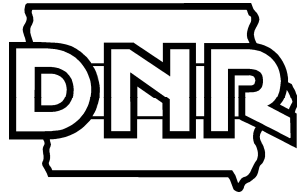


**IOWA DEPARTMENT  
OF  
NATURAL RESOURCES**



**AIR QUALITY BUREAU**

**2022 IOWA POINT SOURCE  
EMISSIONS SUMMARY**

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Emissions Inventory Unit

January 29, 2024

Table of Contents

I. Summary..... 1

    A. Purpose ..... 1

    B. Statewide Trends ..... 2

    C. Data Collection Methodology ..... 4

II. Detailed Results ..... 5

*PM<sub>2.5</sub> & PM<sub>10</sub>*..... 5

*SO<sub>2</sub>* ..... 7

*NO<sub>x</sub>* ..... 8

*VOC*..... 9

*CO* ..... 10

*Pb* ..... 11

*NH<sub>3</sub>* ..... 12

*THAP* ..... 13

III. Data Improvements..... 14

IV. Appendices ..... 15

    Appendix A - Emissions Summary by Facility (Tons) ..... 16

    Appendix B - Business Types ..... 277

    Appendix C - Required Air Emissions Reporting Requirements & Emissions Inventory System Data Elements ..... 29

## I. Summary

### A. Purpose

The Iowa Department of Natural Resources (DNR) manages criteria<sup>1</sup> and hazardous air pollution information that is used to track progress towards meeting National Ambient Air Quality standards; perform predictive modeling analyses; develop control and maintenance strategies; identify emission sources and general emission levels; determine compliance with emissions regulations; and meet Environmental Protection Agency (EPA) requirements.

This report is a summary of point source emissions data collected from the largest emitting facilities under the federal Title V operating permit program and does not include mobile, biogenic, or nonpoint sources in Iowa. A definition of each source category of emissions is included below:

**Point Sources** - Discrete stationary source of emissions, such as smoke stacks from industrial facilities.

**Mobile Sources** - Both on-road sources, such as cars and trucks, and non-road sources, such as agricultural equipment, construction equipment, trains, etc.

**Biogenic Sources** - All non-anthropogenic sources, such as trees and vegetation, oil and gas seeps, and microbial activity.

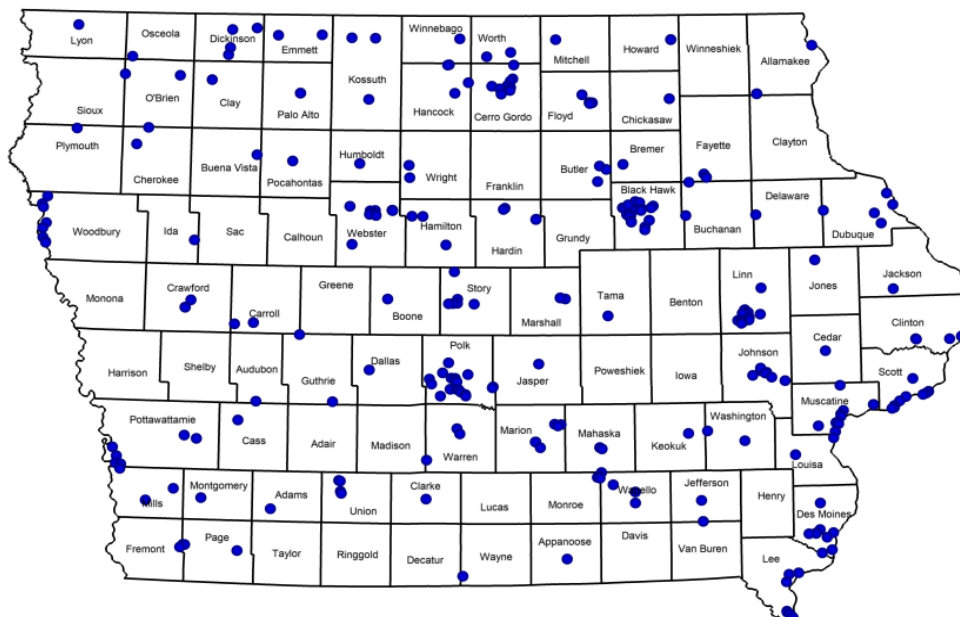
**Nonpoint Sources** - Sources that are not classified as point, mobile, or biogenic, such as residential fuel use and commercial cooking.

Title V facilities are required to submit data to the DNR related to actual pollution emitted during the previous calendar year. As of 2022, there were 276 facilities subject to the Title V operating permit program located throughout the state as shown in Figure 1 below.

The DNR ensures this valuable data is as accurate as possible by conducting quality assurance checks. The State and Local Emissions Inventory System (SLEIS) was placed into production in 2015, making it simpler and faster for point sources to submit emissions information. DNR then submits the data to EPA's National Emissions Inventory (NEI).

The EPA and DNR use the emissions data for purposes listed above to conduct analyses at the national and state levels. Additionally, this data is used to respond to frequent public information requests for facility and stack level data. Facility level emissions data is included in Appendix A of this report.

**Figure 1 - Iowa Map with Title V Facilities Reporting 2022 Emissions**



<sup>1</sup> Particulate Matter less than 2.5 microns in diameter, Particulate Matter less than 10 microns in diameter, Sulfur Dioxide, Nitrogen Oxides, Volatile Organic Compounds, Carbon Monoxide, Lead, Ozone

## B. Statewide Trends

Overall, Title V point source emissions in Iowa decreased from 2021 to 2022. Chart 1 shows the contribution of each pollutant to the total pollutants inventoried in Iowa in 2022.

Chart 2 shows the same data for 2021.

Chart 1 - 2022 Iowa Point Source Emissions (tons) by Pollutant

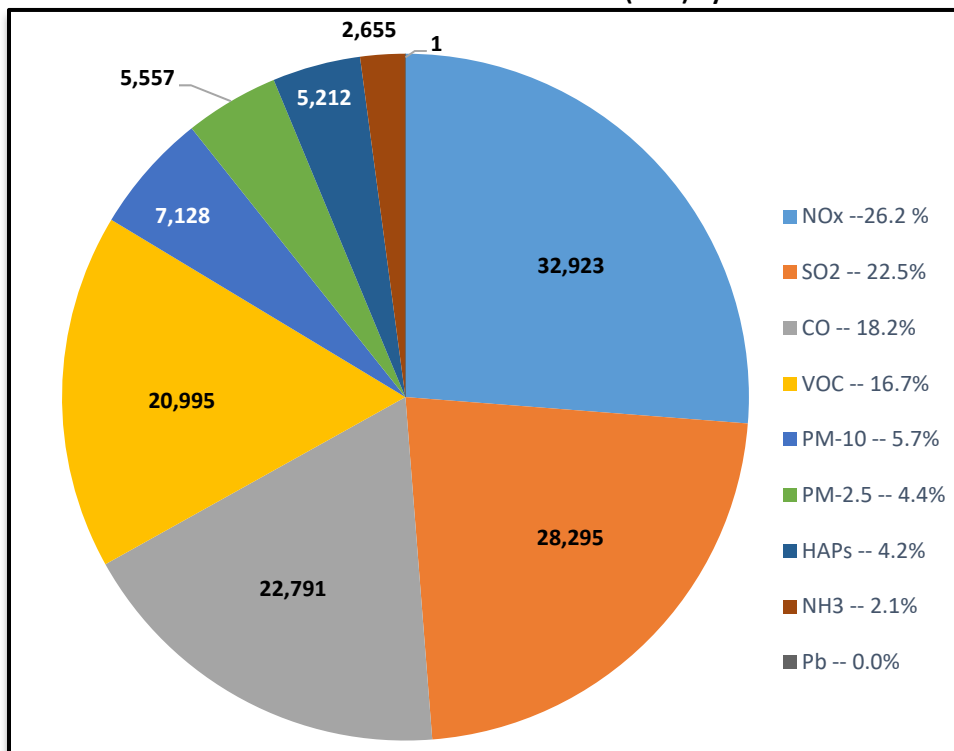
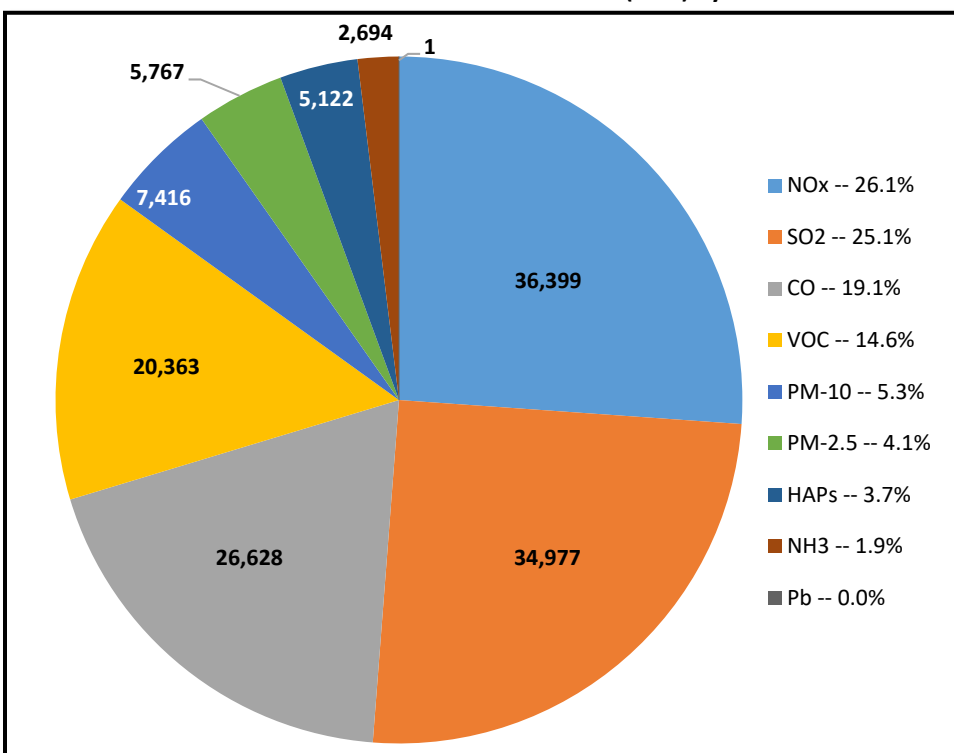
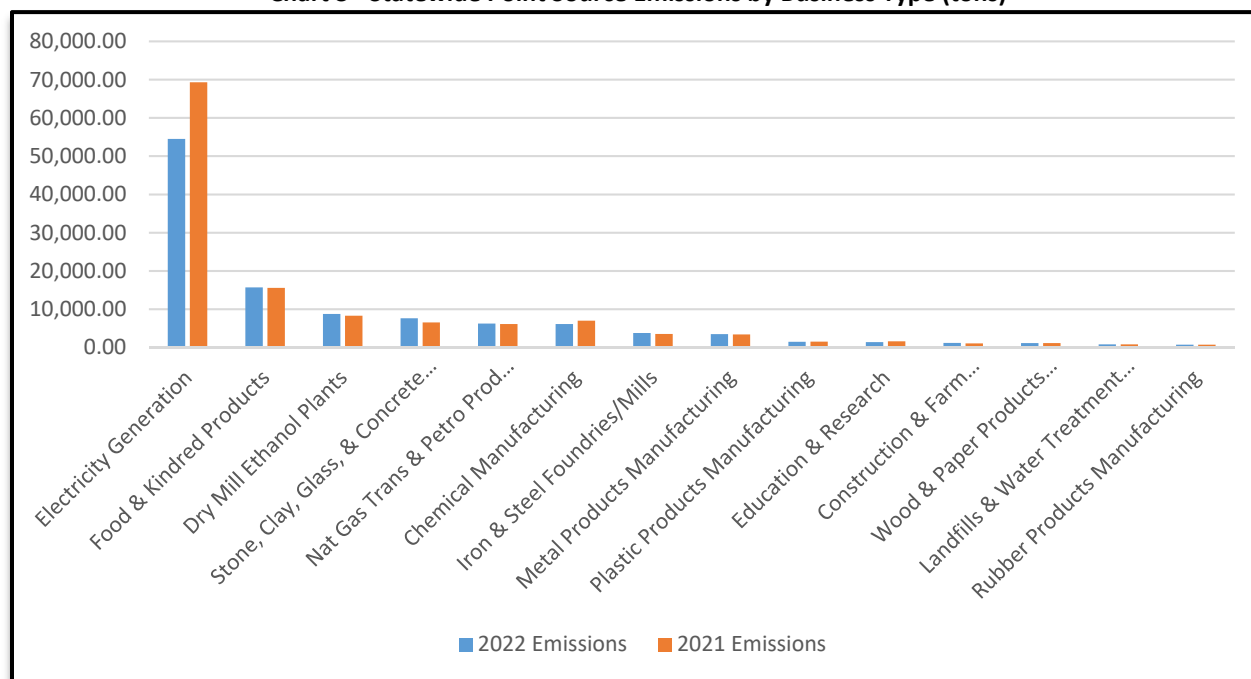


Chart 2 - 2021 Iowa Point Source Emissions (tons) by Pollutant



This report uses nineteen business types to classify sources of air pollution. The nineteen business types used in this summary as well as the types of facilities that are included in each business type are listed in Appendix B. The contribution of each business type to the overall emissions in Iowa is shown in Chart 3 below. Five of the categories - Paint Ink, and Adhesive Manufacturing and Application; Motor Vehicles/Parts Manufacturing and Repair Shops; Fabricated Metal and Structural Metal Products Manufacturing; Miscellaneous; Public Safety, Health, and Security - each had annual emissions of about 500 tons or less, so they were not included in the chart for ease of reading.

**Chart 3 - Statewide Point Source Emissions by Business Type (tons)**



The largest contributor of point source emissions comes from the Electricity Generation business type. Thirty-nine of the 276 facilities included in the 2022 NEI were classified as electrical generating facilities. The changes in overall emissions from electrical generating facilities from 2021 to 2022 are as follows:

**Table 1 - 2021 & 2022 from Electrical Generating Facilities**

| Pollutant          | 2021 (tons) | 2022 (tons) | Difference (tons) | Difference (%) |
|--------------------|-------------|-------------|-------------------|----------------|
| PM <sub>2.5</sub>  | 2,052       | 1,673       | -379              | -18.45%        |
| PM <sub>10</sub>   | 2,702       | 2,253       | -449              | -16.62%        |
| SO <sub>2</sub>    | 29,684      | 22,496      | -7,188            | -24.22%        |
| NO <sub>x</sub>    | 21,073      | 17,441      | -3,632            | -17.24%        |
| VOC                | 262         | 223         | -39               | -14.89%        |
| CO                 | 15,429      | 11,964      | -3,465            | -22.46%        |
| Pb                 | 0.44        | 0.50        | +0.06             | +13.64%        |
| NH <sub>3</sub>    | 225         | 136         | -89               | -39.56%        |
| HAPs               | 259         | 250         | -9                | -3.47%         |
| Total <sup>2</sup> | 71,686      | 56,437      | -15,249           | -21.27%        |

<sup>2</sup> The total emissions value includes both PM<sub>10</sub> and PM<sub>2.5</sub>, which is a subset of PM<sub>10</sub>. Some HAPs may also be counted as VOCs, PM<sub>2.5</sub>, and/or PM<sub>10</sub>.

These electrical generating facilities experienced a total emissions decrease of 15,249 tons, while the total emissions decrease from all 276 facilities was 13,810 tons as shown in Table 2 on page 5. Therefore, emissions from the non-electrical generating sector increased 1,439 tons (2.13%) from 2021 to 2022.

