



INTEROFFICE MEMORANDUM

TO:	Trina Vielhauer
THRU:	Jeff Koerner 
FROM:	Bruce Mitchell 
DATE:	March 16, 2006
SUBJECT:	Gerdau Ameristeel Jacksonville Steel Mill Air Construction Permit Permit Project No.: 0310157-008-AC/PSD-FL-349A Revision to Permit No.: 0310157-007-AC/PSD-FL-349

Attached is the Draft Air Construction Permit for the Gerdau Ameristeel's existing Jacksonville Steel Mill, located at 16770 Rebar Road, Jacksonville, Duval County, Florida. The Draft Air Construction Permit is being issued for the construction of a new Billet Reheat Furnace (BRF) to serve the existing wire/rod mill at the steel mill; in addition, the project will associate the previously permitted BRF with the rebar mill and correct the testing rate and carbon monoxide hourly emission rate for the rebar mill BRF. This will be a revision of the previously issued air construction Permit No. 0310157-007-AC/PSD-FL-349, which authorized a production increase and installation of the following equipment: a new melt shop; a new continuous caster building; and a new billet reheat furnace (BRF). Only those new items and corrections are subject to review.

Attachments

TLV/jk/bm



Jeb Bush
Governor

Department of Environmental Protection

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Colleen M. Castille
Secretary

March 16, 2006

CERTIFIED MAIL – Return Receipt Requested

Mr. Donald R. Shumake
Vice President/General Manager
Gerdau Ameristeel
Jacksonville Steel Mill
16770 Rebar Road
Baldwin, Florida 32234

RE: Draft Air Construction Permit Project No.: 0310157-008-AC/PSD-FL-349A
Request to Construct a New Wire/Rod Mill Billet Reheat Furnace

Dear Mr. Shumake:

Enclosed is one copy of the Technical Evaluation and Preliminary Determination, the Public Notice, and the Draft Air Construction permit for the construction of a new Billet Reheat Furnace (BRF), designated as the Wire/Rod Mill Billet Reheat Furnace. In addition, the project will rename the recently permitted new "Billet Reheat Furnace" the "Rebar Mill Billet Reheat Furnace" (construction authorized in permit No. 0310157-007-AC/PSD-FL-349, issued 09/21/2005), correct the required testing rate for the new Rebar Mill Billet Reheat Furnace, and correct the equivalent mass emissions rate for carbon monoxide for the new Rebar Mill Billet Reheat Furnace. This project will occur at the Gerdau Ameristeel's existing Jacksonville Steel Mill located at 16770 Rebar Road, Baldwin, Duval County, Florida. The permitting authority's "WRITTEN NOTICE OF INTENT TO ISSUE AN AIR CONSTRUCTION PERMIT" and the "PUBLIC NOTICE OF INTENT TO ISSUE AN AIR CONSTRUCTION PERMIT" are also included.

The "PUBLIC NOTICE OF INTENT TO ISSUE AN AIR CONSTRUCTION PERMIT" must be published within 30 (thirty) days of receipt of this letter. Proof of publication, i.e., newspaper affidavit, must be provided to the permitting authority's office within 7 (seven) days of publication. Failure to publish the notice and provide proof of publication within the allotted time may result in the denial of the permit.

Please submit any written comments you wish to have considered concerning the permitting authority's proposed action to Jeff Koerner, P.E., at the above letterhead address. If you have any other questions, please contact Bruce Mitchell at 850/413-9198.

Sincerely,

Trina L. Vielhauer
Chief
Bureau of Air Regulation

TLV/jk/bm

Enclosures

"More Protection, Less Process"

Printed on recycled paper.

In the Matter of an
Application for Permit by:

Gerdau Ameristeel
16770 Rebar Road
Baldwin, Florida 32234

Draft Permit No. 0310157-008-AC/PSD-FL-349A
Revises Permit No. 0310157-007-AC/PSD-FL-349
Gerdau Ameristeel - Jacksonville Steel Mill
Duval County, Florida

Authorized Representative:
Mr. Donald R. Shumake, V.P. and General Manager

WRITTEN NOTICE OF INTENT TO ISSUE AN AIR CONSTRUCTION PERMIT

Facility Location: The applicant, Gerdau Ameristeel, operates the existing Jacksonville Steel Mill, which is located at 16770 Rebar Road in Baldwin, Duval County, Florida. The plant is a secondary metal production facility that recycles scrap iron and steel.

