# IOWA DEPARTMENT OF NATURAL RESOURCES ADMINISTRATIVE CONSENT ORDER

#### IN THE MATTER OF:

Cargill, Incorporated
Dba Cargill Animal Nutrition

### ADMINISTRATIVE CONSENT ORDER

NO. 2024-AQ- 23

To: Cargill, Incorporated
Dba Cargill Animal Nutrition
Dan Christiansen
Plant Manager
3315 Hwy 75 Business
Sioux City, Iowa 51105

Cargill, Incorporated
Dba Cargill Animal Nutrition
Registered Agent
United Agent Group Inc.
3106 Ingersoll Avenue
Des Moines, Iowa 50312

Cargill, Incorporated
Dba Cargill Animal Nutrition
Jeff Ward
Environmental Subregional Specialist – US West
3315 Hwy 75 Business
Sioux City, Iowa 51105

#### I. SUMMARY

This administrative consent order is entered into between the Iowa Department of Natural Resources (DNR) and Cargill, Incorporated, d/b/a Cargill Animal Nutrition (Cargill Animal Nutrition) for the purpose of resolving air quality violations. In the interest of avoiding litigation, the parties have agreed to the provisions below.

Any questions regarding this administrative consent order should be directed to:

#### Relating to technical requirements:

Mark Fields
Environmental Specialist Senior
lowa Department of Natural Resources
6200 Park Avenue, Suite 200
Des Moines, Iowa 50321
Phone: 515-343-6589

### Relating to legal requirements:

Anne Preziosi, Attorney for the DNR Iowa Department of Natural Resources 6200 Park Avenue, Suite 200 Des Moines, Iowa 50321 Phone: 515-238-3429

### Payment of penalty to:

Director of the Iowa DNR 6200 Park Avenue, Suite 200 Des Moines, Iowa 50321

#### II. JURISDICTION

This administrative consent order is issued pursuant to the provisions of lowa Code sections 455B.134(9) and 455B.138(1), which authorize the director to issue any order necessary to secure compliance with or prevent a violation of lowa Code chapter 455B, Division II (air quality), and the rules promulgated or permits issued pursuant to that part; and lowa Code section 455B.109 and 567 lowa Administrative Code (IAC) chapter 10, which authorize the director to assess administrative penalties.

#### III. STATEMENT OF FACTS

1. Cargill Animal Nutrition is a feed mill owned and operated by Cargill, Incorporated, and located at 3315 Hwy 75 Business in Sioux City, Iowa (the facility). The facility is primarily engaged in manufacturing prepared feeds, feed ingredients, and adjuncts for animals and fowl, except dogs and cats. Included in this industry are poultry and livestock feed and feed ingredients, such as alfalfa meal, feed supplements, feed concentrates, and feed premixes.

### **Construction Permit Requirements**

2. On December 6, 2022, as part of Construction Permitting Project 22-345, the DNR issued a Collection of Air Permits (CAP) for the Pellet Coolers, Packing Bins, and Bulk Loadout Bins at the facility. These air quality construction permits included the following:

Emission Point Description	Emission Point (EP) Number	Air Quality Construction Permit Number
Pellet Cooler 1	EP SS-1	22-A-378
Pellet Cooler 2	EP SS-2	22-A-379
Pellet Cooler 3	EP SS-3	22-A-380

3. Cargill Animal Nutrition is required to maintain continuous compliance with the PM, PM<sub>10</sub>, and PM<sub>2.5</sub> emission limits contained in Condition 1 (Emission Limits) of Construction Permit Nos. 22-A-379 and 22-A-380. These emission limits were set in the construction permits to restrict potential emissions below the Prevention of Significant Deterioration (PSD) major source threshold. The emission limits also were set to avoid the necessity of dispersion modeling

per the DNR's NAAQS Air Dispersion Modeling Guidelines for Non-PSD, Pre-Construction Permit Applications.

### **Construction Permit Compliance Issues - Stack Testing**

- 4. The construction permits required Cargill Animal Nutrition to conduct initial stack testing on Pellet Coolers 1, 2, and 3 within 60 days of reaching maximum capacity or within 180 days of equipment start-up.
- 5. On May 9 through 11, 2023, Cargill Animal Nutrition conducted stack testing for PM, PM<sub>10</sub>, and PM<sub>2.5</sub> on the Pellet Coolers 1, 2, and 3. Results of the May 9 through 11, 2023, stack test event indicated:
  - The facility was operating Pellet Cooler 2 in violation of the PM, PM<sub>10</sub>, and PM<sub>2.5</sub> lb/hr emission limits contained in Construction Permit No. 22-A-379; and
  - The facility was operating Pellet Cooler 3 in violation of PM<sub>10</sub>, and PM<sub>2.5</sub>
     lb/hr emission limits contained in Construction Permit No. 22-A-380; and
  - Pellet Cooler 1 did not operate at maximum capacity during the May 2023 stack test event, as required by Construction Permit No. 22-A-378.