**C. Data Collection Methodology**

Emissions inventory reports are required to be submitted to DNR annually from all Title V facilities. Beginning with the 2019 emissions reporting cycle for calendar year 2018 emissions, all Title V facilities are required to report their emissions inventory using the State and Local Emissions Inventory System (SLEIS). Emissions inventory data then goes through numerous quality assurance checks as DNR staff conduct emissions inventory fee audits and comprehensive emissions inventory reviews. The SLEIS database also requires a high level of quality control through its business rules and validation checks prior to allowing facility users and DNR staff to submit emissions data to EPA.

## II. Detailed Results

Title V point source emissions in Iowa decreased in 2022. The table below compares 2022 emissions to 2021 emissions.

**Table 2 - 2021 & 2022 Title V Point Source Emissions**

| <b>Pollutant</b>         | <b>2021 (tons)</b> | <b>2022 (tons)</b> | <b>Difference (tons)</b> | <b>Difference (%)</b> |
|--------------------------|--------------------|--------------------|--------------------------|-----------------------|
| PM <sub>2.5</sub>        | 5,767              | 5,557              | -21                      | -3.64%                |
| PM <sub>10</sub>         | 7,416              | 7,128              | -288                     | -3.88%                |
| SO <sub>2</sub>          | 34,977             | 28,295             | -6,682                   | -19.10%               |
| NO <sub>x</sub>          | 36,399             | 32,923             | -3,476                   | -9.55%                |
| VOC                      | 20,363             | 20,995             | +632                     | +3.10%                |
| CO                       | 26,628             | 22,791             | -3,837                   | -14.41%               |
| Pb                       | 1.07               | 1.02               | -0.05                    | -4.67%                |
| NH <sub>3</sub>          | 2,598              | 2,655              | +57                      | +2.19%                |
| HAPs                     | 5,122              | 5,212              | +90                      | +1.76%                |
| <b>Total<sup>3</sup></b> | <b>139,271</b>     | <b>125,557</b>     | <b>-13,525</b>           | <b>-9.71%</b>         |

### **PM<sub>2.5</sub> & PM<sub>10</sub>**

Emissions of particulate matter with a diameter less than 2.5 microns (PM<sub>2.5</sub>) decreased more than 200 tons from 2021 to 2022. The business descriptions with the largest changes were:

- Electricity Generation: decrease of 380 tons
- Iron and Steel Foundries/Mills: increase of 84 tons

The same business descriptions contributed the majority of the overall decrease in emissions of particulate matter with a diameter less than 10 microns (PM<sub>10</sub>). The changes by business description were:

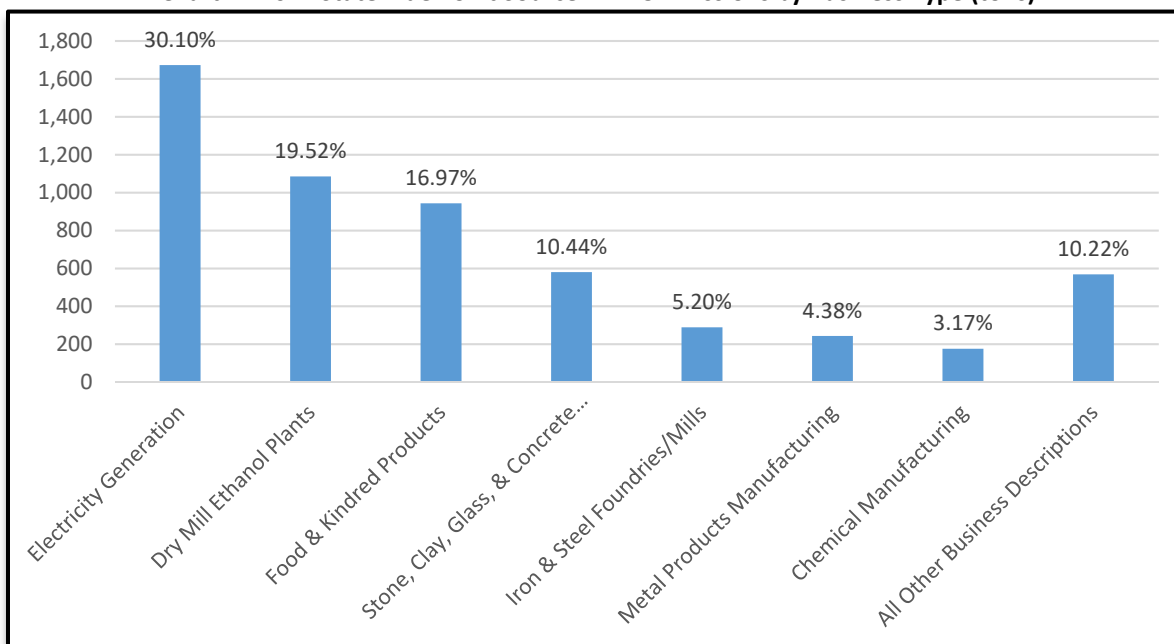
- Electricity Generation: decrease of 449 tons
- Iron and Steel Foundries/Mills: increase of 90 tons

The main reason for the decrease in emissions from the Electricity Generation sector was a 2.6 million ton decrease of coal throughput from 2021 to 2022. This represents a coal decrease of 19%.

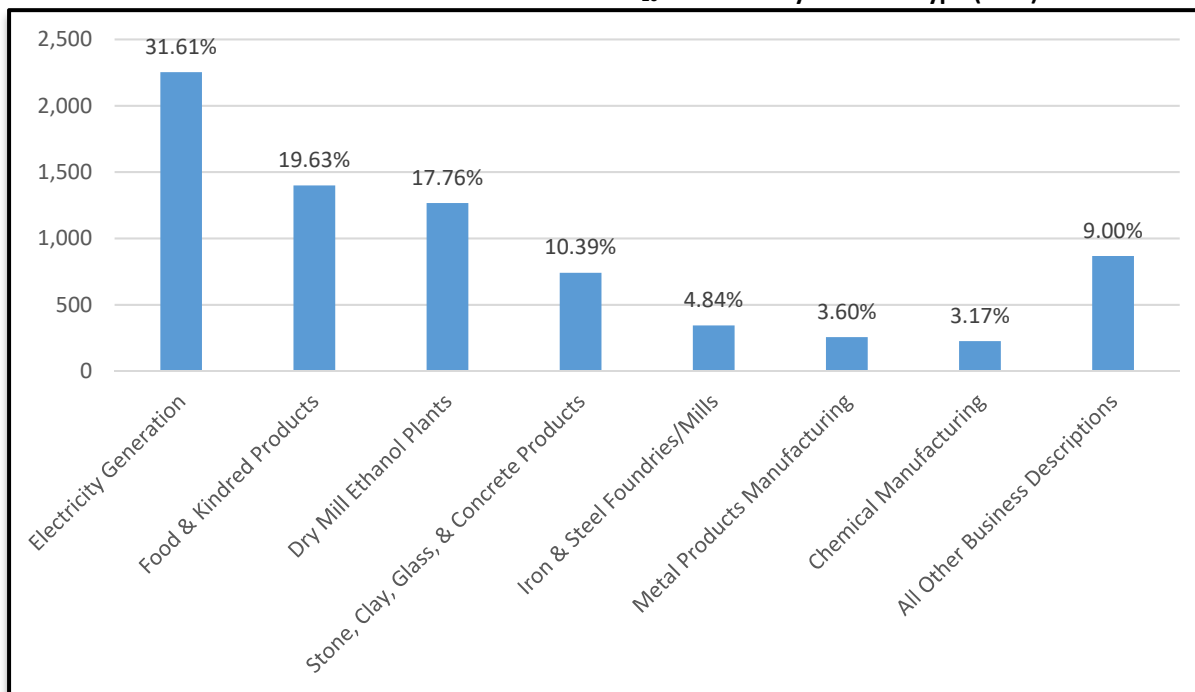
The decrease in overall PM<sub>2.5</sub> and PM<sub>10</sub> emissions was tempered by a moderate increase in PM<sub>2.5</sub> and PM<sub>10</sub> from the Iron and Steel/Foundries/Mills business description. The emissions increase from this business description was due to one facility initially over-reporting PM<sub>2.5</sub> and PM<sub>10</sub> from their castings grinding processes. The facility neglected to account for control efficiency in the process, leading to over-reporting. The facility has re-submitted the emissions inventory to correct this issue. After re-submitting, the PM<sub>2.5</sub> and PM<sub>10</sub> emissions estimates have been reduced by about 70 tons bringing the 2022 emissions estimate more in-line with the 2021 emissions estimate.

<sup>3</sup> The total emissions value includes both PM<sub>10</sub> and PM<sub>2.5</sub>, which is a subset of PM<sub>10</sub>. Some HAPs may also be counted as VOCs, PM<sub>2.5</sub>, and/or PM<sub>10</sub>.

**Chart 4 - 2022 Statewide Point Source PM<sub>2.5</sub> Emissions by Business Type (tons)**



**Chart 5 - 2022 Statewide Point Source PM<sub>10</sub> Emissions by Business Type (tons)**





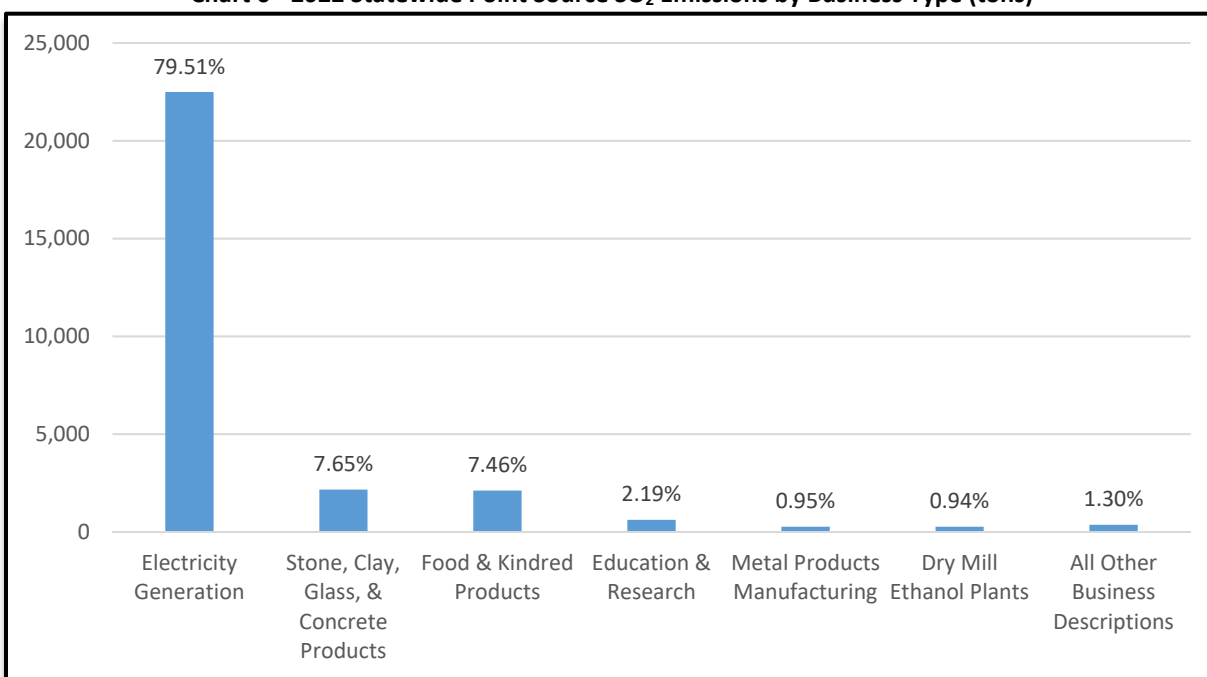
## SO<sub>2</sub>

Statewide Sulfur Dioxide (SO<sub>2</sub>) emissions decreased about 6,700 tons from 2021 to 2022. The Electricity Generation business description experienced the most notable change in emissions with a decrease of 7,188 tons.

The SO<sub>2</sub> emissions increase in the Electricity Generation business description was largely accounted for by seven facilities. Six of these facilities combined to report a decrease over 7,900 tons of SO<sub>2</sub> emissions. The seventh facility reported an increase over 650 tons. The change in SO<sub>2</sub> emissions was directly related to a decrease (increase for the seventh facility) in coal combustion. Collectively, the seven facilities burned about 2.78 million fewer tons of coal in 2022 compared to 2021.

The remaining eighteen business descriptions combined for a net increase of just over 500 tons of SO<sub>2</sub> emissions from 2021 to 2022. The biggest change occurred in the Stone, Clay, Glass, and Concrete Products business description. One Portland Cement manufacturing facility in this business description reported an increase of more than 750 tons due to the facility using more coal to power their kiln in 2022 compared to 2021.

**Chart 6 - 2022 Statewide Point Source SO<sub>2</sub> Emissions by Business Type (tons)**

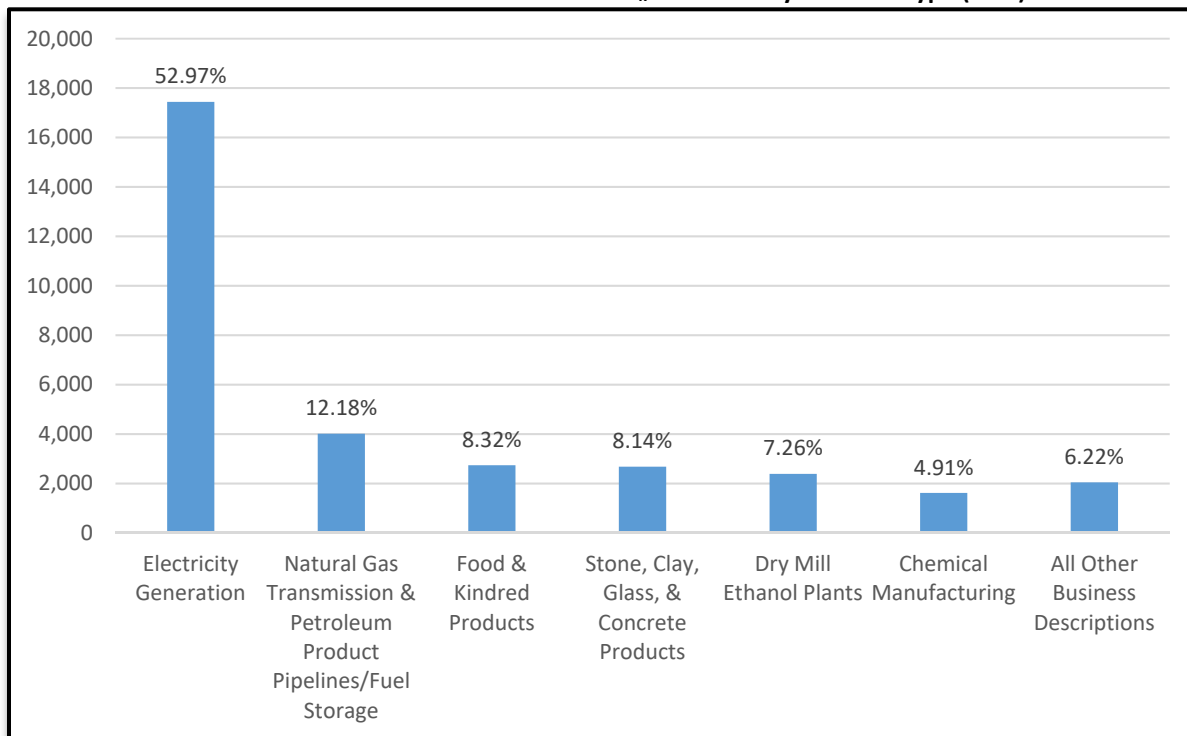


## NO<sub>x</sub>

Point source Nitrogen Oxides (NO<sub>x</sub>) emissions decreased about 3,500 tons from 2021 to 2022. This was mainly accounted for by a large decrease in Electricity Generation business description. Seven facilities in the Electricity Generation business description had a combined decrease of more than 3,700 tons from 2021 to 2022. Similar to the SO<sub>2</sub> discussion above, these seven facilities burned significantly less coal (about 2.78 million tons) in 2022 compared to 2021. Overall, coal usage from the Electricity Generation business description decreased by about 2.60 million tons (19%) from 2021 to 2022, leading to the decrease in NO<sub>x</sub> emissions.