Project: On February 3, 2006, the applicant applied for an air construction permit to: add a new gas-fired billet rehear furnace (BRF) to serve the existing wire/rod mill at the steel mill; associate the previously permitted BRF with the rebar mill; and, correct the testing rate and carbon monoxide hourly emission rate for the rebar mill BRF. Only the new wire/rod BRF and identified corrections are subject to review. This will be a revision of the previously issued air construction Permit No. 0310157-007-AC/PSD-FL-349, which authorized a production increase and installation of the following equipment: a new melt shop; a new continuous caster building; and a new billet rehear furnace (BRF). Only those new items and corrections are subject to review. Details of the project are provided in the application and the enclosed "Technical Evaluation and Preliminary Determination".

Permitting Authority: Applications for air construction permits are subject to review in accordance with the provisions of Chapter 403, Florida Statutes (F.S.) and Chapters 62-4, 62-210, and 62-212 of the Florida Administrative Code (F.A.C.). The proposed project is not exempt from air permitting requirements and an air permit is required to perform the proposed work. The Florida Department of Environmental Protection's Bureau of Air Regulation is the Permitting Authority responsible for making a permit determination for this project. The Bureau of Air Regulation's physical address is 111 South Magnolia Drive, Suite 4, Tallahassee, Florida 32301 and the mailing address is 2600 Blair Stone Road, MS #5505, Tallahassee, Florida 32399-2400. The Bureau of Air Regulation's phone number is 850/488-0114.

Project File: A complete project file is available for public inspection during the normal business hours of 8:00 a.m. to 5:00 p.m., Monday through Friday (except legal holidays), at address indicated above for the Permitting Authority. The complete project file includes the Draft Permit, the Technical Evaluation and Preliminary Determination, the application, and the information submitted by the applicant, exclusive of confidential records under Section 403.111, F.S. Interested persons may contact the Permitting Authority's project review engineer for additional information at the address and phone number listed above. A copy of the complete project file is also available at the City of Jacksonville, Environmental Resource Management Department, Environmental Quality Division, 117 West Duval Street, Suite 225, Jacksonville, Florida 32202, (Telephone: 904/630-4900; and, Fax: 904/630-3638).

Notice of Intent to Issue Air Permit: The Permitting Authority gives notice of its intent to issue an air permit to the applicant for the project described above. The applicant has provided reasonable assurance that operation of proposed equipment will not adversely impact air quality and that the project will comply with all applicable provisions of: Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297, F.A.C.; the City of Jacksonville Ordinance Code, Title X, Chapter 376; and the Jacksonville Environmental Protection Board Rule 2, Parts I thru VII and Parts IX thru XII. The Permitting Authority will issue a Final Permit in accordance with the conditions of the proposed Draft Permit unless a timely petition for an administrative hearing is filed under Sections 120.569 and 120.57, F.S. or unless public comment received in accordance with this notice results in a different decision or a significant change of terms or conditions.

Public Notice: Pursuant to Section 403.815, F.S. and Rules 62-110.106 and 62-210.350, F.A.C., you (the applicant) are required to publish at your own expense the enclosed "Public Notice of Intent to Issue Air Permit" (Public Notice). The Public Notice shall be published one time only as soon as possible in the legal advertisement section of a newspaper of general circulation in the area affected by this project. The newspaper used must meet the requirements of Sections 50.011 and 50.031, F.S. in the county where the activity is to take place. If you are uncertain that a newspaper meets these requirements, please contact the Permitting Authority at the address or phone number listed above. Pursuant to Rule 62-110.106(5), F.A.C., the applicant shall provide proof of publication to the Permitting Authority at the above address within seven (7) days of publication. Failure to publish the notice and provide proof of publication may result in the denial of the permit pursuant to Rule 62-110.106(11), F.A.C.

