

ENVIRONMENTAL RESOURCE MANAGEMENT DEPARTMENT

Environmental Quality Division

FAX COVER SHEET

117 West Duval Street, Suite 225
Jacksonville, FL 32202
(904) 630-3404 (Office)
(904) 630-1791 (Fax)

DATE: 5/25/2004

TIME: 4:00 pm

TO: JONATHAN HOLTOM

FAX # (850) 922-6979

MESSAGE: CERDAU AMERUSTEEL CAM

FROM: RON ROBERSON

NUMBER OF PAGES FAXED (Including Cover): 15

PLEASE CALL (904) 630-3404 IF YOU DO NOT RECEIVE ALL THE PAGES OF THE FAX:
OR IF TRANSMISSION IS UNCLEAR. OUR FAX NUMBER IS (904) 630-3638.



May 12, 2004

City of Jacksonville
Environmental Resource Management Department
Environmental Quality Division
117 West Duval Street, Suite 225
Jacksonville, FL 32202

ATTN: Robert Steven Pace, P.E.

RE: RAI for Title V Permit Application
Gerdeau Ameristeel, Jacksonville Steel Mill
Title V Air Permit No. 0310157-006-AV



Dear Mr. Pace:

This letter provides responses to the Department's Response for Information (RAI) letter of April 22, 2004.

Comment 1: Compliance Assurance Monitoring

Compliance Assurance Monitoring (CAM) as required by Chapter 40 Code of Federal Regulations (CFR), Part 64, Rule 62-204.800(12), Florida Administrative Code (FAC), Rule 62-213.440(1)(b)1.a., FAC, Rule 2.201, Jacksonville Environmental Protection Board (JEPB), and Rule 2.501, JEPB requires the submission of CAM plans for emission units subject to applicability requirements of CAM.

The Department has determined that the CAM Plan submitted by Gerdau Ameristeel does not provide sufficient compliance assurance monitoring. The selection of pressure differential as an indicator is an appropriate indicator for particulate matter (PM) emissions. Pressure differential should be expressed as a range comprised of upper and lower limits. The CAM Plan submitted identifies the upper limit only. Please provide the lower limit and required actions taken for such an occurrence. The Department requests that an additional indicator is provided because this emission unit has post controlled PM potential emissions of greater 60 tons per year (TPY). Other indicators for this emission unit that could be monitored include visible emissions, inspection/maintenance, and/or auxiliary equipment performance.

Response 1: Indicator No. 1 has been revised to include both a lower and upper limit. In addition, as requested a second indicator has been included. Monitoring fan amps is a requirement of 40 CFR 60.274a as an indicator of volumetric flow rate. As an indicator of volumetric flow rate, fan amps will provide assurance of proper operation of each baghouse and is submitted as a secondary indicator for CAM. See the attached revised CAM Plan for these revisions

Florida DERM
Mr. Robert Steven Pace

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May 10, 2004
0337631

Comment 2: Responsible Official (R.O) Certification Statement

Rule 62-213.420, FAC, and Rule 2.501, JEPB require that all Title V permit applications must be certified by a responsible official. Due to the nature of the information requested above, your response should be certified by the responsible official. Please complete and submit a new R.O. certification statement page.

Response 2: Find attached the R.O. certification statement.

Comment 3: Responsible Official (R.O) Certification Statement

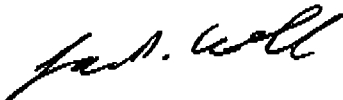
Rule 62-4.050(3), FAC, and Rule 2.1301, JEPB require that all applications for a Department permit must be certified by a professional engineer registered in the State of Florida. This requirement also applies to responses to Department requests for additional information of an engineering nature. As a result, your responses to the items above should be certified by a professional engineer registered in the State of Florida. Please complete and submit a new P.E. certification statement page.

Response 3: Find attached the P.E. certification statement.

If you have any further questions, please feel free to contact me at 904-266-4261.

