



# IOWA DEPARTMENT OF NATURAL RESOURCES

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LEADING IOWANS IN CARING FOR OUR NATURAL RESOURCES

# Welcome to the 2016 DNR Air Quality Bureau Title V Workshop

**Lori Hanson, Section Supervisor**  
Air Quality - Operating Permits Section

**Christopher J. Kjellmark, Senior Environmental Specialist**  
Air Quality Bureau - Operating Permits Section

**Weston Li, Senior Environmental Specialist**  
Air Quality Bureau - Operating Permits Section

## How This Presentation Works

- There are four dashboards starting with slide 6. When you hover over one of the objects in the dash board with an active link to another slide the mouse pointer will become a small hand. By clicking on the object you will jump to the slide described by the text in the dash board object. To jump back to the original dash board click on the clip art in that slide (small hand mouse pointer indicates a link).
- Blue underlined text is hyper-link to internet documents so the slide show should function on any Windows PC with internet access.

# Title V Workshop 2016 Agenda

- Welcome
- Applicability
- Application & Fee
- DNR Review Process
- Public Notice
- EIQ & Fee
- Compliance
- Miscellaneous Topics
  - Title V Modification Types, deadlines
  - Change of Ownership/Designating a Responsible Official
  - Exiting the TV Program

## Title V Workshop 2016 Agenda cont.

- Calculating Air Emissions
  - Hierarchy of Emissions Estimation Methods
  - Examples of Emission Calculations
- Monitoring Requirements
  - Periodic Monitoring
  - Compliance Assurance Monitoring (CAM)
- SPARS and SLEIS Use
- Future Opportunities
- Helpful Websites
- Questions
- Additional Topics - Forms Overview

# Title V Permitting – What is involved?



# Miscellaneous Topics

Emission  
Factors

Calculations

Monitoring  
Req., CAM &  
PMG

SPARs & SLEIS

Future  
Opportunities

Helpful  
Websites

Forms  
Overview

# Title V Part 1 Application Forms

Form 1.0

Form 1.2

Form 1.3

Form 1.4

Form 1.5

Form 2.0

Form 3.0

Form 4.0

Form CA-  
01

Form CE-  
01

Form ME-  
01

Form 5.0

EZ Mod

# Title V Part 2 & 3 Application & Compliance Forms

General

Boiler

Engine

Part 61

EP Info.  
Form

CAM  
Form

Part 3

Annual

Semi

# Title V Applicability



# Title V Applicability based on Potential to Emit (PTE)

**Potential to emit** is calculated assuming that your equipment is running at maximum capacity while operating at the maximum hours of operation (8760 hr/yr) under its physical and operational design.

**Only enforceable limitations on raw materials, fuels, capacity or hours of operation can be used to limit potential emissions.**



# Are you subject to the Title V Operating Permit Program?



## MAJOR SOURCE THRESHOLDS (PTE)

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
Single Hazardous Air Pollutant (HAP)	10 tons per year
All HAPs combined	25 tons per year

# Are you subject to the Title V Operating Permit Program? cont.

The full definition of Title V applicability, which includes NSPS, NESHAP and acid rain sources, is found in 567 IAC 22.101.

Potential to emit for criteria pollutants (CO, PM<sub>10</sub>, VOC, NO<sub>x</sub>, SO<sub>2</sub>, 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."



# Insignificant Activities

- Insignificant activities are grouped into two categories:
  - IAC 567—22.103(1); Insignificant activities excluded from the Title V operating permit application
  - IAC 567—22.103(2); Insignificant activities which must be included in the Title V operating permit application



# Insignificant Activities

**Generally, emission units which have a potential to emit less than the following emissions are considered insignificant activities, except if the emissions are needed to determine the applicability of or to impose a requirement. Ex. Facility-wide HAP or VOC limits:**

An emission unit which has the potential to emit less than:

- 5 tons per year of any regulated air pollutant, except: 2.5 tons per year of PM-10 and 0.52 tons per year of PM2.5
- 40 lbs per year of lead or lead compounds,
- 2500 lbs per year of any combination of hazardous air pollutants except high-risk pollutants,
- 1000 lbs per year of any individual hazardous air pollutant except high-risk pollutants,
- 250 lbs per year of any combination of high-risk pollutants, or
- 100 lbs per year of any individual high-risk pollutant.

See 22.103(2), Part *b.* (1) through (6) for further details



## Important Dates in Iowa Air Permitting

- September 23, 1970 - Construction after this date requires a permit unless it is a VOC only source
- June 19, 1978 - PSD effective date
- April 22, 1987 - Construction of VOC only sources requires a permit
- April 22, 1987 - Iowa takes over the PSD Program from EPA Region 7
- July 31, 1987 - PM10 became a regulated pollutant



# Title V Application & Application Fee



# Specific Title V Requirements for New Sources (In Order)



- Annual Emission Inventory  
(Required from the date you become a Title V source. Due 3/31 next year)
- Annual Inventory Fees  
(Required from the date you become a Title V source. Due 7/1 next year)
- Title V Application  
(Generally due 1 year from the date you become a Title V source, or specific date for case-by-case determination)

# Specific Title V Requirements for Existing Sources

- Annual Emission Inventory  
(Required from the date you become a Title V source. Due 3/31 next year)
- Annual Inventory Fees  
(Required from the date you become a Title V source. Due 7/1 next year)
- Title V Application Renewals
- Title V Annual Compliance Certification (Due 3/31) & Semi-Annual Monitoring Reports (Due 9/30 and 3/31)
- Title V Permit Modifications  
(Required if construction permits modified or other changes made)



# Title V Renewals

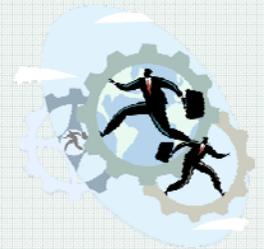
- Due date is 6 months prior to expiration date
- No extensions of submittal timeline
- Continue to operate under terms of initial permit if timely and complete renewal application filed (application shield)
- Lose application shield if the application is late



# Part 1 Forms

## Part 1 - Emission Information

- Form 1.0 Facility Identification
- Form 1.2 Schematic - Process Flow Diagram
- Form 1.3 Insignificant Activities - Potential Emissions
- Form 1.4 Potential Toxic Emissions - Significant Activities
- Form 1.5 Potential Emissions - Significant Activities
- FormCA-01 Calculation Documentation



## Part 1 and Part 3 Forms cont.

### Part 1 - Emission Information

- Form 2.0 Emission Point information
- Form 3.0 Emission unit description - potential emissions
- Form 4.0 Emission Unit - Actual Operations and Emissions
- Form CE-01 Pollution Control Equipment Data Sheet
- Form ME-01 Continuous Monitoring Systems
- Form 5.0 Title V Annual Emissions Summary/Fee



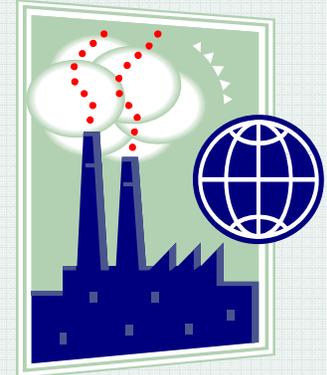
## Part 2 and Part 3 Forms



- Part 2 - REQUIREMENTS AND COMPLIANCE
  - Part 2 - General Facility Requirements Form
    - Boiler and Process Heater Information Form
    - Engine Information Form
    - Part 61 National Emission Standards for Hazardous Air Pollutants (NESHAP) Information Form
  - Part 2 - Emission Point Information Form
    - Compliance Assurance Monitoring (CAM) Calculation Form (Spreadsheet)
- Part 3 - Application Certification

## Part 2 reference tables are in the appendices of the [Title V application instructions](#).

- APPENDICES TO THE APPLICATION
- Appendix A: Hazardous Air Pollutants
- Appendix B: Accidental Release Prevention
- Appendix C: Part 61 NESHAP Reference List
- Appendix D: Stratospheric Ozone Depleting Chemicals
- Appendix E: Acid Rain and CAIR
- Appendix F: Prevention of Significant Deterioration (PSD) Information Worksheet
- Appendix G: Proposed Limits and Alternative Operating Scenarios
- Appendix H: NSPS Reference List
- Appendix I: Part 63 NESHAP Reference List
- Appendix J: Compliance Assurance Monitoring



# Common Issues with Title V Applications

- Stratospheric Ozone on the General Facility Requirements Form in Part 2 is not complete or not completed correctly. If your facility has air conditioners you are likely using a CFC.
- Form 1.0 insufficient contact information such as email and phone number.
- Form 3.0 missing information - SCC numbers, rated capacity, emission factor source, dates, and page 2 HAP information.



## Common Issues with Title V Applications cont.

- CA-01 lacks sufficient detail to be able to follow how emissions were calculated.
- Part – Part 61 NESHAP information form is not completed even though it is indicated on the General Facility Requirements Form question 1.g.
- Part 2 Boiler Form not submitted or it is incomplete.
- Part 2 Engine Form not submitted or it is incomplete.



# Common Issues with Title V Applications cont.

## Part 3

- The designated person is not necessarily qualified.
- The Responsible Official (R.O.) did not sign the form.
- All the appropriate lines are not signed for the type of submittal.
- The R.O. signed the wrong signature block, for example they did not sign the application fee agreement block for initial/renewal application.
- At least one copy with an original signature is required for paper submittals.



# Common Issues with Title V Applications cont.

Rule Citation 22.100 - “Responsible official” means one of the following:

1. For a corporation: a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either:
  - The facilities employ more than 250 persons or have gross annual sales or expenditures exceeding \$25 million (in second quarter 1980 dollars); or
  - The delegation of authority to such representative is approved in advance by the permitting authority.



# Title V Permit Application Completeness Review Checklist

- This is not a required form. This form may be used by facilities when preparing a Title V Operating Permit applications to assist in ensuring the application is complete prior to submittal.
- <http://www.iowadnr.gov/portals/idnr/uploads/forms/5420592.pdf>



# Title V Application Fee

## Effective Beginning January 15, 2016 - Title V Fees (567 IAC 30.4)

Each initial or renewal Title V operating permit application is subject to a review fee. Typically reviewed by an Environmental Specialist, with final review by an Environmental Specialist Senior.

Fee	Estimated Time
\$100/hour	150 - 500 hours

Forms have been updated to accommodate the information needed for fees.



# DNR Title V Application Review



# Title V Operating Permit Application Review Process

- Application Completeness Review
- Application Review
  - Confirm PTE Calculations
  - Confirm Rule Applicability
  - Review Compliance Status
  - Evaluate Periodic Monitoring and CAM Proposals
- Draft Title V Operation Permit



# Title V Permit Styles

- Permits organized by emission point
- Permits organized by emission unit process
- Permits organized by applicable requirement
- Permits separated into multiple permits base on operational parameters of a facility
- Combinations of all of the above



# Title V Public Notice Process



# Public Notice



- 30 day public comment period.
- DNR places a notice in the paper of record, at the local library and on our website.
- EPA has a 45 day review. (currently concurrent)
- If a public hearing is requested 30 day notice must be given prior to the hearing.
- 60 day period after the EPA 45 day to petition for an objection.
- DNR has 90 days to respond to EPA objection.

# Emission Inventory Questionnaire (EIQ) & Fees



# Emission Inventory Questionnaire (EIQ) & Fees



## When to submit

- Annual Emission Inventory  
(Required from the date you become a Title V source. Due 3/31 next year)
- Annual Inventory Fees  
(Required from the date you become a Title V source. Due 7/1 next year)

## How to submit an EIQ

- [eAirServices](#)
  - Through State Permitting and Air Reporting System (SPARS) retired for inventories in 2016 (electronic 2016 EIQ SLEIS only)
  - Through State & Local Emissions Inventory System (SLEIS)
- On paper - Form 1.0, Form 4.0, Form CA-01, Form 5.0 and Part 3

# Review of Title V Permit Compliance Forms



[FAQ Link](#)

**Title V Operating Permit  
SEMI-ANNUAL MONITORING REPORT**  
(Due each September 30 and March 31)

**Part 1M - Facility Information and Certification**

*This form, or the equivalent information, is required with all Semi-Annual Monitoring Report submittals.*

**Facility Name:** \_\_\_\_\_

**Facility Location** (street address and city): \_\_\_\_\_

**Permit Issuance Date:** \_\_\_\_\_

**Operating Permit Number:** \_\_\_\_\_

**Facility File Number:** \_\_\_\_\_

**Reporting Period** Start Date: \_\_\_\_\_ End Date: \_\_\_\_\_

	Responsible Official	Permit Contact Person
Name		
Title		
Mailing Address		
Phone Number		

Is the above information **different** from what is indicated on your most recent Title V Report (i.e. last Semi-Annual report, Compliance Certification, Emissions Inventory, etc)? **Yes**  **No**   
*[If "Yes," please contact the DNR Air Quality Bureau at 515-725-9500 or your Linn or Polk County local program office. You may need to submit additional forms to update your Title V Permit]*

Please mail a signed copy of this report to **each** of these offices:

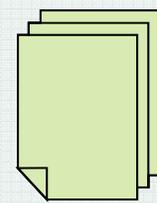
- DNR Air Quality Bureau** ; and
- DNR Field Office** (or **local air program office**)

Please **check** the appropriate box above to indicate the **addressee** for each copy submitted. You can find the office addresses in the **DNR Instructions** and at the end of your Title V Permit.

**CERTIFICATION OF TRUTH, ACCURACY AND COMPLETENESS** [As required by 567 IAC 22.107(4)]. The **Responsible Official**, as defined under 567 IAC 22.100, must sign each copy of this report]

*"I CERTIFY UNDER PENALTY OF LAW THAT, BASED ON INFORMATION AND BELIEF FORMED AFTER REASONABLE INQUIRY, THE STATEMENTS AND INFORMATION CONTAINED IN THIS DOCUMENT ARE TRUE, ACCURATE, AND COMPLETE."*

_____ Signature of Responsible Official	_____ Title of Responsible Official
_____ Print Name of Responsible Official	_____ Date Signed



**Title V Operating Permit**  
**SEMI-ANNUAL MONITORING REPORT FORM**  
 (Due each September 30 and March 31)

**Part 2M - Deviation Verification**

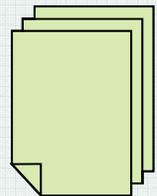
*This form, or the equivalent information, is required with **all** Semi-Annual Monitoring Report submittals.*

Facility Name: \_\_\_\_\_ Operating Permit Number: \_\_\_\_\_

Reporting Period - Start Date: \_\_\_\_\_ End Date: \_\_\_\_\_

Question	Response (Yes or No)
<p><b>Did your facility have <u>any</u> monitoring deviations from the Title V Permit requirements* during this reporting period?</b></p>	<p><b>No</b> <input type="checkbox"/> <b>Complete Part 1M and 2M <u>only</u>.</b></p> <p><b>Yes</b> <input type="checkbox"/> <b>Complete Parts 1M, 2M, 3M, and/or 4M</b></p> <p><b>See DNR Instructions, and Parts 3M and 4M, for details on reporting deviations.</b></p>

**\*Required monitoring may include:** Recordkeeping requirements, source (stack) testing, continuous emissions monitoring systems (CEMS), continuous opacity monitoring systems (COMS), observations for no visible emissions, Method 9 visual emissions (opacity) observations, and operation and maintenance (O&M) plans. See **DNR Instructions** for details on possible deviations from required monitoring



**Title V Operating Permit  
SEMI-ANNUAL MONITORING REPORT FORM**  
(Due each September 30 and March 31)

**Part 3M – Monitoring Deviation Report**

*This form, or the equivalent information, is required **only** if monitoring deviations occurred during the reporting period.*

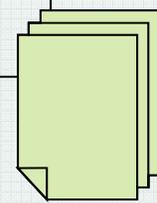
**Facility Name:** \_\_\_\_\_ **Operating Permit Number:** \_\_\_\_\_  
**Reporting Period - Start Date:** \_\_\_\_\_ **End Date:** \_\_\_\_\_

**You may be able to use Part 4M to report some or all of your monitoring deviations. Please see DNR Instructions, and Part 4M, for details.**

(1) P# (if appl.)	(2) EU# (if appl.)	(3) Pollutant (if appl.)	(4) Monitoring Method	(5) Monitoring Deviation Description	(6) Deviation Date	(7) Deviation Duration	(8) Suspected Cause of Deviation	(9) Corrective Action Taken

**Attach additional pages, as needed.** [If more than one page is submitted, indicate **Page \_\_\_\_ of \_\_\_\_**]

**Monitoring Method Abbreviations:** Recordkeeping Requirements (RR), Source Testing (ST), Continuous Emissions Monitoring (CEMS), Continuous Opacity Monitoring (COMS), No Visible Emissions (NVE), Method 9 Opacity Observations (OP), and Operation & Maintenance Plans (OMP).



**Title V Operating Permit  
SEMI-ANNUAL MONITORING REPORT FORM**  
(Due each September 30 and March 31)

**Part 4M – Additional Monitoring Reports Summary**

*This form is optional. Use this form to reference other monitoring deviation reports submitted for this reporting period.*

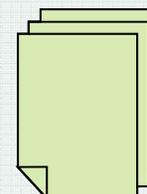
Facility Name: \_\_\_\_\_ Operating Permit Number: \_\_\_\_\_  
Reporting Period - Start Date: \_\_\_\_\_ End Date: \_\_\_\_\_

If you use this form to note monitoring deviations, please complete the table below to summarize other reports submitted to the DNR Air Quality Bureau (or the Linn or Polk county air program office, if applicable) for this reporting period.

**NOTE:** The other reports referenced below should include, at a minimum, the information required in **Part 3M** for each monitoring deviation. If these reports do **not** contain this information, you must use **Part 3M** to report the deviation(s).

Emission Unit Description	Emission Unit #	Reporting Requirement*	Date Report Submitted

**Attach additional pages, if needed.** [If more than one page is submitted, indicate **Page** \_\_\_\_ **of** \_\_\_\_]



\*Other **monitoring deviation** reports submitted to AQB may include, but are not limited to, the following:

- ◆ CEMS and/or COMS reports;
- ◆ NSPS, NESHAP and/or MACT reports;
- ◆ PSD reporting requirements; or
- ◆ DNR Construction Permit reporting requirements

**Title V Operating Permit  
ANNUAL COMPLIANCE CERTIFICATION FORM**  
(Due each March 31)

**Part 1C - Facility Information and Certification**

*This form, or the equivalent information, is required with all Annual Compliance Certification submittals.*

**Facility Name:** \_\_\_\_\_

**Facility Location** (street address and city): \_\_\_\_\_

**Permit Issuance Date:** \_\_\_\_\_

**Operating Permit Number:** \_\_\_\_\_

**Facility File Number:** \_\_\_\_\_

**Reporting Period** Start Date: \_\_\_\_\_ End Date: \_\_\_\_\_

	Responsible Official	Permit Contact Person
Name		
Title		
Mailing Address		
Phone Number		

Is the above information **different** from what is indicated on your most recent Title V Report (i.e. last Semi-Annual Monitoring Report, Annual Emissions Inventory, etc)? **Yes**  **No**   
*[If "Yes," please contact the DNR Air Quality Bureau at 515-725-9500 or your Linn or Polk County local program office. You may need to submit additional forms to update your Title V Permit]*

Are you submitting this Annual Compliance Certification to also fulfill the reporting requirements for the **Title V Semi-Annual Monitoring Report**? **Yes**  **No**   
*[If "No," by **March 31**, you must submit a separate Semi-Annual Monitoring Report. Remember that a Semi-Annual Monitoring Report is also due by **September 30** of each year]*

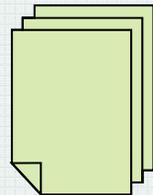
Please mail a signed copy of this report to **each** of these offices:  
 **Air Quality Bureau;**  
 **DNR Field Office** (or **local air program office**); and  
 **EPA Region VII**

Please **check** the appropriate box above to indicate the **addressee** for each copy submitted. You can find the addresses in the DNR Instructions and at the end of your Title V Permit.