### Compliance Issues - Pellet Cooler 2 and Pellet Cooler 3

- 6. On August 14, 2023, DNR issued a Notice of Violation letter (NOV) to Cargill Animal Nutrition. The letter included Table 1, below, of the stack test results showing violations for Pellet Cooler 2 and Pellet Cooler 3.
- 7. Cargill Animal Nutrition disclosed in November 2023 that Pellet Cooler 2 and Pellet Cooler 3 were mislabeled in the original stack test report submitted to DNR. Cargill Animal Nutrition submitted a corrected stack test report on November 1, 2023, stating Pellet Coolers 2 and 3 had been mislabeled in the original test report. Based on the corrected test report, the actual tested results are shown in Table 2, below.

Table 1 – Original Test Report Emissions

Emission Point	Permit Number	Pollutant	Result	Limit
Pellet Cooler 2 EP SS-2	22-A-379	PM10 PM 2.5	0.54 lb/hr 0.74 lb/hr*	0.48 lb/hr 0.25 lb/hr
Pellet Cooler 3 EP SS-3	22-A-380	PM PM10 PM 2.5	2.68 lb/hr 2.68 lb/hr 4.3 lb/hr*	0.75 lb/hr 0.48 lb/hr 0.25 lb/hr

<sup>\*</sup> Testing conducted employing EPA Method 201A/202

Table 2 - Corrected Test Report Emissions

100000 100000 1000110 0110 011001010				
Emission Point	Permit	Pollutant	Result	Limit
	Number			
Pellet Cooler 2 EP SS-2	22-A-379	PM PM10 PM 2.5	2.68 lb/hr 2.68 lb/hr 4.3 lb/hr*	0.75 lb/hr 0.48 lb/hr 0.25 lb/hr
Pellet Cooler 3 EP SS-2	22-A-380	PM10 PM 2.5	0.54 lb/hr 0.74 lb/hr*	0.48 lb/hr 0.25 lb/hr

<sup>\*</sup> Testing conducted employing EPA Method 201A/202

- 8. On September 5, 2024, DNR issued an NOV to Cargill Animal Nutrition, addressing the issue that the stacks for Pellet Cooler 1 and Pellet Cooler 2 were constructed and operating as horizontal in orientation. Construction Permits for Pellet Cooler 1 and Pellet Cooler 2 require vertical, unobstructed stacks.
- 9. On September 24, 2024, DNR issued an NOV addressing Cargill Animal Nutrition's excess emission report of PM violations during engineering tests conducted by the facility on Pellet Cooler 3. The NOV also stated that the excess emissions were reported to DNR beyond the time frame required by 567 IAC 21.8.

### Compliance Issues - Pellet Cooler 1

- 10. As stated above, Pellet Cooler 1 did not operate at maximum capacity (the maximum continuous output as rated by the equipment manufacturer) during the May 9, 2023, stack test event as required by Construction Permit No. 22-A-378.
- 11. Condition 2 of the Pellet Cooler CAP (which includes Construction Permit No. 22-A-378 issued for Pellet Cooler 1) requires that each unit being stack tested shall be operated in a normal manner (i.e. not under startup or shutdown conditions) at:
  - (a) its maximum continuous production or operating rating as rated by the equipment manufacturer, which is listed on either the first page or Condition 3, Emission Point Characteristics, of this permit, or
  - (b) a permitted rating listed elsewhere in this permit that is less than the maximum continuous production or operating rating as rated by the equipment manufacturer.

11. The August 14, 2023, NOV stated that Cargill Animal Nutrition did not operate Pellet Cooler 1 at maximum capacity during the stack tests.

Therefore, test results are not acceptable for demonstrating compliance for Pellet Cooler 1.