The remaining 18 business descriptions combined for a net increase of about 150 tons of NO<sub>x</sub> from 2021 to 2022. The business description with the largest increase in NO<sub>x</sub> emissions was Dry Mill Ethanol Plants with about 100 tons more in 2022 compared to 2021.

**Chart 7 - 2022 Statewide Point Source NO<sub>x</sub> Emissions by Business Type (tons)**



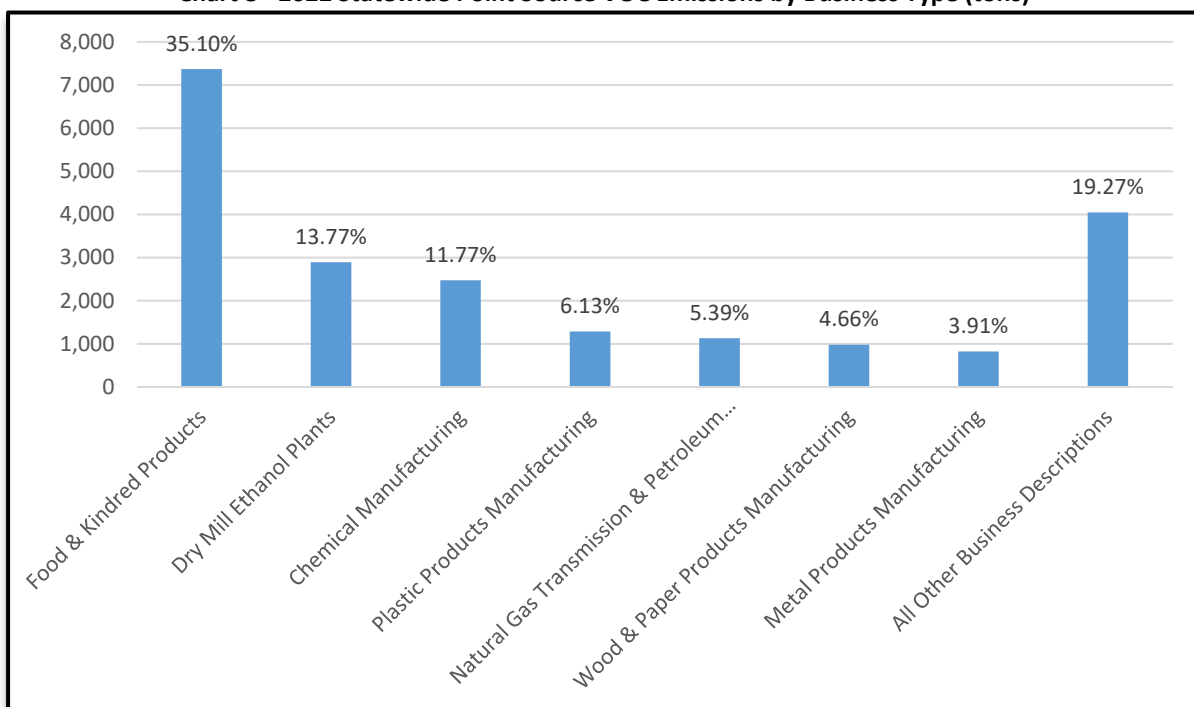
## VOC

Overall, statewide Volatile Organic Compound (VOC) emissions increased about 630 tons from 2021 to 2022. Two business descriptions primarily affected the increase in emissions from 2021 to 2022.

The Dry Mill Ethanol business description contributed an increase of about 240 tons of VOC emissions. The reason for the increase in VOC emissions from dry mill ethanol plants is because of increased ethanol production from 2021 to 2022. Ethanol production from dry mill plants increased from 4.40 billion gallons in 2021 to 4.50 billion gallons in 2022. This is an increase of 2.3% and is attributed to a fuel demand matching pre-2020 levels, efficiencies in the ethanol industry, and an adequate corn supply.

Combined with a lot of smaller off-setting increases and decreases in emissions, two facilities from the Food & Kindred business description accounted for the majority of the net emissions increase in VOC from 2021 to 2022. Both facilities were soybean oil mills. The hexane usage for one facility decreased 17% from 2021 to 2022 leading to a VOC decrease of about 129 tons while the second facility increased hexane usage by 42% from 2021 to 2022 leading to a VOC increase of about 203 tons.

**Chart 8 - 2022 Statewide Point Source VOC Emissions by Business Type (tons)**



## CO

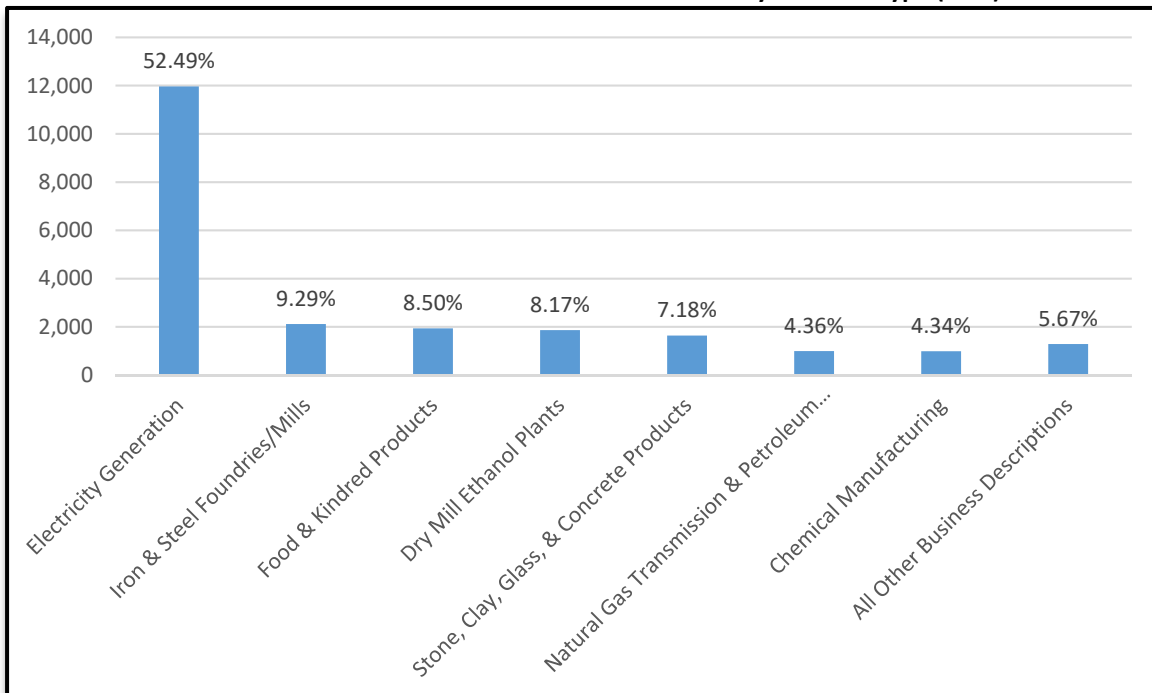
Carbon monoxide (CO) emissions decreased more than 3,800 tons in 2022 compared to 2021. About 90% of the net decrease in point source CO emissions in Iowa was accounted for in the Electricity Generation business description.

Six facilities in the Electricity Generation business description combined for more than 3,300 tons of the overall decrease. Coal usage from the Electricity Generation business description decreased by about 2.60 million tons (19%) from 2021 to 2022, resulting in a large decrease in CO emissions.

Despite the decrease in coal combustion, CO emissions are not always a direct correlation of throughput but rather how the coal-fired boilers are operated. The emission rates of CO are more of a function of the load at which they are operating. For example, coal-fired boilers that operate at maximum load tend to do so at a higher temperature therefore reducing the amount of CO that is being emitted. Conversely, some boilers may not be operated at maximum (or close to maximum) capacity or may have large fluctuations in their operating load during the year (which would lead to an increased CO emission rate). Three of the five highest emitting facilities in the Electricity Generation business description had CO emissions disproportionate to their reported coal throughput, possibly due to more frequent start-ups and shut-downs.

The other business description that had a noticeable change in CO emissions was the Chemical Manufacturing business description. One nitrogenous fertilizer manufacturer reported a decrease of more than 700 tons of CO emissions. The reason for the decrease in CO emissions from this facility was because it experienced at least five trip-outs/shutdowns and subsequent restarts due to loss of electricity supply. These events require venting out of their pre-shift vent while starting up the plant. In 2022, the facility stayed online more consistently and the process CO emissions were much lower. A second nitrogenous fertilizer manufacturer reported a decrease of about 200 tons of CO emissions. This facility explained there isn't a linear correlation between flow rate and mass of emissions. The facility has multiple streams feeding into their flare system, with vast differences in constituents of those streams. One process stream was primarily hydrogen and carbon dioxide, thereby, emitting no pollutants from combustion. Another process stream might only be natural gas, thereby, emitting much higher levels of CO. The facility monitors the process streams being fed to the flare system which determines the flow rates and emission quantities.

**Chart 9 - 2022 Statewide Point Source CO Emissions by Business Type (tons)**

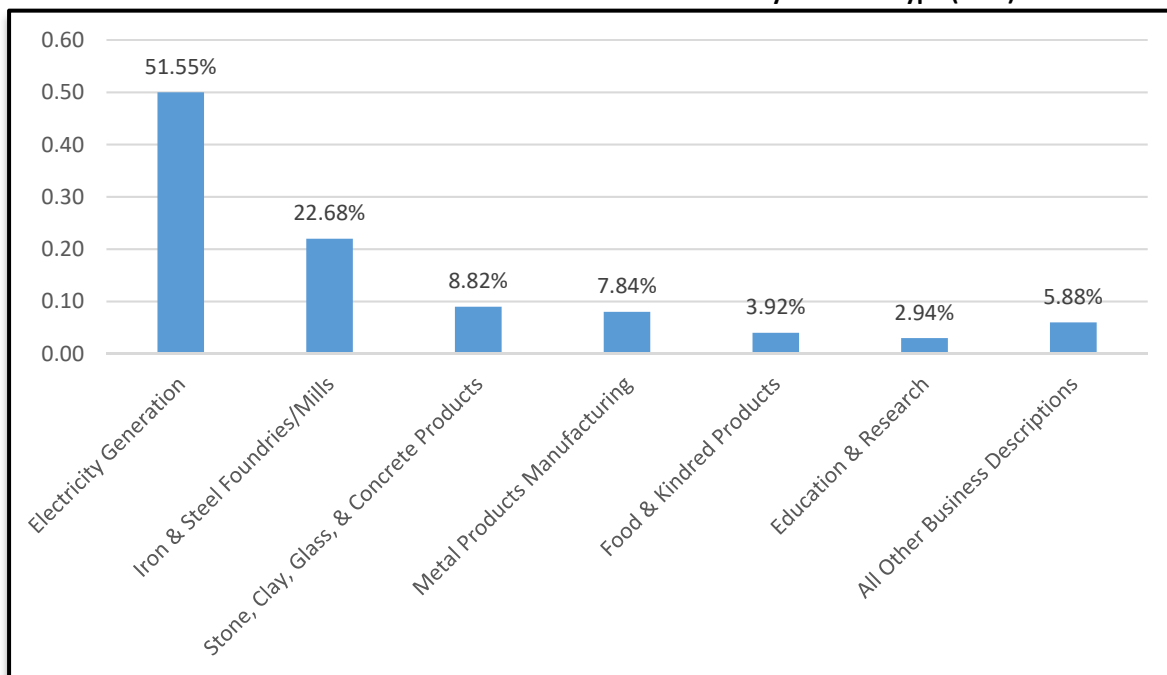


## Pb

Lead (Pb) emissions in Iowa decreased 0.05 tons (5%) from 2021 to 2022. The business description with the largest decrease in Pb emissions from 2021 to 2022 was Electricity Generation. The decrease in Pb emissions from the Electricity Generation business description was a direct result of a 19% decrease in coal combustion from 2021 to 2022.

Most other business descriptions reported less than or equal to a 0.01 ton change in emissions from 2021 to 2022. It should be noted that the revised Air Emissions Reporting Requirements (AERR) (February 19, 2015) only requires facilities to be reported to the NEI if they have actual emissions greater than the thresholds listed in Table 1 to [Appendix A of 40 CFR Part 51.2](#).

**Chart 10 - 2022 Statewide Point Source Pb Emissions by Business Type (tons)**

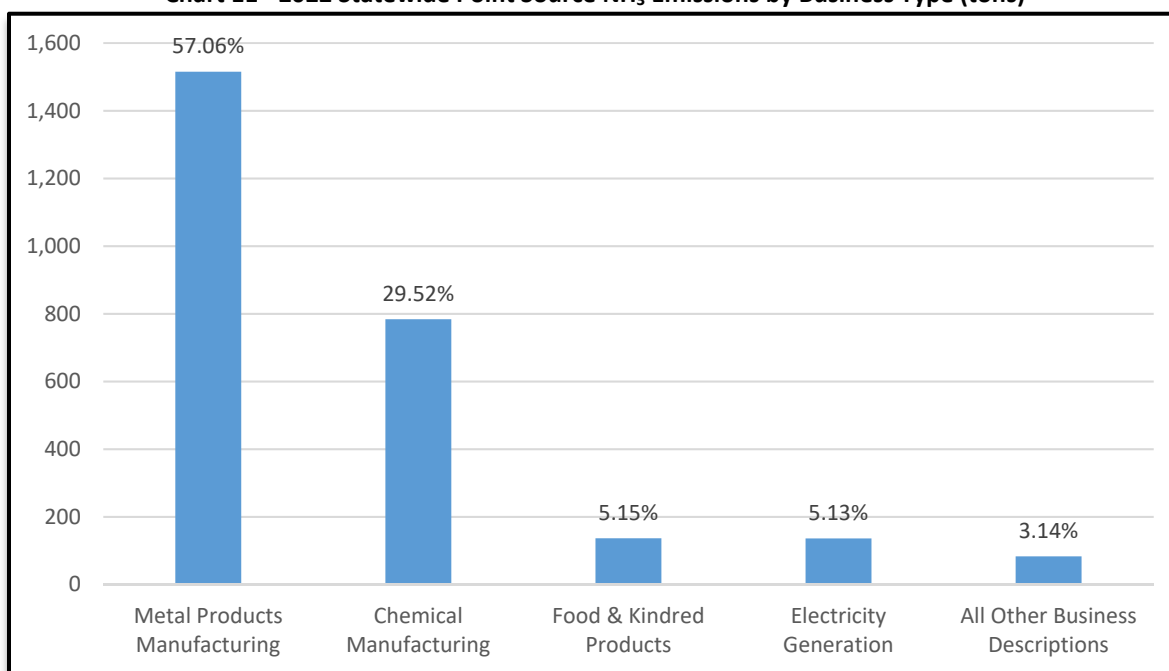


### **NH<sub>3</sub>**

The overall increase in Ammonia (NH<sub>3</sub>) emissions in Iowa from 2021 to 2022 was about 60 tons. A larger increase in emissions from the Metal Products Manufacturing business description was offset by a moderate decrease from the Chemical Manufacturing business descriptions. All other business descriptions had negligible increases or decreases.