**STATEMENT OF CERTIFICATION OF COMPLIANCE** [As required by 567 IAC 22.107(4). The **Responsible Official**, as defined under 567 IAC 22.100, must sign each copy of this report]

*"I CERTIFY UNDER PENALTY OF LAW THAT, BASED ON INFORMATION AND BELIEF FORMED AFTER REASONABLE INQUIRY, THE STATEMENTS AND INFORMATION CONTAINED IN THIS DOCUMENT ACCURATELY REFLECT THE COMPLIANCE STATUS OF THIS FACILITY FOR THIS REPORTING PERIOD TO DATE, AND ARE TRUE, ACCURATE, AND COMPLETE."*

_____ Signature of Responsible Official	_____ Title of Responsible Official
_____ Print Name of Responsible Official	_____ Date Signed



**Title V Operating Permit**  
**ANNUAL COMPLIANCE CERTIFICATION FORM**  
(Due each March 31)

**Part 2C – Compliance Summary**

*This form, or the equivalent information, is required with all Annual Compliance Certification submittals.*

**Facility Name:** \_\_\_\_\_ **Operating Permit Number:** \_\_\_\_\_  
**Reporting Period - Start Date:** \_\_\_\_\_ **End Date:** \_\_\_\_\_

**1. EMISSION POINT SPECIFIC CONDITIONS** (Title V Permit - Part III)

**a)** Is your facility currently **in compliance** with all Emission Point Specific Conditions (Part III) stated in your Permit? **Yes**  **No**   
*[If you answered "No" to this question, you must also submit **Part 6C** (Compliance Schedule).]*

**b)** Did your facility experience **any** deviations during the reporting period from the Emission Point Specific Conditions stated in your Permit? **Yes**  **No**   
*[If you answered "Yes" to this question, you must also complete **Part 4C** (Deviation Report) and/or **Part 5C** (Additional Reports Summary). See **DNR Instructions** for details.]*

**NOTE:** Even if your facility experiences **no** deviations, you must still complete **Part 3C-1** (Compliance Report – By Emission Unit). See the **DNR Instructions** for details.

**2. PLANT-WIDE CONDITIONS** (TITLE V PERMIT - PART II)

**a)** Is your facility currently **in compliance** with all Plant-wide Conditions (Part II) stated in your Permit? **Yes**  **No**   
*[If you answered "No" to this question, you must also submit **Part 6C** (Compliance Schedule)]*

**b)** Did your facility experience **any** deviations during the reporting period from the Plant-Wide Conditions stated in your Permit? **Yes**  **No**   
*[If you answered "Yes" to this question, you must also complete **Part 4C** (Deviation Report) and/or **Part 5C** (Additional Reports Summary). See **DNR Instructions** for details.]*

**NOTE:** If a Plant-Wide Condition contained in your Permit requires **monitoring**, you must include the information in **Part 3C-1** (just indicate "plant-wide" under the EP# and EU# columns).

**3. GENERAL CONDITIONS** (TITLE V PERMIT - PART IV)

**a)** Is your facility currently **in compliance** with all General Conditions (Part IV) stated in your Permit? **Yes**  **No**   
*[If you answered "No" to this question, you must also submit **Part 6C** (Compliance Schedule)]*

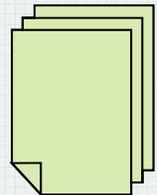
**b)** Did your facility experience **any** deviations during the reporting period from any of the General Conditions stated in your Permit? **Yes**  **No**   
*[If you answered "Yes" to this question, you must also complete **Part 4C** (Deviation Report) and/or **Part 5C** (Additional Reports Summary). See **DNR Instructions** for details.]*

**4. STATEMENT OF COMPLIANCE STATUS**

Based on the information provided above and throughout this Certification, indicate your facility's compliance status with the Permit during this reporting period.

**Continuous Compliance**  **Intermittent Compliance**

*[If your facility experienced **any** deviations during the reporting period, you must check Intermittent Compliance. If there were no deviations, you may check Continuous Compliance.]*



**Title V Operating Permit  
ANNUAL COMPLIANCE CERTIFICATION FORM**  
(Due each March 31)

**Part 3C-1 – Compliance Report [By Emission Unit]**

*This form, or the equivalent information, is required with all Annual Compliance Certification submittals.*

Facility Name: \_\_\_\_\_ Operating Permit Number: \_\_\_\_\_  
Reporting Period - Start Date: \_\_\_\_\_ End Date: \_\_\_\_\_

Please see the DNR Instructions for details on completing this form. An example is included in Appendix B of the DNR Instructions.

(1) EP#	(2) EU#	(3) Pollutant (If appl.)	(4) Permit Term, Condition or Applicable Requirement	(5) Monitoring Method* (if appl.)	(6) Other Method Used to Determine Compliance (if appl.)	(7) Deviations? (Y) or (N)**	(8) If Deviations, note which form(s) contain information <sup>+</sup>	(9) In Compliance? (Y) or (N)**

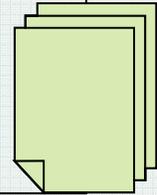
Attach additional pages, as needed. [If more than one page is submitted, indicate Page \_\_\_\_ of \_\_\_\_]

\* **Monitoring Method Abbreviations (#5):** Recordkeeping (RR), Source Testing (ST), Continuous Emissions Monitoring (CEMS), Continuous Opacity Monitoring (COMS), No Visible Emissions (NVE), Method 9 Opacity Observations (OP), and Operation & Maintenance Plans (OMP).

\*\* **Deviations (#7)?:** Indicate (Y) for Yes, or (N) for No. If you indicate (Y), you **must** complete **Part 4C** and/or **Part 5C**.

+ **If Deviations...(#8):** If you marked (Y) for #7, note which form describes the deviations by indicating (4C), (5C), or (4C & 5C).

\*\* **In Compliance (#9)?:** If you indicate (N), you must complete **Part 6C**.



**Title V Operating Permit  
ANNUAL COMPLIANCE CERTIFICATION FORM**  
(Due each March 31)

**Part 3C-2 – Compliance Report [By Permit Requirement]**

*This form is **optional**. Use this form to describe the compliance status of emission units that are subject to an **identical** applicable requirement.*

Facility Name: \_\_\_\_\_ Operating Permit Number: \_\_\_\_\_

Reporting Period - Start Date: \_\_\_\_\_ End Date: \_\_\_\_\_

**Any emission units listed on this form must:**

- ◆ Be subject to the **same** applicable requirement; AND
- ◆ Be subject to the **same** monitoring requirement (or have **no** monitoring requirements); AND
- ◆ Have experienced **no** deviations from the requirement listed, AND
- ◆ Be currently **in compliance** with the listed requirement.

[Use **Part 3C-1** for all emission units that do **not** meet this criteria]

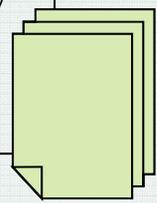
Pollutant (If appl.)	Permit Term, Condition or Applicable Requirement	Monitoring Method* (if appl.)

**List emission unit numbers as indicated in the Permit**

Emission Unit #										

**\*Monitoring Method Abbreviations:** Recordkeeping Requirements (RR), Source Testing (ST), Continuous Emissions Monitoring (CEMS), Continuous Opacity Monitoring (COMS), No Visible Emissions (NVE), Method 9 Opacity Observations (OP), and Operation & Maintenance Plans (OMP).

[Attach additional pages, as needed. [If more than one page is submitted, indicate Page \_\_\_\_ of \_\_\_\_]]



**Title V Operating Permit  
ANNUAL COMPLIANCE CERTIFICATION FORM**  
(Due each March 31)

**Part 4C – Deviation Report**

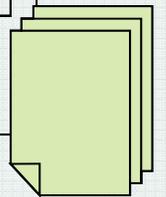
*This form, or the equivalent information, is required **only** if deviations occurred during the reporting period.*

**Facility Name:** \_\_\_\_\_ **Operating Permit Number:** \_\_\_\_\_  
**Reporting Period - Start Date:** \_\_\_\_\_ **End Date:** \_\_\_\_\_

You may be able to use Part 5C to report some or all of your deviations. Please see the DNR Instructions, and Part 5C, for details.

(1) EP# (if appl.)	(2) EU# (if appl.)	(3) Pollutant (if appl.)	(4) Deviation Description	(5) Deviation Date	(6) Deviation Duration	(7) Suspected Cause of Deviation	(8) Corrective Action Taken

Attach additional pages, as needed. [If more than one page is submitted, indicate Page \_\_\_\_ of \_\_\_\_]



**Title V Operating Permit  
ANNUAL COMPLIANCE CERTIFICATION FORM**  
(Due each March 31)

**Part 5C – Additional Reports Summary**

*This form is optional. Use this form to reference other deviation or exceedance reports submitted for this reporting period.*

Facility Name: \_\_\_\_\_ Operating Permit Number: \_\_\_\_\_

Reporting Period - Start Date: \_\_\_\_\_ End Date: \_\_\_\_\_

If you use this form to note deviations, please complete the table below to summarize other reports submitted to DNR Air Quality Bureau (or the Linn or Polk County air program) for this reporting period.

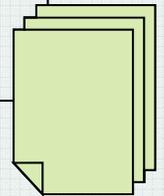
**NOTE:** The other reports referenced below should include, at a minimum, the information required in **Part 4C** for each deviation. If these reports do **not** contain this information, you must report the deviation on **Part 4C**.

Emission Unit Description	Emission Unit #	Reporting Requirement*	Date Report Submitted

**Attach additional pages, if needed.** [If more than one page is submitted, indicate **Page** \_\_\_\_ **of** \_\_\_\_]

*\*Other deviation or exceedance reports submitted to AQB may include, but are not limited to, the following:*

- ◆ Title V Semi-Annual Monitoring Reports;
- ◆ CEMS and/or COMS reports;
- ◆ Written reports of excess emission incidents;
- ◆ NSPS, NESHAP and/or MACT reports;
- ◆ PSD reporting requirements; or
- ◆ DNR Construction Permit reporting requirements



**Title V Operating Permit**  
**ANNUAL COMPLIANCE CERTIFICATION FORM**  
(Due each March 31)

**Part 6C – Compliance Schedule**

*This form, or the equivalent information, is required **only** if your facility is currently **out of compliance** with the Title V Permit.*

---

**Facility Name:** \_\_\_\_\_ **Operating Permit Number:** \_\_\_\_\_

**Reporting Period - Start Date:** \_\_\_\_\_ **End Date:** \_\_\_\_\_

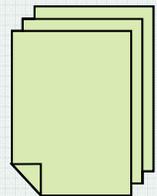
If you are currently **out of compliance** with your Title V Operating Permit, you **must** submit a compliance schedule. There is no specific format for your compliance schedule. You must, however, submit the minimum information as specified for an Annual Compliance Certification under the General Conditions (Part IV) section of your Permit.

Section G4 of the Title V Permit states:

*For sources determined not to be in compliance at the time of compliance certification, a compliance schedule shall be submitted which provides for periodic progress reports, dates for achieving activities, milestones, and an explanation of why any dates were missed and preventive or corrective measures.*

Please provide the following information for **each** compliance schedule you submit:

- ◆ **Term, condition, or applicable requirement** with which your facility is currently out of compliance;
- ◆ **Date** non-compliance with the Permit requirement began;
- ◆ **Description** of the non-compliance;
- ◆ **Cause** of non-compliance;
- ◆ **Corrective actions** taken to bring your facility back into compliance;
- ◆ **Schedule**, with specific dates, for submitting progress reports; and
- ◆ **Date** by which your facility will be **back in compliance** with this requirement.



# Title V Modifications



## Title V Modifications

- Administrative amendments may be implemented by the facility upon submittal of the request to the Department.
- Minor modifications may be made immediately after the facility files the application. New EZ Mod form to streamline the process.
- Significant modifications require the request to be filed not later than three months after commencing operation of the changed source.



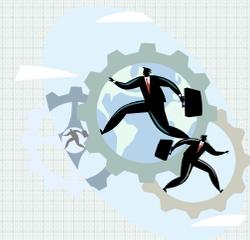
# Emission Inventory Questionnaire (EIQ) corrections

- If a facility discovers an error in their EIQ between the March submittal and the July fee payment, please send updated forms with the payment
- It is also helpful to include a cover letter that describes the difference between the two submittals
- After July 1 of you find an error in last years EIQ you would be reimbursed or you would pay the Department.



## Change of ownership

- Form 1.0 with the updated information
- Part 3 signed by the new responsible official
- A cover letter should also be submitted and will be filed in the facility files in our record center.
- By signing the Part 3 the new owner takes responsibility for the Title V requires. This should be done after the transfer of ownership is official.

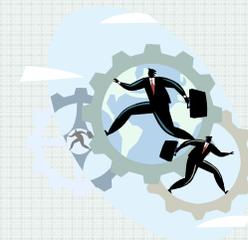


# Designation of a Responsible Official

- The responsible official must meet the definition in 567 IAC 22.100 or designate a duly authorized representative.
- Form 1.0 with the updated information
- Part 3 signed by the new responsible official
- A letter from a corporate officer designating the new person.



## Exiting the TV Program



- Reason for drop out
  - Plant shut-down physically
  - Limited below major source thresholds
- Official request to rescind the TV permit
- Requirements for partial year as a TV source
  - EIQ
  - TV fee
  - Compliance certification
- New minor source
  - All other rules still apply (Construction permit, NSPS, MACT, etc.)
  - Follow minor source inventory requirement

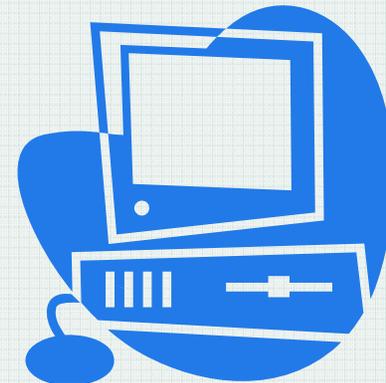
# Calculating Air Emissions



- Hierarchy of Emissions Estimation Methods
- Examples of Emission Calculations

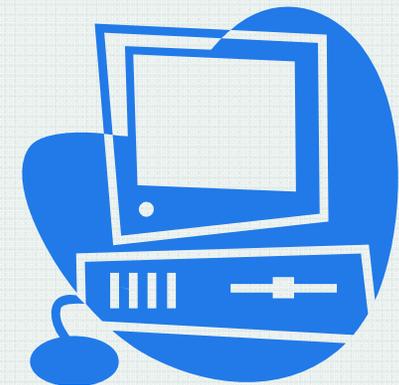
# What Pollutants Must Be Reported

- Particulate matter less than 2.5 microns (PM-2.5)
- Particulate matter less than 10 microns (PM-10)
- Total Particulate matter (PM)
- Sulfur Dioxide (SO<sub>2</sub>)
- Nitrogen Oxides (NOx)
- Volatile organic compounds (VOC)
- Carbon Monoxide (CO)
- Lead (Pb)
- Ozone
- Ammonia
- Hazardous Air Pollutants (HAPs)
- Greenhouse Gases (GHG) Beginning with the 2010 emission year reporting will be directly to EPA (NOT used for Title V applicability)



# Hierarchy of Emissions Estimation Methods

Emissions must be based on the best possible method and may vary between source categories. A general hierarchy of estimation methods is listed below in order of decreasing accuracy. Regardless of the method used to calculate emissions, supporting documentation that will allow DNR to recreate your emissions calculations should be included with any submission to the Department.



# Hierarchy of Emissions Estimation Methods

- **Continuous Emissions Monitoring (CEM)** systems directly measure pollutant concentrations in the exhaust stack 24 hours a day. This is the most accurate method for determining emissions.
- A **Stack Test** measures the concentration of pollutants in the exhaust stack during the test period. Test periods can vary from a couple of hours to an entire day. Stack test data can provide an accurate emission rate for many different processes and pollutants.



# Hierarchy of Emissions Estimation Methods

- **Material or Mass Balance** can only be used on specific types of emission units. Information must first be gathered on process rates, material used, and material properties (usually from material safety data sheets (MSDS)). By combining this information with the knowledge of the process, an emission estimation can be made.
- **Emission Factors** are the basis for many calculations. Emission factors represent industry averages and show the relationship between emissions and a measure of production. Emission factors for select industries and processes, as well as reference sources for additional information, are provided in this document. When using an emission factor, you should use the most current version.



# Hierarchy of Emissions Estimation Methods

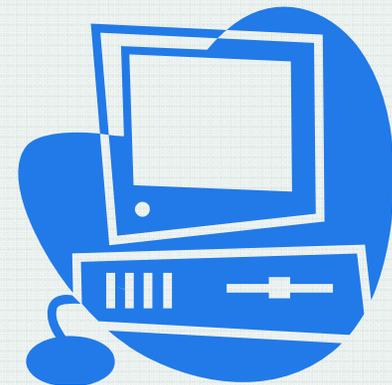
- **Vendor Supplied Factors** may be used if a more preferred method is not available. This data may be used to calculate emissions only if the manufacturer's data is based on approved stack testing and no significant changes have been made to the emission unit.
- **Engineering Estimation** is allowed if a more preferred method is not available. The DNR realizes that some processes have no published guidance regarding the estimation of emissions. In these cases, the estimation must be the best possible assessment given the amount of data available. Supporting documentation must be submitted to show how the estimation was made.



# Introduction To Calculations

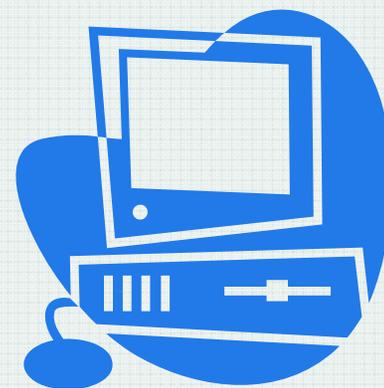
A critical step in the completion of a facility's Title V Air Operating Permit Application or Emission Inventory Questionnaire is the quantification of air contaminate emissions from their various processes and activities. This presentation discusses the three primary methods of calculating air contaminants:

- Direct Measurement
- Mass Balance
- Emission Factors and Models



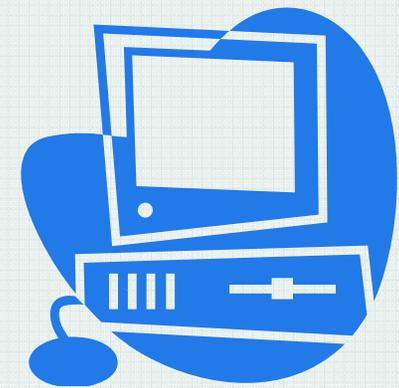
## Direct Measurement

- The most accurate way of estimating a source's emissions is directly measuring the concentration of air pollutants in the stack gas.
- Stack tests and continuous emission monitoring systems (CEMS) are two methods of collecting actual emission data.
- This section explains how source testing data from stack tests and CEMS can be used in calculating emissions.



