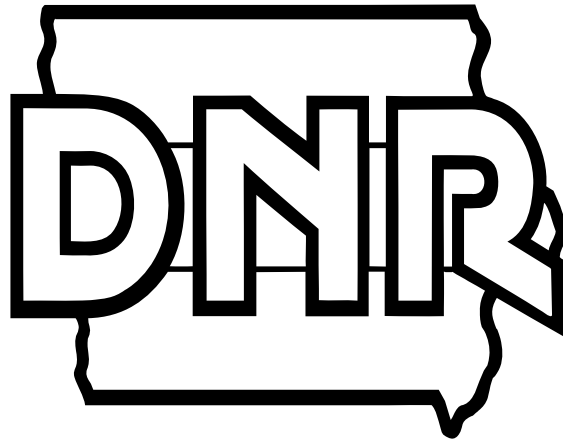


IOWA TITLE V

OPERATING PERMIT APPLICATION

INSTRUCTIONS
(revised 12/2009)



Iowa Department of Natural Resources
Environmental Services Division
Air Quality Bureau
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Application Introduction

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Air Quality Permitting

Historically the Iowa Department of Natural Resources has issued air quality construction permits only. The purpose of the construction permit is to evaluate before equipment installation, whether the proposed equipment or air pollution control equipment has the potential to comply with the state and federal emission standards and the National Ambient Air Quality Standards. With the passage of the Clean Air Act Amendments of 1990, states are required to implement an air quality operating permit program. While the construction permits are issued for the life of the equipment or until a modification is proposed, the operating permits have a maximum term of 5 years and must be renewed. A fee, based upon actual emissions, must be submitted annually on July 1.

Definitions

General air program definitions are found in 567 IAC (Iowa Administrative Code) 20.2; Nonattainment area definitions are found in 567 IAC 22.5(1); Title V definitions, the list of "Hazardous Air Pollutants", and the list of "High Risk Pollutants" are found in 567 IAC 22.100; and the Acid Rain definitions are found in 567 IAC 22.120. An index of the Iowa Air Quality rules (567 IAC chapters 20-35) is provided in Part 2, section 1, form RE-07 of the application.

TITLE V OPERATING PERMIT APPLICATION

The owner or operator of an air pollution source subject to the Title V Operating Permit Program is required to submit, to the Iowa Department of Natural Resources, two copies (three if your facility is located in Linn or Polk county) of the Title V application. An additional copy must also be sent to EPA Region VII, Attention: Chief of Air Permits, 901 N. 5th St., Kansas City, KS 66101. You may submit your application electronically using the State Permitting and Air Reporting System (SPARS). If you submit your application using the SPARS, you do not need to send hard copy to EPA or Linn and Polk counties. The application must include all emission points, emission units, air pollution control equipment, and monitoring devices at the facility. All emissions generating activities, including fugitive emissions, must be included.

Title V Operating Permit Application CONTENTS

The Title V Operating Permit Application form is divided into 3 parts. Part 1 includes the general facility and emissions information. Part 1 resembles an emissions inventory but must also include stack dimensions, stack UTM coordinates, exhaust information, and process flow diagrams. In addition, Part 1 also includes the requirement to pay a per ton fee based upon actual emissions for the previous calendar year.

Part 2 of the Title V Operating Permit Application requires the identification of all applicable requirements for each emission unit at the facility and your plans for demonstrating compliance on an ongoing basis. For those sources at your facility that are not in compliance, schedules for coming into compliance are to be included in Part 2 of the application. A Title V permit can not be issued unless the facility is in compliance with all requirements or is complying with an enforceable compliance schedule. Part 3 of the Title V Operating Permit Application is the certification of truth and accuracy, certification of fee payment, and certification of compliance.

Title V Operating Permit Application DUE DATES

Part 1, Part 2, and Part 3 of the application are due no later than **December 15, 1995**. The due date for new Title V sources is within 12 months of becoming subject to Title V. A renewal application must be submitted at least 6 months, but not more than 18 months, prior to the date of permit expirations.

Thresholds

To determine if your facility is subject to the Title V Operating Permit Program you should determine if, considering enforceable permit restrictions, **POTENTIAL** emissions¹ exceed any of the following:

MAJOR SOURCE THRESHOLDS

Pollutant	Threshold
Carbon Monoxide	100 tons per year
PM-10 Particulate	100 tons per year
Volatile Organic Compounds (VOCs)	100 tons per year
Nitrogen Oxides	100 tons per year
Sulfur Dioxide	100 tons per year
Lead	100 tons per year
Any single Hazardous Air Pollutant (HAP)	10 tons per year
All HAP's combined	25 tons per year

The full definition of Title V applicability, which includes NSPS, NESHAP and acid rain sources, is found in 567 IAC 22.101. **READ THIS DEFINITION CAREFULLY.** Note the source category exemptions specified in subrule 22.102 for certain non-major sources subject to a NSPS or NESHAP.

Potential to emit is calculated assuming that your equipment is running at maximum capacity while operating at the maximum hours of operation under its physical and operational design. Usually, maximum hours of operation are 8760 hours per year unless enforceable limitations on hours of operation have been incorporated within the construction permit or an enforcement order for that equipment. Bottle-necks in a production line do not constitute an enforceable limitation on production unless those bottle-necks are included as an operating condition in a federally enforceable permit. Therefore, in most cases bottle-necks can not be used as a basis for limiting an emission unit's capacity below the manufacturer's rated capacity. **Only enforceable limitations on raw materials, fuels, capacity or hours of operation can be used to limit potential emissions.**

Fugitive Emissions of criteria pollutants must be included when calculating potential emissions to determine Title V applicability if your facility is one of the 27 "Stationary Source Categories" listed in 567 IAC 22.100. If your facility is not one of the 27 "Stationary Source Categories", fugitive emissions of criteria pollutants are not included for **determining applicability**. Please note that fugitive emissions of HAPs must be included when calculating potential HAP emissions to determine Title V applicability regardless of whether your facility is one of 27 "Stationary source Categories."

¹ Potential to emit for criteria pollutants (CO, PM₁₀, VOC, NO_x, SO₂, and Pb) may include fugitives for some source categories. Refer to 567 IAC 22.101 and 22.100 definitions of "Major source" and "Stationary source categories."

UNPERMITTED SOURCES

- If process equipment or control equipment has been installed, constructed, or modified at your facility **since September 23, 1970**, and the process is not specifically exempted in the rules from construction permitting, a construction permit should have been obtained prior to initiating construction.
- Sources of VOCs must obtain construction permits if constructed or modified since April 1987.
- Sources which have not obtained the necessary construction permits prior to construction must obtain those permits ("as-built" construction permits).
- Sources not required to obtain construction permits are required to be in compliance with all applicable air quality rules.
- If a construction permit has not been obtained for an already constructed source that is subject to construction permitting requirements - a plan and schedule for obtaining the construction permit, including methods verifying compliance, and establishing any monitoring and reporting regimes must be included in Part 2 of the Title V Operating Permit application.

Filling Out the Application Forms

If you submit the application using the State Permitting and Air Reporting System (SPARS), follow the SPARS instructions at <http://www.iowadnr.gov/air/prof/SPARS>.

If you submit the application by hardcopy, you may download the application forms from <http://www.iowadnr.gov/air/prof/oper/opapp.html>.