Comments: The Permitting Authority will accept written comments concerning the Draft Permit for a period of thirty (30) days from the date of publication of the Public Notice. Only the new wire/rod BRF and identified corrections are subject to review. Written comments must be post-marked by the close of business (5:00 p.m.), on or before the end of this 30-day period by the Permitting Authority at the above address. As part of his or her comments, any person may also request that the Permitting Authority hold a public meeting on this permitting action. If the Permitting Authority determines there is sufficient interest for a public meeting, it will publish notice of the time, date, and location on the Department's official web site for notices at <http://tlhora6.dep.state.fl.us/onw> and in a newspaper of general circulation in the area affected by the permitting action. For additional information, contact the Permitting Authority at the above address or phone number. If written comments or comments received at a public meeting result in a significant change to the Draft Permit, the Permitting Authority will issue a Revised Draft Permit and require, if applicable, another Public Notice. All comments filed will be made available for public inspection.

Petitions: A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative hearing in accordance with Sections 120.569 and 120.57, F.S. Only the new wire/rod BRF and identified corrections are subject to review. The petition must contain the information set forth below and must be filed with (received by) the Department's Agency Clerk in the Office of General Counsel of the Department of Environmental Protection, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000 (Telephone: 850/245-2241; Fax: 850/245-2303). Petitions filed by the applicant or any of the parties listed below must be filed within fourteen (14) days of receipt of this Written Notice of Intent to Issue Air Permit. Petitions filed by any persons other than those entitled to written notice under Section 120.60(3), F.S., must be filed within fourteen (14) days of publication of the attached Public Notice or within fourteen (14) days of receipt of this Written Notice of Intent to Issue Air Permit, whichever occurs first. Under Section 120.60(3), F.S., however, any person who asked the Permitting Authority for notice of agency action may file a petition within fourteen (14) days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above, at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, F.A.C.

A petition that disputes the material facts on which the Permitting Authority's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner; the name, address and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of how and when each petitioner received notice of the agency action or proposed action; (d) A statement of all disputed issues of material fact; (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action; and, (g) A statement of the relief sought by the petitioner, stating precisely the action the petitioner wishes the agency to take with respect to the agency's proposed action. A petition that does not dispute the material facts upon which the Permitting Authority's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301, F.A.C.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Permitting Authority's final action may be different from the position taken by it in this Written Notice of Intent to Issue Air Permit. Persons whose substantial interests will be affected by any such final decision of the Permitting Authority on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

Mediation: Mediation is not available in this proceeding.

Executed in Tallahassee, Florida.



Trina L. Vielhauer, Chief
Bureau of Air Regulation

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this "Written Notice of Intent to Issue Air Permit" package (including the Public Notice, the Technical Evaluation and Preliminary Determination, and the Draft Permit) was sent by certified mail (*) and copies were mailed by U.S. Mail or sent electronically (with Received Receipt) before the close of business on 3/16/06 to the persons listed below.

Mr. Donald R. Shumake, Gerdau Ameristeel*
Mr. Kennard F. Kosky, Golder Associates Inc.
Mr. Richard Robinson, ERMD-EQD
Mr. Chris Kirts, DEP - Northeast District Office
Mr. Gregg Worley, U.S. EPA - Region 4 Office
Mr. John Bunyak, NPS

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED. on this date, pursuant to Section 120.52(7), Florida Statutes, with the designated agency Clerk, receipt of which is hereby acknowledged.


(Clerk)

3/16/06
(Date)

PUBLIC NOTICE OF INTENT TO ISSUE AN AIR CONSTRUCTION PERMIT

Florida Department of Environmental Protection
Bureau of Air Regulation

Draft Permit No. 0310157-008-AC/PSD-FL-349A
Revision to Permit No. 0310157-007-AC/PSD-FL-349

Gerdau Ameristeel - Jacksonville Steel Mill

Duval County, Florida

Applicant: The applicant for this project is Gerdau Ameristeel. The applicant's Responsible Official and Authorized Representative is: Mr. Donald R. Shumake, V.P. and General Manager of Gerdau Ameristeel; 16770 Rebar Road; Baldwin, Florida 32234.

Facility Location: Gerdau Ameristeel operates the existing Jacksonville Steel Mill, which is located at 16770 Rebar Road in Baldwin, Duval County, Florida. The plant is a secondary metal production facility that recycles scrap iron and steel.

Project: On February 3, 2006, the applicant applied for an air construction permit to: add a new gas-fired billet rehear furnace (BRF) to serve the existing wire/rod mill at the steel mill; associate the previously permitted BRF with the rebar mill; and, correct the testing rate and carbon monoxide hourly emission rate for the rebar mill BRF. This will be a revision of the previously issued air construction Permit No. 0310157-007-AC/PSD-FL-349, which authorized a production increase and installation of the following equipment: a new melt shop; a new continuous caster building; and a new billet rehear furnace (BRF). Only those new items and corrections are subject to review.