The increase in emissions from the Metal Products Manufacturing business description occurred at a facility that refines molybdenum sulfide to produce a variety of molybdenum products and sulfuric acid. The NH<sub>3</sub> emissions increase at this facility was strongly related to product quality issues in Ammonia Heptamolybdate (AHM) production, which resulted in re-processing of some of this material. Additionally, total volume of AHM finished goods increased by 33%. This increase in emissions was minimized by an overall decrease in NH<sub>3</sub> emissions from the Chemical Manufacturing business description. There were three facilities in the Chemical Manufacturing business description that contributed to the net NH<sub>3</sub> emissions decrease from this business description. All three facilities produce nitrogenous fertilizers. The facility that experienced the biggest decrease in NH<sub>3</sub> emissions from 2021 to 2022 conducted a stack test in July 2022. The result of the stack test was a 44% decrease in the emission factor for NH<sub>3</sub>. This lower emission factor was used for half of the emissions inventory year as opposed to the higher emission factor being used for the entire 2021 emissions year. The second fertilizer production facility had a large increase in NH<sub>3</sub> emissions due to the additional NH<sub>3</sub> which was used to reduce elevated process NO<sub>x</sub> emissions caused by one of their process leaks. The process leaks occurred from April to November of 2022. A third nitrogenous fertilizer facility experienced a moderate decrease in NH<sub>3</sub> emissions. The facility explained there isn't a linear correlation between flow rate and mass of emissions.

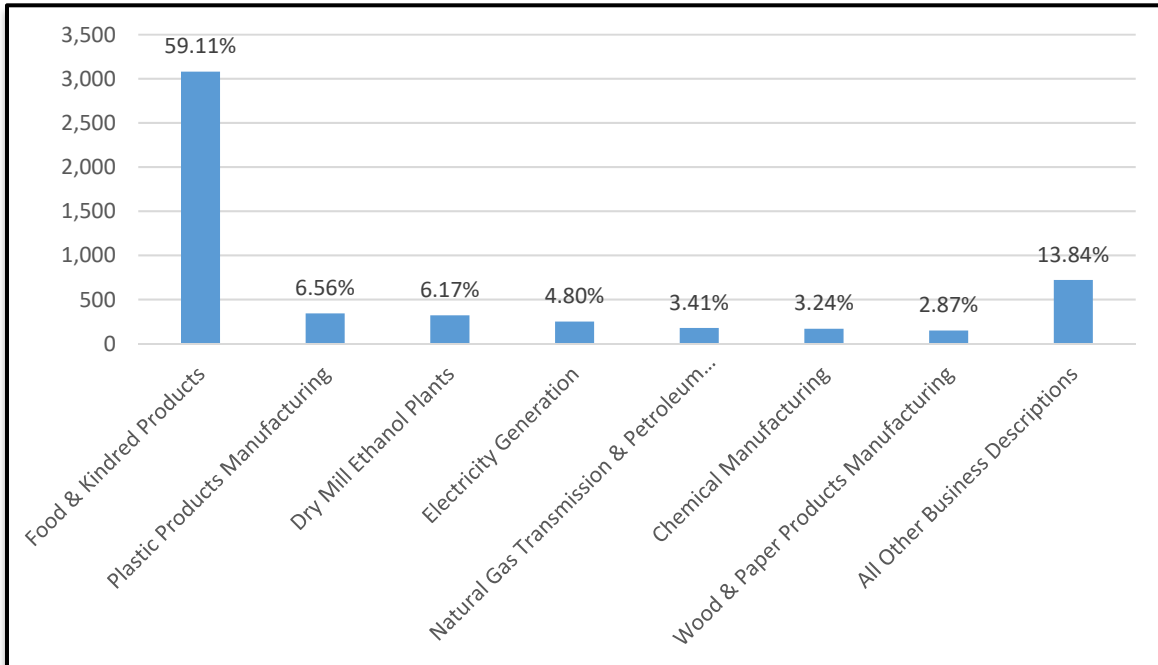
**Chart 11 - 2022 Statewide Point Source NH<sub>3</sub> Emissions by Business Type (tons)**



### THAP

Total HAP emissions increased by about 90 tons from 2021 to 2022 and were mainly emitted from the Food and Kindred Products business description. The specific sectors within the Food and Kindred Products business description that contributed the most total hazardous air pollutant emissions were the Soybean Oil Mills and the Wet Corn Milling sectors. The Soybean Oil Mills sector contributed 44.99% of state-wide point source total HAPs emissions in 2022. The most-emitted HAP from this sector was Hexane. The Wet Corn Milling sector contributed 13.19% of state-wide point source total HAPs emissions in 2022. The most emitted HAP from this sector was Acetaldehyde. The Food and Kindred business description had the largest emissions increase, with an increase of 235 tons (8% increase) from 2021 to 2022. The increase in HAP emissions from the Food and Kindred business description is a result of an increase in Hexane usage at Soybean Oil Mills. The larger HAP increase from Food and Kindred offset moderate decreases in HAPs from Dry Mill Ethanol Plants and Wood & Paper Products Manufacturing.

**Chart 12 - 2022 Statewide Point Source THAP Emissions by Business Type (tons)**



### III. Data Improvements

The following is a list of improvements made to the NEI submittal since the 2014 emissions reporting cycle.

Improvements below are related to the implementation of SLEIS, which DNR put into production on December 18, 2015:

- A. SLEIS is an emissions inventory database that meets the CERS schema and business rules for EPA's Emissions Inventory System (EIS). The transition to SLEIS has allowed DNR to improve the accuracy of facility equipment and emissions data for the annual NEI submittal. The DNR has implemented nine enhancements to the SLEIS database that have, and will continue to result in:
  - a) Improved quality of required data elements
  - b) Reduced data entry time for stakeholders
  - c) Facilitation of easier searching of air pollutants and emissions data
  - d) Improved readability of emission reports
- B. The following data (required by the AERR and cited in Appendix C) that had not previously been included in NEI submittals prior to the 2015 reporting year:
  - a) Unit Design Capacity and Unit Design Capacity Unit of Measure Code
  - b) Control Measure Code and Pollutant Code
  - c) Percent Control Measure Reduction Efficiency

The data above that are related to control are important to emissions estimates and assist in EPA modeling activities.

- C. By continuing to offer industry training, DNR was able to inform facilities of ways to prevent emission processes, emission units, and release points from being omitted from the electronic emissions inventory submittals. Five virtual training sessions and one in-person session were held to facilitate accurate 2022 reporting. Additionally, on-line tutorials enable facilities to learn how to use SLEIS when they cannot attend virtual training.
- D. In the 2015 NEI submittal, the release point, emission unit, and unit process identifiers were updated in EIS to reflect the identifiers that are used when facilities report their emissions inventories to DNR. Instead of using the record identifier (RID) as has been custom, DNR changed the identifier to the numbering scheme used by the facility (EP-1, EU-1, etc.) to reduce confusion and save time when extracting data out of EIS. This update helped streamline the 2016 NEI submittal process and DNR will continue to gain efficiencies during future work related to the National Air Toxics Assessment (NATA) since DNR staff will not have to crosswalk emissions between the RID and the identifier used by facilities when reporting emissions.
- E. Beginning with the 2018 emissions reporting year, the DNR required Title V facilities to report their emissions electronically using SLEIS. Submitting emissions reports electronically benefits industry and their consultants, DNR staff, and EPA by allowing for:
  - a) Improved quality of required data elements;
  - b) A reduction in data entry time;
  - c) Facilitation of easier searching of air pollutants and emissions data; and
  - d) Enhancement of readability of emissions reports.



#### **IV. Appendices**

- A. Emissions Summary by Facility (Tons)
- B. Business Types
- C. Required Air Emissions Reporting Requirements & Emissions Inventory System Data Elements

**Appendix A - Emissions Summary by Facility (tons)**

| Facility ID  | Facility Name                                      | PM25-<br>PRI | PM10-<br>PRI | SO2    | NOX    | VOC    | CO     | Pb   | NH3   | Total<br>HAPs |
|--------------|--|--------------|--------------|--------|--------|--------|--------|------|-------|---------------|
| 02-05-001    | PINNACLE ETHANOL, LLC DBA POET BIOREFINING CORNING | 41.53        | 43.24        | 1.12   | 74.92  | 68.44  | 50.82  | 0.00 | 2.90  | 7.85          |
| 03-02-001    | NORPLEX – MICARTA                                  | 55.43        | 55.43        | 0.06   | 7.88   | 577.20 | 6.55   | 0.00 | 0.25  | 170.92        |
| 03-02-007    | Industrial Energy Applications, Inc.               | 0.04         | 0.04         | 0.00   | 2.22   | 0.06   | 0.02   | 0.00 | 0.00  | 0.00          |
| 03-03-001    | IPL - LANSING GENERATING STATION                   | 283.42       | 313.72       | 302.70 | 243.01 | 21.41  | 58.80  | 0.01 | 48.65 | 4.14          |
| 04-01-002    | Amcor Flexibles North America Inc.                 | 0.14         | 0.14         | 0.01   | 1.83   | 16.55  | 1.53   | 0.00 | 0.06  | 0.00          |
| 05-04-002    | WESTERN MINNESOTA MUNICIPAL POWER AGENCY           | 5.54         | 5.54         | 3.55   | 67.73  | 1.66   | 25.84  | 0.00 | 0.00  | 0.00          |
| 07-01-010    | JOHN DEERE FOUNDRY WATERLOO                        | 56.54        | 66.43        | 2.48   | 8.09   | 280.38 | 631.05 | 0.01 | 0.03  | 62.71         |
| 07-01-038    | MIDAMERICAN ENERGY CO - ELECTRIFARM TURBINES       | 0.59         | 0.59         | 4.03   | 26.81  | 0.16   | 6.57   | 0.00 | 0.00  | 0.08          |
| 07-01-040    | MAGELLAN PIPELINE CO, LLC - WATERLOO               | 0.00         | 0.00         | 0.00   | 1.77   | 15.53  | 4.42   | 0.00 | 0.00  | 11.75         |
| 07-01-057    | NORTHERN NATURAL GAS CO - WATERLOO COMPRESSOR      | 8.01         | 8.01         | 0.10   | 432.35 | 17.92  | 68.21  | 0.00 | 0.00  | 12.65         |
| 07-01-061    | MASTERBRAND CABINETS, INC. - WATERLOO OPERATIONS   | 7.56         | 7.56         | 0.11   | 18.19  | 149.06 | 15.28  | 0.00 | 0.61  | 26.41         |
| 07-01-063    | BERTCH CABINET, LLC. - WATERLOO                    | 17.21        | 17.35        | 0.03   | 0.62   | 125.25 | 0.76   | 0.00 | 0.00  | 3.89          |
| 07-01-077    | JOHN DEERE WATERLOO WORKS - DRIVE TRAIN OPERATIONS | 0.95         | 0.95         | 0.16   | 15.93  | 2.09   | 15.13  | 0.00 | 0.35  | 0.37          |
| 07-01-085    | JOHN DEERE WATERLOO WORKS - TCAO - DONALD ST       | 1.15         | 1.15         | 0.08   | 9.99   | 51.66  | 8.16   | 0.00 | 0.31  | 3.68          |
| 07-01-086    | BERTCH CABINET, LLC. - OASIS FACILITY              | 1.10         | 1.10         | 0.00   | 0.00   | 19.15  | 0.00   | 0.00 | 0.00  | 13.39         |
| 07-01-087    | JOHN DEERE PRODUCT ENGINEERING CENTER              | 2.69         | 2.69         | 0.09   | 80.91  | 3.48   | 22.85  | 0.00 | 0.18  | 0.20          |
| 07-01-091    | JOHN DEERE ENGINE WORKS                            | 1.73         | 1.97         | 0.04   | 18.81  | 33.31  | 6.47   | 0.00 | 0.10  | 0.39          |
| 07-01-107    | CONAGRA FOODS PACKAGED FOODS - WATERLOO            | 6.11         | 7.37         | 0.08   | 12.66  | 61.10  | 10.63  | 0.00 | 0.41  | 0.23          |
| 07-01-111    | JOHN DEERE COATING SERVICE CENTER                  | 0.67         | 0.67         | 0.02   | 3.17   | 15.66  | 2.66   | 0.00 | 0.10  | 1.45          |
| 07-01-121    | BLACK HAWK COUNTY SANITARY LANDFILL                | 0.00         | 0.00         | 0.00   | 0.00   | 17.87  | 0.00   | 0.00 | 0.00  | 11.19         |
| 07-01-133    | MIDAMERICAN ENERGY CO - WATERLOO LUNDQUIST STA.    | 0.02         | 0.02         | 0.00   | 0.87   | 0.03   | 0.10   | 0.00 | 0.00  | 0.00          |
| 07-02-005-01 | CEDAR FALLS MUNICIPAL ELECTRIC UTILITY             | 0.41         | 0.58         | 34.71  | 26.88  | 0.41   | 7.48   | 0.00 | 0.22  | 0.64          |

| Facility ID  | Facility Name                                  | PM25-<br>PRI | PM10-<br>PRI | SO2    | NOX    | VOC    | CO     | Pb   | NH3  | Total<br>HAPs |
|--------------|--|--------------|--------------|--------|--------|--------|--------|------|------|---------------|
| 07-02-005-02 | CEDAR FALLS MUNICIPAL ELECTRIC UTILITY - CTS   | 0.10         | 0.10         | 0.06   | 5.93   | 0.04   | 1.13   | 0.00 | 0.00 | 0.00          |
| 07-02-005-03 | CITY OF CEDAR FALLS - MUNICIPAL WATER UTILITY  | 0.00         | 0.00         | 0.00   | 0.02   | 0.00   | 0.01   | 0.00 | 0.00 | 0.00          |
| 07-02-006-01 | UNIVERSITY OF NORTHERN IOWA - MAIN CAMPUS      | 0.05         | 0.05         | 0.08   | 0.84   | 0.57   | 0.34   | 0.00 | 0.00 | 0.01          |
| 07-02-006-02 | UNIVERSITY OF NORTHERN IOWA - POWER PLANT      | 7.62         | 7.81         | 254.78 | 52.98  | 1.39   | 29.16  | 0.00 | 0.06 | 3.60          |
| 07-02-023    | METOKOTE CORPORATION - PLANT 15 - CEDAR FALLS  | 1.73         | 1.73         | 0.02   | 3.71   | 55.45  | 3.11   | 0.00 | 0.00 | 0.42          |
| 08-03-004    | NORTHERN NATURAL GAS CO - OGDEN COMPRESSOR     | 16.91        | 16.91        | 0.85   | 952.32 | 46.70  | 160.17 | 0.00 | 0.03 | 26.47         |
| 09-01-013    | WAVERLY LIGHT & POWER - NORTH & SOUTH PLANTS   | 0.09         | 0.16         | 0.00   | 4.90   | 0.49   | 0.44   | 0.00 | 0.00 | 0.00          |
| 10-02-008    | BERTCH CABINET, LLC. - LEGACY DIVISION - JESUP | 3.49         | 3.54         | 0.11   | 2.28   | 82.98  | 2.72   | 0.00 | 0.00 | 3.77          |
| 10-04-007    | POET Biorefining FAIRBANK, LLC                 | 26.18        | 36.48        | 10.43  | 96.20  | 108.01 | 58.80  | 0.00 | 5.45 | 12.49         |
| 11-05-004    | VALERO RENEWABLE FUELS CO, LLC - ALBERT CITY   | 31.70        | 35.31        | 0.81   | 80.09  | 87.64  | 20.56  | 0.00 | 0.00 | 8.15          |
| 12-04-005    | UNVERFERTH MANUFACTURING CO, INC               | 2.21         | 2.21         | 0.11   | 1.58   | 52.38  | 0.21   | 0.00 | 0.00 | 2.01          |
| 12-04-007    | POET Biorefining SHELL ROCK, LLC               | 23.03        | 31.76        | 0.82   | 88.59  | 144.16 | 45.28  | 0.00 | 3.23 | 15.57         |
| 12-04-012    | Shell Rock Soy Processing                      | 0.04         | 0.07         | 0.00   | 0.44   | 0.02   | 0.04   | 0.00 | 0.00 | 0.01          |
| 14-02-003    | AG PROCESSING, INC - MANNING                   | 4.15         | 14.76        | 0.12   | 9.82   | 172.15 | 16.36  | 0.00 | 0.00 | 108.77        |
| 14-07-002    | Templeton Rye Spirits, LLC                     | 0.11         | 0.12         | 0.01   | 0.99   | 146.92 | 1.16   | 0.00 | 0.00 | 0.06          |
| 15-01-042    | Elite Octane, LLC                              | 43.81        | 44.64        | 23.43  | 74.78  | 241.68 | 97.20  | 0.00 | 0.00 | 13.43         |
| 16-01-004    | XERXES CORPORATION                             | 0.10         | 0.10         | 0.00   | 0.00   | 95.24  | 0.00   | 0.00 | 0.00 | 83.37         |
| 17-01-005    | LEHIGH CEMENT COMPANY - MASON CITY             | 107.85       | 150.54       | 228.59 | 467.19 | 89.05  | 310.22 | 0.01 | 3.56 | 7.62          |
| 17-01-027    | AG PROCESSING, INC - MASON CITY                | 6.45         | 22.80        | 0.39   | 22.73  | 72.59  | 19.01  | 0.00 | 0.00 | 45.30         |
| 17-01-066    | IPL - LIME CREEK COMBUSTION TURBINES STATION   | 0.18         | 0.19         | 0.01   | 4.40   | 0.02   | 1.26   | 0.00 | 0.00 | 0.02          |
| 17-01-068    | WOODHARBOR CUSTOM CABINETRY                    | 1.07         | 1.23         | 0.00   | 0.00   | 105.65 | 0.01   | 0.00 | 0.00 | 20.04         |
| 17-01-087-02 | CURRIES DIVISION OF AADG, INC - 12TH ST NW     | 4.39         | 5.55         | 0.01   | 0.77   | 84.13  | 0.78   | 0.00 | 0.00 | 31.24         |
| 17-01-100    | GOLDEN GRAIN ENERGY, LLC - MASON CITY          | 32.84        | 37.12        | 14.86  | 94.74  | 73.02  | 14.58  | 0.00 | 4.99 | 10.59         |
| 17-02-002    | MAGELLAN PIPELINE CO, LLC - MASON CITY         | 0.00         | 0.00         | 0.00   | 4.43   | 52.28  | 11.07  | 0.00 | 0.00 | 2.24          |