1. Provide an index to your application. Applications may be organized either in form number order, or by emission point number.
2. Check the List of Insignificant Activities located in the rule, 567 IAC 22.103. Some of the equipment at your facility may not need to be listed in the application if they meet any one of the exemptions listed in 567 IAC 22.103(1).
3. Type or print all information submitted. Because of the large number of applications that the department will have to process and the data entry requirements for this information, typed submittal is preferred. Illegible documents are not acceptable and will be returned as incomplete.
4. Emission factors will be the basis for many company's calculations of emissions. **The Department will not provide you with emission factors directly.** However, if you do not have test data or continuous emission monitor data from which to calculate your emissions you will need to obtain access to EPA's emission factors. Sources of emission factors are as follows:
 - a) CHIEF Website - This is EPA's source for the latest information on air emission inventories and emission factors. The Clearinghouse for Inventories and Emission Factors (CHIEF) provides electronic access to several tools for estimating emissions of air

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pollutants. You can access and download the following from the CHIEF website: SPECIATE, WebFIRE, TANKS, LandGEM, all of the AP-42 stationary source volume, and the draft parts of AP-42 undergoing revision. To access the CHIEF website, go to www.epa.gov/ttn/chief/.

b) WebFIRE is the internet version of the Factor Information and Retrieval Data System (FIRE) and it has replaced the software application, FIRE version 6.25, and the Microsoft Access version of the database. An internet version of FIRE allows more frequent updates and easier access. WebFIRE contains EPA's recommended criteria and hazardous air pollutant emission estimation factors. It includes information about industries and their emitting processes, the chemicals emitted, and the emission factors themselves. WebFIRE can be accessed from the CHIEF Internet site <http://www.epa.gov/ttn/chief/efpac/efsoftware.html>.

c) The Compilation of Air Pollutant Emission Factors, AP-42, is the recommended source of air pollutant emission factors, with descriptions of activities producing criteria and hazardous air pollutant emissions. Emission data for many polluting activities are obtained from source tests, material balance studies, and engineering estimates. AP-42 can be accessed from the CHIEF Internet site www.epa.gov/ttn/chief/ap42.html.

d) TANKS is a user-friendly pc software program for estimating volatile organic compound emissions from both fixed and floating roof storage tanks. To download TANKS go to CHIEF Internet site www.epa.gov/ttn/chief/software/tanks.html.

e) SPECIATE is a clearinghouse for speciation factors for both volatile organic compounds (VOC) and particulate matter (PM) and presents speciation data by source category and by pollutants. To download or browse the SPECIATE database, go to the CHIEF Internet site www.epa.gov/ttn/chief/software/speciate/index.html.

f) LandGEM, Landfill Gas Emissions Model, is an automated estimation tool with a Microsoft Excel interface that can be used to estimate emission rates for total landfill gas, methane, carbon dioxide, nonmethane organic compounds, and individual air pollutants from municipal solid waste landfills. It can be downloaded from the CHIEF web site <http://www.epa.gov/ttn/chief/efpac/efsoftware.html>.

g) Other sources of emission factors are your trade associations and equipment manufacturers. Be sure to identify the source of your emission factors in item #23 on Form 3.0, and item #22 on Form 4.0.

IOWA TITLE V PERMIT APPLICATION INSTRUCTIONS
PART 1 - EMISSION INFORMATION
FORM 1.0 FACILITY IDENTIFICATION
(revised 12/2009)

This is a **REQUIRED** form for all Title V facilities.

PERMIT APPLICATION FOR: Indicate which type of permit you are applying for by marking the appropriate box. The Title V Operating Permit applicability is defined in the rules in 567 IAC 22.101.

If you are subject to the Title V Operating Permit Program, the Voluntary Operating Permit is an option your company may choose to use to avoid the Title V permit application process. **This option is not available to "affected sources" (subject to the Acid Rain requirements), solid waste incinerators required to obtain a permit under 129(e) of the Act, or sources required to apply for a Title V Operating Permit by the applicable New Source Performance Standards/Emission Guidelines and National Emission Standards for Hazardous Air Pollutants.** Companies who wish to apply for the Voluntary Operating Permit must propose limitations on their potential emissions by limiting their hours of operation or process throughput such that the plant wide potential emissions of each regulated air contaminant are below the Title V applicability thresholds.

Although the Title V and Voluntary Permit Application use the same forms, a separate set of instructions exist for the Voluntary Operating Permit Application. As you can see, the Voluntary Permit Application will not require all of the information that is necessary for a Title V Permit Application.

Please be sure to use the correct set of instructions for the type of operating permit for which you are applying.

Permit Application Type: Check the box/boxes that are appropriate for your current submittal. For all Title V facilities your first submittal will be an "initial" permit application. If additional information is requested by DNR, that submittal must include another Form 1.0 identifying your facility and another Part 3, Application Certification of Truth and Accuracy. The box on Form 1.0 for Supplemental Information should be checked in this circumstance.

An application for "Renewal" of a Title V Operating Permit will be required at least 6 months, but no more than 18 months, prior to the date of permit expiration.

Between the time of permit application and permit issuance some facilities may undergo changes of equipment or operation. These changes may require that supplemental information be added to the original permit application submittal. You should check the appropriate box on Form 1.0 to identify what type of application you are submitting.

Check the box indicating whether your Title V application submittal includes Part 1 and 3, or Parts 2 and 3, or all three parts.

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- 1) **Company/Facility Name:** Enter the official company name and/or plant designation for the facility that is submitting the Title V application. If your official company name has changed please enter the new facility name in the box. This official facility name must be entered the same on every form submitted.
- 2) **EIQ Number:** This is the number issued for the 1993 emission inventory questionnaire. This number must be entered on each form and worksheet returned to DNR. Contact Weston Li at (515) 281-8549 if you need to have an EIQ number assigned.
- 3, 4, 5) **Facility Street Address, City and ZIP Code:** The street address is the physical location of the facility.
- 6) **Facility Permit Contact Person:** The facility contact is the person most familiar with the operations of the plant and who should answer any questions regarding the permit application submitted for this particular facility.
- 7) **Facility Contact Phone Number:** The facility phone number is the telephone number where the contact person can be reached.
- 8) **Mailing Street/P.O. Address, 9) City, 10) State and 11) ZIP Code:** The mailing address should be entered if the mailing address of the facility is different from the street address.
- 12) **Parent Company/Owner Name:** Complete this block with the name of the parent company or owner if another company at a different location owns your company wholly or in part.
- 13) **Parent Company/Owner Mailing Address:** Enter the mailing address of the parent company or owner if one is identified in box #12.
- 14), 15), 16) **City, State, Zip Code:** Enter the city, state, and Zip code of the parent company or owner identified in box #12.
- 17) **Parent Company Contact/Agent:** Enter the name of a person to contact at the parent company or the registered agent for the company.
- 18) **Parent Company Contact Phone Number:** Enter the telephone number of the contact, if any, identified in box #17.

Number of Employees

- 19) **Facility Total:** Enter the total number of full time and the equivalent number of part time employees. Two part time workers that are employed 20 hours per week are equivalent to one full time worker.
- 20) **Company Total (Iowa):** Enter the total number of full time employees that the company employs at all locations in Iowa.

Principal Activity - Process and Products

Provide the Standard Industrial Classification (SIC) code and the North American Industrial Classification System (NAICS) code and the activity descriptions for your facility. These codes are a compilation by the federal government of businesses by type of activity. SIC codes are intended to cover the entire field of economic activity while NAISC codes are specific to the activity performed at the facility.

21) Standard Industrial Classification (SIC): Enter the SIC code number that most appropriately describes the type of activity occurring at this facility and a corresponding written description of the activity. The SIC code helps to define what is part of a facility. The SIC is a four digit number used to identify industries. The first two digits are the "major group" of a facility. For example, major group 20 is "Food and Kindred Products." The last two digits of the SIC code identify the specific type of facility. Food products that have 43 as the last two digits, for instance, are Cereal Breakfast Foods manufacturing (SIC code 2043). The Standard Industrial Classification Manual contains all the SIC codes and can be found at the OSHA website: http://www.osha.gov/pls/imis/sic_manual.html.

All emission units in the same SIC code (the first two digits) are considered part of the same facility. There are times when sources having different major SIC codes may be part of the same facility. In that case, use the SIC code that is the main one for your operations. An example of a facility that has more than one SIC code is a plant that both makes and prints on cardboard boxes. Its primary SIC code is 2653, Corrugated and Solid Fiber Boxes. Since the company does some of its own printing on site, its secondary SIC code is 2754, Commercial Printing, Gravure.

22) North American Industrial Classification System (NAICS): Enter the NAICS code number that most appropriately describes the type of activity occurring at this facility and a corresponding written description of the activity. NAICS is a two- through six-digit hierarchical classification system, offering five levels of detail. Each digit in the code is part of a series of progressively narrower categories, and the more digits in the code signify greater classification detail. The first two digits designate the economic sector, the third digit designates the subsector, the fourth digit designates the industry group, the fifth digit designates the NAICS industry, and the sixth digit designates the national industry. The five-digit NAICS code is the level at which there is comparability in code and definitions for most of the NAICS sectors across the three countries participating in NAICS (the United States, Canada, and Mexico). The six-digit level allows for the United States, Canada, and Mexico each to have country-specific detail. A complete and valid NAICS code contains six digits. A specific 6-digit NAICS code for your facility can be found at the US Census Bureau's website: <http://www.census.gov/eos/www/naics/>

23) Secondary Activities: If your facility includes more than one major activity, provide the additional information here. Enter the SIC and NAICS codes and written descriptions of any secondary activities that may be occurring at the facility (see discussion of secondary activities in #21 above).