### Pellet Cooler 1, 2, 3 Compliance Chronology

- 12. The August 14, 2023, NOV required Cargill Animal Nutrition to submit a Compliance Plan to DNR by September 18, 2023. On September 19, 2023, DNR received a Compliance Plan from Cargill Animal Nutrition indicating the cyclones on Pellet Coolers 2 and 3 needed adjustments. Cargill Animal Nutrition had conducted engineering testing on August 30, 2023, and preliminary emission results indicated similar results to the May 2023 testing.
- 13. On November 3, 2023, DNR received an updated Compliance Plan from Cargill Animal Nutrition indicating the issues with the cyclones on Pellet Coolers 2 and 3 would continue to be investigated. Final engineering results for August 2023 did not show expected emission improvements with increased velocity. This updated Compliance Plan included the information about Pellet Coolers 2 and 3 contained in Table 2, above. Cargill Animal Nutrition also stated that an air quality permit application was submitted to DNR in Iowa Easy Air to incorporate into the air quality construction permit for Pellet Cooler 1 a lower maximum capacity consistent with the low production rate for Pellet Cooler 1 that occurred during the May 2023 stack testing event.
- 14. On December 4, 2023, DNR received an updated Compliance Plan from Cargill Animal Nutrition indicating the issues with the cyclones on Pellet Coolers 2 and 3 would continue to be investigated.
- 15. On December 27, 2023, DNR received an updated Compliance Plan from Cargill Animal Nutrition indicating the issues with the cyclones on Pellet Coolers 2 and 3 would continue to be investigated.
- 16. On January 10, 2024, as part of Construction Permitting Project No. 23-325, DNR issued, as part of a revised CAP for the facility, Construction Permit No. 22-A-378-S1 for Pellet Cooler 1. Construction Permit No. 22-A-378-S1 lowered the maximum capacity and changed the stack characteristics for Pellet Cooler 1. Cargill Animal Nutrition was required to conduct stack testing on Pellet Cooler 1 within 90 days of the issuance of Construction Permit No. 22-A-378-S1.
- 17. On February 1, 2024, DNR received an updated Compliance Plan from Cargill Animal Nutrition indicating that the facility's consultant believed cyclone on Pellet Coolers 2 and 3 could meet the currently permitted emission limits. According to Cargill Animal Nutrition, engineering testing was to be

conducted on January 29, 2024, "to obtain samples for performing particulate size distribution." The facility had retained the consultant to conduct ambient air modeling in the event emission limits need to be increased.

- 18. On March 4, 2024, DNR received an updated Compliance Plan from Cargill Animal Nutrition indicating additional engineering testing would be performed during the week of March 26, 2024. Cargill Animal Nutrition indicated stack configurations on both Pellet Coolers 2 and 3 would be changed from horizontal to vertical.
- 19. On March 26, 2024, Cargill Animal Nutrition completed compliance stack testing on Pellet Cooler 1. Results demonstrated compliance with the permitted emission limits.
- 20. On April 4, 2024, DNR received an updated Compliance Plan from Cargill Animal Nutrition indicating additional control equipment was anticipated. The facility was awaiting the March 2024 engineering results.
- 21. On May 6, 2024, DNR received an updated Compliance Plan from Cargill Animal Nutrition indicating additional control equipment is needed and Cargill Animal Nutrition planned to install a baghouse to control emissions from Pellet Coolers 2 and 3. Cargill Animal Nutrition stated that construction permit applications would be submitted once design plans were finalized.
- 22. On August 8, 2024, Cargill Animal Nutrition personnel contacted DNR to notify DNR that the plan to install a baghouse might be changing. Cargill Animal Nutrition was directed to contact the Construction Permitting Hotline to discuss potential issues with installing a baghouse on the pellet coolers.
- 23. On August 16, 2024, DNR contacted Cargill Animal Nutrition pertaining to the stack orientation of Pellet Coolers 2 and 3. Cargill Animal Nutrition reported the stacks were operating horizontally at a height of 33 feet. The construction permits for Pellet Coolers 2 and 3 state in Section 3 that the stack characteristics are vertical and unobstructed at a 33-foot height. Cargill Animal Nutrition also confirmed that the facility had changed plans from installing a baghouse for Pellet Coolers 2 and 3 to meeting the permit limits with the currently installed cyclones. Based on Compliance Plan review, DNR requested Cargill Animal Nutrition to review the engineering test data for PM exceedances related to Pellet Cooler 3.
- 24. On September 5, 2024, Cargill Animal Nutrition submitted an updated Compliance Plan indicating that a baghouse is not planned to be installed on Pellet Coolers 2 and 3. The plan proposes to evaluate the current control devices and equipment related to Pellet Coolers 2 and 3. Additionally,

Cargill Animal Nutrition submitted an excess emission report for PM emissions for Pellet Cooler 3 during the May 2024 engineering tests. Cargill Animal Nutrition stated the facility will incorporate the PM emissions into the ongoing efforts to resolve the issues for both Pellet Coolers 2 and 3.