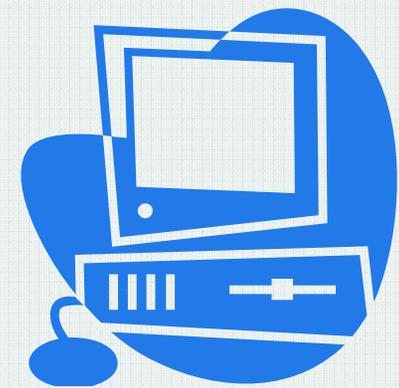
# Stack Tests

- Stack tests provide a means to determine the concentration of an air pollutant at the point of release.
- Stack tests provide a snapshot of emissions during the period of the test.
- Pollutant concentrations are obtained by dividing the amount of pollutant collected during the test by the volume of the air sampled.



# CEMS

- Continuous emission monitoring systems (CEMS) provides a continuous record of emissions over an extended, uninterrupted time.
- The owner is responsible for proper calibration, operation, and validation of the monitoring equipment and emission data.
- Use of CEMS requires attention to detail and strict adherence to state and federal guidelines.

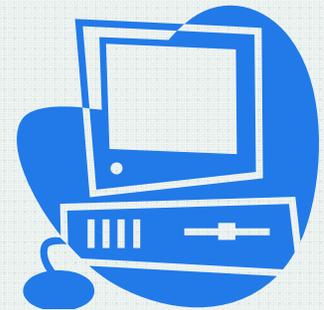


## Stack Tests & CEMs

These methods directly measure two important values:

- The concentration of a specific air pollutant in the stack gas
- The stack gas flow rate.

Multiplying these two values together will equal a mass emission rate typically expressed as pounds of air pollutant per hour. Once the hourly mass emission rate is calculated, it can be easily converted to a source specific emission factor by dividing the hourly mass emission rate by the hourly activity (throughput).



## Stack Tests & CEMs

- The annual emission rate of the air contaminant is simply the product of the source specific emission factor and annual throughput.
- $\text{air pollutant} \times \text{stack gas flow rate} = \text{hourly mass emission rate}$
- $\text{hourly mass emission rate} / \text{hourly activity} = \text{source specific emission factor}$
- $\text{source specific emission factor} \times \text{annual throughput} = \text{annual emission rate of air pollutant}$
- Stack tests used to calculate actual emissions should be based on an average of the three runs when 10 mg or more was caught in each run. If less than 10 mg was caught in one or more of the 3 runs a value of 10 mg would be substituted for those values and used to calculate the average emission rate.



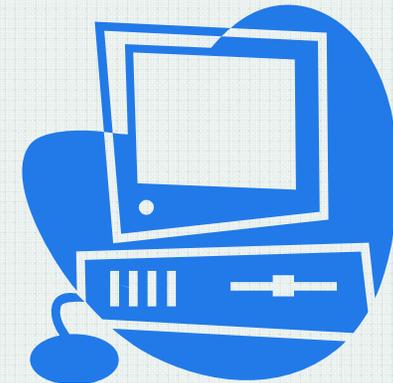
# Calculating The SO<sub>2</sub> Emission Factor

$$\text{Emission Factor (EF)} = \frac{\text{Hourly Emission Rate}}{\text{Hourly Throughput}}$$

$$\frac{\text{lb of pollutant emitted}}{\text{tons of material}} = \frac{\text{lb/hr}}{\text{tons/hr}}$$

$$\text{EF}_{\text{SO}_2} = \frac{51 \text{ lbs SO}_2/\text{hr}}{6.7 \text{ tons coal combusted/hr}}$$

$$\text{EF}_{\text{SO}_2} = 7.612 \text{ lbs SO}_2/\text{ton of coal}$$



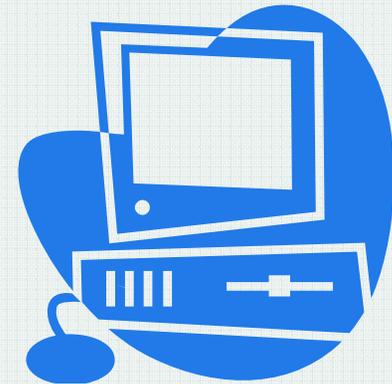
# Determining The SO<sub>2</sub> Annual Mass Emission Rate

Using the last equation, a company burns 41,000 tons of coal during the year.

What is the annual mass emission rate (ER) of SO<sub>2</sub>?

ER annual = 7.612 lbs SO<sub>2</sub>/ton of coal x 41,000 tons coal/yr x 1 ton/2000 lbs

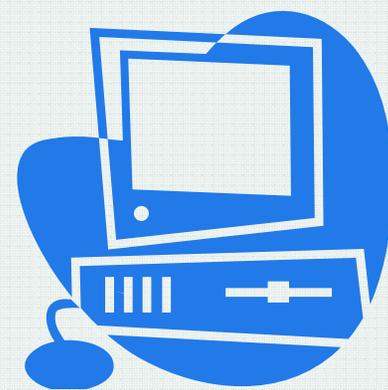
ER annual = 156.05 tons of SO<sub>2</sub>/yr



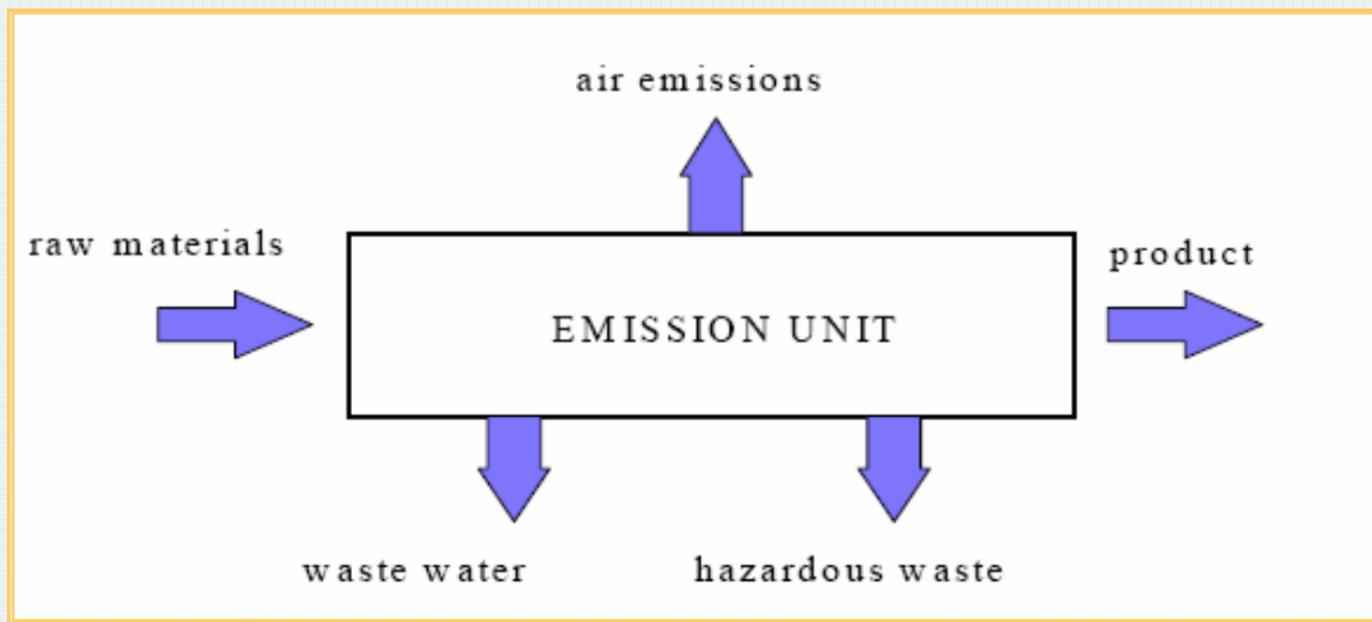
# Mass Balance

Mass balance is a method that estimates emissions by analyzing inputs of raw materials to an emission unit and accounting for all of the various possible outputs of the raw materials in the form of air emissions, wastewater, hazardous waste, and/or the final product. As the term implies, one needs to account for all the materials going into and coming out of the process for such an emission estimation to be credible.

- Determines Difference Between Input & Output
- Common in Chemical Process
- SO<sub>2</sub> from Coal Fired Boilers



# Mass Balance Approach

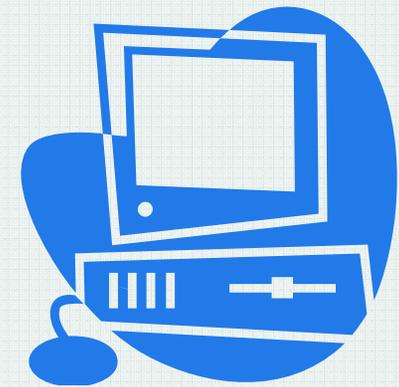


With mass balance, all inputs and outputs are accounted for.

# Mass Balance Example 1, Slide 1

## EXAMPLE 1

- A company uses a solvent bath to clean its product.
- The solvent density is 7.7 pounds per gallon.
- The density of the solvent is used to convert from gallons of solvent to pounds of solvent in the emission calculation.
- Xylene is the only substance in the solvent for which emissions must be quantified, and it constitutes 87% of the solvent by weight.

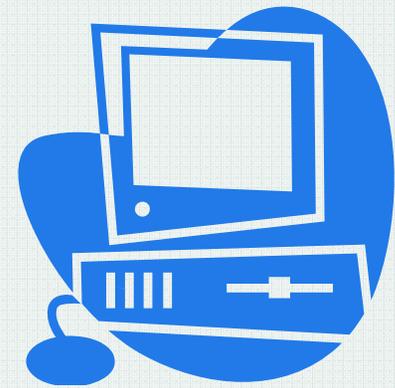


## Mass Balance Example 1, Slide 2

At the beginning of the year, the company had 7,500 pounds of this solvent in storage and purchased another 9 tons over the year. At the end of the year, the facility had 10,000 pounds in storage.

Assumptions:

1. Xylene is a volatile organic compound (VOC) and the total volume is usually emitted to the atmosphere. Thus, emissions equal the amount of xylene used.
2. No control device is used to reduce the emissions of solvent.



## Mass Balance Example 1, Slide 3

Because emissions equal the amount of xylene used, emissions (ER) are determined using the following equation:

$$ER = (SB + SI - SE) \times F$$

Where:

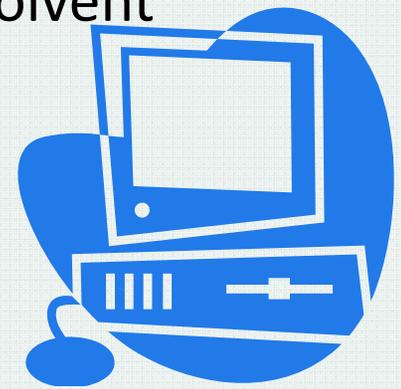
ER = Annual emissions of xylene (lb/yr)

SB = Amount of solvent in storage at the beginning of the year (lb)

SI = Amount of solvent purchased during the year (lb)

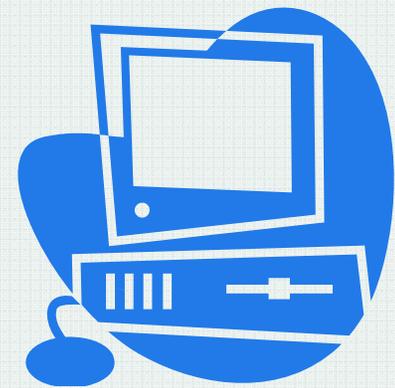
SE = Amount of solvent left in storage at the end of the year (lb)

F = Fraction of xylene in the solvent, lb xylene/lb solvent



## Mass Balance Example 1, Slide 4

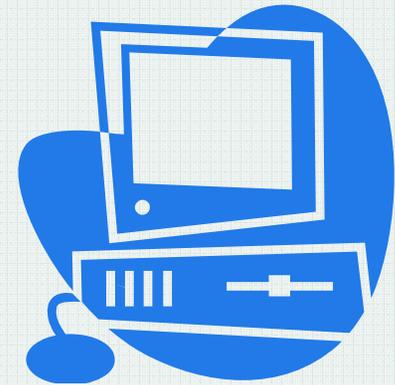
$$\begin{aligned} \text{ER} &= [7,500 \text{ lb} + (9 \text{ tons} \times 2,000 \text{ lb/ton}) \\ &- 10,000 \text{ lb}] \times 0.87 \text{ lb xylene/lb solvent} \\ &= (15,500 \text{ lbs}) \times (0.87 \text{ lb xylene/lb solvent}) \\ &= 13,485 \text{ lbs or } 6.74 \text{ TPY of xylene emitted} \end{aligned}$$



## Mass Balance Example 2, Slide 1

Calculate the SO<sub>2</sub> emissions from the combustion of oil based on fuel analysis results and the fuel flow information.

- $ER = R \times SC \times (MW_s/MW_f)$
- Where:
- ER = pollutant emission rate
- R = fuel flow rate (lb/hr)
- SC = Sulfur concentration in fuel (%S/100)
- MW<sub>s</sub> = molecular weight of Sulfur Dioxide emitted (lb/lb-mole)
- MW<sub>f</sub> = molecular weight of Sulfur in fuel (lb/lb-mole)

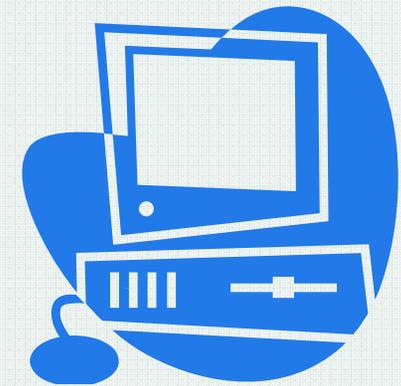


## Mass Balance Example 2, Slide 2

Fuel flow rate  $R = 4600$  lbs/hr

Percent Sulfur (%S) in fuel = 1.17

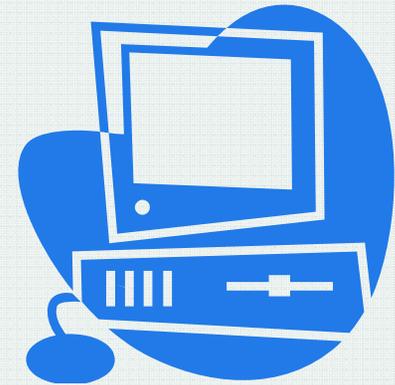
$$\begin{aligned}ER &= R \times SC \times (MW_s/MW_f) \\ &= (4600) \times (1.17/100) \times (64/32) \\ &= 107.64 \text{ lbs SO}_2/\text{hr}\end{aligned}$$



## Mass Balance Example 3, Slide 1

A company has one coating booth with a single spray gun.

- The gun capacity is 5 gallons per hour.
- The coating contains 75% VOC by weight and its density is 9.85 lbs/gal.
- VOC content =  $(9.85 \text{ lbs coating/gal}) \times (0.75 \text{ lbs VOC/lb coating}) = 7.39 \text{ lbs VOC/gal coating}$
- Maximum operating hours/yr = 8,760



## Mass Balance Example 3, Slide 2

Annual Potential Emission of VOCs:

$(5 \text{ gal coating/hr}) \times (7.39 \text{ lbs VOC/gal of coating}) = 36.95 \text{ lbs of VOC/hr}$

$(36.95 \text{ lbs VOC/hr}) \times (8,760 \text{ hrs/yr}) = 323,682.0 \text{ lbs of VOC/yr}$

$(323,682 \text{ lbs VOC/yr}) \times (1 \text{ ton}/2,000 \text{ lbs}) = 161.84 \text{ TPY VOC}^*$

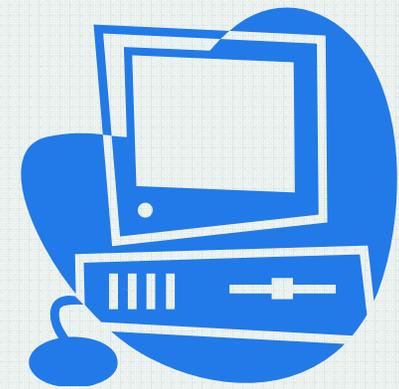
\*For processes with multiple formulations (VOC/HAP content) use worst case emissions for calculating PTE.



# Emission Factors & Emission Models

## WHAT ARE EMISSION FACTORS?

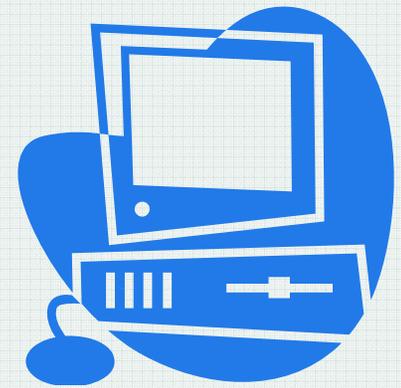
An emission factor is a representative value that attempts to relate the quantity of a pollutant released to the atmosphere with an activity associated with the release of that pollutant. An emission factor is a ratio of the amount of a pollutant emitted per throughput of material (for example, pounds of NO<sub>x</sub> per gallon of residual oil burned). Emission factors are founded on the premise that there exists a linear relationship between the emissions of air contaminant and the throughput level.



# Emission Factors & Emission Models

## Finding Emission Factors

- Clearinghouse For Inventories & Emission Factors (CHIEF) web site located at: [www.epa.gov/ttn/chief](http://www.epa.gov/ttn/chief)
- Factor Information REtrieval (FIRE) Data System. The latest version is WebFIRE at: <http://cfpub.epa.gov/webfire>



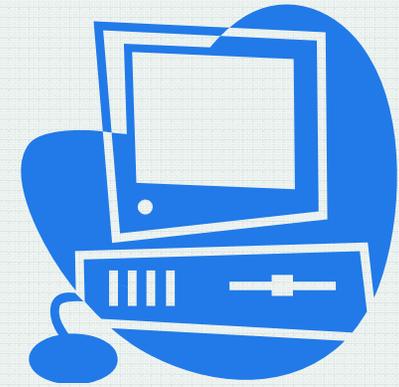
# Emission Factors & Emission Models

The general equation for calculating emissions using an emission factor is:

- $ERA = EFA \times CF1 \times CF2 \times A1 \times A2 \times (100 - EC/100)$

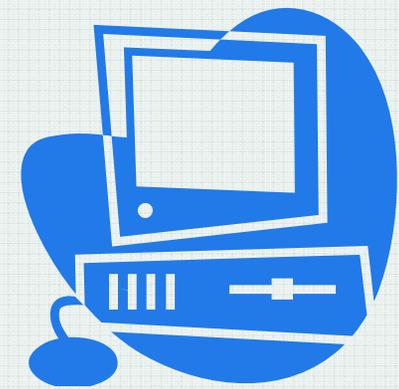
Where:

- ERA = emissions of pollutant A
- EFA = emission factor of pollutant A
- CF = 1 or more conversion factors (if necessary)
- A = 1 or more throughput values
- EC = overall emission control efficiency (%), if controlled.