24) Designation of the Responsible Official: Enter the information requested for the person who is designated for taking responsibility for the truth, accuracy, and completeness of the Title V Permit Application. **Note:** The actual signature certifying truth, accuracy and completeness is to be submitted on the form for Part 3. The responsible official must meet the definition in the rules 567 IAC 22.100.

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IOWA TITLE V PERMIT APPLICATION INSTRUCTIONS
FORM 1.1 PLANT LOCATION & LAYOUT DIAGRAM

revised (12/27/2007)

This form is no longer required as part of the Title V application submittal.

**IOWA TITLE V PERMIT APPLICATION INSTRUCTIONS
FORM 1.2 SCHEMATIC - PROCESS FLOW DIAGRAM**

This form is **REQUIRED** for each process at Title V facilities.

- 1) **Company/Facility Name**: Enter the company name as it appears on Form 1.0.
- 2) **EIQ Number**: Enter the EIQ number.
- 3) **Form 1.2 - page ___ of ___**: Each plant process should have a process flow diagram submitted. Since multiple forms 1.2 may be submitted, this box identifies each page of the total number of forms 1.2 included. As an example, page 2 of 14.
- 4) **(see examples on form 1.2)** Attach and label with company name, EIQ number, and page number all schematic - process flow diagrams for your facility. Diagrams need only show the path of flow of exhausts, throughputs and materials through emission units, control equipment, monitoring equipment and emission points.

IOWA TITLE V PERMIT APPLICATION INSTRUCTIONS
FORM 1.3 INSIGNIFICANT ACTIVITIES - POTENTIAL EMISSIONS (567 IAC 22.103)
(revised 12/2009)

BEFORE COMPLETING THIS PORTION OF THE APPLICATION REVIEW THE RULE RELATING TO INSIGNIFICANT ACTIVITIES (567 IAC 22.103).

Insignificant activities listed in 567 IAC 22.103(1) need not be listed in the Title V Operating Permit application unless they are needed to determine the applicability of or impose any regulatory requirements.

Subrule 22.103(2) describes the annual emission levels and the categories of emission units which must be included in the application but are insignificant if not needed to determine applicability of Title V or to impose any applicable requirement.

In general, a unit subject to a NSPS or NESHAP standard or permitted by a construction permit cannot be an insignificant unit.

Submit this form to apply to designate emission units as insignificant activities under 567 IAC 22.103.

List all insignificant activities (emission units) to be reported on the application under 567 IAC 22.103.

- Activities may only be listed as insignificant if not needed to determine the applicability of or impose any regulatory requirement. An emission unit that is only subject to the general emission limitations in subrule 567 IAC 23.3 can still qualify as an insignificant activity if it meets the criteria in 567 IAC 22.103.
- Emissions from each emission unit may not exceed the levels specified in 22.103(2).

- 1) **Company/Facility Name**: Enter the company name as it appears on Form 1.0.
- 2) **EIQ Number**: Enter the EIQ number.
- 3) **Form 1.3 - page of**: Since some companies may need to use multiple Forms 1.3, this box identifies each page of the total number of Forms 1.3 that have been included.

APPLICATION FOR DESIGNATION AS LISTED INSIGNIFICANT ACTIVITY
Summary of Potential Emissions for Each Emission Unit

- 4) **Emission Unit Number**: Enter the identification number for each emission unit. Keep in mind that an emission unit is the specific process that generates the air pollution emissions, e.g. storage tank, boiler, etc.

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5) **Emission Unit Description**: Provide a written description of the emission unit (process) for which you are claiming designation as an insignificant activity.

6 - 17) **Pollutant categories**: For each emission unit listed in box 5, enter in the appropriate box the potential emissions in **POUNDS PER YEAR** of each air contaminant emitted. Remember that potential emissions are calculated based upon the emission unit operating at design capacity 8760 hours per year.

Note: Levels of insignificance and a discussion of applicability are found in 567 IAC 22.103.

18) **Totals this Page**: Enter the total potential emissions in **POUNDS PER YEAR** of each air contaminant from all insignificant activities on this page.

19) **Facility Totals (TONS/YEAR)**: On the first page of your Forms 1.3 (if multiple forms are needed) enter the total potential emissions in **TONS PER YEAR** of each air contaminant from all insignificant activities from all Forms 1.3.

IOWA TITLE V PERMIT APPLICATION INSTRUCTIONS
FORM 1.4 POTENTIAL TOXIC EMISSIONS - SIGNIFICANT ACTIVITIES
(revised 12/1/2006)

This form is **REQUIRED** for all Title V facilities.

- 1) **Company/Facility Name**: Enter the company name as it appears on Form 1.0.
- 2) **EIQ Number**: Enter the EIQ number.
- 3) **Form 1.4 - page of**: Since some companies may need to use multiple Forms 1.4, this box identifies each page of the total number of Forms 1.4 that have been included.
- 4) **CAS No.**: Enter the Chemical Abstract (CAS) number of the hazardous air pollutant and additional regulated pollutants (that are not reported on Form 1.5) listed in column 5.
- 5) **Chemical Name**: Enter the name of the hazardous air pollutant and additional regulated pollutants (that are not reported on Form 1.5) that corresponds with the CAS number listed in column 4. The hazardous air pollutants of concern under the Title V permitting program are the 187 chemicals or chemical families listed in the rules and the Clean Air Act Amendments of 1990.
- 6) **Potential Emissions (Tons/Yr)**: Summarize the **plant-wide Potential Emissions in tons per year** of each Hazardous Air Pollutant and additional regulated pollutants (that are not reported on Form 1.5) identified in box 5 that is emitted from your facility.
- 7) **Totals this Page (Toxics Only)**: Enter, in tons per year, the total Hazardous Air Pollutant potential emissions **for this page**. Exclude non-Toxics pollutants from Box 7.
- 8) **Facility Totals - Potential Emissions (Toxics Only)**: On the first Form 1.4 (if multiple Forms 1.4 are needed) enter the total of all toxic potential emissions for the plant by **adding up all of the individual Form 1.4 page totals (Box 7)**.

IOWA TITLE V PERMIT APPLICATION INSTRUCTIONS
FORM 1.5 POTENTIAL EMISSIONS - SIGNIFICANT ACTIVITIES
(revised 12/1/2006)

This form is **REQUIRED** for all Title V facilities.

- 1) **Company/Facility Name:** Enter the company name as it appears on Form 1.0.
- 2) **EIQ Number:** Enter the EIQ number.
- 3) **SUMMARY OF CRITERIA POLLUTANT POTENTIAL EMISSIONS:** This section requires you to summarize the potential emissions of each of the criteria air pollutants from the whole facility and enter the total for each pollutant in box #4.
- 4) **Potential Emissions (Tons/Year):** Enter the total potential emissions in **tons per year** for each pollutant from all emission points at your facility in the corresponding box.
- 5) **Indicate which conditions subject this facility to obtaining an Iowa Title V Operating Permit:** Check the reason(s) why you are required to submit this Title V Operating Permit Application. Please note that PM_{2.5}, Total PM, and ammonia are not used in determining Title V applicability.

IOWA TITLE V PERMIT APPLICATION INSTRUCTIONS
FORM CA-01 CALCULATIONS
(revised 12/2009)

This form is a calculation worksheet to document how you arrived at certain calculated values that are used on other individual forms throughout this permit application. Duplicate this form as needed and attach it to the form that it is documenting. You may substitute this form with other documents, such as spreadsheets, as long as all the required information is included.

All the calculations, the parameters used in the calculations, and a description of any assumptions used in making the calculations must be clearly documented so that DNR staff can follow the calculations.

AT YOUR FACILITY RETAIN A COPY OF YOUR COMPLETED PERMIT APPLICATION, AS SUBMITTED, INCLUDING ALL CALCULATION SHEETS.

- 1) **Facility Name:** Enter the company/facility name as it appears on Form 1.0.
- 2) **EIQ Number:** Enter the EIQ number.
- 3) **Emission Point Number:** Enter the number of the emission point (stack or vent) that is associated with the calculations you are documenting on this form. The number of this emission point must correspond to the identification number used on Form 1.2 (Schematic - Process Flow Diagram) for this emission point.
- 4) **Emission Unit (Process) Number:** Enter the number of the emission unit (process) that is associated with the calculations you are documenting on this form. The number of this emission unit must correspond to the identification number you used on Form 1.2 (Schematic - Process Flow Diagram) for this emission unit.
- 5) **Emission Unit (Process) Description or (SCC) Number:** Provide a written description or the SCC number which describes the emission unit that is associated with the calculations you are documenting on this form.
- 6) **Calculations are Provided in Support of Information Reported on Form , page :** Identify the Form number and page number of that form for which this calculation sheet provides supporting documentation. For example Form 3.0, page 17.
- 7) **Emission Calculations:** This space is provided for you to show your calculations. This documentation will allow DNR staff to follow how certain values were calculated. Please provide legible calculations.