Sincerely,

GERDEAU AMERISTEEL



James P. Wold, CHMM
Environmental Specialist

Attachments

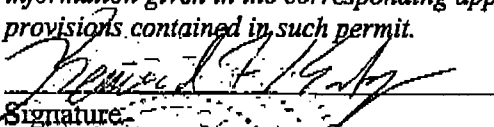
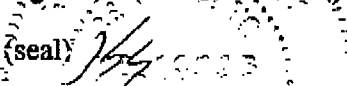
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Response to RAI
April 22, 2004**Application Responsible Official Certification**

Complete if applying for an initial/revised/renewal Title V permit or concurrent processing of an air construction permit and a revised/renewal Title V permit. If there are multiple responsible officials, the "application responsible official" need not be the "primary responsible official."

1. Application Responsible Official Name: Donald R. Shumake, Vice President/General Manager
2. Application Responsible Official Qualification (Check one or more of the following options, as applicable): <input checked="" type="checkbox"/> For a corporation, the president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit under Chapter 62-213, F.A.C. <input type="checkbox"/> For a partnership or sole proprietorship, a general partner or the proprietor, respectively. <input type="checkbox"/> For a municipality, county, state, federal, or other public agency, either a principal executive officer or ranking elected official. <input type="checkbox"/> The designated representative at an Acid Rain source.
3. Application Responsible Official Mailing Address... Organization/Firm: Gerdau Ameristeel Street Address: 16770 Rebar Road City: Baldwin State: Florida Zip Code: 32234
4. Application Responsible Official Telephone Numbers... Telephone: (904) 226-4261 ext.100 Fax: (904) 266-4244
5. Application Responsible Official Email Address: shumake@gerdauameristeel.com
6. Application Responsible Official Certification: I, the undersigned, am a responsible official of the Title V source addressed in this air permit application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof and all other applicable requirements identified in this application to which the Title V source is subject. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department, and I will promptly notify the department upon sale or legal transfer of the facility or any permitted emissions unit. Finally, I certify that the facility and each emissions unit are in compliance with all applicable requirements to which they are subject, except as identified in compliance plan(s) submitted with this application. Donald R. Shumake Signature 5-11-04 Date

Response to RAI
April 22, 2004**Professional Engineer Certification**

1. Professional Engineer Name: Kennard F. Kosky Registration Number: 14996		
2. Professional Engineer Mailing Address... Organization/Firm: Golder Associates Inc.** Street Address: 6241 NW 23rd Street, Suite 500 City: Gainesville State: FL Zip Code: 32653-1500		
3. Professional Engineer Telephone Numbers... Telephone: (352) 336-5600 ext. Fax: (352) 336-6603		
4. Professional Engineer Email Address: KKosky@golder.com		
5. Professional Engineer Statement: <i>I, the undersigned, hereby certify, except as particularly noted herein*, that:</i> (1) <i>To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this application for air permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and</i> (2) <i>To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.</i> (3) <i>If the purpose of this application is to obtain a Title V air operation permit (check here <input checked="" type="checkbox"/>, if so), I further certify that each emissions unit described in this application for air permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance plan and schedule is submitted with this application.</i> (4) <i>If the purpose of this application is to obtain an air construction permit (check here <input type="checkbox"/>, if so) or concurrently process and obtain an air construction permit and a Title V air operation permit revision or renewal for one or more proposed new or modified emissions units (check here <input type="checkbox"/>, if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.</i> (5) <i>If the purpose of this application is to obtain an initial air operation permit or operation permit revision or renewal for one or more newly constructed or modified emissions units (check here <input type="checkbox"/>, if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.</i> <div style="display: flex; justify-content: space-between;"><div>Signature: </div><div>Date: <u>5/10/04</u></div></div> <div style="display: flex; justify-content: space-between;"><div>(seal) </div><div></div></div>		

* Attach any exception to certification statement.

** Board of Professional Engineers Certificate of Authorization #00001670

**COMPLIANCE ASSURANCE MONITORING PLAN
FOR
GERDAU AMERISTEEL
JACKSONVILLE STEEL MILL
BALDWIN, FLORIDA**

**Prepared For:
Gerdeau Ameristeel
16770 Rebar Road
Baldwin, FL 32234**

**Prepared By:
Golder Associates Inc.
6241 NW 23rd Street, Suite 500
Gainesville, FL 32653**



**0337631
May 200~~3~~4**

Revision 1

**DISTRIBUTION:
1 Copies – FDEP
1 Copy Gerdeau Ameristeel
1 Copy Golder Associates1**

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I. EMISSION UNITS REQUIRING CAM PLANS

A. CAM Rule Applicability Definition

As part of these Title V renewal applications EPA, through regulations adopted in Title 40, Part 64 of the Code of Federal Regulations (40 CFR 64), is requiring submittal of Compliance Assurance Monitoring (CAM) Plans. This regulation has been incorporated by reference by the Florida Department of Environmental Protection (FDEP) in Rule 62-204.800 and implemented in Rule 62-213.440.