The facility is located in Duval County, which is an area that is currently in attainment with (or designated as unclassifiable for) all pollutants subject to state and federal Ambient Air Quality Standards. The existing plant is a major facility with respect to the Prevention of Significant Deterioration (PSD) of Air Quality as defined in Rules 62-210.200(Definitions) and 62-212.400(PSD), F.A.C. New projects must undergo an applicability analysis for PSD preconstruction review.

The proposed new BRF will fire natural gas as the exclusive fuel. Based on the application, potential annual emissions from the proposed BRF in terms of "tons per year" (TPY) will be: 14 TPY of carbon monoxide (CO); 32 TPY of nitrogen oxides (NO_x); 3 TPY of particulate matter (PM/PM₁₀); 0.2 TPY of sulfur dioxide (SO₂); and 2 TPY of volatile organic compounds (VOC). However, due to the timing of the projects, the current project is considered a revision to previous Permit No. 0310157-007-AC/PSD-FL-349, which was subject to PSD preconstruction review for CO, NO_x, PM/PM₁₀, SO₂, and VOC emissions. When aggregated with the original project, the current project is subject to PSD preconstruction review for these pollutants as well. Each PSD-significant pollutant requires a determination of the Best Available Control Technology (BACT) and an appropriate air quality modeling analysis.

The proposed draft permit includes the following preliminary BACT determinations for the new BRF. CO, PM/PM₁₀, and VOC emissions will be minimized by the proper furnace design and efficient combustion of natural gas. SO₂ emissions will be minimized by the firing of natural gas, which contains nearly negligible amount of sulfur. NO_x emissions will be minimized by the installation of low-NO_x burners and good combustion practices.

An air quality impact analysis was conducted. The maximum predicted PSD Class II increments consumed by this project will be as follows:

<u>Pollutant</u>	<u>PSD Class II Increment Consumed (ug/m3)</u>	<u>Allowable Increment (ug/m3)</u>	<u>Percent Increment Consumed</u>
SO ₂			
24-hour	13	91	14
3-hour	50	512	10
PM ₁₀			
24-hour	6	30	20
NO ₂			
Annual	6	25	24

The maximum predicted project impacts in the Class I Okefenokee National Wilderness Area are less than the applicable modeling significant impact levels. Therefore, a multi-source increment consumption modeling analysis was not required

Permitting Authority: Applications for air construction permits are subject to review in accordance with the provisions of Chapter 403, Florida Statutes (F.S.) and Chapters 62-4, 62-210, and 62-212 of the Florida Administrative Code (F.A.C.). The proposed project is not exempt from air permitting requirements and an air permit is required to perform the proposed work. The Florida Department of Environmental Protection's Bureau of Air Regulation is the Permitting Authority responsible for making a permit determination for this project. The Bureau of Air Regulation's physical address is 111 South Magnolia Drive, Suite 4, Tallahassee, Florida 32301 and the mailing address is 2600 Blair Stone Road, MS #5505, Tallahassee, Florida 32399-2400. The Bureau of Air Regulation's phone number is 850/488-0114.

Project File: A complete project file is available for public inspection during the normal business hours of 8:00 a.m. to 5:00 p.m., Monday through Friday (except legal holidays), at address indicated above for the Permitting Authority. The complete project file includes the Draft Permit, the Technical Evaluation and Preliminary Determination, the application, and the information submitted by the applicant, exclusive of confidential records under Section 403.111, F.S. Interested persons may contact the Permitting Authority's project review engineer for additional information at the address and phone number listed above. A copy of the Draft Permit and Technical Evaluation and Preliminary Determination is also available at: the City of Jacksonville, Environmental Resource Management Department, Environmental Quality Division, 117 West Duval Street, Suite 225, Jacksonville, Florida 32202, (Telephone: 904/630-4900; and, Fax: 904/630-3638).