| Facility ID  | Facility Name                                    | PM25-<br>PRI | PM10-<br>PRI | SO2    | NOX      | VOC      | CO     | Pb   | NH3   | Total<br>HAPs |
|--------------|--|--------------|--------------|--------|----------|----------|--------|------|-------|---------------|
| 17-02-016    | IPL - EMERY GENERATING STATION                   | 35.26        | 35.26        | 4.12   | 74.94    | 0.14     | 38.61  | 0.00 | 10.71 | 0.04          |
| 17-02-024    | LANDFILL OF NORTH IOWA                           | 0.00         | 0.00         | 0.00   | 0.00     | 8.83     | 2.18   | 0.00 | 0.00  | 4.87          |
| 18-02-006    | LITTLE SIOUX CORN PROCESSORS, LLC                | 56.16        | 59.79        | 7.11   | 137.81   | 121.31   | 95.32  | 0.00 | 0.00  | 13.62         |
| 18-06-002    | NORTHERN NATURAL GAS CO - PAULLINA<br>COMPRESSOR | 0.30         | 0.30         | 0.01   | 34.67    | 0.46     | 58.35  | 0.00 | 0.00  | 0.45          |
| 19-04-002    | HOMELAND ENERGY SOLUTIONS, LLC                   | 29.42        | 29.65        | 44.29  | 92.12    | 112.33   | 106.69 | 0.00 | 0.00  | 12.91         |
| 20-01-018    | ALTEC OSCEOLA BODY PLANT                         | 0.00         | 0.00         | 0.00   | 0.00     | 31.28    | 0.00   | 0.00 | 0.00  | 22.54         |
| 21-01-003    | CORN BELT POWER - WISDOM<br>GENERATING STATION   | 0.59         | 0.59         | 0.12   | 2.14     | 0.15     | 0.53   | 0.00 | 0.06  | 0.04          |
| 23-01-004    | EQUISTAR CHEMICALS, LP                           | 4.06         | 28.07        | 0.75   | 693.66   | 1,947.97 | 379.63 | 0.00 | 21.41 | 50.67         |
| 23-01-006-01 | ADM CLINTON CORN PROCESSING                      | 53.82        | 60.99        | 51.39  | 52.90    | 511.62   | 42.94  | 0.00 | 3.80  | 145.54        |
| 23-01-006-02 | ADM CORN PROCESSING / COGEN PLANT -<br>CLINTON   | 52.35        | 78.49        | 543.43 | 1,378.04 | 4.29     | 52.85  | 0.01 | 4.40  | 22.21         |
| 23-01-006-03 | ADM CLINTON BIOPROCESSING                        | 0.63         | 0.74         | 0.11   | 1.96     | 7.70     | 0.45   | 0.00 | 0.00  | 0.00          |
| 23-02-013    | GUARDIAN INDUSTRIES CORPORATION                  | 30.00        | 30.00        | 147.20 | 319.78   | 64.50    | 12.12  | 0.00 | 0.44  | 0.00          |
| 23-02-028    | LATHAM POOL PRODUCTS, INC.                       | 0.00         | 0.16         | 0.00   | 0.00     | 63.27    | 0.00   | 0.00 | 0.00  | 59.90         |
| 24-01-001    | SMITHFIELD FARMLAND CORP. - DENISON              | 12.06        | 12.30        | 0.16   | 25.99    | 9.96     | 55.41  | 0.00 | 8.14  | 0.48          |
| 24-01-007    | THE ANDERSONS DENISON ETHANOL, LLC               | 12.79        | 17.79        | 15.66  | 44.03    | 52.75    | 34.69  | 0.00 | 2.13  | 5.00          |
| 24-01-035    | Continental Carbonic Products, Inc               | 0.31         | 0.31         | 0.00   | 0.00     | 3.79     | 0.37   | 0.00 | 0.00  | 3.76          |
| 25-05-002    | NORTHERN NATURAL GAS CO - REDFIELD<br>COMPRESSOR | 5.52         | 5.52         | 2.21   | 83.40    | 33.31    | 49.65  | 0.00 | 0.05  | 6.95          |
| 28-01-026    | ALLIANCE PIPELINE L.P. - MANCHESTER              | 5.51         | 5.51         | 2.84   | 77.55    | 8.29     | 73.07  | 0.00 | 0.00  | 1.12          |
| 28-12-001    | BIG RIVER UNITED ENERGY, LLC -<br>DYERSVILLE     | 18.01        | 20.45        | 5.25   | 73.50    | 61.69    | 57.22  | 0.00 | 0.00  | 10.97         |
| 29-01-004    | IOWA ARMY AMMUNITION PLANT                       | 5.74         | 5.93         | 176.47 | 56.25    | 2.48     | 36.44  | 0.01 | 0.69  | 5.81          |
| 29-01-006    | CNH INDUSTRIAL AMERICA, LLC.                     | 1.96         | 2.22         | 0.04   | 6.13     | 15.70    | 5.08   | 0.00 | 0.00  | 0.42          |
| 29-01-013    | IPL - BURLINGTON GENERATING STATION              | 3.90         | 3.90         | 0.14   | 19.61    | 1.31     | 10.08  | 0.00 | 0.78  | 0.44          |
| 29-01-079    | RILEY INDUSTRIAL PAINTING                        | 0.87         | 0.87         | 0.00   | 0.01     | 0.96     | 0.00   | 0.00 | 0.00  | 0.12          |
| 29-01-098    | SILGAN CONTAINERS MFG CORP -<br>BURLINGTON       | 0.83         | 0.83         | 0.07   | 10.90    | 51.54    | 9.15   | 0.00 | 0.00  | 1.53          |
| 29-02-010    | DES MOINES COUNTY REGIONAL SANITARY<br>LANDFILL  | 0.00         | 0.00         | 0.00   | 0.00     | 5.33     | 1.32   | 0.00 | 0.00  | 3.37          |
| 29-02-012    | BIG RIVER RESOURCES WEST BURLINGTON,<br>LLC      | 37.48        | 40.95        | 63.98  | 132.85   | 83.91    | 101.02 | 0.00 | 0.00  | 11.26         |

| Facility ID  | Facility Name  | PM25-<br>PRI | PM10-<br>PRI | SO2  | NOX   | VOC    | CO     | Pb   | NH3  | Total<br>HAPs |
|--------------|--|--------------|--------------|------|-------|--------|--------|------|------|---------------|
| 29-06-001    | UNITED STATES GYPSUM CO - SPERRY                       | 45.64        | 45.64        | 0.68 | 83.30 | 32.06  | 70.31  | 0.00 | 2.89 | 7.01          |
| 30-01-012    | POLARIS INDUSTRIES, INC - SPIRIT LAKE                  | 6.43         | 6.44         | 0.02 | 4.14  | 72.52  | 3.48   | 0.00 | 0.00 | 3.79          |
| 30-02-004    | MAGELLAN PIPELINE CO, LLC - MILFORD                    | 0.00         | 0.00         | 0.00 | 0.00  | 195.76 | 0.00   | 0.00 | 0.00 | 7.20          |
| 30-02-010    | NUSTAR PIPELINE OP PARTNERSHIP LP - MILFORD            | 0.00         | 0.00         | 0.00 | 0.00  | 95.54  | 0.00   | 0.00 | 0.00 | 0.84          |
| 30-08-002    | GREEN PLAINS ETHANOL STORAGE, LLC (GP SUPERIOR)        | 19.22        | 22.53        | 1.90 | 66.23 | 55.06  | 24.64  | 0.00 | 3.75 | 7.74          |
| 31-01-009    | JOHN DEERE DUBUQUE WORKS                               | 14.61        | 14.61        | 0.19 | 23.42 | 111.80 | 17.44  | 0.00 | 0.00 | 2.18          |
| 31-01-034    | MAGELLAN PIPELINE CO, LLC - DUBUQUE                    | 0.00         | 0.00         | 0.00 | 0.00  | 59.12  | 0.00   | 0.00 | 0.00 | 2.63          |
| 31-01-061    | EAGLE WINDOW & DOOR, INC                               | 1.07         | 1.41         | 0.00 | 0.77  | 121.45 | 0.64   | 0.00 | 0.02 | 13.39         |
| 31-01-151    | DUBUQUE METROPOLITAN SANITARY LANDFILL                 | 0.00         | 0.00         | 0.00 | 0.00  | 3.76   | 0.93   | 0.00 | 0.00 | 2.36          |
| 32-01-016    | Moveero- Estherville                                   | 2.20         | 2.20         | 0.00 | 0.01  | 29.00  | 0.01   | 0.00 | 0.00 | 0.65          |
| 32-02-004    | Moveero - ARMSTRONG                                    | 4.32         | 4.32         | 0.01 | 1.57  | 33.23  | 1.31   | 0.00 | 0.05 | 0.81          |
| 33-01-003    | ASHLEY INDUSTRIAL MOLDING, INC                         | 0.48         | 0.49         | 0.02 | 2.58  | 72.46  | 2.16   | 0.00 | 0.08 | 21.76         |
| 33-01-016    | TRANSCO RAILWAY PRODUCTS, INC. - OELWEIN               | 0.50         | 0.92         | 0.02 | 3.25  | 19.34  | 2.73   | 0.00 | 0.00 | 10.44         |
| 33-01-020    | BERTCH CABINET, LLC. - OELWEIN                         | 1.18         | 1.19         | 0.00 | 0.34  | 71.88  | 0.28   | 0.00 | 0.00 | 2.09          |
| 34-01-015    | CAMBREX CHARLES CITY, INC                              | 0.00         | 9.87         | 0.88 | 0.99  | 36.62  | 1.57   | 0.00 | 0.07 | 11.07         |
| 34-01-023    | MIDAMERICAN ENERGY CO - MERL PARR TURBINES             | 0.04         | 0.04         | 0.00 | 1.79  | 0.01   | 0.46   | 0.00 | 0.00 | 0.00          |
| 34-01-027    | WINNEBAGO INDUSTRIES, INC - CHARLES CITY               | 0.12         | 0.21         | 0.00 | 0.01  | 19.29  | 0.01   | 0.00 | 0.00 | 1.54          |
| 34-01-035    | CDI, LLC - CHARLES CITY                                | 0.03         | 0.03         | 0.00 | 0.00  | 13.49  | 0.00   | 0.00 | 0.00 | 3.32          |
| 34-01-040    | VALERO RENEWABLE FUELS CO, LLC dba Valero CHARLES CITY | 32.46        | 37.62        | 1.08 | 84.62 | 88.04  | 34.63  | 0.00 | 0.00 | 11.17         |
| 36-10-001-01 | GREEN PLAINS ETHANOL STORAGE, LLC (GP SHENANDOAH)      | 28.61        | 33.39        | 6.12 | 65.97 | 90.14  | 27.55  | 0.00 | 2.94 | 13.64         |
| 39-06-002    | POET Biorefining MENLO, LLC                            | 21.00        | 29.15        | 3.51 | 79.42 | 78.77  | 35.33  | 0.00 | 4.75 | 8.37          |
| 39-11-001    | POET BIOREFINING - COON RAPIDS                         | 42.63        | 46.71        | 0.71 | 58.04 | 82.32  | 20.35  | 0.00 | 0.82 | 11.69         |
| 40-01-003    | WEBSTER CITY COMBUSTION TURBINE                        | 0.64         | 0.64         | 0.34 | 7.29  | 0.00   | 0.50   | 0.00 | 0.00 | 0.00          |
| 40-01-011    | VAN DIEST SUPPLY COMPANY                               | 1.86         | 9.83         | 0.53 | 13.22 | 89.66  | 6.48   | 0.00 | 1.09 | 6.32          |
| 40-02-002    | POET BIOREFINING - JEWELL                              | 45.86        | 56.41        | 1.11 | 83.93 | 75.30  | 100.60 | 0.00 | 0.00 | 9.14          |
| 41-02-005-02 | NORTHERN NATURAL GAS CO - VENTURA COMPRESSOR           | 1.08         | 1.08         | 0.20 | 64.35 | 1.84   | 9.90   | 0.00 | 0.02 | 1.17          |