- 25. On September 5, 2024, DNR issued a NOV to Cargill Animal Nutrition for constructing and operating Pellet Coolers 2 and 3 with horizontally oriented stacks.
- 26. On September 24, 2024, DNR issued a NOV to Cargill Animal Nutrition for the PM excess emissions reported on Pellet Cooler 3. The facility reported excess emissions from a May 9 through 11, 2024, engineering test. DNR requested that engineering testing data on Pellet Cooler 3 be submitted for DNR review by October 31, 2024.
- 27. On September 24, 2024, DNR issues a Certified Letter to Cargill Animal Nutrition denying Cargill Animal Nutrition's September 5, 2024, Compliance Plan update. This letter required compliance stack testing of PM, PM<sub>10</sub>, and PM<sub>2.5</sub> to be conducted on Pellet Coolers 2 and 3. Further requirements were added if emission results demonstrated noncompliance.
- 28. On October 3, 2024, Cargill Animal Nutrition staff and DNR staff met to discuss the September 24, 2024, Certified Letter and Cargill Animal Nutrition's planned equipment changes to address the emission limit exceedances. DNR agreed to postpone October 31, 2024, required testing if Cargill Animal Nutrition provided its plan to make equipment changes for Pellet Coolers 2 and 3, including a schedule to do so by October 31, 2024. DNR requested a summary of Cargill Animal Nutrition's discussed equipment changes, which Cargill Animal Nutrition provided on October 10, 2024.
- 29. Cargill Animal Nutrition submitted an updated Compliance Plan on October 25, 2024. The plan provided engineering drawings and scope of work for proposed changes to the equipment on Pellet Coolers 2 and 3. The letter commits to conducting NAAQS dispersion modeling. The facility proposes to collect engineering data on Pellet Cooler 2 to improve the modeling accuracy at lower flow rates. A schedule was included for the engineering testing, air dispersion modeling, construction permit submission, equipment changes, and compliance stack testing with a conclusion date of September 30, 2025.
- 30. Cargill Animal Nutrition continues to operate Pellet Coolers 2 and 3 in violation of the construction permits.

### 40 CFR, Part 63, Subpart DDDDDDD Compliance Issues

- 31. The Facility is subject to 40 CFR, Part 63, Subpart DDDDDDD (Subpart DDDDDDD), which is the National Emissions Standard for Hazardous Air Pollutants (NESHAP) standard for Prepared Feeds Manufacturing. This NESHAP standard has been adopted by reference by DNR at 567 lowa Administrative Code 23.1(4)"fd".
- 32. In the 2021 Annual Compliance Certification submitted to DNR as required by Subpart DDDDDD, Cargill Animal Nutrition listed three areas of deviation from the requirements of Subpart DDDDDD: cleaning, loadout spout inspections, and weekly cyclone inspections.
- 33. DNR issued a Letter of Noncompliance (LNC) dated April 18, 2022, accepting Cargill Animal Nutrition's plan to address the deviations. Cargill Animal Nutrition has reported no further deviations from the requirements of Subpart DDDDDDD.

#### IV. CONCLUSIONS OF LAW

- 1. Iowa Code section 455B.133 provides that the Environmental Protection Commission (Commission) shall establish rules governing the quality of air and emission standards. The Commission has adopted 567 IAC chapters 20-33 relating to air quality.
- 2. Iowa Code section 455B.134(3) provides that the director of DNR shall grant, modify, suspend, terminate, revoke, reissue or deny permits for the construction or operation of new, modified, or existing air contaminant sources and for related control equipment.
- 3. 567 IAC 22.1(1) states unless exempted in subrule 22.1(2) or to meet the parameters established in paragraph "c" of this subrule, no person shall construct, install, reconstruct or alter any equipment, control equipment without first obtaining an air quality construction permit. 567 IAC 22.3(3) states that an air quality construction permit may be issued subject to conditions which shall be specified in writing, and may include, but are not limited to, emission limits, operating conditions, fuel specifications, compliance testing, continuous monitoring, and excess emission reporting. Cargill Animal Nutrition has failed to comply with the conditions of its air quality construction permits for Pellet Coolers 1, 2, and 3, as stated above. Cargill Animal Nutrition continues to fail to comply with conditions of the air quality construction permits issued for Pellet Coolers 2 and 3 at the facility.