CAM plans are required for all Title V permitted emission units using control devices to meet federally enforceable emission limits or standards with uncontrolled emissions greater than "major" source thresholds. The term "major" is defined as in the Title V Regulations (40 CFR 70), but applied on a source-by-source basis. However, there are some specific exemptions to the applicability of the CAM Rule.

Specifically exempted from the CAM Rule are emissions units subject to requirements under Stratospheric Ozone Regulations (40 CFR 82), the Acid Rain Program (40 CFR 72), or that are part of an emission cap included in the Title V Permit. Also exempt are emission units subject to New Source Performance Standards (40 CFR 60) and National Emission Standards for Hazardous Air Pollutants (40 CFR 63) promulgated after 11/15/1990, as these sources have CAM equivalent monitoring requirements included as part of the standard.

B. Emissions Units Requiring CAM Plans

A review of emission units at Gerdau Ameristeel's Jacksonville Steel Mill was conducted to determine the applicability of the CAM Rule. This evaluation was conducted for each emission unit and pollutant. First, the existence of a "control device" as defined by the CAM Rule was determined on a source-by-source basis for each pollutant. Those emission units without control devices were eliminated from further consideration. The remaining emission units were then evaluated on a pollutant-by-pollutant basis to determine if a control device was used to meet a federally enforceable emission limit or standard. Each pollutant without a federally enforceable emission limit or standard, emitted from a given emission unit, was eliminated from further consideration. Uncontrolled annual emissions were then calculated for each remaining source-pollutant combination. If uncontrolled emissions for a pollutant emitted from a given emission unit source were below major source thresholds as defined by the CAM Rule, that pollutant was not further considered. Specific exemptions to the applicability of the CAM Rule were also considered in this evaluation.

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Emission Unit 001 (Electric Arc Furnace)

Emission Unit 001 includes emission from the electric arc furnace (EAF) and continuous caster. The EAF uses electrical current and natural gas to melt scrap steel in a batch process. The maximum process rate is 110 tons of scrap steel per hour. The maximum production rate is 100 billet tons of steel per hour. Particulate matter (PM) is the only controlled emission from Emission Unit 001. PM emissions are controlled by two fabric filter (baghouses), identified as Baghouse 1-2 and Baghouse 3-4.

The unit is not regulated under the Acid Rain, Phase II provisions. The unit is regulated under NSPS – 40 CFR 60, Subpart AAa, Standards of Performance for Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels Construction After August 7, 1983, adopted and incorporated by reference in Rule 62-204.800(7)(b)6, Florida Administrative Code (F.A.C.), and Rule 212.300, F.A.C.

Subpart AAa includes the following standards for PM:

1. EAF gases exit from the control device and contain PM less than or equal to 0.0052 grain per dry standard cubic feet (gr/dscf);
2. Opacity from the exit of the control device less than 3 percent;
3. Opacity from the exit of the shop, due solely to the operations of the EAF, less than 6 percent; and
4. Opacity from dust handling systems less than 10 percent.

The General Preconstruction Review Requirements; Rule 62-212.400, F.A.C., Prevention of Significant Deterioration (PSD); is also applicable to Emission Unit 001. Although Emission Unit 001 has federally enforceable limits for nitrogen oxides, carbon monoxide, and volatile organic compounds, there are no control devices for these pollutants and thus no requirements for CAM.

Since a federally enforceable emission limit exists for PM, a control device is used to comply with the PM emission limit, and uncontrolled PM emissions are greater than 100 tons per year (TPY), a CAM plan is required for Unit 001 for PM.

