date for existing sources is 1/2/2007. The web link to Subpart M MMM is found in Appendix A of the permit.

The source states in its application that EU 11, (Solvent storage area), is subject to 40 CFR 61 Subpart V, open ended valves or lines in VHAP service. Subpart V does not apply, however, using the following determination:

Determination of Whether Solvent Storage Area / Mixing Room of CB&I is subject to Part 61 subpart V

Part 61 Subpart V - National Emission Standard for Equipment Leaks (Fugitive Emission Sources)

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§ 61.240 Applicability and designation of sources.

(a) The provisions of this subpart apply to each of the following sources that are intended to operate in volatile hazardous air pollutant (VHAP) service: pumps, compressors, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, surge control vessels, bottoms receivers, and control devices or systems required by this subpart.

(b) The provisions of this subpart apply to the sources listed in paragraph (a) after the date of promulgation of a specific subpart in part 61.

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§ 61.241 Definitions.

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In VHAP service means that a piece of equipment either contains or contacts a fluid (liquid or gas) that is at least 10 percent by weight a volatile hazardous air pollutant (VHAP) as determined according to the provisions of §61.245(d). The provisions of §61.245(d) also specify how to determine that a piece of equipment is not in VHAP service.

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Volatile hazardous air pollutant or VHAP means a substance regulated under this part for which a standard for equipment leaks of the substance has been proposed and promulgated. Benzene is a VHAP. Vinyl chloride is a VHAP.

Paragraph (a) above limits affected equipment to those *in VHAP service* which means the equipment either contains or contacts a coating material that is at least 10 percent by weight a volatile hazardous air pollutant (VHAP) which is a substance regulated under part 61, such as benzene or vinyl chloride, for which a standard for equipment leaks of the substance has been proposed and promulgated.

CB&I could not have coating materials that contain more than 10% benzene or vinyl chloride.

Paragraph (b) above means that a facility must be subject to a part 61 subpart in order to be subject to subpart V. CB&I is not subject to any other part 61 subparts.

Therefore, CB&I's Solvent Storage Area / Mixing Room is not subject to part 61 subpart V.

5. PSD: Source is currently major (PSD) for VOCs, PM/ PM₁₀, and HAPs. If the facility makes future qualifying changes, then they will need to submit a PSD permit application, i.e., applying for a significant increase for any pollutant.

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 the facility are those used for air conditioning. 40 CFR 82, Subpart F, applies to the disposal of appliances containing Class I or Class II substances (i.e. air conditioners).
9. PM₁₀: Polk County Construction Permit # 2042 limits PM/ PM₁₀ emissions to 6.00 lbs./ hr, 26.28 tons per 12-month period rolled monthly, and 0.05 gr./ dscf from the Wheelabrator Model 4 Wheel Vertical Plate Wheelabrator Grit Blaster with Wheelabrator Model 36 WCC Size 57 High Energy Pulse Dust Collector (EU 1 / CE 1 / EP 1). For purposes of reporting, regulating, and fee payment, it is being assumed that all PM is PM₁₀ from EP 1.

Polk County Construction Permit # 1768 limits PM / PM₁₀ to 4.11 lbs./ hr and 3.08 TPY and 0.05 gr./ dscf for the Schmidt Portable Blast Unit with a Tenkay Model 16D Cartridge Collector, (EU 20 / CE 4 / EP 4). For purposes of reporting, regulating, and fee payment, it is being assumed that all PM is PM₁₀ from EP 4.

Polk County Construction Permit # 1781 limits PM / PM₁₀ to 8.83 lbs./ hr and 6.62 TPY and 0.05 gr./ dscf for the Clemco Blast Booth with Clemco Dust Collector, (EU 21 / CE 21 / EP 5). For purposes of reporting, regulating, and fee payment, it is being assumed that all PM is PM₁₀ from EP 5.

C. CAM and Monitoring consideration:

PM:

Wheelabrator Model 4 Wheel Vertical Plate Wheelabrator Grit Blaster with Wheelabrator Model 36 WCC Size 57 High Energy Pulse Dust Collector (EU 1 / CE 1 / EP 1) is uncontrolled major for PM, (2628 TPY) and controlled significant, (26.28 TPY). It is uncontrolled major for PM₁₀ (525.6 TPY), and controlled significant, (26.28 TPY). The EU has a short-term limit 6.00 lbs./hr PM/ PM₁₀. Under DNR's Monitoring Guidance Policy, an Agency O&M Plan and one stack test are required. The stack test will be required, but the Agency O&M Plan is superseded by the requirement to have a CAM Plan for EU 1. The CAM Plan was received in the application and placed into the Title V Renewal Permit. EU 1 was stack tested on 2/28/2002 as a result of the Monitoring requirement from the 01-TV-011 permit. Maximum EU 1 emission rates during the tests were: 0.0074 gr./ dscf, (limit is 0.05 gr./ dscf), {14.8% of the limit}, and 0.270 lb./hr., (limit was 4.009 lb./ hr), {6.73% of the limit}. The control equipment was modified/ replaced in July 2008, and was permitted as PC AQD #2042. EU 1 was stack tested on 7/8/2009 as a result of the Monitoring requirement from the 01-TV-011R1 permit. Maximum EU 1 emission rates during the tests were: 0.0137 gr./ dscf, (limit is 0.05 gr./ dscf), {27.4% of the limit}, and 1.1213 lb./hr., (limit is 6.00 lb./ hr), {18.7% of the limit}. The testing performed in July 2009 showed a large compliance ratio, but testing was done when the control equipment was very new, and therefore another test was required for the R2 Title V permit. A 40 CFR 60, Method 17, three run test was performed for PM on April 18, 2017. This test also satisfied the PM₁₀ test requirements, since the limits are the same. The PM average emission rate was 0.1147 lb./hr., {1.91% of the limit} and average concentration of 0.0009 gr/dscf. {1.80% of the limit}. The testing requirement will be waived for the R3 renewal, since the compliance ratio found in all tests performed on (EU 1 / CE 1 / EP 1) has been extremely high.

Welding Area: (EP 2/ EU 2) is uncontrolled minor for PM, (1.45 TPY), and has no limits. It is grandfathered and the welding equipment emits internally, and eventually the emissions go out several roof vents and open bay doors in the summer. For purposes of the permit, EP 2 is described as, "Vents Internally". Under DNR's Monitoring Guidance Policy, nothing is required. CAM does not apply, since the unit is not subject to an emission limitation for PM or PM₁₀, and the unit is not controlled.

Graco Paint Booth with dry fabric filter: (EP 3 / CE 2, CE 3 / EU 3) is uncontrolled major for PM, 1305.75 TPY, and controlled major, 850.30 TPY. The EU is grandfathered and has no short-term limit for PM, other than 0.01 gr./scf, under 567 IAC 23.4 (13) and Polk County Board of Health Rules and Regulations Chapter V, Article VI, Section 5-16 (m). Under DNR's Monitoring Guidance Policy, an Agency O&M Plan and two tests would be required. The Title V application indicates that the EU was modified in 1997. This was the year that the CE was added to the paint system. The CE filters the paint booth emissions and returns the cleaned air into the plant and eventually the emissions go out several roof vents and open bay doors in the summer. Therefore, no construction permit was required and the EU remains grandfathered. For purposes of the permit, EP 3 is described as, "Vents Internally", and therefore no stack tests will be required. CAM would apply based on controlled and uncontrolled potential emissions, however since the control equipment does not vent directly to the atmosphere (as defined in 40 CFR 64.1) CAM does not apply to the control equipment. An Agency O&M is included in the permit that includes visible inspections of the filter media and visible emission readings at least once per working shift during operation of the paint booth.

Schmidt Portable Blast Unit with a Tenkay Model 16D Cartridge Collector: (EU 20 / CE 4 / EP 4) is uncontrolled major, (308.0 TPY PM, 61.6 TPY PM₁₀), and controlled minor, (3.08 TPY PM/ PM₁₀). Polk County Construction Permit # 1768 limits PM / PM₁₀ to 4.11 lbs./ hr and 3.08 TPY and 0.05 gr./ dscf. For purposes of reporting, regulating, and fee payment, it is being assumed that all PM is PM₁₀ from EP 4. Under DNR's Monitoring Guidance Policy, a Facility O&M Plan and one stack test for PM are required. The stack test will be considered, but the Facility O&M Plan is superseded by the requirement to have a CAM Plan for EU 20. CAM applies and is placed in the Title V Renewal permit. Stack testing completed 7/9/2009 for EP 4 was conducted under the monitoring requirements for 01-TV-011R1. Maximum run results were 0.0007 gr/scf, (1.4% of limit), and 0.0483 lbs./hr, (1.18% of limit). It is felt that these test results show a large margin of compliance and that the permitted limits will not be approached, and therefore another stack test for EP 4 will not be required in this Title V R3 Renewal cycle.