| Facility ID  | Facility Name  | PM25-<br>PRI | PM10-<br>PRI | SO2    | NOX    | VOC    | CO     | Pb   | NH3  | Total<br>HAPs |
|--------------|--|--------------|--------------|--------|--------|--------|--------|------|------|---------------|
| 41-02-011    | STELLAR INDUSTRIES, INC  | 1.04         | 1.04         | 0.00   | 0.59   | 32.54  | 0.49   | 0.00 | 0.02 | 1.44          |
| 42-01-003    | CARGILL, INC - IOWA FALLS                                      | 17.23        | 17.90        | 0.30   | 33.70  | 259.01 | 41.86  | 0.00 | 0.00 | 129.00        |
| 42-01-019    | POET Biorefining IOWA FALLS, LLC                               | 22.00        | 29.45        | 2.68   | 91.12  | 66.21  | 57.24  | 0.00 | 7.21 | 4.60          |
| 42-08-001    | PLCP, L.P.   | 35.76        | 37.34        | 0.60   | 84.98  | 110.48 | 79.88  | 0.00 | 0.00 | 12.33         |
| 42-08-003    | NATURALLY RECYCLED PROTEINS of IOWA                            | 5.56         | 5.57         | 0.02   | 5.30   | 0.11   | 3.18   | 0.00 | 0.12 | 0.07          |
| 45-01-003    | DONALDSON COMPANY, INC - CRESCO                                | 0.06         | 0.06         | 0.01   | 0.84   | 79.07  | 0.71   | 0.00 | 0.03 | 8.09          |
| 45-01-007    | IEA-SBD-9206-DONALDSON   | 0.00         | 0.00         | 0.00   | 0.15   | 0.00   | 0.00   | 0.00 | 0.00 | 0.00          |
| 46-01-034    | PRECISION TANK & EQUIPMENT CO                                  | 2.78         | 2.78         | 0.00   | 0.00   | 5.99   | 0.00   | 0.00 | 0.00 | 5.96          |
| 47-04-001    | POET Biorefining ARTHUR, LLC                                   | 31.45        | 41.03        | 2.44   | 97.08  | 75.96  | 71.30  | 0.00 | 4.90 | 5.31          |
| 49-01-013-01 | MAQUOKETA MUNICIPAL ELEC UTILITY                               | 0.24         | 0.26         | 0.00   | 7.40   | 2.14   | 1.09   | 0.00 | 0.00 | 0.04          |
| 50-01-049    | Arcosa Wind Towers, Inc. - Newton                              | 1.36         | 1.36         | 0.00   | 0.55   | 46.43  | 0.46   | 0.00 | 0.00 | 11.51         |
| 51-01-005    | FAIRCAST, INC.   | 20.90        | 29.94        | 0.86   | 0.78   | 8.86   | 13.29  | 0.02 | 0.00 | 17.08         |
| 51-03-001    | ANR PIPELINE CO - BIRMINGHAM<br>COMPRESSOR                     | 3.51         | 3.51         | 0.15   | 130.98 | 6.24   | 67.73  | 0.00 | 0.00 | 4.11          |
| 52-01-005-01 | UNIVERSITY OF IOWA   | 3.98         | 4.12         | 0.27   | 23.17  | 15.15  | 11.88  | 0.00 | 0.01 | 0.40          |
| 52-01-005-02 | UNIVERSITY OF IOWA MAIN POWER PLANT                            | 13.02        | 14.24        | 100.75 | 204.48 | 38.51  | 113.37 | 0.01 | 0.23 | 11.82         |
| 52-01-032    | ENTERPRISE PROD. OPERATING LLC - IOWA<br>CITY NGL FAC          | 3.32         | 3.32         | 0.51   | 13.34  | 63.61  | 13.01  | 0.00 | 0.00 | 0.03          |
| 52-01-037    | LOPAREX, INC   | 2.45         | 2.45         | 0.06   | 9.27   | 80.79  | 7.79   | 0.00 | 0.35 | 20.61         |
| 52-01-053    | IOWA CITY SANITARY LANDFILL                                    | 1.88         | 14.44        | 0.02   | 1.51   | 3.84   | 5.40   | 0.00 | 0.04 | 2.05          |
| 52-02-001    | MIDAMERICAN ENERGY CO - CORALVILLE<br>TURBINES                 | 0.17         | 0.17         | 0.02   | 7.75   | 0.06   | 1.98   | 0.00 | 0.00 | 0.02          |
| 52-02-006    | MAGELLAN PIPELINE CO, LLC - IOWA CITY                          | 0.00         | 0.00         | 0.00   | 7.10   | 77.84  | 17.76  | 0.00 | 0.00 | 3.49          |
| 53-02-008    | ROBERTSON CECO II DBA STAR BUILDING<br>SYSTEMS                 | 0.51         | 10.64        | 0.00   | 0.99   | 46.69  | 0.68   | 0.00 | 0.00 | 2.32          |
| 54-10-001    | NATURAL GAS PIPELINE CO OF AMERICA -<br>STATION 109            | 12.88        | 12.88        | 0.17   | 810.10 | 33.20  | 105.52 | 0.00 | 0.00 | 20.90         |
| 55-01-032    | AG PROCESSING, INC - ALGONA                                    | 1.33         | 6.04         | 0.06   | 5.29   | 6.03   | 8.88   | 0.00 | 0.00 | 5.45          |
| 55-03-004    | BRAND FX BODY COMPANY - SWEA CITY                              | 2.25         | 2.25         | 0.00   | 0.00   | 32.05  | 0.00   | 0.00 | 0.00 | 18.43         |
| 55-09-003    | Valero Renewable Fuels Company, LLC dba<br>Valero Lakota Plant | 24.01        | 27.85        | 3.94   | 60.49  | 42.75  | 24.94  | 0.00 | 1.40 | 4.49          |
| 56-01-008    | HENNIGES AUTOMOTIVE IOWA, INC                                  | 95.85        | 95.88        | 0.03   | 2.24   | 16.65  | 3.39   | 0.00 | 0.15 | 7.27          |
| 56-01-009    | ROQUETTE AMERICA, INC  | 63.52        | 120.26       | 225.00 | 233.84 | 167.99 | 104.72 | 0.01 | 6.41 | 6.11          |
| 56-01-023    | AMSTED RAIL COMPANY, INC                                       | 40.60        | 46.62        | 4.12   | 42.64  | 21.83  | 450.39 | 0.07 | 5.44 | 5.23          |

| Facility ID  | Facility Name                                     | PM25-<br>PRI | PM10-<br>PRI | SO2      | NOX      | VOC    | CO       | Pb   | NH3      | Total<br>HAPs |
|--------------|---|--------------|--------------|----------|----------|--------|----------|------|----------|---------------|
| 56-01-025    | Keokuk Mills, LLC dba KEOKUK STEEL CASTING, INC   | 7.62         | 7.62         | 0.03     | 4.72     | 67.72  | 3.96     | 0.00 | 0.15     | 2.95          |
| 56-02-021    | CLIMAX MOLYBDENUM COMPANY                         | 18.12        | 19.52        | 267.20   | 7.98     | 0.52   | 5.42     | 0.00 | 1,504.63 | 0.07          |
| 56-02-030    | SILGAN CONTAINERS MFG. CORP. - FORT MADISON       | 0.27         | 0.27         | 0.00     | 0.73     | 212.80 | 0.61     | 0.00 | 0.02     | 0.24          |
| 56-02-053    | SIEMENS GAMESA RENEWABLE ENERGY INC.              | 0.09         | 0.17         | 0.00     | 0.00     | 12.13  | 0.00     | 0.00 | 0.00     | 0.74          |
| 56-10-001    | IOWA FERTILIZER COMPANY                           | 12.31        | 15.58        | 2.94     | 132.28   | 100.55 | 74.73    | 0.00 | 86.55    | 11.12         |
| 57-01-002    | CARGILL, INC - DOMESTIC SOYBEAN PROCESSING        | 20.56        | 30.94        | 0.07     | 12.62    | 198.65 | 9.70     | 0.00 | 0.00     | 126.94        |
| 57-01-003    | CARGILL, INC - CEDAR RAPIDS - SOYBEAN EAST PLANT  | 12.88        | 17.07        | 0.21     | 35.78    | 281.74 | 30.06    | 0.00 | 0.00     | 48.36         |
| 57-01-004    | CARGILL, INC - CEDAR RAPIDS                       | 16.46        | 44.61        | 17.24    | 55.72    | 182.42 | 98.11    | 0.00 | 2.62     | 56.02         |
| 57-01-012    | GM Cereal Properties, Inc.                        | 44.63        | 44.63        | 0.33     | 41.73    | 40.31  | 34.91    | 0.00 | 1.33     | 0.00          |
| 57-01-025    | INGREDION INCORPORATED                            | 35.08        | 77.14        | 34.49    | 22.56    | 126.06 | 10.03    | 0.00 | 1.71     | 10.69         |
| 57-01-027    | QUAKER MANUFACTURING, LLC                         | 63.47        | 63.73        | 0.15     | 27.18    | 5.57   | 21.46    | 0.00 | 0.80     | 0.98          |
| 57-01-042    | IPL - PRAIRIE CREEK GENERATING STATION            | 126.47       | 126.47       | 1,640.31 | 975.33   | 12.87  | 422.99   | 0.03 | 2.26     | 12.61         |
| 57-01-077    | CEDAR RAPIDS WPCF                                 | 3.49         | 3.49         | 0.59     | 24.65    | 9.53   | 10.54    | 0.02 | 0.37     | 9.36          |
| 57-01-080    | ADM CORN PROCESSING - CEDAR RAPIDS                | 59.01        | 165.22       | 1,191.88 | 846.68   | 689.59 | 334.48   | 0.02 | 83.45    | 237.61        |
| 57-01-095    | PMX INDUSTRIES, INC                               | 32.66        | 33.28        | 0.06     | 13.05    | 27.85  | 9.13     | 0.00 | 0.34     | 0.36          |
| 57-01-130-02 | CEDAR RAPIDS LINN CTY SLD WST AGCY SANI LNDFLL #2 | 0.83         | 0.83         | 7.63     | 6.84     | 6.01   | 53.03    | 0.00 | 0.00     | 11.05         |
| 57-01-153    | INTERNATIONAL PAPER CEDAR RIVER MILL              | 29.61        | 33.74        | 0.02     | 1.76     | 119.98 | 1.41     | 0.00 | 0.00     | 52.93         |
| 57-01-226-01 | RED STAR YEAST COMPANY, LLC                       | 4.41         | 5.13         | 0.00     | 0.37     | 204.81 | 2.76     | 0.00 | 0.00     | 43.01         |
| 57-01-226-02 | BIO SPRINGER NORTH AMERICA CORP                   | 0.00         | 5.52         | 0.00     | 0.01     | 0.38   | 0.01     | 0.00 | 0.00     | 0.00          |
| 57-01-246    | Vantage Corn Processors, LLC                      | 5.38         | 25.91        | 11.39    | 49.27    | 212.97 | 29.74    | 0.00 | 3.27     | 24.89         |
| 58-02-007    | NATURAL GAS PIPELINE CO OF AMERICA - STATION 204  | 3.56         | 3.56         | 0.09     | 49.30    | 23.20  | 10.83    | 0.00 | 0.00     | 6.96          |
| 58-04-002    | NATURAL GAS PIPELINE CO OF AMERICA - STATION 199  | 0.02         | 0.02         | 0.00     | 3.46     | 0.05   | 5.67     | 0.00 | 0.00     | 0.03          |
| 58-07-001    | MIDAMERICAN ENERGY CO - LOUISA STATION            | 144.06       | 271.95       | 4,892.70 | 2,907.02 | 3.42   | 3,844.44 | 0.05 | 0.85     | 12.54         |
| 60-01-012    | NUSTAR PIPELINE OP PARTNERSHIP LP - ROCK RAPIDS   | 0.00         | 0.00         | 0.00     | 0.00     | 18.41  | 0.00     | 0.00 | 0.00     | 0.16          |
| 62-01-001-01 | CLOW VALVE COMPANY - FOUNDRY                      | 5.07         | 5.75         | 0.32     | 0.13     | 22.91  | 55.70    | 0.02 | 0.00     | 7.22          |

| Facility ID  | Facility Name                                      | PM25-<br>PRI | PM10-<br>PRI | SO2    | NOX    | VOC    | CO     | Pb   | NH3   | Total<br>HAPs |
|--------------|--|--------------|--------------|--------|--------|--------|--------|------|-------|---------------|
| 62-01-001-02 | CLOW VALVE COMPANY - MACHINE SHOP                  | 2.93         | 2.95         | 0.02   | 4.89   | 1.29   | 4.12   | 0.00 | 0.16  | 0.42          |
| 63-01-001    | 3M (MINNESOTA MINING & MFG CO) - KNOXVILLE         | 0.93         | 1.06         | 0.06   | 10.77  | 118.41 | 9.03   | 0.00 | 0.34  | 29.91         |
| 63-01-013    | NATURAL GAS PIPELINE CO OF AMERICA - STATION 198   | 0.10         | 0.10         | 0.05   | 5.07   | 0.03   | 2.23   | 0.00 | 0.00  | 0.02          |
| 63-01-017    | MIDAMERICAN ENERGY CO - KNOXVILLE POWER STATION    | 0.02         | 0.02         | 0.00   | 0.66   | 0.02   | 0.08   | 0.00 | 0.00  | 0.00          |
| 63-02-003    | PELLA CORPORATION - PELLA DIVISION                 | 10.67        | 10.67        | 0.04   | 6.61   | 174.03 | 5.55   | 0.00 | 0.11  | 10.90         |
| 63-02-004    | VERMEER CORPORATION                                | 10.38        | 15.03        | 0.07   | 11.69  | 154.29 | 9.78   | 0.00 | 0.00  | 12.37         |
| 63-02-023    | PELLA WEST SUBSTATION                              | 0.23         | 0.26         | 0.01   | 4.96   | 0.34   | 0.13   | 0.00 | 0.00  | 0.00          |
| 64-01-012    | IPL - MARSHALLTOWN GENERATING STATION              | 30.38        | 30.38        | 6.25   | 204.89 | 3.11   | 168.02 | 0.00 | 19.35 | 7.42          |
| 64-01-015    | JBS USA LLC  | 3.68         | 7.96         | 26.55  | 48.42  | 5.71   | 40.67  | 0.00 | 0.00  | 0.84          |
| 64-01-045    | INDUSTRIAL ENERGY APPLICATIONS, INC. - JBS USA     | 0.02         | 0.02         | 0.00   | 1.30   | 0.03   | 0.01   | 0.00 | 0.00  | 0.00          |
| 65-02-005    | LOESS HILLS SANITARY LANDFILL                      | 0.00         | 0.00         | 1.43   | 3.56   | 5.16   | 69.33  | 0.00 | 0.00  | 6.68          |
| 65-04-001    | NATURAL GAS PIPELINE CO OF AMERICA - STATION 107   | 18.47        | 18.47        | 0.26   | 925.21 | 30.22  | 246.02 | 0.00 | 0.00  | 32.11         |
| 66-10-001    | ABSOLUTE ENERGY, LLC                               | 52.70        | 54.40        | 35.90  | 61.29  | 67.06  | 149.56 | 0.00 | 0.00  | 11.18         |
| 68-09-001    | CARGILL, INC - EDDYVILLE                           | 233.91       | 239.75       | 329.51 | 242.69 | 519.69 | 299.93 | 0.00 | 10.29 | 137.76        |
| 68-09-002    | Ajinomoto Health and Nutrition North America, Inc. | 25.33        | 25.45        | 0.64   | 85.58  | 16.06  | 89.12  | 0.00 | 3.39  | 2.37          |
| 68-09-003    | AJINOMOTO HEALTH AND NUTRITION NORTH AMERICA, INC  | 3.81         | 3.84         | 0.09   | 1.43   | 1.39   | 8.03   | 0.00 | 0.00  | 0.19          |
| 68-09-005    | CARGILL - VITAMIN E - EDDYVILLE                    | 0.86         | 0.86         | 0.01   | 1.34   | 4.42   | 1.27   | 0.00 | 0.00  | 4.24          |
| 68-09-006    | WACKER CHEMICAL CORPORATION                        | 1.21         | 1.42         | 0.09   | 7.26   | 12.56  | 16.15  | 0.00 | 0.00  | 5.51          |
| 68-09-008    | EDDYVILLE CHLOR-ALKALI, LLC                        | 0.46         | 0.46         | 0.04   | 6.06   | 0.33   | 5.02   | 0.00 | 0.19  | 0.11          |
| 69-01-020    | FRES-CO SYSTEM USA, INC                            | 0.05         | 0.20         | 0.01   | 2.53   | 101.42 | 2.10   | 0.00 | 0.05  | 0.00          |
| 70-01-004    | GRAIN PROCESSING CORPORATION                       | 68.20        | 112.89       | 95.89  | 377.41 | 609.69 | 211.44 | 0.00 | 9.77  | 71.61         |
| 70-01-005    | KRAFT HEINZ - MUSCATINE                            | 0.10         | 0.13         | 0.05   | 1.59   | 12.54  | 0.10   | 0.00 | 0.00  | 0.30          |
| 70-01-006    | HNI CORPORATION - CENTRAL CAMPUS                   | 1.53         | 1.53         | 0.05   | 4.48   | 18.89  | 3.48   | 0.00 | 0.03  | 4.07          |
| 70-01-008-01 | Bayer CropScience LP 3670                          | 4.53         | 4.53         | 0.04   | 6.89   | 24.25  | 8.91   | 0.00 | 0.17  | 11.03         |
| 70-01-008-02 | Bayer CropScience LP 6908                          | 0.81         | 0.81         | 0.00   | 0.00   | 1.78   | 0.00   | 0.00 | 0.54  | 0.58          |
| 70-01-008-03 | Bayer CropScience LP 6909                          | 7.05         | 7.05         | 0.39   | 69.92  | 32.36  | 54.24  | 0.00 | 2.93  | 8.32          |