Emission Unit 002 (Billet Reheat Furnace)

Unit 002 has federally enforceable limits for PM, nitrogen oxides, and carbon monoxide. However, there are no control devices for these pollutants and thus no requirements for CAM.

Emission Unit 003 (Slag Processing Operations)

Unit 003 has no federally enforceable emission limitations. Unit 003 has no requirements for CAM.

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Emission Unit 004 (Meltshop Building)

Unit 004 has only visible emission limitations. Unit 004 has no requirements for CAM

II. PARTICULATE EMISSIONS FROM EMISSION UNIT 001***A. Emissions Unit Identification***

Emission Unit 001 includes emission from the EAF and continuous caster. The EAF uses electrical current and natural gas to melt scrap steel in a batch process. Two negative pressure fabric filter baghouses are utilized to control particulate matter emissions. One baghouse serves the forth-hole duct of the EAF, which is a direct evacuation system off the furnace. The second baghouse serves the canopy collection system which vents the EAF and continuous caster. Each baghouse is equipped with an exit stack.

PM compliance testing is required annually on Unit 001. In addition, a continuous opacity monitoring system (COMS) is utilized to record the opacity of each of the baghouse stacks. The COMS must be properly calibrated, operated, and maintained in accordance with Rule 62-297.520, F.A.C.

B. Control Technology Description

PM emissions from Unit 001 are controlled by two negative pressure fabric filter baghouses. The effectiveness of each baghouse is evaluated with an annual stack test and continuous opacity measurements from the baghouse stack. A detailed description of the control equipment is included in the Title V renewal application.

C. Monitoring Approach

The monitoring approach for PM emissions to meet the CAM requirements are summarized in the following tables. In general, baghouse compartment differential pressure and baghouse fan amperage will be used as the basis for CAM.

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	Indicator No. 1
Indicator	Baghouse Compartment Differential Pressure.
Measurement Approach	Magnahelic or U-Tube Monometer Differential Pressure Gage
Indicator Range	<p>An excursion is defined as an individual baghouse compartment differential pressure less than 2 in. or greater than 6 in of water (2 times per 24 hour period).</p> <p>An excursion will trigger an evaluation of the compartment and baghouse as defined in the Baghouse Maintenance and Operating Plan. Corrective action will be taken as necessary. Any excursion will trigger recordkeeping and reporting requirements.</p>
Data Representativeness	Differential pressure is monitored in each compartment of both baghouses. Baghouse 1-2 has a total of 24 compartments. The differential pressure is monitored in 12 compartments because the compartments are connected in pairs. Baghouse 3-4 has a total of 20 compartments with each monitored for differential pressure. The differential pressure reading of each compartment will be recorded at least 2 times per 24 hour period manually or continuously via computer data logging system.
Verification of Operational Status	NA
QA/QC Practices and Criteria	The differential pressure gages and ancillary equipment will be tested and calibrated quarterly as prescribed by the manufacture.
Monitoring Frequency	The differential pressure reading of each compartment will be recorded at least 2 times per 24 hour period.
Data Collection Procedures	The differential pressure reading of each compartment will be recorded at least 2 times per 24 hour period manually or continuously via computer data logging system.
Averaging Period	Each recorded differential pressure will trigger action if out of the indicator range.