Notice of Intent to Issue Air Permit: The Permitting Authority gives notice of its intent to issue an air permit to the applicant for the project described above. The applicant has provided reasonable assurance that operation of proposed equipment will not adversely impact air quality and that the project will comply with all applicable provisions of: Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297, F.A.C.; the City of Jacksonville Ordinance Code, Title X, Chapter 376; and the Jacksonville Environmental Protection Board Rule 2, Parts I thru VII and Parts IX thru XII. The Permitting Authority will issue a Final Permit in accordance with the conditions of the proposed Draft Permit unless a timely petition for an administrative hearing is filed under Sections 120.569 and 120.57, F.S. or unless public comment received in accordance with this notice results in a different decision or a significant change of terms or conditions.

Comments: The Permitting Authority will accept written comments concerning the Draft Permit for a period of thirty (30) days from the date of publication of the Public Notice. Only the new wire/rod BRF and identified corrections are subject to review. Written comments must be post-marked by the close of business (5:00 p.m.), on or before the end of this 30-day period by the Permitting Authority at the above address. As part of his or her comments, any person may also request that the Permitting Authority hold a public meeting on this permitting action. If the Permitting Authority determines there is sufficient interest for a public meeting, it will publish notice of the time, date, and location on the Department's official web site for notices at <http://tlhora6.dep.state.fl.us/onw> and in a newspaper of general circulation in the area affected by the permitting action. For additional information, contact the Permitting Authority at the above address or phone number. If written comments or comments received at a public meeting result in a significant change to the Draft Permit, the Permitting Authority will issue a Revised Draft Permit and require, if applicable, another Public Notice. All comments filed will be made available for public inspection.

Petitions: A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative hearing in accordance with Sections 120.569 and 120.57, F.S. Only the new wire/rod BRF and identified corrections are subject to review. The petition must contain the information set forth below and must be filed with (received by) the Department's Agency Clerk in the Office of General Counsel of the Department of Environmental Protection, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000 (Telephone: 850/245-2241; Fax: 850/245-2303). Petitions filed by any persons other than those entitled to written notice under Section 120.60(3), F.S., must be filed within fourteen (14) days of publication of this Public Notice or receipt of a written notice, whichever occurs first. Under Section 120.60(3), F.S., however, any person who asked the Permitting Authority for notice of agency action may file a petition within fourteen (14) days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above, at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, F.A.C.

A petition that disputes the material facts on which the Permitting Authority's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner; the name, address and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of how and when each petitioner received notice of the agency action or proposed action; (d) A statement of all disputed issues of

material fact; (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action; and, (g) A statement of the relief sought by the petitioner, stating precisely the action the petitioner wishes the agency to take with respect to the agency's proposed action. A petition that does not dispute the material facts upon which the Permitting Authority's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301, F.A.C.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Permitting Authority's final action may be different from the position taken by it in this Written Notice of Intent to Issue Air Permit. Persons whose substantial interests will be affected by any such final decision of the Permitting Authority on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

Mediation: Mediation is not available in this proceeding.

**TECHNICAL EVALUATION
AND
PRELIMINARY DETERMINATION**

Applicant

Gerdau Ameristeel - Jacksonville Steel Mill
16770 Rebar Road
Baldwin, Florida 32234
Facility ID No. 0310157

County

Duval County, Florida

Project

Project No. 0310157-008-AC/PSD-FL-349A
New Wire/Rod Billet Reheat Furnace

Permitting Authority

Florida Department of Environmental Protection
Division of Air Resource Management
Bureau of Air Regulation – Air Permitting North
2600 Blair Stone Road, Mail Station #5505
Tallahassee, Florida 32399-2400
Telephone: 850/488-0114
Fax: 850/921-9533

March 14, 2006

Filename: TEPD - 0310157-008-AC.DOC

1. APPLICATION INFORMATION

Facility Location

Gerdaul Ameristeel's Jacksonville Steel Mill is located at 16770 Rebar Road, Duval County, Florida. The UTM coordinates of this facility are: Zone 17; 405.7 km East; 3350.2 km North (Latitude is 30° 16' 52" North / Longitude is 81° 58' 50").

Facility Classification

The facility belongs to Major Group No. 33 (Primary Metal Industries), Group No. 339 (Miscellaneous Primary Metal Products), and Industry No. 3390 (Steel Mills). The North American Industry Classification System (NAICS) Code is No. 331111 for Steel Manufacturing Facilities That Operate Electric Arc Furnaces. The facility is regulated according to the following categories.

Title III: The existing facility is not a major source of hazardous air pollutants (HAP).