4. Cargill Animal Nutrition has failed to comply with the requirements of 40 CFR, Part 63, Subpart DDDDDDD, which has been adopted by reference by DNR at 567 lowa Administrative Code section 23.1(4)"fd". Compliance with Subpart DDDDDDD also is required for the facility by section 4B of the air quality construction permits issued for the facility.

#### V. ORDER

THEREFORE, DNR orders and Cargill Animal Nutrition agrees to the following:

1. Cargill Animal Nutrition shall complete the work in the Compliance Plan table set out below to modify the existing equipment at the facility to address emission limit exceedances and as-built stack characteristics for Pellet Coolers 2 and 3. These changes shall be made in accordance with the schedule contained in the Compliance Plan table below.

Item	Activity	Estimated Timeline of Project Execution
1	Finalize Equipment Design Specifications**	October 31, 2024, through November 15, 2024
2	Data Collection and Air Quality Dispersion Modeling	November 15, 2024, through January 31, 2025
3	Construction Permit Application Submittal and Air Quality Dispersion Modeling Submittal to DNR	No later than January 31, 2025
4	Equipment Purchase Leadtime	Within four months of construction permit issuance
5	Onsite Construction*	Completed by no later than March 31, 2026

<sup>\*</sup>Item 5 may not proceed prior to the issuance of construction permits by DNR.

- 2. Cargill Animal Nutrition's Equipment Design Specifications are described in Exhibit A, which is attached to this Administrative Consent Order.
- 3. By no later than January 31, 2025, Cargill Animal Nutrition shall submit for DNR approval a PM<sub>10</sub> and PM<sub>2.5</sub> air dispersion modeling analysis that demonstrates compliance with the applicable NAAQS.
- 4. By no later than January 31, 2025, Cargill Animal Nutrition shall submit to DNR all air quality construction permit applications for equipment that requires modification.

<sup>\*\*</sup>See Ordering Clause paragraph 7, below.

- 5. Upon DNR approval of the modeling and the issuance of the construction permits, Cargill Animal Nutrition shall complete the changes proposed in Exhibit A or otherwise required and agreed upon by the parties by no later than March 31, 2026.
- 6. The parties agree that an amended Compliance Plan schedule may be submitted for DNR approval prior to the Compliance Plan deadlines passing.
- 7. The parties agree that the Finalized Equipment Design Specifications described in Exhibit A are based on preliminary designs prior to modeling and construction permit issuance, and that Cargill shall seek written approval from DNR for any deviation of what is stated in Exhibit A.
- 8. Within 60 days of the date this order is signed by the director, Cargill Animal Nutrition shall pay a penalty of \$10,000.00.

#### VI. PENALTY

Pursuant to the provisions of Iowa Code section 455B.109 and 567 IAC chapter 10, which authorize the director to assess administrative penalties, a penalty of \$10,000.00 is assessed by this administrative consent order. The penalty must be paid within 60 days of the date this order is signed by the director. The administrative penalty is determined as follows:

lowa Code section 455B.146 authorizes the assessment of civil penalties of up to \$10,000.00 per day of violation for the air quality violations involved in this matter. More serious criminal sanctions are also available pursuant to lowa Code section 455B.146A.

lowa Code section 455B.109 authorizes the Commission to establish by rule a schedule of civil penalties up to \$10,000.00 that may be assessed administratively. The Commission has adopted this schedule with procedures and criteria for assessment of penalties through 567 IAC chapter 10. Pursuant to this rule, DNR has determined that the most effective and efficient means of addressing the above-cited violations is the issuance of an administrative consent order with a penalty. The administrative penalty assessed by this order is determined as follows:

<u>Economic Benefit</u> – 567 IAC chapter 10 requires that DNR consider the costs saved or likely to be saved by noncompliance. 567 IAC 10.30(1) states that where the violator received an economic benefit through the violation or by not taking timely compliance or corrective measures, DNR shall take enforcement

action which includes penalties to offset the economic benefit. 567 IAC 10.30(1) further states that reasonable estimates of economic benefit should be made where clear data are not available.

Cargill Animal Nutrition has gained economic benefit by producing product for sale while operating in violation of the permitted limits since at least May 2023. Cargill Animal Nutrition has also avoided costs to comply with the Pellet Cooler 2 and Pellet Cooler 3 emission limits for this same time period. Further, Cargill Animal Nutrition has failed to comply with the requirements of 40 CFR, Part 63, Subpart DDDDDDD for this facility.