| Facility ID | Facility Name                                       | PM25-<br>PRI | PM10-<br>PRI | SO2      | NOX      | VOC    | CO     | Pb   | NH3  | Total<br>HAPs |
|-------------|---|--------------|--------------|----------|----------|--------|--------|------|------|---------------|
| 70-01-011   | MUSCATINE POWER & WATER                             | 46.41        | 88.10        | 1,436.41 | 2,549.87 | 28.41  | 169.10 | 0.04 | 0.00 | 7.73          |
| 70-01-048   | UNION TANK CAR CO - MUSCATINE                       | 1.59         | 3.52         | 0.02     | 2.78     | 28.92  | 2.90   | 0.00 | 0.09 | 10.43         |
| 70-01-050   | HNI CORPORATION - NORTH CAMPUS                      | 4.72         | 4.72         | 0.07     | 7.01     | 8.98   | 5.56   | 0.00 | 0.05 | 2.58          |
| 70-01-054   | HARSCO METALS                                       | 4.12         | 4.12         | 0.68     | 2.39     | 0.38   | 0.55   | 0.00 | 0.00 | 0.00          |
| 70-03-003   | GERDAU  | 11.29        | 21.25        | 31.36    | 32.51    | 81.07  | 117.48 | 0.00 | 0.00 | 4.38          |
| 70-08-002   | SSAB IOWA, INC - MUSCATINE                          | 53.37        | 65.64        | 90.81    | 476.63   | 27.03  | 802.24 | 0.01 | 0.00 | 0.19          |
| 71-01-001   | AG PROCESSING, INC - SHELDON                        | 6.91         | 32.60        | 0.16     | 15.10    | 265.12 | 19.89  | 0.00 | 0.00 | 167.23        |
| 71-02-010   | VALERO RENEWABLE FUELS CO, LLC -<br>HARTLEY         | 53.27        | 58.46        | 1.27     | 80.13    | 64.23  | 22.46  | 0.00 | 0.00 | 11.89         |
| 72-03-002   | POET BIOREFINING - ASHTON                           | 43.87        | 57.20        | 0.16     | 54.37    | 61.89  | 30.72  | 0.00 | 1.15 | 5.86          |
| 73-01-018   | MIDAMERICAN ENERGY CO - SHENANDOAH<br>POWER STATION | 0.02         | 0.02         | 0.00     | 0.83     | 0.03   | 0.10   | 0.00 | 0.00 | 0.00          |
| 73-01-026   | CITY OF SHENANDOAH - SHENANDOAH<br>SANITATION, INC  | 0.07         | 0.07         | 0.02     | 0.88     | 0.42   | 3.09   | 0.00 | 0.00 | 0.00          |
| 73-02-010   | NSK CORPORATION                                     | 0.21         | 0.21         | 0.02     | 2.75     | 78.61  | 2.31   | 0.00 | 0.00 | 0.43          |
| 74-01-012   | AG PROCESSING, INC - EMMETSBURG                     | 4.33         | 10.18        | 0.14     | 10.54    | 91.64  | 17.70  | 0.00 | 0.00 | 57.49         |
| 74-01-022   | Poet Biorefining - Emmetsburg                       | 48.04        | 48.50        | 0.36     | 27.47    | 70.69  | 19.11  | 0.00 | 1.66 | 5.44          |
| 75-01-018   | NUSTAR PIPELINE OP PARTNERSHIP LP - LE<br>MARS      | 0.00         | 0.00         | 0.00     | 0.00     | 32.18  | 0.00   | 0.00 | 0.00 | 0.32          |
| 76-01-014   | BRAND FX BODY COMPANY - POCAHONTAS                  | 1.54         | 1.54         | 0.00     | 0.01     | 17.80  | 0.00   | 0.00 | 0.00 | 13.02         |
| 77-01-003   | TITAN TIRE CORPORATION                              | 1.68         | 9.22         | 0.13     | 22.22    | 122.50 | 18.59  | 0.00 | 0.71 | 5.26          |
| 77-01-022   | BRIDGESTONE AMERICAS TIRE<br>OPERATIONS, LLC        | 22.22        | 41.53        | 0.25     | 36.98    | 309.30 | 30.92  | 0.01 | 1.17 | 8.51          |
| 77-01-035   | JOHN DEERE DES MOINES WORKS                         | 13.00        | 13.01        | 0.13     | 21.08    | 95.80  | 17.64  | 0.00 | 0.65 | 3.79          |
| 77-01-045   | ADM - DES MOINES SOYBEAN                            | 38.89        | 45.47        | 114.41   | 242.04   | 630.08 | 48.71  | 0.02 | 0.00 | 405.95        |
| 77-01-054   | MIDAMERICAN ENERGY CO - RIVER HILLS<br>TURBINES     | 0.11         | 0.11         | 0.01     | 5.07     | 0.04   | 1.30   | 0.00 | 0.00 | 0.00          |
| 77-01-109   | CONSTRUCTION PRODUCTS, INC                          | 15.52        | 15.52        | 0.03     | 0.44     | 42.42  | 0.09   | 0.00 | 0.00 | 18.90         |
| 77-01-114   | MAGELLAN PIPELINE CO, LLC - DES MOINES              | 0.00         | 0.00         | 0.09     | 2.99     | 156.87 | 2.43   | 0.00 | 0.00 | 8.13          |
| 77-01-169   | SIEGWERK USA INC - 129 SE 18TH ST                   | 0.64         | 0.64         | 0.00     | 0.00     | 92.56  | 0.00   | 0.00 | 0.00 | 0.00          |
| 77-01-174   | PRINCIPAL LIFE INSURANCE COMPANY                    | 0.11         | 0.11         | 0.01     | 2.60     | 0.10   | 1.29   | 0.00 | 0.02 | 0.00          |
| 77-01-285   | SIEGWERK USA INC - SW 56TH ST                       | 1.96         | 1.96         | 0.07     | 0.24     | 17.02  | 0.06   | 0.00 | 0.00 | 0.00          |
| 77-01-317   | CITY OF DSM METRO WASTEWATER<br>RECLAIM AUTHORITY   | 1.47         | 1.47         | 8.79     | 11.87    | 11.23  | 34.96  | 0.00 | 0.22 | 0.36          |

| Facility ID | Facility Name  | PM25-<br>PRI | PM10-<br>PRI | SO2      | NOX      | VOC    | CO       | Pb   | NH3  | Total<br>HAPs |
|-------------|--|--------------|--------------|----------|----------|--------|----------|------|------|---------------|
| 77-01-337   | Iowa EPS Products, Inc.                                  | 2.11         | 2.11         | 0.01     | 1.28     | 173.91 | 1.08     | 0.00 | 0.00 | 4.07          |
| 77-03-014   | QUALITY MANUFACTURING CORP -<br>URBANDALE                | 15.38        | 15.38        | 0.01     | 2.20     | 85.66  | 1.85     | 0.00 | 0.07 | 1.25          |
| 77-07-010   | Siculus, Inc.  | 0.61         | 1.70         | 0.01     | 14.36    | 2.22   | 6.20     | 0.00 | 0.00 | 0.01          |
| 77-09-002   | MIDAMERICAN ENERGY CO - SYCAMORE<br>TURBINES             | 0.28         | 0.28         | 0.17     | 14.80    | 0.09   | 3.48     | 0.00 | 0.00 | 0.04          |
| 77-10-002   | CB&I LLC   | 7.43         | 7.49         | 0.00     | 0.00     | 5.22   | 0.00     | 0.00 | 0.00 | 2.23          |
| 77-13-002   | MIDAMERICAN ENERGY CO - PLEASANT<br>HILL/GDMEC           | 59.93        | 59.93        | 4.44     | 73.14    | 5.17   | 135.71   | 0.00 | 0.01 | 3.14          |
| 77-14-002   | METRO METHANE RECOVERY FACILITY                          | 6.33         | 6.33         | 18.54    | 143.05   | 7.75   | 245.84   | 0.00 | 0.00 | 12.81         |
| 77-14-003   | METRO PARK EAST SANITARY LANDFILL                        | 0.00         | 0.00         | 0.00     | 0.00     | 16.17  | 0.00     | 0.00 | 0.00 | 10.24         |
| 78-01-026   | WALTER SCOTT JR ENERGY CTR                               | 371.12       | 645.73       | 9,028.45 | 5,339.53 | 73.58  | 4,823.74 | 0.25 | 6.52 | 24.66         |
| 78-01-085   | BUNGE NORTH AMERICA, INC - 19560<br>BUNGE AVE            | 20.60        | 32.64        | 0.64     | 44.07    | 686.50 | 86.74    | 0.00 | 3.00 | 433.51        |
| 78-01-092   | NuStar Council Bluff Terminal                            | 0.00         | 0.00         | 0.00     | 4.99     | 44.78  | 9.98     | 0.00 | 0.00 | 0.31          |
| 78-01-110   | SOUTHWEST IOWA RENEWABLE ENERGY,<br>LLC                  | 16.96        | 28.24        | 2.16     | 59.61    | 119.05 | 62.74    | 0.00 | 4.17 | 8.96          |
| 78-01-121   | GABLE CORPORATION  | 6.36         | 6.36         | 0.01     | 23.10    | 0.72   | 5.83     | 0.00 | 0.00 | 0.02          |
| 78-04-001   | OSI INDUSTRIES, LLC                                      | 46.32        | 46.32        | 0.05     | 19.64    | 65.60  | 20.69    | 0.00 | 1.39 | 0.00          |
| 78-04-006   | NORTHERN NATURAL GAS CO - OAKLAND<br>COMPRESSOR          | 1.86         | 1.86         | 0.06     | 97.44    | 3.66   | 14.47    | 0.00 | 0.03 | 2.37          |
| 82-01-002   | ARCONIC INC - DAVENPORT WORKS<br>(FORMERLY ALCOA)        | 150.16       | 161.34       | 1.58     | 219.52   | 250.10 | 200.10   | 0.02 | 8.24 | 60.47         |
| 82-01-015   | LINWOOD MINING & MINERALS CORP                           | 106.36       | 111.31       | 8.22     | 25.13    | 0.00   | 59.40    | 0.00 | 0.00 | 0.00          |
| 82-01-017   | NICHOLS ALUMINUM LLC - DAVENPORT -<br>ROCKINGHAM RD      | 0.94         | 0.94         | 0.05     | 7.87     | 10.03  | 6.61     | 0.00 | 0.25 | 2.14          |
| 82-01-043   | JOHN DEERE DAVENPORT WORKS                               | 11.89        | 11.89        | 0.05     | 14.08    | 98.80  | 1.53     | 0.00 | 0.05 | 10.98         |
| 82-01-089   | Novelis ALR Aluminum, LLC (Novelis<br>Davenport Casting) | 37.44        | 37.46        | 0.47     | 49.29    | 17.85  | 44.68    | 0.06 | 1.70 | 19.37         |
| 82-01-121   | SCOTT COUNTY LANDFILL                                    | 0.01         | 0.01         | 0.18     | 0.02     | 8.86   | 2.19     | 0.00 | 0.00 | 5.51          |
| 82-02-004   | SIVYER STEEL CASTINGS LLC                                | 12.01        | 20.02        | 1.21     | 18.37    | 2.59   | 36.53    | 0.09 | 0.47 | 0.33          |
| 82-02-006   | MIDAMERICAN ENERGY CO - RIVERSIDE<br>STATION             | 0.02         | 0.02         | 0.00     | 0.25     | 0.38   | 0.29     | 0.00 | 0.00 | 0.18          |
| 82-02-052   | VEOLIA WATER NORTH AMERICA -<br>DAVENPORT                | 2.02         | 2.02         | 0.18     | 0.35     | 1.37   | 18.03    | 0.00 | 0.00 | 0.00          |

| Facility ID  | Facility Name  | PM25-<br>PRI | PM10-<br>PRI | SO2      | NOX      | VOC    | CO       | Pb   | NH3    | Total<br>HAPs |
|--------------|--|--------------|--------------|----------|----------|--------|----------|------|--------|---------------|
| 82-04-005    | CONTINENTAL CEMENT COMPANY -<br>DAVENPORT PLANT                      | 167.02       | 212.84       | 1,753.89 | 1,714.28 | 68.90  | 1,014.91 | 0.09 | 4.94   | 80.56         |
| 85-01-006-01 | CITY OF AMES COMBUSTION TURBINE                                      | 0.01         | 0.01         | 0.02     | 0.92     | 0.00   | 0.03     | 0.00 | 0.00   | 0.00          |
| 85-01-006-02 | CITY OF AMES STEAM ELECTRIC PLANT                                    | 29.56        | 30.28        | 26.30    | 269.91   | 9.73   | 4.58     | 0.07 | 5.29   | 106.83        |
| 85-01-007    | IOWA STATE UNIVERSITY  | 17.06        | 22.55        | 262.20   | 114.31   | 6.09   | 43.40    | 0.01 | 0.16   | 6.77          |
| 85-01-017    | USDA - NATIONAL ANIMAL DISEASE CENTER                                | 4.82         | 4.82         | 0.46     | 16.34    | 1.23   | 20.19    | 0.00 | 0.08   | 0.61          |
| 85-02-017    | LINCOLNWAY ENERGY, LLC   | 29.99        | 30.81        | 0.58     | 57.22    | 70.88  | 81.57    | 0.00 | 0.00   | 8.53          |
| 85-03-003    | AMERICAN PACKAGING CORPORATION                                       | 0.33         | 0.33         | 0.03     | 4.30     | 96.01  | 3.61     | 0.00 | 0.14   | 0.01          |
| 86-01-001    | TAMA PAPERBOARD, LLC   | 1.39         | 1.39         | 0.11     | 17.51    | 21.04  | 14.70    | 0.00 | 0.56   | 0.76          |
| 88-01-002    | WDC Acquisition LLC  | 8.86         | 8.86         | 0.02     | 2.52     | 48.19  | 2.11     | 0.00 | 0.08   | 4.97          |
| 88-01-004    | CENTRAL IOWA POWER COOP - SUMMIT<br>LAKE                             | 0.99         | 0.99         | 0.26     | 31.63    | 8.05   | 3.47     | 0.00 | 0.23   | 11.12         |
| 88-01-017    | GREEN VALLEY CHEMICAL CORPORATION                                    | 3.61         | 3.61         | 0.46     | 96.21    | 104.94 | 216.83   | 0.00 | 0.64   | 2.58          |
| 88-01-021    | BENSON HILL INGREDIENTS, LLC   | 5.78         | 9.88         | 0.06     | 9.50     | 88.03  | 7.98     | 0.00 | 0.00   | 55.30         |
| 90-01-003    | JOHN DEERE OTTUMWA WORKS   | 2.88         | 3.12         | 0.04     | 7.22     | 113.25 | 6.08     | 0.01 | 0.23   | 3.74          |
| 90-01-023    | American Bath Group  | 0.89         | 0.89         | 0.00     | 0.00     | 8.03   | 0.00     | 0.00 | 0.00   | 3.98          |
| 90-07-001    | IPL - OTTUMWA GENERATING STATION                                     | 325.59       | 334.40       | 1,275.50 | 1,148.34 | 0.37   | 877.11   | 0.04 | 35.70  | 14.94         |
| 91-01-002    | INDIANOLA MUNICIPAL UTILITIES  | 0.06         | 0.06         | 0.00     | 1.49     | 0.01   | 0.02     | 0.00 | 0.00   | 0.00          |
| 91-01-015    | CITY OF INDIANOLA - WWTP   | 0.02         | 0.02         | 0.05     | 0.41     | 0.04   | 0.11     | 0.00 | 0.00   | 0.00          |
| 91-06-001    | NATURAL GAS PIPELINE CO OF AMERICA -<br>STATION 108                  | 2.21         | 2.21         | 0.03     | 138.58   | 5.27   | 18.01    | 0.00 | 0.00   | 3.33          |
| 92-01-021    | Atlas Molded Productions- A Division of<br>Atlas Roofing Corporation | 0.11         | 0.11         | 0.01     | 1.51     | 109.62 | 1.27     | 0.00 | 0.00   | 0.74          |
| 92-10-001    | NATURAL GAS PIPELINE CO OF AMERICA -<br>STATION 205                  | 1.13         | 1.13         | 0.01     | 1.04     | 0.34   | 0.66     | 0.00 | 0.00   | 0.27          |
| 93-05-001    | ANR PIPELINE CO - LINEVILLE COMPRESSOR                               | 1.08         | 1.08         | 0.06     | 156.32   | 12.46  | 35.32    | 0.00 | 0.00   | 7.62          |
| 94-01-002    | CERTAINTED GYPSUM & CEILING MFG, INC                                 | 12.63        | 17.20        | 0.00     | 0.00     | 0.00   | 0.00     | 0.00 | 0.00   | 0.00          |
| 94-01-005    | KOCH FERTILIZER FT. DODGE, LLC                                       | 8.80         | 8.80         | 0.29     | 235.45   | 49.18  | 62.01    | 0.00 | 381.57 | 6.76          |
| 94-01-010    | GEORGIA-PACIFIC GYPSUM, LLC - FORT<br>DODGE                          | 57.84        | 117.82       | 0.24     | 39.49    | 87.05  | 130.10   | 0.00 | 0.00   | 5.02          |
| 94-01-015    | GOLD BOND BUILDING PRODUCTS, LLC                                     | 27.22        | 27.22        | 26.09    | 26.70    | 26.31  | 37.40    | 0.00 | 1.30   | 3.12          |
| 94-01-017    | UNITED STATES GYPSUM CO - FORT DODGE                                 | 21.31        | 23.97        | 0.04     | 1.61     | 0.09   | 1.35     | 0.00 | 0.05   | 0.03          |
| 94-01-040    | SILGAN CONTAINERS MFG CORP - FORT<br>DODGE                           | 2.22         | 2.22         | 0.27     | 35.38    | 283.11 | 20.77    | 0.00 | 0.04   | 1.12          |