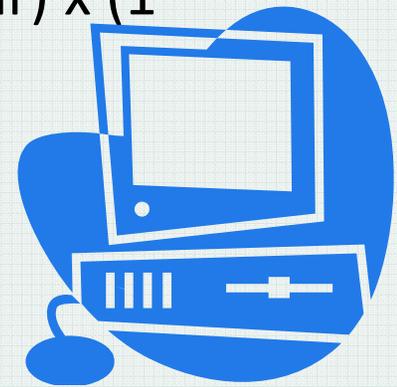
# Emission Factor Example 1, Slide 1

Process: Natural Gas Combustion  
Boiler: 100 MMBtu/Hour (Design Capacity)  
Fuel: A1; 0.1 MMCF/Hour, N.G.  
Control: None  
Annual Hours: A2: 8760 (Potential)  
EFA.: 7.6 lbs PM/MMCF  
Conversion: 1 CF/1000 Btu or 1 MMCF/1000 MMBtu



## Emission Factor Example 1, Slide 2

- SCC 10200601; External Combustion Boilers > Industrial > Natural Gas > > 100 Million Btu/hr
- POLLUTANT PM, primary NEI PM-PRI
- Primary Control / Secondary Control : UNCONTROLLED
- Emission Factor -- 7.600E0 Lb per Million Cubic Feet Natural Gas Burned
- $(7.6 \text{ lbs/MMCF}) \times (0.1 \text{ MMCF/Hour}) \times (8760 \text{ Hrs/Year}) \times (1 \text{ ton}/2000\text{lbs}) = 3.33 \text{ TPY PM Potential}$



## Emission Factor Example 2

### Potential Verses Actual Comparison (PM)

- Potential Emission:

$(7.6 \text{ lbs/MMCF N.G. burned}) \times (.009 \text{ MMCF/hr. rated capacity}) \times (8760 \text{ hrs./yr.}) \times (1 \text{ ton}/2000 \text{ lbs.}) = 0.299 \text{ TPY, PM}$

- Actual Emission:

$(7.6 \text{ lbs/MMCF N.G. burned}) \times (6.55 \text{ MMCF/year annual throughput}) \times (1 \text{ ton}/2000 \text{ lbs.}) = 0.025 \text{ TPY, PM}$



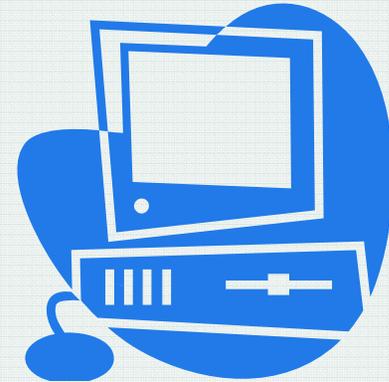
## Emission Factor Example 3

Calculations Base on Permit Limits (PM) :

PM Permit Limit: 0.01 gr/dscf limit

Exhaust Flow: 23,000 c.f./min.

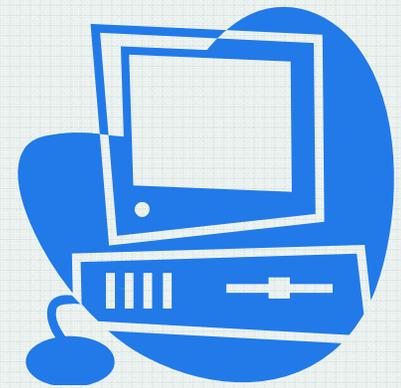
Hourly Limit: 3534 hrs./yr. limit



$(0.01 \text{ gr/dscf}) \times (23,000 \text{ c.f./min.}) \times (60 \text{ min./hr.}) \times (1 \text{ lb./7000 gr.}) \times (3534 \text{ hrs./yr. limit}) \times (1 \text{ ton/2000 lbs.}) = 3.48 \text{ TPY PM}$

## Emission Factor Example 4, Slide 1

- A company has a natural gas-fired boiler rated at 12 MMBtu per hour.
- The NO<sub>x</sub> Emission Factor is 100 pounds of NO<sub>x</sub> emitted per MMCF of natural gas burned.
- In addition to NO<sub>x</sub> emissions the company would also use emission factors to calculate CO, SO<sub>2</sub>, PM, and VOC emissions.
- 1 cubic foot of natural gas = 1,000 BTUs
- In this example, maximum operating hours/yr = 8,760



## Emission Factor Example 4, Slide 2

Annual Potential Emission of NO<sub>x</sub> Using a Conversion:

- $(12 \text{ MMBtu/hr}) \times (1 \text{ MMCF of fuel}/1,000 \text{ MMBtu}) = 12 \times 10^{-3} \text{ MMCF of natural gas/hr}$
- $(12 \times 10^{-3} \text{ MMCF natural gas/hr}) \times (8,760 \text{ hrs/yr}) = 105.12 \text{ MMCF of natural gas/yr}$
- $(105.12 \text{ MMCF/yr}) \times (100 \text{ lbs of NO}_x\text{/MMCF of fuel}) = 10,512 \text{ lbs of NO}_x\text{/yr}$
- $(10,512 \text{ lbs of NO}_x\text{/yr}) \times (1 \text{ ton}/2,000 \text{ lbs}) = 5.26 \text{ TPY NO}_x$



# Combined Control Efficiency

Control Devices (PM-10) :

Cyclone; 80% efficiency

Followed by

Baghouse; 95% efficiency

Overall Control Efficiency

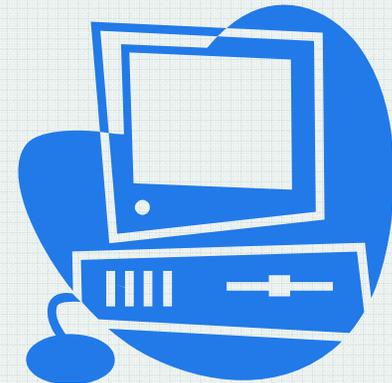
$$= 80\% + [95\% \times (\{100 - 80\} \div 100)]$$

$$= 0.8 + [0.95 \times 0.2]$$

$$= 0.8 + 0.19$$

$$= 0.99 \text{ or } 99\% \text{ control efficiency}$$

This assumes 100% capture.

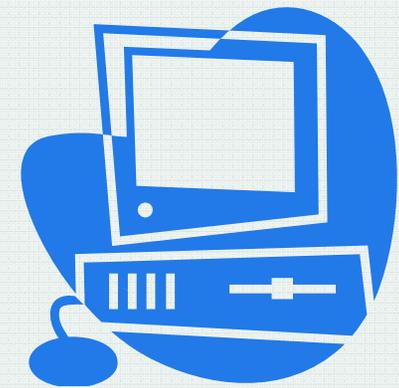


# Combined Control Efficiency

An example of coal fired boiler combustion with combined control of 99% (PM-10) :

$(2.03e-02 \text{ lbs./MMBtu}) \times (2000 \text{ tons/year annual throughput}) \times (16 \text{ MMBtu/ton}) \times (1 \text{ ton}/2000 \text{ lbs.}) \times (1-0.99) = 0.003248 \text{ TPY, PM-10}$

(In the IDNR emissions forms, 0.003248 TPY would round to 0.00 TPY.)



# Monitoring Requirements

- Periodic Monitoring
- Compliance Assurance Monitoring (CAM)



# Periodic Monitoring

## Purpose

- To ensure the compliance with all applicable requirements
- To certify the compliance status of air pollution emission sources  
Responsible Official can certify that the emission point in question was in continuous compliance during the applicable time period.



# Periodic Monitoring

## Periodic Monitoring Guidance (PMG)

- PMG is incorporated into Title V rule 567 IAC 22.108(3)“b”
- Level of monitoring requirements:
  - Recordkeeping
  - Stack testing
  - Operation and maintenance plans for controlled units
    - Facility maintained or
    - Agency approved (which will be replaced by a CAM plan)
  - Determined based on emission potentials (pre-control and/or after control) and other factors.



## Controlled Sources (PM example)

	Minor < 25		Significant ≥ 25		Major ≥ 100	
<b>Uncontrolled* Minor &lt; 25 tons</b>	No O&M	No tests				
<b>Uncontrolled* Significant ≥ 25 tons</b>	Facility O&M	No tests	Facility O&M	+One test		
<b>Uncontrolled* Major ≥ 100 tons</b>	Facility O&M	+One test	+Agency O&M	+One test	Agency O&M	+Two tests

Particulate Matter (PM) 4000 tons/yr uncontrolled  
and 40 tons/yr controlled

Control Equipment: Baghouse



# Factors Used In Evaluating A Reduction In Testing

The Department may consider the following factors in evaluating a reduction in testing.

- Demonstrated compliance in the past year.
- Demonstrated compliance by a significant margin.
- Identical or similar sources meet the criteria of 1 or 2.
- "No visible emission" action level on a well-controlled source.
- A controlled source with a permit condition to pre-clean or oil material being handled, lenient standard (0.1 grain/dscf).
- Testing would create a safety hazard.



# Factors Used In Evaluating A Reduction In Testing cont.

- Enforceable restrictions on hours of operation to less than 876 hours per year.
- Case-by-case basis:
- Industry specific emission factors and control efficiencies,
- Stack tests that are more than one year old,
- Stack tests on similar sources at other facilities, and
- No EPA Reference Method for stack testing.



# Compliance Assurance Monitoring (CAM)

CAM applied to a unit:

- that used control equipment
- to comply with an applicable requirement
- if the uncontrolled PTE of the emissions unit exceeded the major source threshold
  - (If the uncontrolled PTE was less than the major source threshold, Periodic Monitoring was required)



# Compliance Assurance Monitoring (CAM)

In general, an emission unit is subject to the Compliance Assurance Monitoring Rule (40 CFR Part 64) if all of the following are satisfied:

- is at a major source required to obtain a Title V Permit;
- is subject to an emission limitation or standard for a regulated pollutant;
- uses a control device to achieve compliance with the emission limitation or standard for the particular pollutant;
- has potential pre-control emissions over 100% of the level considered to be a major source, same as under the Title V Program;
- unless otherwise exempted.



# Compliance Assurance Monitoring (CAM)



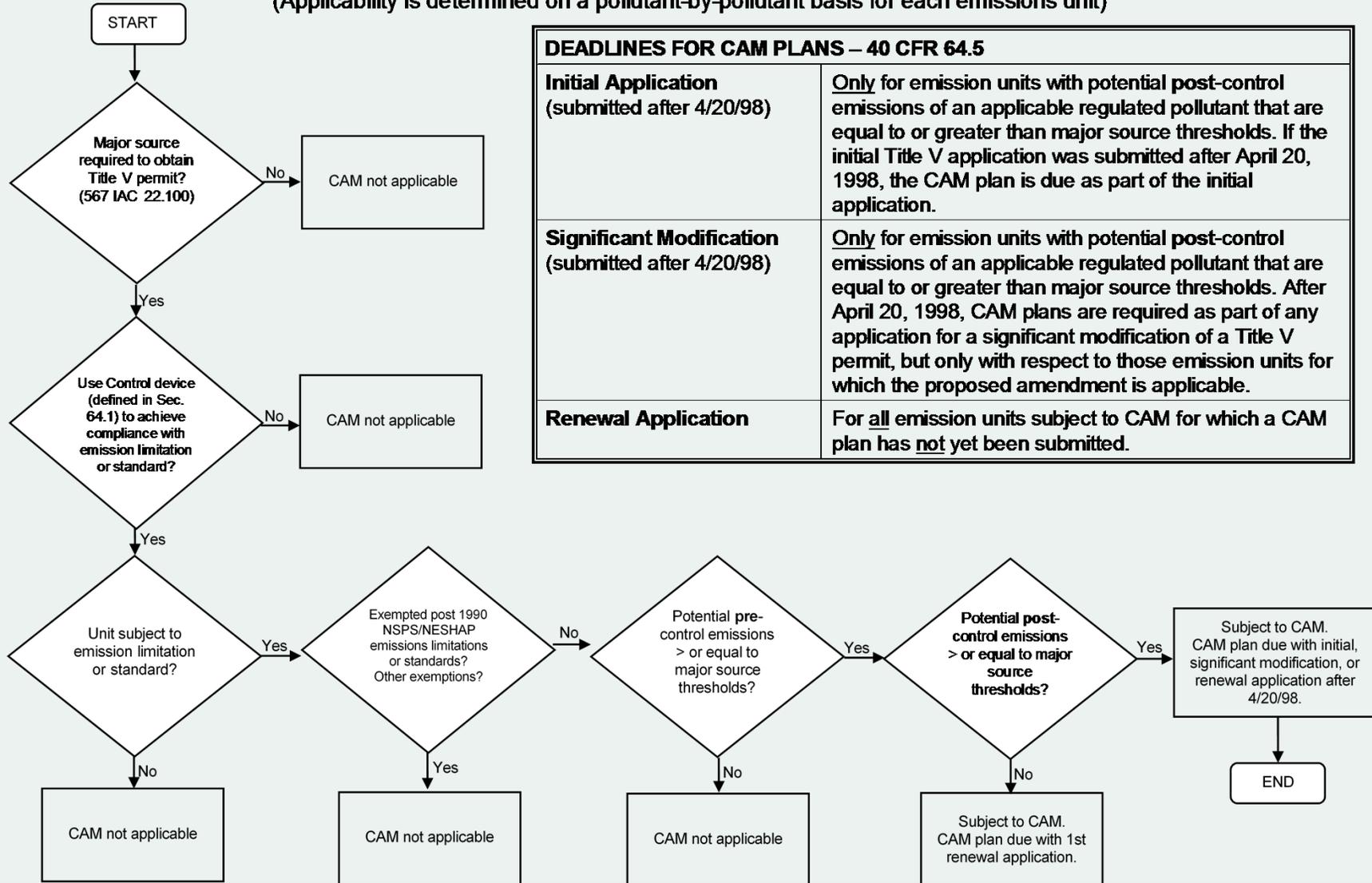
## Exempted Emission Limitations or Standards

- Post 11-15-90 (proposed date) NSPS or NESHAP, if these standards limit the specific pollutant that is being controlled by the control device being evaluated for CAM
- Stratospheric ozone protection requirements (Title VI of CAA);
- Acid Rain Program requirements (40 CFR Parts 72-75);
- Requirements under an approved emission trading program;
- Emissions cap that meet the requirements of 40 CFR Part 70.4(b)(12);
- Emission limitations or standards for which a Title V permit requires a continuous compliance determination method that does not use an assumed control factor. In most cases this may be a regulation that requires the installation of a CEMS.

# CAM Applicability Flowchart



**CAM Applicability Flowchart**  
(Applicability is determined on a pollutant-by-pollutant basis for each emissions unit)



DEADLINES FOR CAM PLANS – 40 CFR 64.5	
<b>Initial Application</b> (submitted after 4/20/98)	<u>Only</u> for emission units with potential post-control emissions of an applicable regulated pollutant that are equal to or greater than major source thresholds. If the initial Title V application was submitted after April 20, 1998, the CAM plan is due as part of the initial application.
<b>Significant Modification</b> (submitted after 4/20/98)	<u>Only</u> for emission units with potential post-control emissions of an applicable regulated pollutant that are equal to or greater than major source thresholds. After April 20, 1998, CAM plans are required as part of any application for a significant modification of a Title V permit, but only with respect to those emission units for which the proposed amendment is applicable.
<b>Renewal Application</b>	For <u>all</u> emission units subject to CAM for which a CAM plan has <u>not</u> yet been submitted.

# Compliance Assurance Monitoring (CAM) Calculation Form (Spreadsheet)

[See Excel File](#)



# Compliance Assurance Monitoring (CAM)

The general outline of a CAM Plan, Per 40 CFR 64 is:

1. Describe the indicators to be monitored [Section 64.4(a)(1)];
2. Describe the ranges or the process to set indicator ranges [Section 64.4(a)(2)];
3. Describe the performance criteria for the monitoring, including [Section 64.4(a)(3)]:
  - A. specifications for obtaining representative data;
  - B. verification procedures to confirm the monitoring operational status;
  - C. quality assurance and control procedures
  - D. monitoring frequency
    - I. 4 times per hour (minimum) if post-control emissions are  $\geq$  MST (major source threshold); or
    - II. 1 time per day (minimum) if post-control emissions are  $<$  MST.
4. Describe indicator ranges and performance criteria for a CEMS, COMS, or PEMS [Section 64.3(a)(4)];
5. Provide a justification for the use of parameters, ranges, and monitoring approach [Section 64.4(b)];
6. Provide emissions test data; and, if necessary [Section 64.4(c)]
7. Provide an implementation plan for installing, testing, and operating the monitoring [Section 64.4(d)]



**COMPLIANCE ASSURANCE MONITORING PLAN:  
Fiberglass Dry Filters (CE 11) for PM/PM<sub>10</sub> Control (EU 11)**



**I. Background**

**A. Emissions Unit**

Description: Grind Booth  
 Identification: EU 11  
 Facility: Need for Speed Bonnets and Bikes

**B. Applicable Regulation, Emission Limit, and Monitoring Requirements**

Regulation No.: 567 IAC 23.3(2)"a";  
 Iowa DNR Construction Permit 99-A-xxxx  
 Emission limits: 0.1 gr/dscf PM and 2.09 lb/hr PM<sub>10</sub>  
 Monitoring requirements: Dust Collector Differential Static Pressure and Visible Emissions, daily and weekly monitoring

**C. Control Technology**

Fiberglass paint collectors.

**II. Monitoring Approach**

The key elements of the monitoring approach are presented in the following table. The selected performance indicators are the differential static pressure across paint collectors and visible emissions observation.

	<b>Indicator #1</b>	<b>Indicator #2</b>
I. Indicator	Paint Collector Differential Static Pressure.	Visible Emissions.
Measurement Approach	Differential static pressure measured across the paint collector by a magnetic pressure gauge.	Visible emissions from the paint collector exhaust will be monitored while EU 11 is operating. Visible emission observations will be performed on the paint collector unit and associated components for evidence of fugitive emissions, holes, corrosion, leaks and failures.
II. Indicator Range	An excursion is defined as a differential static pressure reading across the paint collector, outside the manufacturer's specified operating range of 0.5 – 4 inches of water. Excursions trigger an inspection, corrective action and a reporting requirement.	An excursion is defined as any visible emission occurring. Excursions trigger an inspection, corrective action and a reporting requirement.





III. Performance Criteria		
A. Data Representativeness	The differential static pressure is measured across the paint collector.	Visible emission measurements are made at the emission point and on the paint collector unit and associated components.
B. Verification of Operational Status	Magnetic pressure gauge factory calibrated.	Not Applicable.
C. QA/QC Practices and Criteria	Magnetic pressure gauge will be calibrated, maintained, and operated according to the manufacturer's specifications.	The observer shall be familiar with general procedures for visible emissions observation.
D. Monitoring Frequency	Various visual checks will occur during operation of unit (minimum once per day).	Visible emission observations will be performed weekly on the paint collector and associated components.
Data Collection Procedures	Results of paint collector differential static pressure checks will be recorded in the baghouse maintenance log and archived for at least 5 years.	Results of visible emission observations will be recorded in the dust collector maintenance log and archived for at least 5 years.
Averaging Period	Not Applicable.	Not Applicable.