If the source of an emission factor is not a widely available source (such as WebFIRE, AP-42, etc.), a copy of the document must be submitted with the application. If emissions are calculated using program models (such TANKS, LandGEM, etc.), the program outputs must be submitted with the application.

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If the source of an emission factor is a stack test, please indicate the test date and the test method used and include a copy of the REPORT SUMMARY. Do not submit the entire stack test report. The most recent and approved stack test should be used.

In case of a PM test with less than 10 mg catch, the emissions calculation should be based on 10 mg catch. For the tests of other pollutants, the emissions calculation should be based on the minimum/detect level if the stack test reports less than the minimum/detect level of the applicable test method. You have the option of testing for long enough to capture the minimum sample weight required by the test method if you wish to.

**IOWA TITLE V PERMIT APPLICATION INSTRUCTIONS
FORM 2.0 EMISSION POINT INFORMATION**

(revised 12/27/2007)

This form is **required** for all Title V facilities.

- 1) **Company/Facility Name**: Enter the company name as it appears on Form 1.0.
- 2) **EIQ Number**: Enter the EIQ number.
- 3) **Form 2.0 - page of** : Since some companies may need to use multiple Forms 2.0, this box identifies each page of the total number of Forms 2.0 that have been included.
- 4) **Emission Point Number**: Enter the identification number your company assigns to this particular stack/vent.

The emission point number identifies the point where emissions vent to the atmosphere. Emission points can include stacks, horizontal vents, building ventilation vents, and fugitive sources such as material storage piles (coal, aggregate, etc.), and volatile liquid storage tanks.

- 5) **Emission Point Description**: Provide a brief description of the emission point, i.e. boiler #1 & 2 stack, paint booth #7 wall vent, etc.
- 6) **Emergency Bypass Stack?**: self-explanatory

EMISSION POINT INFORMATION

- 7) **Emission Point Type**: Check the box that best describes the emission point.
- 8) **Stack Shape and Dimensions**: self-explanatory
- 9) **Stack Height Above Ground**: Enter the height above the ground of the stack's exit point.
- 10) **Reserved**: Leave blank
- 11) **Stack Location UTM Coordinates**: Enter the Universal Transverse Mercator Coordinate (UTM) of the stack in meters. The Easting value should be within the range of 200,000 to 1,250,000 meters and the Northing value should be between 4,450,000 to 4,830,000 meters for locations in Iowa. Use the check boxes to designate whether your facility is in UTM Zone 14 or 15. Use the check boxes to designate whether your UTM coordinates are based on North American Datum of 1927 (NAD 27) or North American Datum of 1983 (NAD 83). For a general discussion of the Universal Transverse Mercator Coordinate (UTM) system or on the North American Datum of 1927 (NAD 27) and North American Datum of 1983 (NAD 83) visit the National Geodetic Survey (NGS) at the National Oceanic & Atmospheric Administration (NOAA) website and review the FAQ section (<http://www.ngs.noaa.gov/faq.shtml>). A NAD 27 to 83 or NAD 83 to 27 convertor may be found at <http://www.ngs.noaa.gov/TOOLS/Nadcon/Nadcon.html>. A UTM convertor for a known latitude and longitude may be found at <http://www.ngs.noaa.gov/TOOLS/utm.html> . Note: If a previous application had the UTM locator and the distance from that point to the stacks, that information could be used to calculate the values for the updated Form 2.0 (12/2007). Convert the

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feet to meters from the old Form 2.0 (12/1/06) and add distances that are North and East of the UTM, and subtract distances that are South and West of the UTM.

12) Rain Cap or Obstruction: Check the appropriate box. If YES, specify the type of obstruction, i.e. elbow, rain cap.

13) COMPOSITION OF EXHAUST STREAM: Enter the flow rate and temperature of the exhaust stream. Please indicate the units of the flow rate by using the acfm (actual cubic feet per minute) or scfm (standard cubic feet per minute) check boxes.

14) Bypass Stacks: If there are any bypass stacks or parallel stacks through which air contaminants from this emission point may be emitted, enter the bypass stack emission point number and description.

15) List of Emission Units Venting Through This Emission Point: List the emission unit numbers and corresponding SCC numbers for all units venting through this emission point. The emission unit numbers must correspond to those used on the Schematic - Process Flow Diagram (Form 1.2).

16) List of Control Equipment Associated With This Emission Point: For each piece of control equipment a copy of Form CE-01 must be completed, and a unique number assigned. List all air pollution emission control equipment, by number, serving the emission units vented through this emission point. The control equipment numbers must correspond to those used on the Schematic - Process Flow Diagram (Form 1.2).

17) List of Monitoring Equipment Associated With This Emission Point: For each piece of control equipment a copy of Form ME-01 must be completed, and a unique number assigned. List, by number, any continuous emission monitoring equipment or operational parameter monitoring equipment associated with the emission units venting through this emission point. The monitoring equipment numbers must correspond to those used on the Schematic - Process Flow Diagram (Form 1.2).

IOWA TITLE V PERMIT APPLICATION INSTRUCTIONS
FORM 3.0 EMISSION UNIT DESCRIPTION - POTENTIAL EMISSIONS
(revised 12/2009)

This form is **required** for all Title V facilities.

DUPLICATE THIS FORM AS NEEDED AND SUBMIT A COMPLETE COPY FOR EACH EMISSION UNIT (process) AT YOUR FACILITY.

An emission unit is the specific process that generates the air pollution emissions. An example of an emission unit is a boiler combusting coal (coal is the throughput). However, if an emission unit has two throughputs - such as a grain dryer:

Throughput 1: natural gas combustion - NO_x, CO, etc. emissions

Throughput 2: grain - produces particulate emissions

the process should be listed as TWO emission units (one for each throughput) each assigned a separate Emission Unit Number, with TWO forms completed (one for each Emission Unit).

Potential emissions must be calculated based upon the maximum design rate of the emission unit and 8760 hours of operation per year. The only exception to this is if this emission unit has been limited in either process rate or hours of operation by a federally enforceable permit or order.

IF YOU ARE PROPOSING A NEW PROCESS LIMITATION FOR THIS UNIT YOU MUST SUBMIT, WITH PART 2, SECTION 4, AN ADDITIONAL FORM 3.0 FOR THIS EMISSION UNIT WITH THE "PROPOSED LIMIT" BOX MARKED AND THE PROPOSED LIMITATIONS INDICATED AND NEW POTENTIAL EMISSIONS CALCULATED.

The proposed limit box is located in the upper right hand corner of Form 3.0. New process limitations are effective only after the Department issues the operating permit. Until permit issuance your potential emissions must be calculated and reported on the basis of an 8760 hour operating schedule or as defined under existing permit limits.

- 1) **Company/Facility Name**: Enter the company name as it appears on Form 1.0.
- 2) **EIQ Number**: Enter the EIQ number.
- 3) **Form 3.0 - page of** : A **separate Form 3.0** must be completed for each emission unit at your plant. An emission unit is the process that produces the air pollution emissions, e.g. boiler, paint booth, etc. Since many companies will need to use multiple Forms 3.0, this box identifies each page of the total number of Forms 3.0 that have been included.
- 4) **Emission Point Number**: Enter the emission point number that your company assigns to the stack or vent serving this emission unit. You may use any numbering scheme that is appropriate to your plant, but this numbering scheme must be used consistently throughout the application to identify each emission point. Each fugitive emissions source, such as uncontrolled rock crushers, dump pits, etc. should be assigned a separate emission point number.
- 5) **Emission Point Description**: Provide a written description of the stack or vent or indicate if this is a fugitive emissions source.