| Facility ID  | Facility Name                                   | PM25-<br>PRI | PM10-<br>PRI | SO2      | NOX      | VOC    | CO     | Pb   | NH3    | Total<br>HAPs |
|--------------|---|--------------|--------------|----------|----------|--------|--------|------|--------|---------------|
| 94-01-073    | VALERO RENEWABLE FUELS CO, LLC - FORT DODGE     | 34.19        | 39.65        | 0.91     | 58.03    | 67.56  | 72.78  | 0.00 | 0.00   | 9.32          |
| 94-01-079    | NORTH CENTRAL IA REGIONAL SANITARY LANDFILL     | 0.00         | 0.00         | 0.00     | 0.00     | 3.68   | 1.99   | 0.00 | 0.00   | 5.10          |
| 94-01-080    | CARGILL, INC - FORT DODGE                       | 18.08        | 19.97        | 19.82    | 77.74    | 153.17 | 35.15  | 0.00 | 0.00   | 16.62         |
| 94-02-004    | POET BIOREFINING - GOWRIE, LLC                  | 72.30        | 84.67        | 1.26     | 90.84    | 87.31  | 92.38  | 0.00 | 0.00   | 7.22          |
| 94-07-001    | GROWMARK, INC - FORT DODGE TERMINAL             | 0.00         | 0.00         | 0.00     | 0.00     | 37.34  | 0.00   | 0.00 | 0.00   | 5.37          |
| 94-07-004    | PRAXAIR, INC                                    | 2.60         | 2.60         | 0.00     | 0.00     | 0.08   | 0.72   | 0.00 | 0.00   | 0.41          |
| 95-01-001    | WINNEBAGO INDUSTRIES, INC - FOREST CITY         | 1.41         | 1.46         | 0.60     | 2.75     | 37.07  | 2.68   | 0.00 | 0.05   | 15.08         |
| 95-01-012    | CDI, LLC. - FOREST CITY                         | 0.44         | 0.44         | 0.00     | 0.00     | 45.56  | 0.00   | 0.00 | 0.00   | 7.46          |
| 95-02-012    | CENTRAL DISPOSAL SYSTEMS, INC                   | 6.79         | 33.46        | 1.29     | 24.15    | 11.85  | 51.01  | 0.00 | 0.00   | 10.55         |
| 97-01-001    | CARGILL, INC - SIOUX CITY                       | 17.16        | 22.33        | 0.31     | 25.96    | 458.77 | 44.02  | 0.00 | 0.00   | 290.75        |
| 97-01-030    | CF INDUSTRIES NITROGEN, LLC - PORT NEAL COMPLEX | 123.53       | 123.96       | 3.58     | 354.51   | 68.48  | 160.71 | 0.00 | 288.61 | 46.51         |
| 97-01-118    | MAGELLAN PIPELINE CO, LLC - SIOUX CITY          | 0.24         | 0.24         | 0.00     | 14.83    | 43.21  | 9.79   | 0.00 | 0.00   | 2.29          |
| 97-01-193    | Smithfield Packaged Meats Corp                  | 0.58         | 1.22         | 0.04     | 7.34     | 10.81  | 52.56  | 0.00 | 0.23   | 0.14          |
| 97-01-200-03 | SABRE INDUSTRIES TOWERS AND POLES               | 4.66         | 4.66         | 0.00     | 0.00     | 0.04   | 0.00   | 0.00 | 0.00   | 0.15          |
| 97-04-005    | AG PROCESSING, INC - SERGEANT BLUFF             | 11.08        | 24.58        | 0.40     | 57.16    | 336.75 | 56.01  | 0.00 | 0.00   | 210.08        |
| 97-04-010    | MIDAMERICAN ENERGY CO - GEORGE NEAL NORTH       | 40.48        | 64.76        | 1,337.61 | 1,050.54 | 13.41  | 595.08 | 0.01 | 0.42   | 4.74          |
| 97-04-011    | MIDAMERICAN ENERGY CO - GEORGE NEAL SOUTH       | 106.55       | 125.65       | 1,953.32 | 954.06   | 19.75  | 655.39 | 0.00 | 0.75   | 5.91          |
| 98-02-004    | MANLY TERMINAL, LLC                             | 0.08         | 0.18         | 0.00     | 0.00     | 15.02  | 0.00   | 0.00 | 0.00   | 6.55          |
| 98-07-004    | POET BIOREFINING - HANLONTOWN                   | 57.28        | 63.82        | 0.87     | 62.83    | 73.03  | 60.73  | 0.00 | 0.00   | 8.63          |
| 99-01-001    | AG PROCESSING, INC - EAGLE GROVE                | 15.41        | 50.66        | 0.52     | 25.60    | 422.62 | 55.24  | 0.00 | 0.00   | 266.52        |
| 99-05-003    | CORN, LP  | 14.99        | 15.86        | 0.50     | 28.39    | 75.63  | 82.17  | 0.00 | 0.00   | 9.28          |

## Appendix B - Business Types

- **Electricity Generation** - Includes facilities that provide electricity or steam to the public. This business type includes facilities contained in the major SIC groups of "4911" and "4931."
- **Food and Kindred Products** - Includes soybean and wet/dry corn mills, wet mill ethanol plants, meat packing plants, and facilities producing canned goods. This business type includes facilities contained in major SIC groups beginning with "20."
- **Natural Gas Transmission and Petroleum Product Pipelines/Fuel Storage** - Includes natural gas compressor stations, oil and natural gas pipelines, petroleum product storage facilities, and other fuel storage facilities. This business type includes facilities contained in major SIC groups beginning with "46," "49," and "51."
- **Stone, Clay, Glass, and Concrete Products** - Includes facilities processing or manufacturing portland cement, gypsum, bricks, slag, and glass products. This business type includes facilities contained in major SIC groups beginning with "32."
- **Dry Mill Ethanol Plants** - Includes facilities manufacturing ethanol from a dry mill process only. This business type includes facilities contained in the major SIC group "2869."
- **Education and Research** - Includes processes specific to education and research projects. This business type includes facilities contained in the major SIC groups of "8221," "8733," and "8734."
- **Iron and Steel Foundries/Mills** - Includes facilities manufacturing rail car wheels, water/wastewater pipes, rebar, and miscellaneous castings. This business type includes facilities contained in the major SIC groups of "3312," "3321," "3325," and "3365."
- **Chemical Manufacturing** - Includes facilities processing or manufacturing industrial organic chemicals, nitrogenous fertilizers, herbicides, cyclodextrin encapsulants, or medicinal chemicals. This business type includes facilities contained in major SIC groups beginning with "28."
- **Metal Products Manufacturing** - Includes facilities manufacturing cast aluminum ingots, aluminum coils, aluminum cans, and metal furniture. This business type includes facilities contained in the major SIC groups of "2522," "3339," "3351," "3353," and "3411."
- **Plastic Products Manufacturing** - Includes facilities manufacturing fiberglass and resin products, foam products, laminates, plastic bags, and bathtubs, showers, and whirlpools. This business type includes facilities contained in the major SIC group "2821" as well as facilities contained in the major SIC groups beginning with "26" and "30."
- **Wood and Paper Products Manufacturing** - Includes facilities manufacturing office furniture, cabinets, windows and doors, and paperboard. This business type includes facilities contained in the major SIC groups of "2521" and "2631" as well as facilities contained in the major SIC group beginning with "24."
- **Construction and Farm Equipment/Machinery Manufacturing** - Includes facilities manufacturing end loaders, skidders, graders, backhoes, diesel engines, and agricultural equipment and machinery. This business type includes facilities contained in the major SIC groups of "3519," "3253," and "3531."
- **Public Safety, Health, and Security** - Includes penitentiaries, hospitals, and ammunition plants. This business type includes facilities contained in major SIC groups beginning with "80," "92," and "97."
- **Rubber Products Manufacturing** - Includes facilities manufacturing tires, inner tubes, and automotive rubber parts. This business type includes facilities contained in the major SIC groups of "3011," "3061," and "3069."

- **Paint, Ink, and Adhesive Manufacturing and Application** - Includes facilities manufacturing ink, paint, and adhesives as well as facilities applying these materials. This business type includes facilities contained in the major SIC groups of "2672," "2851," and "2893" as well as facilities contained in the major SIC groups beginning with "27" and "34."
- **Landfills and Water Treatment** - Includes municipal landfills and water treatment facilities. This business type includes facilities contained in the major SIC groups of "4941," "4952," "4953," and "4959."
- **Motor Vehicles/Parts Manufacturing and Repair Shops** - Includes facilities manufacturing truck bodies, motor homes and parts, trailers, and rims and wheels for agricultural machinery. This business type includes facilities contained in major SIC groups beginning with "37," "50," and "75."
- **Fabricated Metal and Structural Metal Products Manufacturing** - Includes facilities manufacturing steel buildings, joists, doors, frames, pallet racks, dumpsters, bins, valves, and pipefittings. This business type includes facilities contained in major SIC groups beginning with "25," "34," and "35."
- **Miscellaneous** - Includes insurance companies, data storage facilities, and facilities manufacturing batteries, buttons, communication equipment, distilled spirits, and blades for wind turbines. This business description includes facilities contained in the major SIC groups of "3511," "4741," "5093," "6311," "4789," "5182," and "7374" as well as facilities contained in the major SIC groups beginning with "36" and "39."

For more information regarding the Standard Industrial Classification (SIC), SIC structure, and SIC descriptions please visit <https://www.osha.gov/pls/imis/sicsearch.html>.

## Appendix C - Required Air Emissions Reporting Requirements & Emissions Inventory System Data Elements

| AERR <sup>1</sup> Data Element  | Corresponding EIS Data Element   | Included in DNR's Submittal? |
|---|--|------------------------------|
| Emissions Year  | Emissions Year   | Yes                          |
| State and County FIPS Code or Tribal Code   | State and County FIPS Code   | Yes                          |
| Facility Site Identifier  | Facility Site Identifier   | Yes                          |
| Unit Identifier   | Unit Identifier  | Yes                          |
| Emission Process Identifier   | Emissions Process Identifier   | Yes                          |
| Release Point Identifier  | Release Point Identifier   | Yes                          |
| Facility Site Name  | Facility Site Name   | Yes                          |
| Physical Address (Location Address, Locality Name, State and Postal Code)               | Location Address Text, Locality Name, Location Address State Code, Location Address Postal Code                      | Yes                          |
| Latitude and Longitude at facility level  | Latitude Measure and Longitude Measure   | Yes                          |
| Source Classification Code  | Source Classification Code   | Yes                          |
| Aircraft Engine Type (where applicable)   | Aircraft Engine Type Code  | No                           |
| Facility Site Status and Year   | Facility Site Status Code and Facility Site Status Code Year   | Yes                          |
| Release Point Stack Height and Unit of Measure  | Release Point Stack Height Measure and Release Point Stack Height Unit of Measure Code                               | Yes                          |
| Release Point Stack Diameter and Unit of Measure  | Release Point Stack Diameter Measure and Release Point Stack Diameter Unit of Measure Code                           | Yes                          |
| Release Point Exit Gas Temperature and Unit of Measure                                  | Release Point Exit Gas Temperature Measure   | Yes                          |
| Release Point Exit Gas Velocity or Release Point Exit Gas Flow Rate and Unit of Measure | Release Point Exit Gas Flow Rate Measure and Release Point Exit Gas Flow Rate Unit of Measure Code                   | Yes                          |
| Release Point Status and Year   | Release Point Status Code and Release Point Status Code Year   | Yes                          |
| NAICS at facility level   | NAICS Code   | Yes                          |
| Unit Design Capacity and Unit of Measure (for some unit types)                          | Unit Design Capacity and Unit Design Capacity Unit of Measure Code   | Yes                          |
| Unit Type   | Unit Type Code   | Yes                          |
| Unit Status and Year  | Unit Status Code and Unit Status Code Year   | Yes                          |
| Release Point Apportionment Percent   | Average Percent Emissions  | Yes                          |
| Release Point Type  | Release Point Type Code  | Yes                          |
| Control Measure and Control Pollutant (where applicable)                                | Control Measure Code and Pollutant Code  | Yes                          |
| Percent Control Approach Capture Efficiency (where applicable)                          | Percent Control Approach Capture Efficiency  | No                           |
| Percent Control Measures Reduction Efficiency (where applicable)                        | Percent Control Measure Reduction Efficiency   | Yes                          |
| Percent Control Approach Effectiveness (where applicable)                               | Percent Control Approach Effectiveness   | No                           |
| Emission Factor   | Emission Factor, Emission Factor Numerator Unit of Measure Code and Emission Factor Denominator Unit of Measure Code | Yes                          |

| <b>AERR<sup>1</sup> Data Element</b>                    | <b>Corresponding EIS Data Element</b>   | <b>Included in DNR's Submittal?</b> |
|---|---|-------------------------------------|
| Throughput (Value, Material, Unit of Measure, and Type) | Calculation Parameter Value, Calculation Material Code, Calculation Parameter Unit of Measure and Calculation Parameter Type Code | Yes                                 |
| Pollutant Code  | Pollutant Code  | Yes                                 |
| Annual Emissions and Unit of Measure                    | Total Emissions and Emissions Unit of Measure Code  | Yes                                 |
| Reporting Period Type (Annual)                          | Reporting Period Type Code  | Yes                                 |
| Emission Operating Type (Routine)                       | Emission Operating Type Code  | Yes                                 |
| Emission Calculation Method                             | Emission Calculation Method Code  | Yes                                 |

<sup>1</sup>Where Required By 40 CFR 51.30