# Compliance Assurance Monitoring

## Sample CAM plans (EPA website, approved TV permits)

- Precipitator – opacity, power, malfunction alarms, TR sets operation status
- Baghouse – opacity, pressure drop, bag leak detection
- Oxidizer – combustion chamber temperature
- Capture System – flow indicator, pressure differential
- Multiclone – opacity, physical inspection
- Panel Filters – opacity, pressure drop
- Vapor Combustion Unit – presence of flame
- Water Curtain – opacity, water level



## Forms Overview

**Website for forms and instructions:**



<http://www.iowadnr.gov/InsideDNR/RegulatoryAir/OperatingPermits/FormsInstructions.aspx>

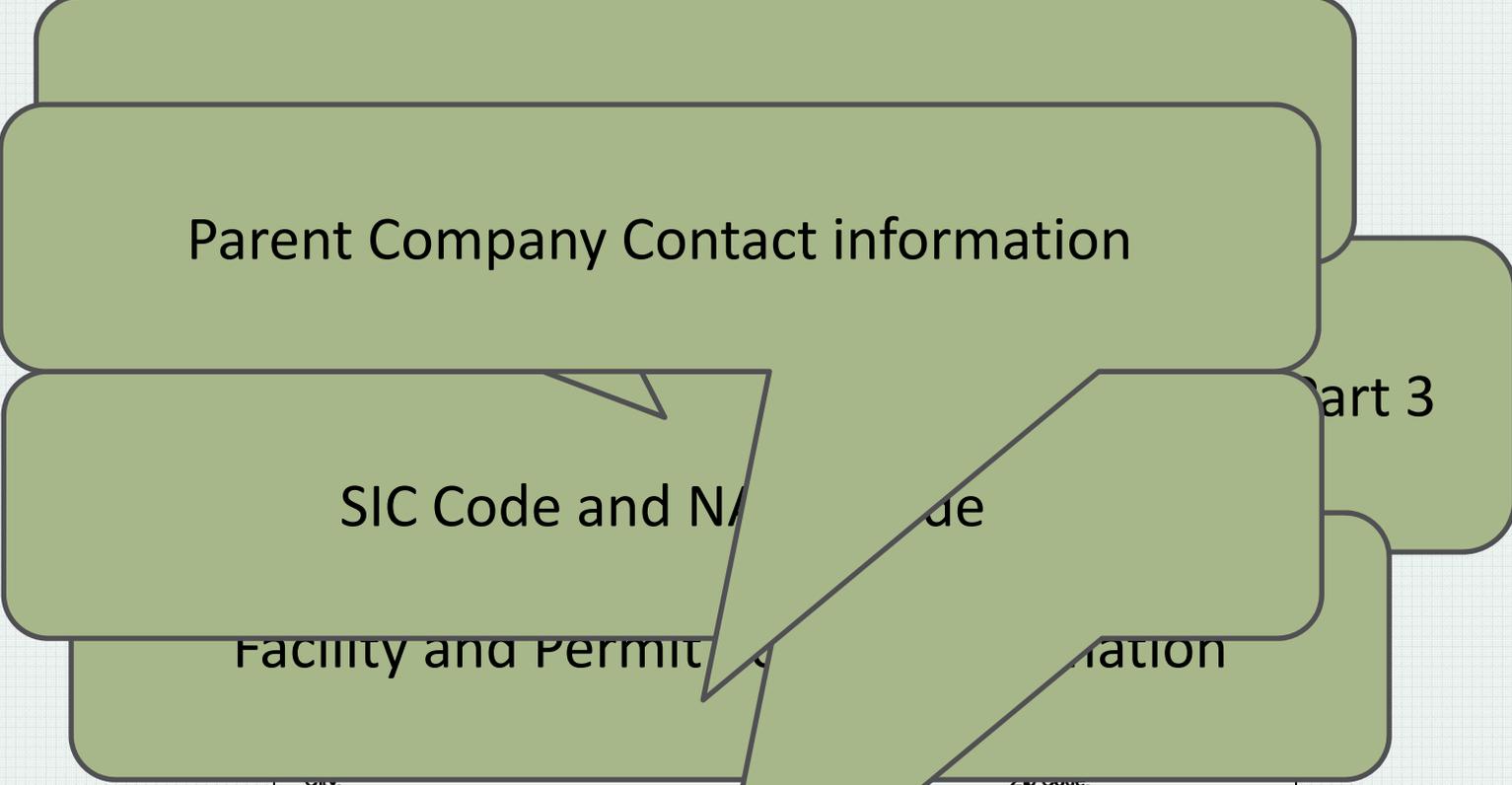
# Review of Title V Application Part 1 Forms



**Title V Operating Permit Application**  
**FORM 1.0: FACILITY IDENTIFICATION**

Permit Application Type: (check all that apply)

Initial                       Administrative Amendment                       Annual Emissions Inventory  
 Renewal                       Minor Permit Modification                       Annual Emissions Fee  
 Supplemental Information                       Significant Permit Modification

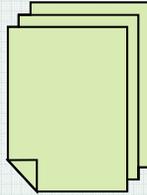


City: \_\_\_\_\_ Zip Code: \_\_\_\_\_

7. Number of Employees: Facility Total: \_\_\_\_\_ Total (Iowa): \_\_\_\_\_

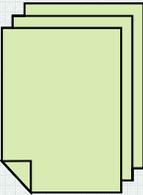
PROCESSES		PRODUCTS	
8. Principal Activity:	SIC Code: _____	NAICS Code: _____	Description: _____
	Description: _____		Description: _____
9. Secondary Activity:	SIC Code: _____	NAICS Code: _____	Description: _____
	Description: _____		Description: _____
	SIC Code: _____	NAICS Code: _____	Description: _____
	Description: _____		Description: _____

**Continue to next page**



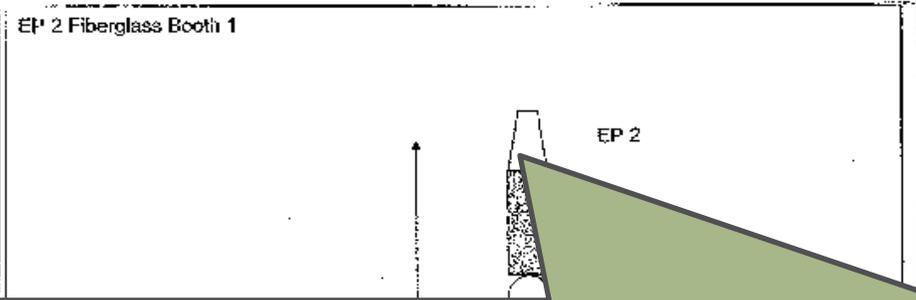
DESIGNATION OF RESPONSIBLE OFFICIAL (567 IAC 22.100)	
<b>10. Responsible Official:</b> _____	<b>Title:</b> _____
Phone Number: _____	Email: _____
Mailing Address: _____	
City: _____	State: _____ Zip Code: _____
APPLICATION AND COMPLIANCE INFORMATION (Required)	
<p><b>As required by 567 Iowa Administrative Code subrule 22.100(1), the applicant must sign and accompany this application. The applicant must certify under penalty of law that, based on the best belief formed after reasonable inquiry, the statements and information contained in this application are true and complete. Part 3 of this application contains the certification form and must be submitted with all annual emission fee submissions.</b></p>	

Responsible Official Contact Information



IOWA OPERATING PERMIT APPLICATION - PART 1  
 Form 1.2 SCHEMATIC - PROCESS FLOW DIAGRAM

1) Company/Facility Name: Need for Speed Bonnets and Bilkas  
 2) SIC No.: 92-0000  
 3) Form 1.2 Page 1 of 6  
 4) Identify and diagram all EMISSION UNITS, POLLUTION CONTROL EQUIPMENT, STACK/VENTS/EMISSION POINTS, MONITORING EQUIPMENT and PRODUCT, THROUGHPUT and EXHAUST STREAMS at the facility - see examples below. Attach diagrams - Include information in items 1-3 on each page.

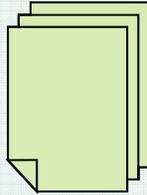


Used to show process equipment, control equipment and material flow.



Duplicate this form as needed TYPE OR PRINT ALL INFORMATION (DNR Form 542-147E, August 1, 2005)

Form 1.2



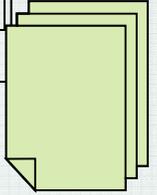
**IOWA OPERATING PERMIT APPLICATION – PART 1  
Form 1.3 INSIGNIFICANT ACTIVITIES – POTENTIAL EMISSION (567 IAC 22.103)**

<b>1) Company/Facility Name</b> Need for Speed Bonnets and Bikes	<b>2) EIQ No.</b> 92-0000	<b>3) Form 1.3 Page 1 of 1</b>
---	------------------------------	--------------------------------

**APPLICATION FOR DESIGNATION AS LISTED INSIGNIFICANT ACTIVITY**  
List the Potential Emissions (Pounds/Year) for each Emission Unit to be considered as an Insignificant Activity  
(see exempted units and limitations 567 IAC 22.103)

4) Emission Unit No.	5) Emission Unit [Include max. var contents of st	6) CO	7) NOx	8) SO <sub>2</sub>	9) Sulfur Acid	10) Reduced Sulfur	11) Total PM	12) PM-10	13) VOC	14) Lead	15) Fluorides	16) High Risk	17) Toxics – not high risk group
<p>Form 1.3 is used to report potential emission from insignificant activities.</p> <p>Note that some emission units such as engines and boilers may no longer qualify to be insignificant.</p>													
<b>18) Totals this page (Pounds/Year)</b>													
<b>19) Facility Totals (Tons/Year)</b>													

Place facility totals on First page of Form 1.3  
Note: Engines and boilers subject to a NSPS/NESHAP rule are not qualified to be insignificant units and Part 2 Engine/Boiler forms must be submitted.



Form 1.4 POTENTIAL TOXIC EMISSIONS - SIGNIFICANT ACTIVITIES		
1) Company/Facility Name Need for Speed Bonnets and Bikes		2) EIQ No. 92-0000
		3) Form 1.4 Page 1 of 1
HAZARDOUS AIR POLLUTANT (TOXICS) and ADDITIONAL REGULATED POLLUTANT POTENTIAL EMISSIONS		
Summary by CHEMICAL of total facility emissions of each Hazardous and additional Regulated Air Pollutant		
4) CAS No.	5) Chemical Name	6) POTENTIAL EMISSIONS (Tons/Yr)
50-00-0	Formaldehyde	

Form 1.4 is used to list the facility wide potential emissions of regulated hazardous air pollutants in tons/yr.

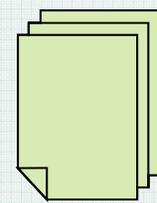
1330-20-7	Xylene	15.65
108-05-4	Vinyl Acetate	0.12
0	Chromium Compounds (Cr)	0.04
0	Manganese Compounds (Mn)	0.03
0	Nickel Compounds (Ni)	0.02
80-62-6	Methly methacrylate	See Styrene
7) Totals this Page (Toxics only)		106.76 Tons/Yr
8) Facility Totals – Potential Emissions (Toxics Only) Place facility totals on First page of Form 1.4		106.76 Tons/Yr

Duplicate this form as needed

TYPE ALL INFORMATION

(DNR Form 542-4011, December 1, 2006)

Form 1.4



Here you indicate what criteria is making you subject to Title V.

- Subject to Acid Rain
- PTE > 100 tons for criteria pollutants
- PTE > 10 tons of a single hazardous air pollutant
- PTE > 25 tons of a combination of hazardous air pollutants
- Nonattainment thresholds are lower see 567 IAC 22.100

f  
in

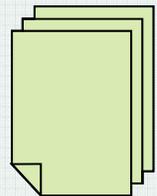
5) How subject this facility to obtaining an Operating Permit: (check all that apply)

Source is a major source of Title IV of the Act (generally electricity producers - see 567 IAC 22.120-148). Call the Environmental Protection Agency Acid Rain Hotline at (202) 233-9620

Source is a major source of Title V of the Act (see 567 IAC 22.100) (mark all that apply):

- Potential to emit 100 tpy or more per year or more of any air pollutant (Form 1.5, Item 3, except Total PM, and NH<sub>3</sub>)
- Potential to emit, in the aggregate, 10 tpy or more of any hazardous air pollutant or 25 tpy or more of any combination of hazardous air pollutants (Form 1.4, items 6 & 8)
- For nonattainment areas as specified in 567 IAC 22.100

\*See 567 IAC 22.101 "Applicability of Title V operating permit requirements" for additional information on requirements to apply.



Form 2.0 EMISSION POINT INFORMATION Form 2.0: Page \_\_\_\_ of \_\_\_\_

1. Company/Facility Name: \_\_\_\_\_

2. EIQ Number: \_\_\_\_\_ 3. Emission Point (EP) Number: \_\_\_\_\_

4. Emission Point Description: \_\_\_\_\_

5. Is this stack/vent used as an Emergency Bypass Stack?  Yes  No  
 If Yes, for which stack(s)? List Emission Point Numbers: \_\_\_\_\_

**EMISSION POINT INFORMATION**

6. EP Type  Vertical Stack/Vent  Fugitive (specify) \_\_\_\_\_  
 Wall Vent  Other (specify) \_\_\_\_\_

7. Stack Shape and Dimensions:  
 (interior dimensions at exit point)  Circular Diameter: \_\_\_\_\_ in.  
 Rectangular Dimensions: \_\_\_\_\_ in. x \_\_\_\_\_ in.  
 \_\_\_\_\_ in.

8. State Height Above \_\_\_\_\_ ft.

**Stack Location UTM Coordinates**

\_\_\_\_\_ UTM Zone and Datum:  Zone 14  Zone 15  
 NAD 27  NAD 83

Form 2.0 is used to document an emission point's stack characteristics such as stack height, diameter and flow rate.

The last revision to this form changed the format but not the information required.


Form 3.0 EMISSION UNIT DESCRIPTION – POTENTIAL EMISSIONS  Proposed Limit Duplicate this form for EACH Emission UNIT

1) Company/Facility Name <b>Need for Speed Bonnets and</b>	2) EIQ No. <b>92-0000</b>	3) Form 3.0 Page of
4) EMISSION POINT NO. <b>Stack</b>		

Form 3.0 is used to show potential emissions of criteria pollutants at the emission unit level.

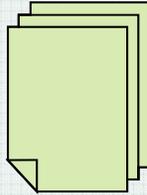
A description of the equipment which includes rated capacity and construction dates is filled in here. These values are used in determining applicability.

NO <sub>x</sub>	24	lbs/Mgal	AP-42		20.57		20.57	7.29
VOC	0.2	lbs/Mgal	AP-42		0.17		0.17	0.06
CO	5	lbs/Mgal	AP-42		4.29		4.29	1.52
Lead	9.00E-06	lbs/Mgal	AP-42		0.00		0.00	0.00
Ozone								
Ammonia	0.8	lbs/Mgal	AP-42		0.69		0.69	0.24

**Report Hazardous Air Pollutants and additional regulated air pollutants emitted on page 2 of this form.**

\*Sources of Emission Factors: CEM . Stack Test . Mass Balance . AP-42 . EPA-WebFIRE . EPA-TANKS . EPA-L&E . Worksheet . Other – Specify  
Duplicate this form as needed TYPE ALL INFORMATION (DNR Form 542-4014, p. 1, December 2009)

Form 3.0



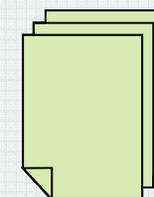
Form 3.0 EMISSION UNIT DESCRIPTION – POTENTIAL EMISSIONS (Continued – page 2)

Company/Facility Name		EIQ No.	EMISSION POINT NO.		EMISSION UNIT NO.			
Need for Speed Bonnets and Bikes		92-0000	EP 200		EU 200			
POTENTIAL EMISSIONS - HAPs and additional regulated air pollutants								
(20) Air Pollutant		(21) Emission Factor	(22) Emission Factor Units	(23) *Source of E.F.	(25) Potential Hourly Uncontrolled Emissions (Lbs/Hr)	(26) Combined Control Efficiency %	(27) Potential Hourly Controlled Emissions (Lbs/Hr)	(28) Potential Annual Controlled Emissions (Tons/Yr)
CAS No.	Name							
50-00-0	Formaldehyde	3.50E-02	lbs/Mgal	AP-42	0.03		0.03	0.01

Potentials for regulated HAPs are reported on the 2<sup>nd</sup> page.


\*Sources of Emission Factors: CEM .. Stack Test .. Mass Balance .. AP-42 .. EPA-WebFIRE .. EPA-TANKS .. EPA-L&E .. Worksheet .. Other – Specify  
 Duplicate this form as needed TYPE ALL INFORMATION (DNR Form 542-4014, p. 2, December 2009)

Form 3.0



**Form 3.0 EMISSION UNIT DESCRIPTION – POTENTIAL EMISSIONS**

Proposed Limit

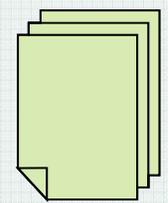
Duplicate this form for EACH Emission UNIT

1) Company/Facility Name <b>Need for Speed Bonnets and Bikes</b>		2) EIQ No. <b>92-0000</b>	3) Form 3.0 Page <b>  </b> of <b>  </b>					
4) EMISSION POINT NO. <b>EP 200</b>	5) EMISSION POINT DESCRIPTION <b>Main Boiler Exhaust Stack</b>							
<b>EMISSION UNIT (PROCESS) IDENTIFICATION &amp; DESCRIPTION</b>								
6) EMISSION UNIT NO. <b>EU 200</b>	7) SCC NO. <b>10200601</b>	8) DESCRIPTION OF PROCESS <b>Main Boiler</b>						
9) Name of Manufacturer <b>Combustion Eng.</b>	10) Model Name – <b>25VP-12W</b>	Model Number –	Serial No.	11) Date of Construction <b>March / / 1970</b>				
14) Raw Material –OR- Fuels Used – List worst-case for EACH pollutant <b>Natural Gas</b>				12) Date of Installation <b>July / / 1970</b>				
				13) Date of Modification <b>/ /</b>				
15) Federally Enforceable Operating Limit <b>55.0 lbs/hr NO<sub>x</sub></b>		16) Permit or Rule Establishing Operating Limit <b>97-A-718S4</b>		17) Maximum Hourly Design Rate <b>120 MMBtu / hr</b>				
<b>ASSOCIATED EQUIPMENT (A Form CE-01 and ME-01 should be submitted for each piece of corresponding equipment)</b>								
18) AIR POLLUTION CONTROL EQUIPMENT (CE) No.								
19) MONITORING EQUIPMENT (ME) No.								
<b>POTENTIAL EMISSIONS</b>								
(20) Air Pollutant	(21) Emission Factor	(22) Emission Factor Units	(23) *Source of E.F.	(24) Ash or Sulfur %	(25) Potential Hourly Uncontrolled Emissions (Lbs/Hr)	(26) Combined Control Efficiency %	(27) Potential Hourly Controlled Emissions (Lbs/Hr)	(28) Potential Annual Controlled Emissions (Tons/Yr)
PM-2.5	7.6	lbs/MMcf	AP-42		0.90		0.90	3.93
PM-10	7.6	lbs/MMcf	AP-42		0.90		0.90	3.93
Total PM	7.6	lbs/MMcf	AP-42		0.90		0.90	3.93
SO <sub>2</sub>	0.6	lbs/MMcf	AP-42		0.07		0.07	0.31
NO <sub>x</sub>	280	lbs/MMcf	AP-42		33.04		33.04	144.72
VOC	5.5	lbs/MMcf	AP-42		0.65		0.65	2.84
CO	84	lbs/MMcf	AP-42		9.91		9.91	43.41
Lead	5.00E-04	lbs/MMcf	AP-42		0.00		0.00	0.00
Ozone								
Ammonia	3.2	lbs/MMcf	AP-42		0.38		0.38	1.65

**Report Hazardous Air Pollutants and additional regulated air pollutants emitted on page 2 of this form.**

\*Sources of Emission Factors: CEM .. Stack Test .. Mass Balance .. AP-42 .. EPA-WebFIRE .. EPA-TANKS .. EPA-L&E .. Worksheet .. Other – Specify  
Duplicate this form as needed TYPE ALL INFORMATION (DNR Form 542-4014, p. 1, December 2009)

**Form 3.0**





**Form 4.0 EMISSION UNIT – ACTUAL OPERATIONS & EMISSIONS** Duplicate this form for EACH Emission UNIT

1) Company/Facility name Need for Speed Bonnets and Bikes	2) EIQ No. 92-0000	3) Form 4.0 Page of
4) Emissions Point No. EP 200	5) EMISSION POINT DESCRIPTION Exhaust Stack	
6) EMISSION YEAR 2013		
9) DESCRIPTION OF PROCESS Main Boiler		

Form 4.0 is used to show actual emissions of criteria pollutants at

The material being used and the annual throughput are entered here.