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Indicator No. 2							
Indicator	Baghouse Fan Amperage (Amp)						
Measurement Approach	Amp Meters						
Indicator Range	<p>An excursion is defined as an individual baghouse fan amp not in the following ranges:</p> <table> <tr> <th><u>Fans</u></th><th><u>Acceptable Range (Amps)</u></th></tr> <tr> <td>Baghouse 1-2</td><td>45 to 60</td></tr> <tr> <td>Baghouse 3-4</td><td>45 to 80</td></tr> </table> <p>(Recorded 2 times per 24-hour period).</p> <p>An excursion will trigger an evaluation of the fans, compartments, and baghouse as defined in the Baghouse Maintenance and Operating Plan. Corrective action will be taken as necessary. Any excursion will trigger recordkeeping and reporting requirements.</p>	<u>Fans</u>	<u>Acceptable Range (Amps)</u>	Baghouse 1-2	45 to 60	Baghouse 3-4	45 to 80
<u>Fans</u>	<u>Acceptable Range (Amps)</u>						
Baghouse 1-2	45 to 60						
Baghouse 3-4	45 to 80						
Data Representativeness	<p>Monitoring fan amps is a requirement of 40 CFR 60.274a as an indicator of volumetric flow rate. As an indicator of volumetric flow rate, fan amps will provide assurance of proper operation of each baghouse.</p> <p>Baghouse 1-2 has two induced draft fans individually powered by a 500 HP, 4160 V electric motor. Baghouse 1-2 also has a booster blower powered by a 500 HP, 4160 V electric motor.</p> <p>Baghouse 3-4 has two induced draft fans powered by a 500 HP, 4160 V electric motor.</p> <p>The fan amp readings of each fan motor will be recorded at least 2 times per 24-hour period manually or continuously via computer data logging system.</p>						
Verification of Operational Status	NA						
QA/QC Practices and Criteria	NA						
Monitoring Frequency	The fan amp readings of each fan motor will be recorded at least 2 times per 24 hour period.						
Data Collection Procedures	The fan amp readings of each fan motor will be recorded at least 2 times per 24 hour period manually via the Routine Equipment Care – Inspection Route data log.						
Averaging Period	Each recorded fan amp will trigger action if out of the indicator range.						

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D. Justification

1. Background

The pollutant specific emission unit is Unit 001. It is controlled by a baghouse, which has a control efficiency estimated at 99 percent or greater.

2. Rationale for Selection of Performance Indicator

Compliance test data for the last 5 years was analyzed to determine if a correlation could be made for particulate grain loading and baghouse pressure drop. Grain loading was plotted versus baghouse pressure drop and the results can be seen in Figures 1 and 2. As shown, there is almost no correlation between grain loading and baghouse pressure. Based on the correlation and nature of the data, more test data will not result in a better correlation.

Since a good correlation based on test data does not exist, an approach to CAM based on current procedures is proposed. The proposed procedure is as follows:

If any individual compartment differential pressure falls below 2 inches of water or exceeds 6 inches of water for any recorded reading, the procedures defined in the Baghouse Maintenance and Operating Plan – Operational Troubleshooting shall be implemented (see Title V Application, Attachment GA-EU1-C4).

A differential pressure less than 2 inches of water or greater than 6 inches of water for a sustained period could indicate impaired performance of the baghouse to control particulate.

In addition, fan amps have been selected as a second indicator. Monitoring fan amps is a requirement of 40 CFR Subpart AAa, Standards of Performance for Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels Constructed After August 17, 1983, as an indicator of volumetric flow rate. As an indicator of volumetric flow rate, fan amps provide assurance of proper operation of each baghouse. 40 CFR Subpart AAa, requires once-per-shift monitoring of fan amps as assurance that the baghouse is effectively controlling PM emissions from the EAF.

3. Rationale for Selection of Indicator Ranges

The selected indicator range is 2 to 6 inches water differential pressure for each baghouse compartment. Differential pressure was selected as the performance indicator for CAM because it is good indicator of proper operation and maintenance of the baghouse. Operational experience has shown that when the baghouse is operating properly, differential pressure levels will generally be less than 6 inches of water.