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- 6) **EMISSION UNIT NUMBER:** Enter the identification number that your company assigns to this emission unit. Keep in mind that an emission unit is the specific process that generates the air pollution emissions, e.g. boiler, paint gun.
- 7) **SCC Number:** Enter the Source Classification Code Number (SCC) that identifies the type of process or activity occurring at this emission unit. The SCC number corresponds to the Description of Process (Box 8) and specific "emission factor units"(lb/ton, lb/gal, etc.).
- 8) **DESCRIPTION OF PROCESS:** Provide a written description of the process as defined by the SCC number entered in box 7 above. If a SCC number and corresponding description is not available for this specific process please provide your best description of the process.
- 9) **Name of Manufacturer:** Enter the name of the manufacturer of this emission unit (process equipment).
- 10) **Model Name - Model Number - Serial Number:** Enter the model name, number, and serial number of this emission unit.
- 11) **Date of Construction:** Enter the date on which construction was commenced for this emission unit. For the purposes of this question commenced construction means the date that an owner or operator has undertaken a continuous program of construction or modification or that the owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of construction or modification.
- 12) **Date of Installation:** Enter the date of the actual installation of the emission unit equipment. In many cases this will be the same date as the date of construction.
- 13) **Date of Modification:** If this emission unit has been modified since it was originally installed, please enter the date of the last modification.
- 14) **Raw Material - OR - Fuels Used:** Enter the raw material used in this emission unit (process). For combustion sources enter the fuel used. If multiple raw materials or fuels are used at this emission unit list the worst case fuel or raw material and the pollutant(s) for which it is worst case.

For example:

Fuels (throughput)
Coal - SO₂, PM & PM-10
Natural Gas - NO_x
Raw Materials (throughput)
Paint #1 - VOC, Toxics, and Lead
Paint #2 - PM, PM-10

- 15) **Federally Enforceable Operating Limit:** If this emission unit is subject to any operating limitation, such as limitations on hours of operation, raw materials, or amount of fuel combusted, etc., enter this limitation here. Enforceable limitations are usually established in the construction/operating permit or in an enforcement order.
- 16) **Permit or Rule Establishing Operating Limit:** Enter the source of the operating limitation specified in box 15. The source may be a construction, an operating permit, an administrative or court order. In either case list the permit number or the order number here. Attach CA-01 if necessary to detail the parameters of the limit.
- 17) **Maximum Hourly Design Rate:** Enter the maximum hourly production rate for this emission unit. For combustion units this is the maximum heat input capacity (in millions of Btu per hour) for the equipment using the fuel specified in box 14.
- 18) **Air Pollution Control Equipment (CE) Number:** Enter the identification number your company has assigned to this piece of emission control equipment. This ID number must correspond to that used in the Schematic - Process Flow Diagram included on Form 1.2. All control devices associated with this emission unit must be identified. Duplicate this form if necessary.
- 19) **Monitoring Equipment:** Enter the identification number of any equipment associated with this emission unit that is used to monitor emissions or operational parameters. This ID number must correspond to that used in the Schematic - Process Flow Diagram included on Form 1.2. All monitors associated with this emission unit must be identified. Duplicate this form if necessary.

POTENTIAL EMISSIONS

- 20) **Air Pollutant:** Enter on page 1 of Form 3.0 the required information related to potential emissions for PM-2.5, PM-10, Total PM, SO₂, NO_x, VOC, CO, Lead, Ozone, and Ammonia. Potential emission information for Hazardous Air Pollutants and additional regulated air pollutants (ex. fluorides, etc.) should be entered on page 2 of Form 3.0. Please indicate the identity of the pollutant by entering the CAS number and name of the pollutant. Duplicate this form if necessary. If there are no HAPs or additional regulated pollutants emitted from this unit, you are not required to submit page 2 of this form.
- 21) **Emission Factor:** Enter the numerical emission factor (in pounds per unit) being used to calculate the potential emissions from this unit. As noted at the bottom of the form, the most recent emission factors can be obtained for some processes from EPA documents or calculated from the most recent and approved stack test data, worksheets, or continuous emission monitoring data. See the instructions for Form CA-01 (page 16) for additional discussion of supporting documents and the use of stack test results.
- 22) **Emission Factor Units:** Enter the emission factor units that correspond to the numerical emission factor utilized in box 21. Typical emission factor units are expressed in pounds of pollutant emitted per unit of production or unit of fuel combusted. Examples are pounds/ton, pounds/gallon, pounds/million cubic feet, etc. Use the **allowable limit** to calculate potential emissions when applicable.
- 23) **Source of Emission Factor:** Indicate the source of the emission factor used in box 21. See the bottom of Form 3.0 for typical sources of emission factors.

24) Ash or Sulfur %: For combustion sources only, enter the percent ash in the fuel in the PM-2.5, PM-10, and PM (total particulate matter) rows. Enter the percent sulfur in the fuel in the SO₂ row.

25) Potential Hourly Uncontrolled Emissions (Lb/Hr): Calculate the potential uncontrolled emissions on an hourly basis and enter the value in pounds per hour. To calculate potential uncontrolled emissions multiply the Maximum Hourly Design Rate (Box 17) by the Emission Factor (Box 21). In order for this calculation to work correctly the emission factor units must correspond to the units used in box 17. For example, a spreader stoker boiler burning 3 tons per hour of subbituminous coal times the emission factor of 60 pounds of PM per ton of coal burned equals 180 pounds per hour of PM emitted uncontrolled.

26) Combined Control Efficiency %: The combined control efficiency is the product of the control efficiency multiplied by the capture efficiency. See the instructions for Form CE-01 for additional information on calculating the combined control efficiency. If only one emission control device is used enter the percent control efficiency. Be sure to enter the control efficiency in the box corresponding to the air pollutant for which that efficiency is appropriate. For example, a device may be 90% efficient in removing PM from the air stream but significantly less efficient in removing PM-10.

If two control device applies to the same pollutant at an emission point, the control efficiency is calculated using the following formula:

$$\text{Control Efficiency} = CE_1 + CE_2 - [(CE_1 \times CE_2) / 100]$$

where CE₁ = Control Efficiency for First Device
CE₂ = Control Efficiency for Second Device

When two devices are used to remove the pollutant PM-10 from the same emission point, the control efficiencies must be combined. For example, if the first device has a control efficiency of 50% and the second device has an efficiency of 80%, the calculation of control efficiency is as follows:

$$\begin{aligned} \text{Control Efficiency} &= 50 + 80 - [(50 \times 80) / 100] \\ &= 130 - [4000 / 100] \\ &= 130 - [40] \\ &= 90\% \end{aligned}$$

Thus, the control efficiency for PM-10 at this emission point would be 90%. This formula only works for combining two control efficiencies. For combining more than two control efficiencies use the following formula:

$$\text{Control Efficiency} = 1 - (1 - CE_1) \times (1 - CE_2) \times \dots \times (1 - CE_n)$$

Where CE₁, CE₂, ..., CE_n, and Control Efficiency are the control efficiencies in decimal and n is the total number of control equipment.

Note that the control efficiency of a secondary piece of emission control equipment is dependent upon particle size, grain loading to the device, air flows, etc. Therefore, caution should be used in assigning the control efficiency to multiple control devices.

27) Potential Hourly Controlled Emissions (Lb/Hr): Calculate the hourly controlled emissions by applying the Combined Control Efficiency (box 26) to the Potential Hourly Uncontrolled Emissions (box 25). Enter the value in pounds per hour.

28) Potential Annual Controlled Emissions (Tons/Yr): Calculate the annual potential controlled emissions by multiplying the Potential Hourly Controlled Emissions (box 27) by 8760 hours and converting pounds per year to tons per year.

Unless the emission unit is subject to enforceable limitations on hours of operation (box 15), Potential Emissions are based on 8760 hours per year.