ACTUAL EMISSIONS				
(21) Emission Factor Units	(22) *Source of Emission Factor	(23) Ash or Sulfur %	(24) Combined Control Efficiency %	(25) ACTUAL Emissions (Tons/YR)
Mgal	AP-42			0.14

The emission units operating schedule is entered here. This information is used in calculating emissions, assessing environmental impacts and periodic monitoring in the case of season operations.

Lead	9.00E-06	lbs/Mgal	AP-42		
Ozone					
Ammonia	0.8	lbs/Mgal	AP-42		0.07

**Report Hazardous Air Pollutants and additional regulated air pollutants emitted on page 2 of this form.**

\*Sources of Emission Factors: CEM .. Stack Test .. Mass Balance .. AP-42 .. EPA-WebFire .. EPA-TANKS .. EPA-L&E .. Worksheet .. Other - Specify  
Duplicate this form as needed TYPE OR PRINT ALL INFORMATION (DNR Form 542-4007, p. 1, December 2009)

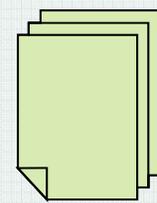
**Form 4.0**

**Form 4.0 EMISSION UNIT – ACTUAL OPERATIONS & EMISSIONS (continued – page 2)**

Company/Facility name Need for Speed Bonnets and Bikes				EQ No. 92-0000		
Emissions Point No. EP 200		EMISSION UNIT NO. EU 200		EMISSION YEAR 2009		
ACTUAL EMISSIONS - HAPs and additional regulated air pollutants						
(19) Air Pollutant		(20) Emission Factor	(21) Emission Factor Units	(22) *Source of Emission Factor	(24) Combined Control Efficiency %	(25) ACTUAL Emissions (Tons/YR)
CAS No.	Name					
50-00-0	Formaldehyde	7.50E-02	lbs/MMcf	AP-42		0.00

Actual emissions for regulated HAPs are reported on the 2<sup>nd</sup> page.

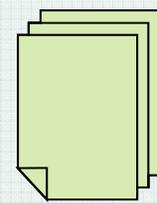

\*Sources of Emission Factors: CEM .. Stack Test .. Mass Balance .. AP-42 .. EPA-WebFire .. EPA-TANKS .. EPA-L&E .. Worksheet .. Other - Specify  
Duplicate this form as needed TYPE OR PRINT ALL INFORMATION (DNR Form 542-4007, p. 2, December 2009)



**Form 4.0 EMISSION UNIT – ACTUAL OPERATIONS & EMISSIONS**

Duplicate this form for EACH Emission UNIT

1) Company/Facility name Need for Speed Bonnets and Bikes		2) EIQ No. 92-0000	3) Form 4.0 Page      of			
4) Emissions Point No. EP 200	5) Emissions Point Description Main Boiler Exhaust Stack		6) EMISSION YEAR 2013			
<b>EMISSION UNIT – ACTUAL OPERATIONS AND EMISSIONS</b>						
7) EMISSION UNIT NO. EU 200	8) SCC NO. 10200601	9) DESCRIPTION OF PROCESS Main Boiler				
<b>ACTUAL THROUGHPUT</b>						
10) Raw Material Natural Gas	11) Actual Throughput – Yearly Total 371.55		12) Units Raw Material MMcf			
<b>Actual Operating Rate/Schedule</b>						
	Jan.-Mar	April-June	July-Sept.	Oct.-Dec.		
13) Percent of Total Operating Time	25 %	25%	25%	25%		
14) Hours/Day	8 Hours	8 Hours	8 Hours	8 Hours		
15) Days/Week	5 Days	5 Days	5 Days	5 Days		
16) Weeks/13 Week Quarter	13 Weeks	13 Weeks	13 Weeks	13 Weeks		
<b>ASSOCIATED EQUIPMENT</b>						
(17) Control Equipment (CE) No.						
(18) Monitoring Equip. (ME) No.						
<b>ACTUAL EMISSIONS</b>						
(19) Air Pollutant	(20) Emission Factor	(21) Emission Factor Units	(22) *Source of Emission Factor	(23) Ash or Sulfur %	(24) Combined Control Efficiency %	(25) ACTUAL Emissions (Tons/YR)
PM-2.5	7.6	lbs/MMcf	AP-42	NA		1.41
PM-10	7.6	lbs/MMcf	AP-42	NA		1.41
<b>Total PM</b>	7.6	lbs/MMcf	AP-42	NA		1.41
SO <sub>2</sub>	0.6	lbs/MMcf	AP-42			0.11
NO <sub>x</sub>	280	lbs/MMcf	AP-42			52.02
VOC	5.5	lbs/MMcf	AP-42			1.02
CO	84	lbs/MMcf	AP-42			15.61
Lead	5.00E-04	lbs/MMcf	AP-42			0.00
Ozone						
Ammonia	3.2	lbs/MMcf	AP-42			0.59
<b>Report Hazardous Air Pollutants and additional regulated air pollutants emitted on page 2 of this form.</b>						
<small>Sources of Emission Factors: CEM .. Stack Test .. Mass Balance .. AP-42 .. EPA-WebFire .. EPA-TANKS .. EPA-L&amp;E .. Worksheet .. Other – Specify Duplicate this form as needed      TYPE OR PRINT ALL INFORMATION      (DNR Form 542-4007, p. 1, December 2009)</small>						





**Title V Operating Permit Application**  
**FORM 5.0: TITLE V ANNUAL EMISSIONS SUMMARY/EMISSIONS FEE**  
 (567 IAC 22.106 and 30.4(2))

**CASHIERS USE ONLY**  
 0325-542-325B-0432

Facility Name: \_\_\_\_\_  
 Emission Year: \_\_\_\_\_

EQ Number: \_\_\_\_\_

SUBMISSION TYPE (Check one)

F  
p

The facility totals for criteria pollutants are entered here.

The total of HAPS subject to fees is entered here.

Criteria pollutants (HAPs) and additional regulated pollutants from this page (tons): \_\_\_\_\_

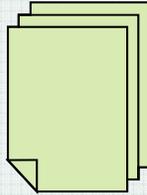
HAP and Regulated Air Pollutant Fee Subtotal from back page (tons): + \_\_\_\_\_

**Emissions Subject to Fee TOTAL (tons): = \_\_\_\_\_**

**EMISSIONS FEE CALCULATION**

**ANNUAL FEE PAYMENT** (complete for July 1 submission)

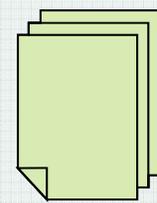
Emissions Subject to Fee TOTAL	Emissions Fee Rate (as set by the EPC)	Fee Due
Tons	X \$ /ton =	\$





Form CA-01 CALCULATIONS		Duplicate this form for each Form it will accompany in the Questionnaire	
1) Company/Facility name		2) EIQ No.	
<b>Need for Speed Bonnets and Bikes</b>		92-0000	
3) Emissions Point No.	4) Emissions Unit No.	5) Emission Unit Description or (SCC) No.	
EP 2	EU 2	Fiberglass Booth 1	
6) Calculations are provided in support of information reported on Form _____ page _____			
7) Emissions Calculations			
See Attached spreadsheets or documents.			
<p style="text-align: center;">Duplicate this form as needed      TYPE ALL INFORMATION      (DNR Form 542-4010, August 1, 2001)</p>			

Calculations are documented here or by referring to an attached spreadsheet. This is important to our application review as well as being documentation for the facility on how emissions were calculated.



## Emission Unit 2 – Potential Emissions

### Maximum Rated Capacity

Maximum Gallon/Hour (Permit # 92-A-049-S3) 30 gal/hr  
Maximum Weight/Gallon of Resin 8.89 lbs/gal  
 $30 \text{ gal/hr} \times 8.89 \text{ lbs/gal} = 266.70 \text{ lbs/hr}$

### PM-2.5, PM-10, PM

Potential Hourly Controlled Emissions (lbs/hr) 1.37 lbs/hr  
Permit # 92-A-049-S3

$1.37 \text{ lbs/hr} \times 8760 \text{ hrs/yr} / 2000 \text{ lbs/ton} = 6.00 \text{ tpy}$

### VOC

Resin Limit 250 lbs/ton  
Resin Facility Annual Pound Limit 1400000 lbs  
Permit # 92-A-049-S3

$250 \text{ lbs/ton} \times (1400000 \text{ lbs/yr} / 2000 \text{ lbs/ton}) / 2000 \text{ lbs/ton} = 87.50 \text{ tpy}$

Resin Catalyst Facility Annual Pound Limit 28000 lbs  
(VOC assumed at 100%)  
Permit # 92-A-049-S3

$28000 \text{ lbs/yr} / 2000 \text{ lbs/ton} = 14 \text{ tpy}$

### Total VOC

$87.50 \text{ tpy} + 14 \text{ tpy} = 101.50 \text{ tpy}$

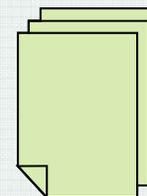
### HAP

#### Methly methacrylate CAS# 80-62-6

Calculations for methly methacrylate have been added to styrene as recommended by the NESHAP.

#### Styrene CAS# 100-42-5

HAP Limit 88 lbs/ton  
Resin Facility Annual Pound Limit 1400000 lbs  
Permit # 92-A-049-S3  
 $((1400000 \text{ lbs/yr} / 2000 \text{ lbs/ton}) \times 88 \text{ lbs/ton}) / 2000 \text{ lbs/ton} = 30.80 \text{ tpy}$



**FORM CE-01: POLLUTION CONTROL EQUIPMENT DATA SHEET**

Duplicate this form for EACH piece of Control Equipment

Page \_\_\_\_\_ of \_\_\_\_\_

1. Company Name: \_\_\_\_\_

Form CE-01 is used for describing control equipment. Not only the type but the capture efficiency, control equipment efficiency and combined control efficiency.

**EMISSIONS DATA**

**11. Equipment Control Efficiency based on:**

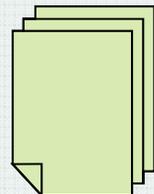
Manufacturers Date

State Test:    Date of Test: \_\_\_\_\_    Reference Test Method: \_\_\_\_\_

(If stack test data is used a copy of the Report Summary must be attached. Do not submit the entire stack test report.)

Other (specify): \_\_\_\_\_

12. Pollutant Controlled	13. % Capture Efficiency	14. % Control Equipment Efficiency	15. % Combined Control Efficiency



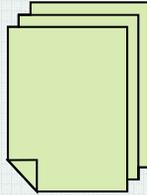
IOWA OPERATING PERMIT APPLICATION – PART 1  
**Form ME-01 CONTINUOUS MONITORING SYSTEMS**

Duplicate and complete this form for  
 EACH piece of MONITORING EQUIPMENT

1) Company/Facility Name		2) EIQ No.		3) Form ME-01 page one Page ____ of ____	
<b>Continuous Monitoring System (CMS) Description</b>					
4) Monitoring Equipment No.		5) Name of Manufacturer		6) Model Name – Model Number – Model Year	
				7) Date of Installation	
8) Type of Monitor (Check all that apply)				9) Measurement Basis:	
<input type="checkbox"/> Point In Situ		<input type="checkbox"/> Path In Situ		<input type="checkbox"/> Wet <input type="checkbox"/> Dry	
<input type="checkbox"/> Dilution		<input type="checkbox"/> Other (Specify): _____			
10) Pollutant(s)/Parameter(s) Monitored by CMS (Check all that apply to THIS monitor):					
<input type="checkbox"/> SO2		<input type="checkbox"/> NOx		<input type="checkbox"/> CO	
<input type="checkbox"/> TRS		<input type="checkbox"/> H2S		<input type="checkbox"/> HCL	
<input type="checkbox"/> Diluent O2		<input type="checkbox"/> Other (Specify): _____		<input type="checkbox"/> Opacity	
				<input type="checkbox"/> Total Hydrocarbons (VOC)	
<b>ASSOCIATED EQUIPMENT</b>					
11) Emission Point No. _____ on Unit Nos. (List all)					
<b>13) MONITOR OPERATIONS</b>					
Each type of parameter or pollutant you identified in question 10. For example if the CMS					

Form ME-01 is used for describing Continuous Monitoring Systems (CMS) also known as Continuous Emission Monitors (CEMs). We used the dates of initial certification in the Title V permit. This form is used most commonly by utilities or facilities with large boilers.

<input type="checkbox"/> 1 ½ time the emission limit		<input type="checkbox"/> The procedure outlined on 40 CFR 75 App. A	
<input type="checkbox"/> Other (Specify): _____			
a) THIRD Type of Pollutant/Parameter: _____			
b) Has a Performance Specification Test of the monitor (for this pollutant/parameter) been done?		40 CFR 60 Appendix B <input type="checkbox"/> Yes <input type="checkbox"/> No	
		40 CFR 75 Appendix A <input type="checkbox"/> Yes <input type="checkbox"/> No	
If yes for either – Date test performed: _____ Did it pass? <input type="checkbox"/> Yes <input type="checkbox"/> No			
c) What was the Span Value for this pollutant/parameter? _____			
d) How did you determine the Span Value:		<input type="checkbox"/> The requirements of the applicable rule	
		<input type="checkbox"/> The procedures outlined in 40 CFR 60 App. B	
		<input type="checkbox"/> 1 ½ time the emission limit	
		<input type="checkbox"/> The procedure outlined on 40 CFR 75 App. A	
<input type="checkbox"/> Other (Specify): _____			
Duplicate this form as needed		TYPE OR PRINT ALL INFORMATION	
(DNR Form 542-1484, p.1. August 1, 2001)			



Form ME-01



**Title V Operating Permit Application**  
**PART 3: APPLICATION CERTIFICATION**  
 A properly completed and signed application certification must accompany all applications, supplemental information submitted in support of an application, annual emissions summaries, and fee payments. Submittals made without the appropriate signatures will be considered incomplete.

**FACILITY INFORMATION**

Facility Name: \_\_\_\_\_  
 EQ Number: \_\_\_\_\_ Facility Number: \_\_\_\_\_  
 Mailing Address: \_\_\_\_\_  
 City: \_\_\_\_\_

**APPLICATION CERTIFICATION**

**PART 1 – GENERAL EMISSIONS INFORMATION**

1.0 Facility Identification  
 1.2 Process Flow Diagram  
 1.3 Insign  
 1.4 Poter

---

**APPLICATION FEES AGREEMENT** (for initial and renewal applications)

By signing on the line provided below, the applicant agrees to be billed for the review of your application at the applicable hourly rate. The applicant agrees that the fee schedule for application fees is based on the current Fee Schedule.

\_\_\_\_\_  
 Signature of Responsible Official

\_\_\_\_\_  
 Title of Responsible Official

\_\_\_\_\_  
 Print Name of Responsible Official

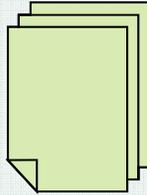
\_\_\_\_\_  
 Date signed (mm/dd/yyyy)

Continue to next page

Facility contact information.

Documentation Certification of Fees - signature is required here when submitting a fee payment.

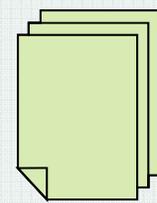
Application Fee Agreement - signature is required here when submitting an initial or renewal application. The responsible official is agreeing to pay for permit processing.



STATEMENT OF CERTIFICATION OF COMPLIANCE (If Part 2 forms are enclosed)	
This certification of compliance must be signed by the responsible official designated on Form 1.0 of this application. 567 IAC 22.105(2)"i"(1)	
"I Certify under penalty of law that, based on information and belief formed after reasonable inquiry, that the statements and information contained in this document accurately reflect the compliance status of this facility, for the past year to date, and are true, accurate, and complete."	
Signature of Responsible Official _____	Title of Responsible Official _____
Print Name of Responsible Official _____	_____(mm/dd/yyyy)
CERTIFICATION OF TRUTH, ACCURACY AND COMPLETENESS	
This certification of truth, accuracy, and completeness must be signed by the responsible official designated on Form 1.0 of this application.	

Certification of Compliance - signature is required here when submitting any application which includes Part 2..

Certification of Truth, Accuracy and Completeness - signature is required for all submittals.



# Review of Title V Application New Part 2 Forms





## Part 2 - General Facility Requirements

### 1. National Emission Standards for Hazardous Air Pollutants (NESHAP) - Source Categories & Accidental Release

- a. Please read through **Appendix A: Hazardous Air Pollutants** which lists 187 HAP - sorted alphabetically and by CAS number, and check one of the following:
- NO, my facility DOES NOT emit into the atmosphere or process, use, or generate materials that contain any pollutants listed in Appendix A and is not subject to these requirements for

The General Facilities Requirements form leads you through major program applicability. Page one covers 112 and 112r applicability.

- YES, my facility DOES have the potential to emit a combination of pollutants listed in Table A and is subject to these requirements for emissions.

If you answered "no" to both questions 1b and 1c, your facility is not an "area source" of HAP emissions.

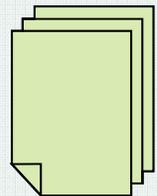
- d. At any given time, does the source produce, process, store, use, or use any of the substances listed in **Appendix B: Accidental Release Prevention** in quantities greater than the threshold quantity?

- NO.
- YES, read Section 112(r) of the Clean Air Act Amendments of 1990 and 40 CFR Part 68 and answer question 1e.

- e. After reviewing Section 112(r) of the Clean Air Act Amendments of 1990 and 40 CFR 68, is your source subject to Section 112(r) Prevention of Accidental Releases?

- NO, indicate reasons that you believe the source is not subject to these requirements (include 112(r) or rule references):

- YES, my facility is subject to Section 112(r) Prevention of Accidental Releases. Although not a part of your Title V operating permit, you are required to write a management plan for the prevention of accidental releases that covers hazard assessment, pollution prevention, and emergency response issues for your facility.



a. After completing all **Part 2 - Emission Point Information** forms, list all applicable NESHAPs for the facility.

Subpart	Description

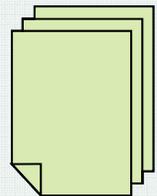
Part 63 National Emission Standards for Hazardous Air Pollutants (NESHAP) are listed here.

Part 60 New Source Performance Standards (NSPS) are listed here.

Stratospheric Ozone applicability is identified here. If a facilities has air conditioners they are likely subject to this rule. The primary requirement is to used certified technicians to service your air conditions and refrigeration's systems.

... **Stratospheric Ozone Depleting Chemicals** list. If you manufacture, sell, or use any of the listed chemicals, then 40 CFR 82 applies to your facility. Read 40 CFR 82 to determine all of the requirements that apply to your facility. After reviewing this list of chemicals, check one of the following:

- NO, my facility DOES NOT manufacture, sell, distribute or use any chemicals from the list, and 40 CFR 82 does not apply to my facility.
- YES, my facility DOES manufacture, sell, distribute or use one or more of the chemicals from the list.