Clemco Blast Booth with Clemco Dust Collector, (EU 21 / CE 21 / EP 5) is uncontrolled major, (662 TPY PM / PM₁₀), and controlled minor, (6.62 TPY PM / PM₁₀). Polk County Construction Permit # 1781 limits PM / PM₁₀ to 8.83 lbs./ hr and 6.62 TPY and 0.05 gr./ dscf. For purposes of reporting, regulating, and fee payment, it is being assumed that all PM is PM₁₀ from EP 5. Under DNR's Monitoring Guidance Policy, a Facility O&M Plan and one stack test are required. The stack test will be considered, but the Facility O&M Plan is superseded by the requirement to have a CAM Plan for EU 21. CAM applies and is placed in the Title V Renewal permit. Stack testing completed 7/7/2009 for EP 5 was conducted under the monitoring requirements for 01-TV-011R1. Maximum run results were 0.0038 gr/scf, (7.6% of limit), and 0.2784 lbs./hr, (3.15% of limit). It is felt that these test results show a large margin of compliance and that the permitted limits will not be approached, and therefore another stack test for EP 5 will not be required in this Title V R3 Renewal cycle.

Opacity:

Opacity is limited to no visible emissions for the Schmidt Portable Blast Unit with a Tenkay Model 16D Cartridge Collector, (EU 20 / CE 4 / EP 4), and the Clemco Blast Booth with Clemco Dust Collector, (EU 21 / CE 21 / EP 5). Weekly VE checks are required in the permit, in order to verify compliance with the no VE requirements.

The remainder of the facility is subject to less than 20% opacity- Polk County Board of Health Rules and Regulations: Chapter V, Article IV, Section 5-9. Since significant EUs 1 and 3 are controlled for particulate and EU 2 has a PTE of only 1.45 TPY PM₁₀, opacity would not be expected to approach 20%. Under DNR's Monitoring Guidance Policy, nothing is required. An action level of no visible emissions will be placed into the CAM Plan for EU 1, even though this EU is subject to less than 20% opacity. This will allow the company to avoid having to have a Method 9 certified opacity reader in house, and will correct any problems before they become significant. This action level of no VEs will also be used for EU 3, and is part of EU 3's CAM Plan.

EP 2 is listed as, "Vents Internally", and therefore VE requirements are not associated with this point.

VOC:

Wheelabrator Grit Blast with Wheelabrator Shot Blast Shaker Baghouse: (EP 1 / CE 1 / EU 1) does not have potential to emit VOC. Under DNR's Monitoring Guidance Policy, nothing is required.

Welding Area: (EP 2 / EU 2) does not have potential to emit VOC. Under DNR's Monitoring Guidance Policy, nothing is required.

Graco Paint Booth with dry fabric filter: (EP 3 / CE 2, CE 3 / EU 3) is uncontrolled major for VOCs, 542.58 TPY. The EU is grandfathered and has no short-term limit for VOCs. Under CAM and DNR's Monitoring Guidance Policy, nothing is required. Mass Balance and record keeping will ensure compliance with the 12-month rolling organic HAP limit of 2.6 lb./ gal. solid limit from NESHAP Subpart M.

Schmidt Portable Blast Unit with a Tenkay Model 16D Cartridge Collector: (EU 20 / CE 4 / EP 4) does not have potential to emit VOC. Under DNR's Monitoring Guidance Policy, nothing is required.

Clemco Blast Booth with Clemco Dust Collector, (EU 21 / CE 21 / EP 5) does not have potential to emit VOC. Under DNR's Monitoring Guidance Policy, nothing is required.

HAPs:

Mass Balance and record keeping will ensure compliance with the 12-month rolling organic HAP limit of 2.6 lb./ gal. solid limit from NESHAP Subpart M MMM for EU 3. Currently, PTE of organic HAPs is 286.98 TPY, and six different HAPs are contained in paints/ solvents used in the Graco Paint Booth. Under CAM and DNR's Monitoring Guidance Policy, no additional monitoring is necessary, since the limit is from a post 1990 NESHAP which contains the necessary monitoring requirements.

(EU 2 / EP 2) Welding Area has an uncontrolled total HAP PTE of 0.82 TPY. No additional monitoring is warranted for this EP.

CO, NO_x, and SO₂

All EU's which emit CO, NO_x, and SO₂ have Potentials To Emit that indicate they are minor for these pollutants. Under DNR's Monitoring Guidance Policy, no Monitoring is warranted.

D. Facility Proposed Limits:

None Proposed.

- E. Responsible Official: Mr. Norm Rockey, Plant Manager, is in charge of a principle business function, that of making products for CB&I Clive Plant's company to sell and make a profit. He is the highest ranking official at the Clive plant, and makes the key decisions for the Clive facility.
- F. CB&I Clive Plant was formerly known as CB&I Storage Tank Solutions LLC, CB&I Constructors, Inc., Chicago Bridge & Iron, Inc. and Pitt- Des Moines, Inc.