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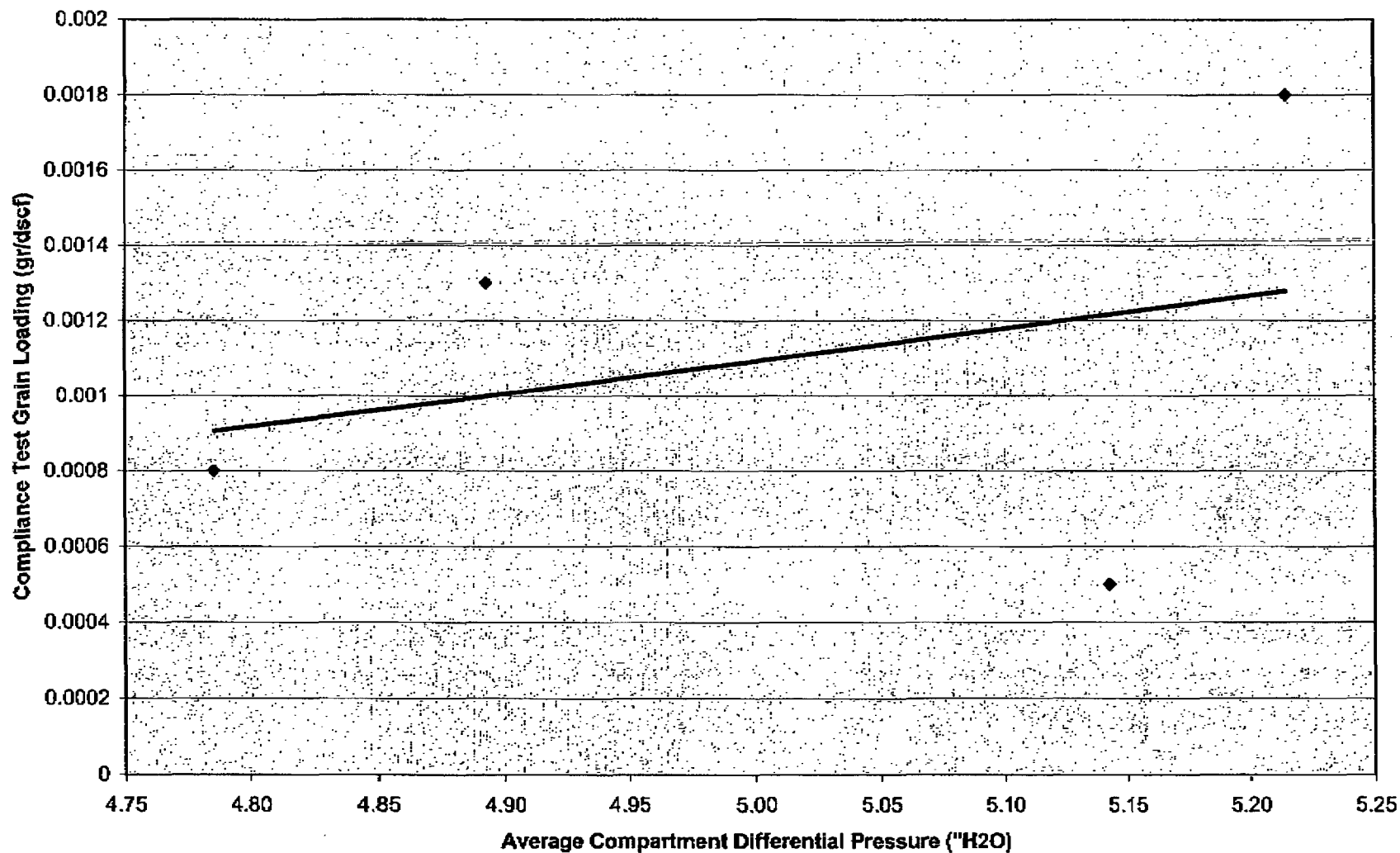
This indicator range was selected because differential pressure readings of lessor or greater magnitude could indicate impaired baghouse performance and an associated increase in particulate emissions from the baghouse outlet. As discussed, to develop the indicator range, differential pressure readings were compared with stack test results of PM grain loading (gr/dscf). A correlation could not be developed for a relationship between grain loading and differential pressure.

The selected fan amp indicator ranges are 45 to 60 and 45 to 80 for Baghouse 1-2 and Baghouse 3-4, respectively. These ranges are based on manufacture recommendations and operational experience. Fan amps below the range indicate that the fans are not pulling enough air and that there may be an obstruction in the system. This obstruction may be plugged baghouse bags or a blockage in the duct work. Fan amps above the range indicate that the fans are pulling too much air. High fan amps, therefore, may suggest bag failure or holes in the duct work.

When an excursion occurs, corrective action will be initiated, beginning with an evaluation of the occurrence, to determine the action required (if any) to correct the situation. All excursions will be documented and reported in accordance with CAM requirements.

Figure 1. CAM Correlation Baghouse 1-2

$$y = 0.0009x - 0.0032$$
$$R^2 = 0.0949$$



$$Limit = 0.0034 \frac{gr}{dscf}$$

Figure 2. CAM Correlation Baghouse 3-4

$$y = 0.0002x + 0.0005$$
$$R^2 = 0.0453$$