**4. Acid Rain Program under Title IV**

a. Does your facility own or operate one of the following Phase I or Phase II units?

As listed in 40 CFR 73.10	DNR Title V Facility Name	Facility Number
Ames	City of Ames Steam Electric Plant	85-01-006
Burlington	IPL - Burlington Generating Station	29-01-013
Council Bluffs	MidAmerican Energy Co. - Walter Scott Jr. Energy Center	78-01-026
Des Moines	MidAmerican Energy Co. - Pleasant Hill CTs/GDEC	77-13-002
Dubuque	IPL - Dubuque Generating Station	31-01-017
Earl F. Wisdom	Corn Belt Power Coop/Wisdom Generating Station	21-01-003

Page 3 and the top of page 4 are used to indicate whether your facility is subject to Acid Rain or Cross State Air Pollution Rule (CSAPR, aka Transport Rule).

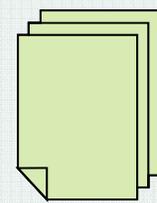
	... Falls Municipal Electric Utility	07-02-005
	IPL - Sutherland Generating Station	64-01-012
IN	IPL - Emery Generating Station	17-02-016
NA	Western Minnesota Municipal Power Agency - Exira	05-04-002

- NO, go to question b.
- YES, you are subject to this regulation. Please review the Acid Rain part of **Appendix E: Acid Rain and CSAPR**.

- b. Does your facility combust fossil fuel and generate electricity for wholesale or retail sale, such as a cogeneration facility, a qualifying facility (as defined in the Federal Power Act), independent power producer, or solid waste incinerator?
- NO, your facility IS NOT subject to acid rain requirements, go to question c.
  - YES, your facility MAY be subject to acid rain requirements. Please refer to the applicability definitions in 40 CFR 72.6 to determine if they apply.
- c. After completing questions a. and b. and reviewing 40 CFR 72.6, are you subject to acid rain requirements?
- NO, my facility IS NOT subject to acid rain requirements.
  - YES, my facility IS subject to acid rain requirements.

**5. Cross State Air Pollution Rule (CSAPR, aka Transport Rule)**

- a. Does your facility own or operate a stationary boiler or combustion turbine that burns fossil fuel?
- NO, you are NOT subject to CSAPR requirements. Answer NO to question d.
  - YES, continue to question b.



b. Has the unit in question a. served, on or after January 1, 2005, a generator that has greater than a 25 MW nameplate capacity?

## Prevention of Significant Deterioration (PSD) applicability is

i

If your facility has a boiler you would indicate that here and you are

If your facility has an engine you would indicate that here and you are directed to complete the Engine form.

for and Process Heater Information form with all boilers and process heaters located at the facility (including

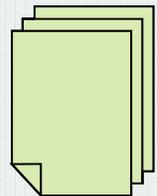
### 7. Engine Information

a. Does the facility operate any engines?

NO

YES. If yes, complete one **Part 2 - Engine Information** form for each engine (including "Insignificant Activities) located at the facility.

Owners and operators of air emissions equipment are subject to rules contained in 567 Iowa Administrative Code (IAC) chapters 20 - 35. Please read the rules to determine which apply to the facility or parts thereof. You can find the Iowa air quality rules from website <http://www.legis.state.ia.us/IAC.html> or request a hardcopy from the Air Quality Bureau.





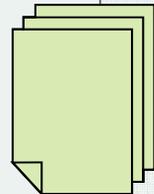
## Part 2 – Boiler and Process Heater Information

EP #	EU #	Fuel Type	Rated Capacity (MMBtu/hr)	Boiler Subcategory <sup>(1)</sup>	Commence Construction Date	Reconstruction Date <sup>(2)</sup>	Control Equipment Description

The Boiler and Process Heater form asks for all the information that is required to identify the applicable sections of the boiler NESHAP.

- (g) Fuel Cells designed to burn biomass/bio-based solid.
- (h) Hybrid suspension/grate burners designed to burn biomass/bio-based solid.
- (i) Units designed to burn solid fuel.
- (j) Units designed to burn liquid fuel.
- (k) Units designed to burn liquid fuel in non-continental States or territories.
- (l) Units designed to burn natural gas, refinery gas or other gas 1 fuels.
- (m) Units designed to burn gas 2 (other) gases.
- (n) Metal process furnaces.
- (o) Limited-use boilers and process heaters.

<sup>(2)</sup> A modification is a physical or operational change that can increase the emissions of a regulated air pollutant. Reconstruction is replacing the components on an existing engine and the cost of the replacement components exceeds 50% of the cost of a new boiler. See 40 CFR 60.14 and 60.15 for complete definitions.





## Part 2 - Engine Information

<b>EP #</b>		<b>Ignition type</b>	<input type="checkbox"/> Spark <input type="checkbox"/> Compression
<b>EU #</b>		<b>Black start?<sup>(2)</sup></b>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>Engine manufacturer</b>		<b>Emergency engine?<sup>(3)</sup></b>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>Model #</b>		<b>2 or 4-Stroke? (SI only)</b>	<input type="checkbox"/> 2-stroke <input type="checkbox"/> 4-stroke
<b>Model year</b>		<b>Rich or lean burn?<sup>(4)</sup> (SI only)</b>	<input type="checkbox"/> Rich burn <input type="checkbox"/> Lean burn
<b>Fuel type</b>		<b>Portable?<sup>(5)</sup></b>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>Rated capacity (bhp)</b>		<b>Manufacturer certified?</b>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>Displacement CI only (liters/cylinder)</b>		<b>Modification/reconstruction date<sup>(6)</sup></b>	
<b>Date of construction<sup>(1)</sup></b>			

(1) Date the engine was constructed.

(2) An engine which is used to start up a combustion turbine.

(3) An emergency engine is a stationary Internal Combustion Engine (ICE) whose operation is required testing and maintenance. Examples include stationary ICE used to start up a combustion turbine or a generator set (including power supplied to portions of a facility) when electric power is not available.

The Engine form asks for all the information that is required to identify the applicable sections of the engine NSPSs or NESHAP.

(4) A portable engine that will remain at a location more than 12 months or a portable engine that operates more than 3 months per year as part of a seasonal source that returns to the same location is considered a stationary engine.

(6) A modification is a physical or operational change that can increase the emissions of a regulated air pollutant. Reconstruction is replacing the components on an existing engine and the cost of the replacement components exceeds 50% of the cost of a new engine. See 40 CFR 60.14 and 60.15 for complete definitions.





## Part 2 – Part 61 National Emission Standards for Hazardous Air Pollutants (NESHAP) Information

If you answered "Yes" to question 1f on the **Part 2 - General Facility Requirements** form, complete this form.

**1. Check and complete the following three descriptions (a, b or c) that are applicable.**

Some NESHAPs apply to an entire mine, plant or shop. Other NESHAPs apply to specific units, like a reactor, valve or vessel.

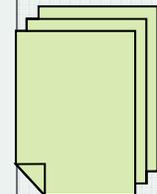
a)  The facility is subject ONLY to Subpart M NESHAP for the demolition and renovation of asbestos containing structures listed in 40 CFR Part 61.145. The Iowa Department of Employment Services and the DNR Air Quality Bureau has been contacted regarding any asbestos abatement projects as required.

b)  The facility is subject to the following NESHAP requirements

This form is used to identify any Part 61 NESHAPs that your facility may be subject to.

included in "a" above. Provide the information requested below for each unit subject to a NESHAP.

40 CFR 61 Subpart	List All Emission Units Subject to Each Listed Subpart





## Part 2 – Emission Point Information

Facility Name: \_\_\_\_\_ EIQ No.: \_\_\_\_\_

### Section I: Emission Point Information

Emission Point ID Number: \_\_\_\_\_ Field 1 \_\_\_\_\_

Operational limits and reporting/recordkeeping are documented here.

Any NSPS's that applied to this emission point are entered here.

Emission limits that the point is subject to are entered here. They will come from your construction permit as well as any state or federal requirements that apply.

	<input type="checkbox"/> Y <input type="checkbox"/> N	
	<input type="checkbox"/> Y <input type="checkbox"/> N	
	<input type="checkbox"/> Y <input type="checkbox"/> N	

**Section V: Monitoring Requirements**

Use **CAM Calculations** form and **Appendix J: Compliance Assurance Monitoring** to determine the CAM applicability for the control equipment associated with this emission point. The **CAM Calculations** form must be included with the Part 2 application.

Compliance Assurance Monitoring (CAM) Plan Required? Yes  No

Control Equipment ID:

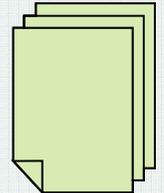
Pollutant:

Your facility's compliance status is indicated here.

Not in compliance (submit a compliance plan – see 1 requirements).

You indicate if you are subject to CAM and whether you have CEMs here.

For those applicable requirements that will become effective during the permit term, the emission point will comply with these requirements on a timely basis.



**Emission Point ID Number: 001**

Associated Equipment

Associated Emission Unit ID Number: 001

Emissions Control Equipment ID Number: CE001

Emissions Control Equipment Description: Electrostatic Precipitator

Continuous Emissions Monitors ID Numbers: ME001A (SO<sub>2</sub>), ME001B (NO<sub>x</sub>), ME001C (Diluent CO<sub>2</sub>), ME001D (Flow) and ME001E (Opacity)

Emission Unit vented through this Emission Point: 001

Emission Unit Description: Omega 1 Boiler (Cyclone boiler)

Raw Material/Fuel: Coal (Auxiliary Fuel: natural gas, used oil, used ethylene glycol, and small quantity hazardous waste)

Rated Capacity: 1,363 MMBtu/hr

**Applicable Requirements**

**Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)**

*The emissions from this emission point shall not exceed the levels specified below.*

Pollutant: Opacity

Emission Limits: 40%

Authority for Requirement: 567 IAC 23.3(2)"d"

Iowa DNR Construction Permit 71-A-056-S1

Pollutant: Particulate Matter

Emission Limits: 0.5 lb/MMBtu Only boiler in operation

When multiple boilers are in operation refer to limits in the multiple firing section on page 27.

Authority for Requirement: 567 IAC 23.3(2)"b"(5) (Iowa - State Implementation Plan (SIP))

Iowa DNR Construction Permit 71-A-056-S1

Pollutant: Sulfur Dioxide (SO<sub>2</sub>)

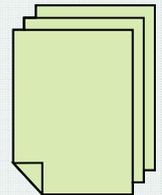
Emission Limits: 1.2 lb/MMBtu replicated maximum 3-hour average, 38,600 lb/day expressed as the average of 3 runs

Authority for Requirement: Iowa DNR Construction Permit 71-A-056-S1

Pollutant: Sulfur Dioxide (SO<sub>2</sub>)

Emission Limits: Sulfur Dioxide Phase II Allowances

Authority for Requirement: 567 IAC 22.108(7) (Attached Phase II Permit)



### **Operational Limits & Requirements**

*The owner/operator of this equipment shall comply with the operational limits and requirements listed below.*

#### **Acid Rain Requirements:**

The facility is considered an affected source under 40 CFR 72, 73, 75, 76, 77, and 78 definitions as this emission unit is subject to the acid rain emission reduction requirements or the acid rain emission limitations, as adopted by the Department by reference (See 567 IAC 22.120 – 567 IAC 22.148).

Authority for Requirement: Iowa DNR Construction Permit 71-A-056-S1

Process throughput: Used Oil and Used Ethylene Glycol Requirements

Combustion of used oil and used ethylene glycol in this emission unit is limited to that which is generated on-site.

Work practice standards:

The control equipment shall be inspected and maintained according to manufacturer's specifications.

SO<sub>2</sub>, NO<sub>x</sub> and opacity continuous operating monitors (CEMs) are required. These shall be operated, calibrated, and recorded according to the specifications in 40 CFR Part 75.

Reporting & Record keeping:

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner. The owner or operator shall keep records of control equipment inspections and maintenance.

Authority for Requirement: Iowa DNR Construction Permit 71-A-056-S1

#### **Emission Point Characteristics**

*The emission point shall conform to the specifications listed below.*

~~Stack Height, (ft, from the ground): 250~~

~~Stack Opening, (feet, dia.): 9.42~~

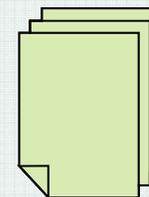
~~Exhaust Flow Rate (acfm): 539,430~~

~~Exhaust Temperature (8F): 320~~

~~Discharge Style: Vertical unobstructed~~

~~Authority for Requirement: Iowa DNR Construction Permit 71-A-056-S1~~

~~The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.~~



### **Monitoring Requirements**

*The owner/operator of this equipment shall comply with the Monitoring requirements listed below.*

#### **~~Stack Testing:~~**

- ~~Pollutant - Particulate Matter~~
- ~~1st Stack Test to be Completed by - [January 12, 2007]~~
- ~~2nd Stack Test to be Completed between - [July 12, 2008 and July 12, 2009]~~
- ~~Test Method - Iowa Method 5~~
- ~~Authority for Requirement - 567 IAC 22.108(3)~~

#### **Continuous Emissions Monitoring:**

Pollutant - Opacity  
Operational Specifications - 40 CFR Part 75  
Initial System Calibration/Quality Assurance - 10/93  
Ongoing System Calibration/Quality Assurance - 40 CFR Part 75  
Reporting & Record keeping - 40 CFR Part 75  
Authority for Requirement - 567 IAC 25.1(1) and 567 IAC 25.2

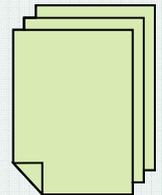
Pollutant - Sulfur Dioxide (SO<sub>2</sub>)  
Operational Specifications - 40 CFR Part 75  
Initial System Calibration/Quality Assurance - 10/93  
Ongoing System Calibration/Quality Assurance - 40 CFR Part 75  
Reporting & Record keeping - 40 CFR Part 75  
Authority for Requirement - 567 IAC 25.2

Pollutant - Nitrogen Oxides (NO<sub>x</sub>)  
Operational Specifications - 40 CFR Part 75  
Initial System Calibration/Quality Assurance - 10/93  
Ongoing System Calibration/Quality Assurance - 40 CFR Part 75  
Reporting & Record keeping - 40 CFR Part 75  
Authority for Requirement - 567 IAC 25.2

#### **Other Parameters**

Pollutant - Other - Carbon Dioxide (CO<sub>2</sub>)  
Operational Specifications - 40 CFR Part 75  
Initial System Calibration/Quality Assurance - 10/93  
Ongoing System Calibration/Quality Assurance - 40 CFR Part 75  
Reporting & Record keeping - 40 CFR Part 75  
Authority for Requirement - 567 IAC 25.2

Pollutant - Other - Flow  
Operational Specifications - 40 CFR Part 75  
Initial System Calibration/Quality Assurance - 10/93  
Ongoing System Calibration/Quality Assurance - 40 CFR Part 75



Reporting & Record keeping - 40 CFR Part 75  
Authority for Requirement - 567 IAC 25.2

~~The owner of this equipment or his authorized agent shall provide written notice to the Director, not less than 30 days before a required stack test or performance evaluation of a continuous emission monitor. Results of the tests shall be submitted in writing to the Director in the form of a comprehensive report within 6 weeks of the completion of the testing. 567 IAC 25.1(7)~~

~~Agency Approved Operation & Maintenance Plan Required? — Yes  No~~

~~Facility Maintained Operation & Maintenance Plan Required? — Yes  No~~

Compliance Assurance Monitoring (CAM) Plan Required? Yes  No

Authority for Requirement: 567 IAC 22.108(3)

**Compliance Assurance Monitoring Plan  
Electrostatic Precipitator for PM Control**

I. Background

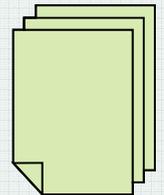
A. Emissions Unit:

Description: Omega 1 Boiler, Cyclone boiler  
Identification: EU 001  
Facility: No Name, Omega North

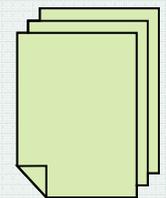
B. Applicable Regulation, Emission Limit, and Monitoring Requirements:

Regulation No.: Permit 71-A-056-S1  
Particulate emission limit: 0.5 lb/MMBtu PM  
Opacity emission limit: 40%  
Current Monitoring requirements: Stack Testing  
Continuous opacity monitoring system (COMS)  
Audible Precipitator Malfunction Alarm

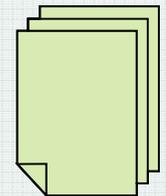
C. Control Technology: Electrostatic Precipitator



II. Monitoring Approach		
1. Indicator  Measurement Approach	Opacity of ESP exhaust	Audible Precipitator Malfunction Alarm
	COMS in ESP exhaust	The audible alarm will continuously monitor T-R set failure and rapper control malfunction, combined with daily inspections of the ESP electro-mechanical operation as the monitoring method.
2. Indicator Range	When the opacity exceeds 40% over any 6-minute average, corrective action will be implemented within 8 hours plus the period of time until generating capacity is available to meet consumer demand. An exceedance of the 40% opacity limit is considered a violation, and shall be reported as required in General Condition G14.	The precipitator malfunction alarm will continuously monitor T-R set failure and rapper control malfunction. Corrective action measures will be implemented on the occurrence of a precipitator malfunction alarm. The appropriate measures for remediation will be implemented within 8 hours plus the period of time until generating capacity is available to meet consumer demand.



3. Performance Criteria		
A. Data Representativeness	Install the COMS at a representative location in the ESP exhaust per 40 CFR 60, Appendix B, Performance Specification 1 (PS-1).	Rapper system operation, T-R set operation and ash removal system operation are indicators of the proper electro-mechanical operation of the electrostatic precipitator. An audible alarm will continuously monitor T-R set failure and rapper control health. Daily inspection of the rapper system operation, T-R set and ash removal system provides additional assurance of proper electro-mechanical operation of the electrostatic precipitator.
B. Verification of Operational Status	Results of initial COMS performance evaluation conducted per PS-1 (October, 1993).	Results of equipment verification tests conducted to calibrate the audible alarm.
C. QA/QC Practices/Criteria	Install and evaluate the COMS per PS-1. The continuous opacity monitor will be automatically calibrated for zero and span adjustments daily.	All instruments and control equipment will be calibrated, maintained, and operated according to the manufactures specifications.
D. Monitoring Frequency	Monitor the opacity of the ESP exhaust continuously (every 10 seconds).	An audible alarm will continuously monitor T-R set failure and rapper control malfunction. Daily: <ul style="list-style-type: none"> <li>• Inspection of rapper operation.</li> <li>• Inspection of T-R set operation including power usage level.</li> <li>• Inspection of ash removal system operation.</li> </ul> Each Major Scheduled Unit Outage Lasting Four or More Weeks: <ul style="list-style-type: none"> <li>• Check and correct plate electrode alignment.</li> <li>• Inspect for collection surface fouling.</li> <li>• Inspect T-R set mechanical condition.</li> <li>• Inspect internal structural components.</li> </ul>
E. Data Collection Procedures	Set up the data acquisition system (DAS) to retain all 6-minute and hourly average opacity data.	Maintain opacity reports, supporting data, all inspection records, and any action resulting from the inspection for 5 years and available upon request.
F. Averaging period	Use the 10-second opacity data to calculate 6-minute averages. Use the 6-minute averages to calculate the hourly block average opacity.	None.