Example potential emissions calculations:

PM:

$$35,365\text{scfm} * 0.01\text{gr/dscf} * (1/7000)\text{ lb/gr} * 60\text{ min/hr} = 3.03\text{ lb/hr}$$
$$3.03\text{ lb/hr} * 8760\text{ hr/year} * (1/2000)\text{ ton/lb} = 13.27\text{ tons/year}$$

Potential and Allowable Emissions from a Coal Fired Boiler

$$\text{Rated Capacity} = 3081\text{ MMBtu / hr}$$
$$= 155.6\text{ tons of coal / hr}$$

Allowable standards:

$$\text{PM allowable} = 0.3\text{ lb / MMBtu based on 567 IAC 23.3(2)"b"}$$

$$\text{SO}_2\text{ allowable} = 5.0\text{ lb / MMBtu based on 567 IAC 23.3(3)"a"(2)}$$

$$\text{NO}_x\text{ allowable} = 0.5\text{ lb / MMBtu based on 40 CFR 76.5(a)(2)}$$

The rest of the emissions are based on an AP-42 factor and the maximum rated capacity assuming 8760 hours of operating per year.

$$\text{PM allowable} = (3081\text{ MMBtu/hr}) \times (0.3\text{ lb/MMBtu}) \times (8760\text{ hr/yr}) \times (1\text{ ton}/2000\text{ lb})$$
$$= 4048.43\text{ ton/yr}$$

$$\text{SO}_2\text{ allowable} = (3081\text{ MMBtu/hr}) \times (5.0\text{ lb/MMBtu}) \times (8760\text{ hr/yr}) \times (1\text{ ton}/2000\text{ lb})$$
$$= 67,473.90\text{ ton/yr}$$

$$\text{NO}_x\text{ allowable} = (3081\text{ MMBtu/hr}) \times (0.5\text{ lb/MMBtu}) \times (8760\text{ hr/yr}) \times (1\text{ ton}/2000\text{ lb})$$
$$= 6747.39\text{ ton/yr}$$

$$\text{VOC potential} = (155.6\text{ ton/hr}) \times (0.07\text{ lb/ton}) \times (8760\text{ hr/yr}) \times (1\text{ ton}/2000\text{ lb})$$
$$= 47.71\text{ ton/yr}$$

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$$\begin{aligned} CO \text{ potential} &= (155.6 \text{ MMBtu/hr}) \times (0.6 \text{ lb/ton}) \times (8760 \text{ hr/yr}) \times (1 \text{ ton}/2000 \text{ lb}) \\ &= 408.92 \text{ ton/yr} \end{aligned}$$

IOWA TITLE V PERMIT APPLICATION INSTRUCTIONS
FORM 4.0 EMISSION UNIT - ACTUAL OPERATIONS AND EMISSIONS
(revised 12/2009)

This form is **required** for all Title V facilities.

Duplicate this as needed. A separate Form 4.0 must be completed for each emission unit at your facility.

- 1) **Company/Facility Name**: Enter the company name as it appears on Form 1.0.
- 2) **EIQ Number**: Enter the EIQ number.
- 3) **Form 4.0 - page of** : A **separate Form 4.0** must be completed for each emission unit at your plant. An emission unit is the process that produces the air pollution emissions, e.g. boiler, paint booth, etc. Since many companies will need to use multiple Forms 4.0, this box identifies each page of the total number of Forms 4.0 that have been included.
- 4) **Emission Point Number**: Enter the emission point number that your company assigns to this stack or vent. You may use any numbering scheme that is appropriate to your plant, but this numbering scheme must be used consistently throughout the application to identify each emission point. Each fugitive emissions source, such as uncontrolled rock crushers, dump pits, etc. should be assigned a separate emission point number.
- 5) **Emission Point Description**: Provide a written description of the stack or vent or indicate if this is a fugitive emissions source.
- 6) **EMISSION YEAR**: Enter the calendar year for which you are calculating ACTUAL emissions from this emission unit. Usually this will be the previous year.
- 7) **EMISSION UNIT NUMBER**: Enter the identification number that your company assigns to this emission unit. Keep in mind that an emission unit is the specific process that generates the air pollution emissions, e.g. boiler, paint booth.
- 8) **SCC Number**: Enter the Source Classification Code Number (SCC) that identifies the type of process or activity occurring at this emission unit. The SCC number corresponds to the Description of Process (Box 9) and specific "emission factor units"(lb/ton, lb/gal, etc.).
- 9) **DESCRIPTION OF PROCESS**: Provide a written description of the process as defined by the SCC number entered in box 8 above. If a SCC number and corresponding description is not available for this specific process, please provide your best description of the process.

ACTUAL THROUGHPUT

- 10) **Raw Material**: Identify the raw material utilized in this emission unit. For combustion sources the raw material is the fuel combusted. If a process unit is also a combustion source (i.e., process dryer), **separate Forms 4.0** must be completed for the fuel used and the raw material processed.

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11) **Actual Throughput - Yearly Total:** Enter the actual amount of the raw material (identified in box 10) that the emission unit processed during the emission year specified in box 6.

12) **Units Raw Material:** Enter the units (tons, gallons, bushels, million cubic feet, etc.) of the raw material total specified in box 11.

Actual Operating Rate/Schedule

13) **Percent of Total Operating Time:** For each of the four calendar quarters, specify the percentage of the total annual throughput attributable to each quarter. Estimates are acceptable. The total for all four quarters must equal 100%.

14) **Hours/Day:** This figure is the normal number of hours per day that the equipment or process (Emission Unit) was in operation. Since some processes are operated on a different daily schedule over the course of the year, enter the hours per day the emission unit operated during each of the four calendar quarters.

15) **Days/Week:** This figure is the normal number of days per week that the equipment or process (Emission Unit) was in operation. Since some processes are operated on a different weekly schedule over the course of the year, enter the days per week that the emission unit operated during each of the calendar quarters.

16) **Weeks / 13 Week Quarter:** For each calendar quarter, enter the number of weeks that the emission unit operated. There are 13 possible weeks of operation in each calendar quarter.

Associated Equipment

17) **Control Equipment (CE) Number:** Enter the air pollution emissions control equipment identification number(s) that is/are associated with this emission unit. This identification number must correspond to the number used in the Schematic - Process Flow Diagram (Form 1.2).

18) **Monitoring Equipment (ME) Number:** Enter the air pollution emissions monitoring equipment or operational parameter monitoring equipment identification number(s) that is/are associated with this emission unit. This identification number must correspond to the number used in the Schematic - Process Flow Diagram (Form 1.2).

ACTUAL EMISSIONS

19) **Air Pollutant:** Enter on page 1 of Form 4.0 the required information related to actual emissions for PM-2.5, PM-10, Total PM, SO₂, NO_x, VOC, CO, Lead, Ozone, and Ammonia. Actual emission information for Hazardous Air Pollutants and additional regulated air pollutants (ex. fluorides, etc.) should be entered on page 2 of Form 4.0. Please indicate the identity of the pollutant by entering the CAS number and name of the pollutant. Duplicate this form if necessary. If there are no HAPs or additional regulated pollutants emitted from this unit, you are not required to submit page 2 of this form.

20) **Emission Factor:** Enter the numerical emission factor (in pounds per unit) being used to calculate the actual emissions from this unit. As noted at the bottom of the form, the most recent emission factors can be obtained for some processes from EPA documents or calculated from the

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most recent and approved stack test data, worksheets, or continuous emission monitoring data. See the instructions for Form CA-01 (page 16) for additional discussion of supporting documents and the use of stack test results.

21) Emission Factor Units: Enter the emission factor units that correspond to the numerical emission factor utilized in box 20. Typical emission factor units are expressed in pounds of pollutant emitted per unit of production or unit of fuel combusted. Examples are pounds/ton, pounds/gallon, pounds/million cubic feet, etc.

22) Source of Emission Factor: Indicate the source of the emission factor used in box 20. See the bottom of Form 4.0 for typical sources of emission factors.

23) Ash or Sulfur %: For combustion sources only, enter the percent ash in the fuel in the PM-2.5, PM-10, and PM (total particulate matter) rows. Enter the percent sulfur in the fuel in the SO₂ row.

24) Combined Control Efficiency %: The combined control efficiency is the product of the control efficiency multiplied by the capture efficiency. See the instructions for Form CE-01 for additional information on calculating the combined control efficiency. If only one emission control device is used, enter the percent control efficiency. Be sure to enter the control efficiency in the box corresponding to the air pollutant for which that efficiency is appropriate. For example, a device may be 90% efficient in removing PM from the air stream but significantly less efficient in removing PM-10.

If two control device applies to the same pollutant at an emission point, the control efficiency is calculated using the following formula:

$$\text{Control Efficiency} = CE_1 + CE_2 - [(CE_1 \times CE_2) / 100]$$

where CE_1 = Control Efficiency for First Device
 CE_2 = Control Efficiency for Second Device

When two devices are used to remove the pollutant PM-10 from the same emission point, the control efficiencies must be combined. For example, if the first device has a control efficiency of 50% and the second device has an efficiency of 80%, the calculation of combined efficiency is as follows:

$$\begin{aligned} \text{Control Efficiency} &= 50 + 80 - [(50 \times 80) / 100] \\ &= 130 - [4000 / 100] \\ &= 130 - [40] \\ &= 90\% \end{aligned}$$

Thus, the control efficiency for PM-10 at this emission point would be 90%. This formula only works for combining two control efficiencies. For combining more than two control efficiencies use the following formula:

$$\text{Control Efficiency} = 1 - (1 - CE_1) \times (1 - CE_2) \times \dots \times (1 - CE_n)$$

Where CE_1 , CE_2 , ..., CE_n , and Control Efficiency are the control efficiencies in decimal and n is the total number of control equipment.