For the reasons stated above, \$5,000.00 should be assessed for this factor.

Gravity of the Violation —Substantial civil penalties are authorized by statute for the type of violations cited in this Administrative Consent Order. Despite the high penalties authorized, DNR has decided to handle the violations administratively at this time, as the most equitable and efficient means of resolving the matter.

Harm to the environment and public health may have occurred due to the amount of PM, PM<sub>10</sub>, and PM<sub>2.5</sub> that Cargill Animal Nutrition is emitting above the emission limits set forth in the associated construction permits.

Cargill Animal Nutrition continues operation of Pellet Coolers 2 and 3 in violation of its construction permits.

Cargill Animal Nutrition also has failed to comply with the provisions of 40 CFR, Part 63, Subpart DDDDDDD for this facility.

Further, DNR personnel have spent and continue to spend large amounts of time attempting to bring the Cargill Animal Nutrition facility into compliance. This threatens the integrity of the DNR Air Quality program.

For the reasons stated above, \$2,000.00 should be assessed for this factor.

<u>Culpability</u> – It is the responsibility of Cargill Animal Nutrition to know and comply with lowa law regarding air quality regulations.

Cargill Animal Nutrition has knowingly continued to operate Pellet Coolers 2 and 3 in violation of the permitted emission limits. Cargill Animal Nutrition has provided DNR numerous Compliance Plans with various potential plans. Despite these plans, which have included information obtained by Cargill Animal Nutrition from consultants, Cargill Animal Nutrition continues to investigate whether the current control equipment could meet the permitted emission limits. Cargill Animal Nutrition has conducted engineering testing on several occasions,

including January 2024 and March 2024, May 2024, and Cargill Animal Nutrition proposes further testing in November 2024. Cargill Animal Nutrition failed to provide DNR a with final control strategy until October 2024. Cargill Animal Nutrition's delay in corrective action has further prolonged excess emissions from the facility, as the emission limit violations are ongoing.

For the reasons stated above, \$3,000.00 should be assessed for this factor.

#### VII. WAIVER OF APPEAL RIGHTS

This administrative consent order is entered into knowingly and with the consent of Cargill Animal Nutrition. For that reason, Cargill Animal Nutrition waives its right to appeal this order or any part thereof.

#### VIII. NONCOMPLIANCE

Failure to comply with this administrative consent order, including failure to timely pay any penalty, may result in the imposition of further administrative penalties or referral to the attorney general to obtain injunctive relief and civil penalties pursuant to lowa Code section 455B.146. Compliance with Section "V. Order" of this administrative consent order constitutes full satisfaction of all requirements pertaining to the specific violations described in Section "IV. Conclusions of Law" of this administrative consent order.

Kayla Lyon, Director		
Iowa Department of Natural Resources		
DocuSigned by:		
Mark Fox		
DEDD1CC6E37E4FE	Dated this	_day of
Name: Mark Fox	12 12 2024   16.4	I FCT
Cargill, Incorporated	12.12.2024   16:4	2024.
Dba Cargill Animal Nutrition		······

DNR Air Quality Bureau; Field Office 3

#### Exhibit A

Cargill Sioux City (Cargill Animal Nutrition) proposes to make the following changes to the existing systems to meet the required Emissions levels. These changes shall be made following DNR approval of the modeling and DNR issuance of construction permits.

#### Pellet Cooler 2 – Emission Point ID SS-2

The existing dual 2HE33 cyclone will be modified to operate as a single HE33. The fan will be replaced with a new fan sized for 6150 cfm which is the required air flow for the single HE33 and the required air flow for cooling feed pellets at 7 tph. The duct work between the cooler outlet and the cyclone will be reduced in size to maintain approximately 4,000 fpm velocity which is the manufactures recommended velocity for this cyclone. In addition to changing the cyclone and fan, the exhaust duct will be rerouted to a discharge height of 144' above grade.

#### Pellet Cooler 3 - Emission Point ID SS-3

The existing dual 2HE33 cyclone will be removed and replaced with a single model HE36. The fan will be replaced with a new fan sized for 7600 cfm which is the required air flow for the single HE36 and the required air flow for cooling feed pellets at 9.5 tph. The duct work between the cooler and the cyclone will be reduced in size to maintain approximately 4,000 fpm velocity which is the manufactures recommended velocity for this cyclone. The cooler exhaust location will be upgraded to the optimum location which is the center of the cooler air plenum. In addition to changing the cyclone and fan the exhaust duct will be rerouted to a discharge height of 144' above grade.