**Part 2 – Emission Point Information**

**Facility Name:** No Name Power **EIQ No.:** 92-????

**Section I: Emission Point Information**

Emission Point ID Number: 001  
 Emission Unit(s) ID vented through this Emission Point: 001  
 Emission Unit(s) Description: Omega 1 Boiler (Cyclone boiler)  
 Control Equipment ID Number: CE001  
 Control Equipment Description: Electrostatic Precipitator  
 Continuous Emissions Monitors ID Numbers: ME001A (SO<sub>2</sub>), ME001B (NO<sub>x</sub>), ME001C (Diluent CO<sub>2</sub>), ME001D (Flow) and ME001E (Opacity)  
 Raw Material(s): Coal (Auxiliary Fuel: natural gas, used oil, used ethylene glycol, and small quantity hazardous waste)  
 Maximum Rated Capacity: 1,363 MMBtu/hr

**Section II: Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)**

*List all applicable emission limits for this emission point*

**Pollutant:** Opacity  
**Emission Limits:** 40%  
**Authority for Requirement:** 567 IAC 23.3(2)"d"  
 Iowa DNR Construction Permit 71-A-056-S1

**Pollutant:** Particulate Matter  
**Emission Limits:** 0.5 lb/MMBtu Only boiler in operation  
 When multiple boilers are in operation refer to limits in the multiple firing section on page 27.  
**Authority for Requirement:** 567 IAC 23.3(2)"b"(5) (Iowa - State Implementation Plan (SIP))  
 Iowa DNR Construction Permit 71-A-056-S1

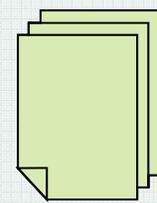
**Pollutant:** Sulfur Dioxide (SO<sub>2</sub>)  
**Emission Limits:** 1.2 lb/MMBtu replicated maximum 3-hour average, 38,600 lb/day expressed as the average of 3 runs  
**Authority for Requirement:** Iowa DNR Construction Permit 71-A-056-S1

**Pollutant:** Sulfur Dioxide (SO<sub>2</sub>)  
**Emission Limits:** Sulfur Dioxide Phase II Allowances  
**Authority for Requirement:** 567 IAC 22.108(7) (Attached Phase II Permit)

**Section III: Operational Limits & Reporting/Recordkeeping Requirements**

*List all applicable requirements for this emission point*

**Acid Rain Requirements:**  
 The facility is considered an affected source under 40 CFR 72, 73, 75, 76, 77, and 78 definitions as this emission unit is subject to the acid rain emission reduction requirements or the acid rain emission limitations, as adopted by the Department by reference (See 567 IAC 22.120 – 567 IAC 22.148).  
**Authority for Requirement:** Iowa DNR Construction Permit 71-A-056-S1



Process throughput: Used Oil and Used Ethylene Glycol Requirements  
 Combustion of used oil and used ethylene glycol in this emission unit is limited to that which is generated on-site.

**Work practice standards:**

The control equipment shall be inspected and maintained according to manufacturer's specifications. SO<sub>2</sub>, NO<sub>x</sub> and opacity continuous operating monitors (CEMs) are required. These shall be operated, calibrated, and recorded according to the specifications in 40 CFR Part 75.

**Reporting & Record keeping:**

All records as required by this permit shall be kept on-site for a minimum of five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner. The owner or operator shall keep records of control equipment inspections and maintenance.

Authority for Requirement: Iowa DNR Construction Permit 71-A-056-S1

**Section IV: NSPS/NESHAP**

List the New Source Performance Standards (NSPS) subparts that were evaluated for this emission point

40 CFR 60 Subpart	Subject (Y/N)	If "No" why (optional)
	<input type="checkbox"/> Y <input type="checkbox"/> N	
	<input type="checkbox"/> Y <input type="checkbox"/> N	
	<input type="checkbox"/> Y <input type="checkbox"/> N	
	<input type="checkbox"/> Y <input type="checkbox"/> N	

List the National Emission Standards for Hazardous Air Pollutants (NESHAP) subparts that were evaluated for this emission point

40 CFR 63 Subpart	Subject (Y/N)	If "No" why (optional)
DDDDD	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	Utility Boiler
UUUUU	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
A	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
	<input type="checkbox"/> Y <input type="checkbox"/> N	

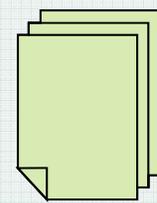
**Section V: Monitoring Requirements**

Use **CAM Calculations** form and **Appendix J: Compliance Assurance Monitoring** to determine the CAM applicability for the control equipment associated with this emission point. The **CAM Calculations** form must be included with the Part 2 application.

**Compliance Assurance Monitoring (CAM) Plan Required?** Yes  No   
 Control Equipment ID: CE001 Pollutant: PM

**Continuous Emissions Monitoring Required?** Yes  No   
 Pollutant - Opacity

- Operational Specifications - 40 CFR Part 75
- Initial System Calibration/Quality Assurance - 10/93
- Ongoing System Calibration/Quality Assurance - 40 CFR Part 75
- Reporting & Record keeping - 40 CFR Part 75
- Authority for Requirement - 567 IAC 25.1(1) and 567 IAC 25.2



Pollutant - Sulfur Dioxide (SO<sub>2</sub>)  
Operational Specifications - 40 CFR Part 75  
Initial System Calibration/Quality Assurance - 10/93  
Ongoing System Calibration/Quality Assurance - 40 CFR Part 75  
Reporting & Record keeping - 40 CFR Part 75  
Authority for Requirement - 567 IAC 25.2

Pollutant - Nitrogen Oxides (NO<sub>x</sub>)  
Operational Specifications - 40 CFR Part 75  
Initial System Calibration/Quality Assurance - 10/93  
Ongoing System Calibration/Quality Assurance - 40 CFR Part 75  
Reporting & Record keeping - 40 CFR Part 75  
Authority for Requirement - 567 IAC 25.2

Other Parameters

Pollutant - Other - Carbon Dioxide (CO<sub>2</sub>)  
Operational Specifications - 40 CFR Part 75  
Initial System Calibration/Quality Assurance - 10/93  
Ongoing System Calibration/Quality Assurance - 40 CFR Part 75  
Reporting & Record keeping - 40 CFR Part 75  
Authority for Requirement - 567 IAC 25.2

Pollutant - Other - Flow  
Operational Specifications - 40 CFR Part 75  
Initial System Calibration/Quality Assurance - 10/93  
Ongoing System Calibration/Quality Assurance - 40 CFR Part 75  
Reporting & Record keeping - 40 CFR Part 75  
Authority for Requirement - 567 IAC 25.2

**Section VI: Compliance Plan, Schedule & Certification**

Indicate the compliance status of this emission point for the Previous year to date:

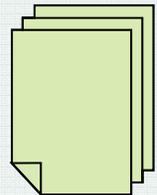
- In compliance with all applicable requirements.
- Not in compliance (submit a compliance plan – see Part 2 Instructions for compliance plan requirements).

Indicate the compliance status of this emission point on the date of submittal:

- In compliance with all applicable requirements.
- Not in compliance (submit a compliance plan – see Part 2 Instructions for compliance plan requirements).

For those applicable requirements this emission point is currently in compliance with, the emission point will continue to comply these requirements.

For those applicable requirements that will become effective during the permit term, the emission point will comply with these requirements on a timely basis.



**Compliance Assurance Monitoring Plan  
Electrostatic Precipitator for PM Control**

**I. Background**

**A. Emissions Unit:**

Description: Omega 1 Boiler, Cyclone boiler  
 Identification: EU 001  
 Facility: No Name, Omega North

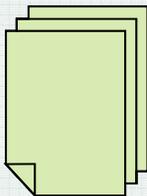
**B. Applicable Regulation, Emission Limit, and Monitoring Requirements:**

Regulation No.: Permit 71-A-056-S1  
 Particulate emission limit: 0.5 lb/MMBtu PM  
 Opacity emission limit: 40%  
 Current Monitoring requirements: Stack Testing  
 Continuous opacity monitoring system (COMS)  
 Audible Precipitator Malfunction Alarm

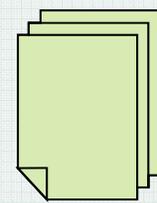
**C. Control Technology: Electrostatic Precipitator**

**II. Monitoring Approach**

1. Indicator	Opacity of ESP exhaust	Audible Precipitator Malfunction Alarm
Measurement Approach	COMS in ESP exhaust	The audible alarm will continuously monitor T-R set failure and rapper control malfunction, combined with daily inspections of the ESP electro-mechanical operation as the monitoring method.
2. Indicator Range	When the opacity exceeds 40% over any 6-minute average, corrective action will be implemented within 8 hours plus the period of time until generating capacity is available to meet consumer demand. An exceedance of the 40% opacity limit is considered a violation, and shall be reported as required in General Condition G14.	The precipitator malfunction alarm will continuously monitor T-R set failure and rapper control malfunction. Corrective action measures will be implemented on the occurrence of a precipitator malfunction alarm. The appropriate measures for remediation will be implemented within 8 hours plus the period of time until generating capacity is available to meet consumer demand.



3. Performance Criteria		
A. Data Representativeness	Install the COMS at a representative location in the ESP exhaust per 40 CFR 60, Appendix B, Performance Specification 1 (PS-1).	Rapper system operation, T-R set operation and ash removal system operation are indicators of the proper electro-mechanical operation of the electrostatic precipitator. An audible alarm will continuously monitor T-R set failure and rapper control health. Daily inspection of the rapper system operation, T-R set and ash removal system provides additional assurance of proper electro-mechanical operation of the electrostatic precipitator.
B. Verification of Operational Status	Results of initial COMS performance evaluation conducted per PS-1 (October, 1993).	Results of equipment verification tests conducted to calibrate the audible alarm.
C. QA/QC Practices/Criteria	Install and evaluate the COMS per PS-1. The continuous opacity monitor will be automatically calibrated for zero and span adjustments daily.	All instruments and control equipment will be calibrated, maintained, and operated according to the manufactures specifications.
D. Monitoring Frequency	Monitor the opacity of the ESP exhaust continuously (every 10 seconds).	An audible alarm will continuously monitor T-R set failure and rapper control malfunction. Daily: <ul style="list-style-type: none"> <li>• Inspection of rapper operation.</li> <li>• Inspection of T-R set operation including power usage level.</li> <li>• Inspection of ash removal system operation.</li> </ul> Each Major Scheduled Unit Outage Lasting Four or More Weeks: <ul style="list-style-type: none"> <li>• Check and correct plate electrode alignment.</li> <li>• Inspect for collection surface fouling.</li> <li>• Inspect T-R set mechanical condition.</li> <li>• Inspect internal structural components.</li> </ul>
E. Data Collection Procedures	Set up the data acquisition system (DAS) to retain all 6-minute and hourly average opacity data.	Maintain opacity reports, supporting data, all inspection records, and any action resulting from the inspection for 5 years and available upon request.
F. Averaging period	Use the 10-second opacity data to calculate 6-minute averages. Use the 6-minute averages to calculate the hourly block average opacity.	None.



## What is a Minor Modification?

The rule outlines all the things the change can't be.

- Violation of a requirement
- Significant change monitoring, reporting or recordkeeping
- Case by case determination of a emission limit or standard
- Change a synthetic minor limit

## Examples of Minor Title V Permit Modifications:

- Stack characteristics
- Minor NSR construction permit
- Operational limits that don't affect PSD status

is not subject to PSD standards.

This is not an exhaustive list of construction permitting actions that qualify as minor Title V permit modifications. Also, the DNR may request additional information to process the modification request. Or, the DNR may determine the requested changes do not meet the requirements of a minor Title V permit modification and require the applicant to submit a Title V modification application using the standard forms.

**Title V Operating Permit Application**

**FORM EZ MOD: MINOR MODIFICATION TO EXISTING OPERATING PERMIT**

Use this form to apply for a minor modification to an existing Title V operating permit due to newly issued or modified construction permits.

Please see guidance and instructions for more information.

**FACILITY INFORMATION**

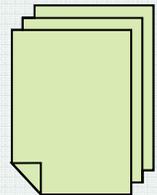
1. Company Name: \_\_\_\_\_  
2. Facility Number: \_\_\_\_\_  
4. Permit Contact Name: \_\_\_\_\_

Construction Permit Information

Facility Contact Information

- Start Date
- Exclusions

**12. Exclusions:**

EMISSION UNIT SPECIFIC INFORMATION				
13. Emission Point Number	14. Emission Unit Number	15. Emission Unit Description	16. SCC Number	17. Expected Start-Up Date

Emission unit information with expected start-update

Responsible officials signature

statements and information contained in this application (including all information and permits referenced by this application) are true, accurate, and

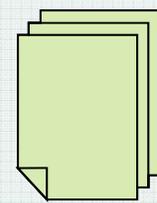
Signature of Responsible Official

Title of Responsible Official

Print Name of Responsible Official

Date signed

<sup>1</sup> As required by 567 Iowa Administrative Code (IAC) 22.107(4), the responsible official must sign the statements of certification.



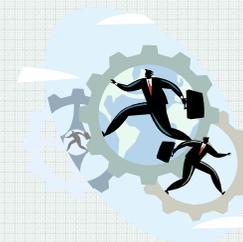
## SLEIS/SPARS Use



- Applications
  - No need to send additional copies to EPA or Polk & Linn Co.
  - No need for data entry by DNR
- EIQ
  - No need for data entry by DNR
  - Easy to generate report for next year
- Current SPARS use:
  - 34 (12%) of the 274 2015 EIQs were submitted in SPARS, 122 (45%) used SLEIS and 118 (43%) used paper forms
  - 6 (14%) of the 44 Title V applications received in 2015 were submitted in SPARS, verses 38 (86%) in paper form

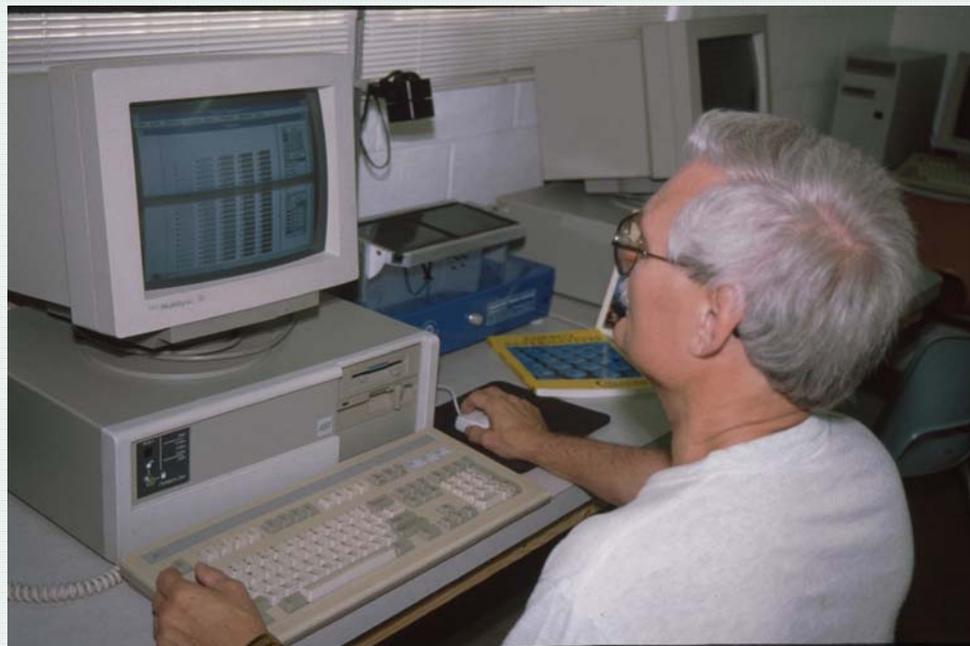
## Future Opportunities

- As a way to eliminate duplicate information submittals, we are working on process to allow a SLEIS emission inventories to substitute for Form 4.0's in a Title V application.
- Modification of Part 3 to help with the above.
- Opportunities found through a value stream mapping event in October of 2016.
- An e-permitting project currently under way at the Air Quality Bureau may result in changes to the application process.



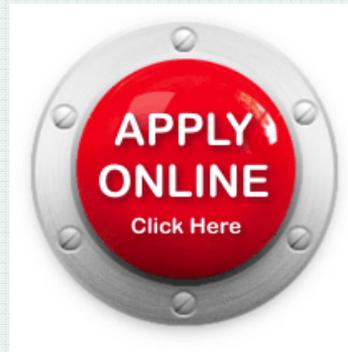
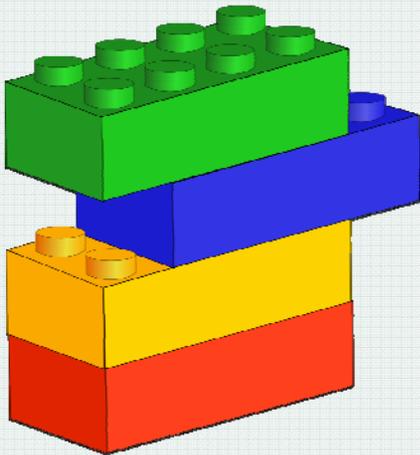
## E-Permitting Current State

- SPARS was built in the late 1990's for outdated hardware specifications and using technology that is difficult to maintain. Most of the forms required as a component of the application are outdated.



## E-permitting Goals

- The goal is to build a solution that simplifies the application process for customers providing an easy-to-use portal for submitting and tracking permit applications online.



Come back this afternoon and attend our workshop from 1:30 – 3:30. The session is designed to determine needs and expectations from Air Quality customers.

# Helpful Websites



Website: <https://www3.epa.gov/ttn/> See sub-links below:

- ATW - Air Toxics Web site for NESHAP
- CHIEF - Inventories and Emission Factors for AP-42, WebFIRE, estimation software
- CICA - U.S.-Mexico Information Center for Descriptions of control equipment
- EMC - Emission Test Methods and Information for CAM
- OARP&G - Office of Air and Radiation Policy and Guidance for Rules, Policy and Guidance
- RBLC – RACT/BACT/LAER Clearinghouse for NSR

## Helpful Websites cont.

- <https://www.gpo.gov/fdsys/> Sub-link to the Code of Federal Regulations
- <https://cfpub.epa.gov/adi/> Applicability Determination Index
- <https://iaspub.epa.gov/sor-internet/registry/termreg/search-andretrieve/termsandacronyms/search.do> EPA abbreviations and acronyms database.



# Questions?



# Contacts

**Lori Hanson, Section Supervisor**

Air Quality - Operating Permits Section

(515) 725-9525

lori.hanson@dnr.iowa.gov

**Christopher J. Kjellmark, Senior Environmental Specialist**

Air Quality - Operating Permits Section

(515) 725-9537

chris.kjellmark@dnr.iowa.gov

**Weston Li, Senior Environmental Specialist**

Air Quality - Operating Permits Section

(515) 725-9580

weston.li@dnr.iowa.gov

# Contacts

**Dennis Thielen, Senior Environmental Specialist**

Air Quality – Compliance Section

(515) 725-9545

dennis.thielen@dnr.iowa.gov

**Reid Bermel, Environmental Specialist**

Air Quality - Compliance Section

(515) 725-9535

reid.bermel@dnr.iowa.gov

**Ann Seda, Environmental Specialist**

Air Quality - Compliance Section

(515) 725-9565

ann.seda@dnr.iowa.gov