Note that the control efficiency of a secondary piece of emission control equipment is dependent upon particle size, grain loading to the device, air flows, etc. Therefore, caution should be used in assigning the control efficiency to the second control device. It may be considerably less efficient as a secondary control device than it would be as the primary emission control device.

25) Actual Emissions (Tons/Yr): This is the amount in tons per year of the pollutant emitted at the emission unit described. All figures should be rounded to two decimal places. There are two possible formulas.

Method 1: If the Sulfur or Ash percent is not given or the unit is not a combustion source, use the following formula:

Actual Emissions = Actual Throughput (Box 11) x Emission Factor x [(100 - Percent Control Efficiency) / 100] / 2000.

For example, assume the Actual Throughput is 30,000 tons of grain processed, the PM-10 emission factor is .91 pounds of PM-10 emitted per ton of grain processed and a PM-10 control device for this emission point has an efficiency of 90%. Using the formula above:

Actual Emissions = 30,000 x .91 x [(100 - 90) / 100] / 2000
= 27,300 x [10 / 100] / 2000
= 27,300 x [.1] / 2000
= 2,730 / 2000
= 1.365 tons of PM-10 emitted per year

Note: If no control devices are used, the Control Efficiency is 0%. You would enter 13.65 in the PM-10 box in Box 25.

Method 2: If the Sulfur or Ash percent is greater than 0, the following formula must be used:

Actual Emissions = Actual Throughput x Emission Factor x % Ash or Sulfur from fuel analysis x [(100 - Percent Control Efficiency) / 100] / 2000.

For example, assume the Actual Throughput is 10,000 tons of fuel burned, the SO₂ emission factor is 30 pounds of SO₂ emitted per percent of sulfur in the fuel burned, the Sulfur content of the fuel is 1.7% and the SO₂ control device has an efficiency of 50%. Using the formula above:

Actual Emissions = 10,000 x 30 x 1.7 x [(100 - 50) / 100] / 2000
= 300,000 x 1.7 x [50 / 100] / 2000
= 300,000 x 1.7 x [.5] / 2000
= 510,000 x [.5] / 2000
= 255,000 / 2000
= 127.50 tons of SO₂ emitted per year

You would enter 127.50 tons in the SO₂ box in Box 25, Actual Emissions on Form 4.0.

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FORM CE-01 POLLUTION CONTROL EQUIPMENT DATA SHEET
(revised 12/2009)

This form is **REQUIRED** to be completed for **each** piece of air pollution emissions control equipment at Title V facilities. Duplicate this form as needed.

- 1) **Company/Facility Name**: Enter the company name as it appears on Form 1.0.
- 2) **EIQ Number**: Enter the EIQ number.
- 3) **Form CE-01 page of** : Since multiple forms CE-01 may need to be submitted, this box identifies each page of the total number of Forms CE-01 included. As an example, page 2 of 14.
- 4) **CONTROL EQUIPMENT NUMBER**: Enter the control equipment number for this pollution control device as specified on your Schematic - Process Flow Diagram (Form 1.2).
- 5) **Type of Pollution Control Equipment**: Describe the type of pollution control equipment being represented on this form. For example, pulse jet baghouse, venturi scrubber, etc.
- 6) **Manufacturer**: List the name of the manufacturer of this piece of pollution control equipment.
- 7) **Model**: List the model of this piece of pollution control equipment.
- 8) **Serial Number**: Enter the Serial Number of this piece of pollution control equipment.
- 9) **Date Installed**: Enter the date of installation at your facility of this piece of pollution control equipment.
- 10) **Does This Equipment Exhaust to the Atmosphere?** Mark the box that is appropriate. Examples of sources that do not vent to the atmosphere are those that vent back into the work place, or to other processes or control devices.

Associated Equipment

- 11) **Associated Equipment**: List the page(s) of Form 1.2, Schematic - Process Flow Diagram, which shows how this piece of pollution control equipment is associated with processes, monitoring equipment, and emission points.

Emissions Data

12) Equipment Control Efficiency Basis: Check the box that describes the basis upon which you determined this device's emission control efficiency.

Stack tests may be used to quantify emissions in your application.

Previously performed stack tests

For stack tests please include the test date and the test method used. If stack test data is used a copy of the REPORT SUMMARY including required protocol forms must be attached. **Do not submit the entire stack test report.**

Stack testing for Operating Permit purposes

If you are planning to conduct a stack test for the purposes of quantifying emissions for the Operating Permit application:

- Obtain a DNR Operating Permit Stack Test Protocol form from the department.
- Provide all information as required by the protocol form with the Operating Permit Application.

13) Pollutant Controlled: Specify the different air pollutants being controlled by this piece of pollution control equipment.

14) Capture Efficiency: Enter the percent emission capture efficiency of this control device. For example, although a baghouse may be 99% efficient in controlling particulate emissions, the pickup hood at the process may be only partially successful in capturing all of the air contaminants emitted by the process. Estimates of capture efficiency are acceptable if actual capture efficiency is unknown. Be aware that capture efficiencies may be different for different pollutants, i.e. PM-10 vs. PM. If a hood is not used and the system is a closed system, the capture efficiency can be assumed to be 100%.

15) Control Equipment Efficiency %: Pollution control efficiencies may be obtained from the manufacturer's design control efficiency. Other sources of pollution control equipment efficiency are the AP-42 control factors, or by calculating the efficiency from the tested inlet and outlet concentrations. If two or more control equipment are used to remove the same pollutant, refer to the instructions for Form 4.0 (Box #24) above to calculate the efficiency of the multiple control device system.

16) Combined Control Efficiency %: The Combined Control Efficiency is the product of Capture Efficiency and Control Equipment Efficiency. The resulted combined control efficiency, with consideration given to capture efficiency, should be used in calculating the potential (Form 3.0, Box #26) and the actual (Form 4.0, Box #24) emissions.

For example, if the capture efficiency is 75% and control equipment efficiency is 90%, the combined control efficiency would be $0.75 \times 0.90 = 0.675$ or 67.5%.

**IOWA TITLE V PERMIT APPLICATION INSTRUCTIONS
FORM ME-01 CONTINUOUS MONITORING SYSTEMS**

This form is not required unless your company has continuous emission monitors operating at this facility or unless operational parameter monitoring is being utilized for compliance demonstration purposes.

Continuous Monitoring Systems (CMS) can be used to demonstrate compliance with some permit emission limits and requirements. If you intend to demonstrate compliance with a Continuous Monitoring System(s) for any emission unit or stack/vent, you must complete a copy of this form for each Continuous Monitoring System you have. For example, if you have a Continuous Monitoring System that monitors both NO_x and SO₂, only fill out one of these forms for that monitor.

Duplicate this form as needed.

- 1) **Company/Facility Name**: Enter the company name as it appears on Form 1.0.
- 2) **EIQ Number**: Enter the EIQ number.
- 3) **Form ME-01 page of**: Since multiple forms ME-01 may need to be submitted, this box identifies each page of the total number of forms ME-01 included. As an example, page 2 of 14.

Continuous Monitoring System (CMS) Description

- 4) **Monitoring Equipment Number**: Enter the monitoring equipment number as specified on your Schematic - Process Flow Diagram (form 1.2).
- 5) **Name of Manufacturer**: List the manufacturer of this continuous emissions monitor.
- 6) **Model Name-Model Number-Model Year**: self-explanatory
- 7) **Date of Installation**: Enter the date of installation at your facility of this continuous monitoring system.
- 8) **Type of Monitor**: Check the box or boxes that describe this monitoring system.
- 9) **Measurement Basis**: self-explanatory
- 10) **Pollutant(s) / Parameter(s) Monitored by CMS**: Check all the boxes that apply to this monitor regarding the pollutants or operational parameters monitored by this CMS. Note: TRS stands for Total Reduced Sulfur.

Associated Equipment

11) **Emission Point Number**: List the emission point number (as specified on the Schematic - Process Flow Diagram) that is associated with this continuous monitoring system. In other words, identify where the emissions are vented after they are monitored by this CMS.

12) **Emission Unit Numbers**: List all emission units (processes) that are monitored by this CMS.

13) MONITOR OPERATIONS

Fill out this question by completing one box for each type of parameter or pollutant you identified in question 10. For example, if the CMS monitors both NO_x and SO₂, you would use two of the following boxes, one for NO_x and one for SO₂.

Questions 14 and 15 are monitor type specific. Answer only if they apply. Question 16 applies to all monitor types.

14) **Data Reduction Procedures for OPACITY MONITORS Only**: self-explanatory

15) **Data Reduction Procedures for GAS MONITORS Only**: self-explanatory

16) **Primary Data Acquisition System (DAS) Information**: self-explanatory

17) **Additional Explanations or Comments Regarding This Continuous Monitoring System**: Please attach any additional explanations or comments you may have.

**IOWA TITLE V PERMIT APPLICATION INSTRUCTIONS
FORM 5.0 TITLE V ANNUAL EMISSIONS SUMMARY/FEE**

(revised 12/2009)

Form Description:

This form is **REQUIRED** for all Title V facilities. It is used to provide an annual summary of the actual emissions from your facility. It is also used to calculate the Title V permit fees due July 1 of each year. Form 5.0 consists of two pages. Page 1 is used to report actual emissions of regulated air pollutants often referred to as criteria pollutants, and for fee calculation. Page 2 is used to report the emissions of HAPs and additional regulated air pollutants not reported on page 1.

Initial Applications:

- Fees are required for the portion of the year that you were subject to the Title V program. For example, if an existing facility becomes subject to the Title V program on November 1, only pollutants emitted during November and December are subject to fees.
- If the initial application is submitted on or after July 1, any fees owed for the preceding year are due when the application is submitted.
- If the initial application is submitted prior to July 1, any fees owed for the preceding year are due by July 1.
- An initial application must include all of the Part 1, Part 2 and Part 3 forms. In subsequent years, the emissions inventories and fee payments need only be accompanied by the forms specified on Form 5.0.

General Instructions:

- Report emission values to the nearest hundredth of a ton. Emission values less than 0.005 tons do not need to be reported.
- If your facility did not emit a pollutant listed on page 1 of this form, enter "0.00".
- Include fugitive emissions, but do not include emissions from insignificant activities (567 IAC 22.103).
- If you discover an error in your calculations, submit the necessary revised forms along with a cover letter explaining the error.
- Send two copies of all forms (three if your facility is located in Linn or Polk county) and checks made payable to:

Iowa Department of Natural Resources
Air Quality Bureau
7900 Hickman Road, Suite 1
Windsor Heights, Iowa 50324

Form Specific Instructions:

- Enter the Facility Name and EIQ Number as it appears on Form 1.0.
- Enter the emission year for which you are reporting.
- Check the appropriate submission type (a) or (b).
- Total Emissions (tons): Enter the total plant-wide emissions of each criteria pollutant and ammonia listed in the table. The totals should come directly from the values you reported on Form 4.0 for each emission unit. The values listed in this column should NOT take into account any emissions fee cap. For example, if your facility emitted more than 4,000 tons of an individual air pollutant, enter the actual amount emitted in this column.

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- **Emissions Subject to Fees (tons):** Enter the total plant-wide emissions of each criteria pollutant subject to fees. PM-2.5, total particulate matter (PM), carbon monoxide (CO), and ammonia (NH₃) emissions are not subject to fees. Please note that PM-10 emissions are subject to fees. Also, you are only required to pay fees on the first 4,000 tons of each air pollutant emitted. Therefore, if your facility emitted more than 4,000 tons of an individual pollutant, enter 4,000 tons in this column for that pollutant.
- **Criteria Pollutant Fee Subtotal (tons):** Add the values reported in the Emissions Subject to Fees column and list the total here. If your facility emitted HAPs and/or additional "regulated air pollutants" as defined in 567 IAC 22.100, report them on page 2. Instructions for completing page 2 are located on the form.
- **Emissions Fee Calculation:** Add the Criteria Pollutant Fee Subtotal and HAP and Additional Regulated Air Pollutant Fee Subtotal from page 2 (if applicable), and enter the sum as the Emissions Subject to Fee TOTAL.
- **Annual Fee Payment:** Completion of this section of the form is only required when submitting the annual fee payment due by July 1. Enter the Emissions Subject to Fees TOTAL calculated above, as well as the Fee Rate. The Environmental Protection Commission (EPC) sets the Fee Rate each year. Your facility will be notified by mail immediately after the fee rate is set. Multiply the Emissions Subject to Fee TOTAL by the Fee Rate to calculate the Fee Due.

Below is a list of fee rates set previously by the Environmental Protection Commission:

Emission Year	Fee Rate (\$ per ton)
1993	\$24.00
1994	\$12.00
1995	\$22.10
1996	\$22.10
1997	\$21.10
1998	\$23.10
1999	\$24.50
2000	\$25.40
2001	\$29.00
2002	\$30.75
2003	\$32.25
2004	\$31.60
2005	\$32.75
2006	\$35.20
2007	\$39.00
2008	\$52.00

IOWA TITLE V OPERATING PERMIT

Part 2 - Application Instructions

Part 2 of the Title V Operating Permit Application, Requirements and Compliance, is a self-guiding set of forms with the instructions integrated into the forms themselves. No separate set of instructions is attached for Part 2.

Please read and carefully follow the Part 2 instructions and they should guide you through the process of determining the applicable requirements that pertain to the emission units at your facility.

REMEMBER THAT YOU MUST SUBMIT A FORM 1.0 (PART 1), FACILITY INFORMATION, AND A SIGNED PART 3, APPLICATION CERTIFICATION, WITH ALL PART 2 SUBMISSIONS.

PART 2 - REQUIREMENTS AND COMPLIANCE

Part 2 of the application is designed to assist you in identifying what air quality requirements may apply to your facility.

- In Part 2 you will identify each requirement and indicate how each requirement is monitored, reported, or measured.
- After identifying each requirement you will indicate whether the source is in compliance with each requirement, and how you have determined the sources compliance status.
- For sources that are not in compliance, you will be given the opportunity to propose a plan for coming into compliance and a schedule for measuring your progress toward that goal.

Although we have provided an outline of the major air quality requirements that you may be subject to, **you are ultimately responsible for being aware of, and providing information to the DNR on all existing and new regulations, both state and federal, that must be incorporated into your permit.**

Incorporated into Part 2 of the application are references to U.S. Code of Federal Regulations (CFR) and Iowa Administrative Code (IAC) rules and regulations that may apply to your facility. Copies of Federal and State rules can be obtained at the State Law Library, State of Iowa Capitol Building, Des Moines, and at many local libraries.

New Clean Air Act Regulations are published in the Federal Register.

Because regulations published in the Federal Register may become effective before being published in the Code of Federal Regulations, we recommend that you utilize the EPA Website at www.epa.gov and the Federal Register to keep apprised of any new regulations (see details in the introduction to these instructions).

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APPLICATION INSTRUCTIONS

Iowa Statutes Regarding Air Quality are published in the Code of Iowa.

New Iowa Rules are published in the Iowa Administrative Bulletin.

Regulations are incorporated into the Iowa Administrative Code periodically.

The permit application must be supplemented if, due to construction, modification, or new regulatory requirement, your permit application no longer accurately describes the operation or regulatory requirements of the facility.

After your Title V permit is issued you may need to modify the permit if changes are made at your facility. Please refer to 567 IAC 22.110-113.

**IOWA TITLE V PERMIT APPLICATION INSTRUCTIONS
PART 3 - APPLICATION CERTIFICATION**

All Title V Permit Applications and/or permit fee submittals must be accompanied with this application certification. Applications or fee payments submitted without appropriate certification signatures will not be considered to be complete.

Complete the Facility Name, EIQ Number, Facility Street Address, City and ZIP Code as it appears on Form 1.0

APPLICATION CONTENTS

Check the boxes indicating which forms are included with this submittal.

**CERTIFICATION OF FEES, STATEMENT OF CERTIFICATION OF COMPLIANCE,
and CERTIFICATION OF TRUTH, ACCURACY AND COMPLETENESS**

The rules cited on the form and in the Act require that a responsible company official certifies the truth, accuracy and completeness of the application, the fees submitted, the compliance status of the facility during the reporting year.

The responsible company official should be designated on Form 1.0 and should be the same person signing the certifications. The responsible official must meet the definition in 567 IAC 22.100.

WARNING: Significant enforcement authority is provided in the Clean Air Act Amendments of 1990 for sources or officials (see definition of responsible official in 567 IAC 22.100) who knowingly misrepresent the emissions or conditions at their facility.