Title IV: The existing facility operates no units subject to the acid rain provisions of the Clean Air Act.

Title V: The existing facility is a Title V major source of air pollution in accordance with Chapter 213, F.A.C.

PSD: The existing facility is a PSD-major facility in accordance with Rule 62-212.400, F.A.C. This facility belongs to one of the 28 Major Facility Categories (Secondary Metal Production Plants) listed in Rule 62-210.200(Definitions), F.A.C.

NSPS: The existing facility operates an electric arc furnace operation (Melt Shop, EAF and LMF) subject to the New Source Performance Standards in Subpart AAa of 40 CFR 60, which are adopted and incorporated by reference in Rule 62-204.800(9)(e), F.A.C.

General Facility and Process Description

Gerdaul Ameristeel operates the existing Jacksonville Steel Mill near Baldwin in Duval County, Florida. The facility is a scrap iron and steel recycling (secondary metal production) plant that has been operating since 1975. The existing plant receives scrap steel by truck and rail and processes it into steel rebar, wire and rod. Main components of the plant include: an existing Fuchs electric arc furnace (EAF); a ladle metallurgy furnace (LMF); a scrap handling building adjacent to the existing EAF shop; a Rokop Continuous Caster; a Billet Reheat Furnace (BRF); a rolling mill; a rod mill; and slag handling and storage. The facility has a current permitted steel production capacity of 1,192,000 tons per consecutive 12-months of tapped liquid steel.

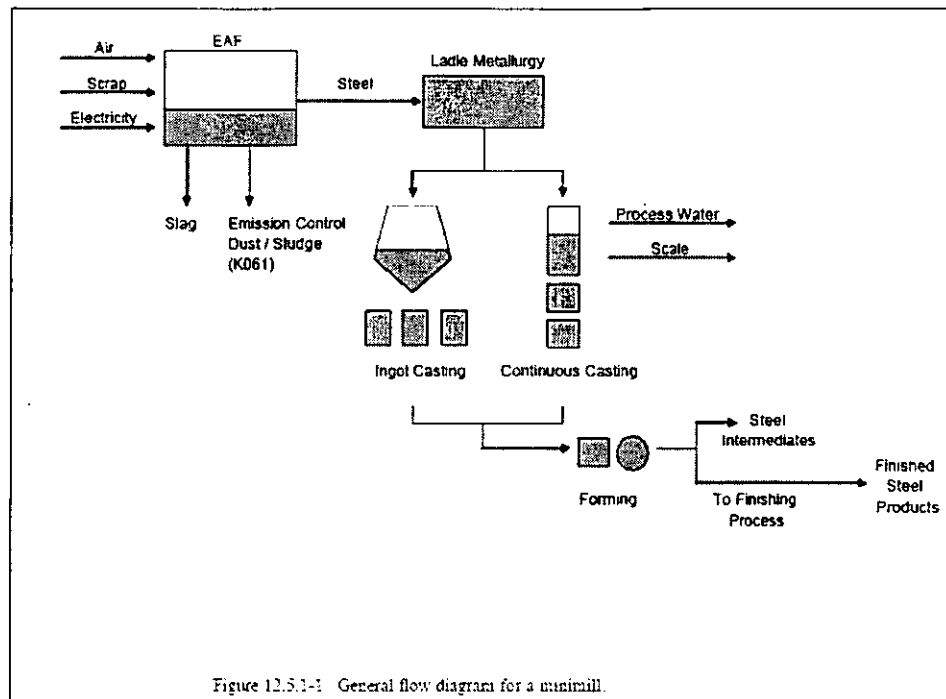
The secondary steel production plant melts and refines scrap steel materials into usable steel. Refining simply means to remove undesirable elements from the molten steel and add alloys to reach the final metal chemistry. The production of steel is a series of batch processes including charging, melting, refining, slagging, tapping, further refining, and casting.

The process begins by adding a "charge" of iron and steel scrap to the top of the electric arc furnace (EAF). Other materials, such as lime and carbon, may also be charged. The EAF consists of a furnace shell, furnace roof and the transformer. The EAF melts the charge by heating with electric arcs from carbon electrodes and secondarily with gas-fired sidewall burners inside the furnace. Molten steel is then tapped (poured) from the EAF into a ladle metallurgical furnace (LMF). A "heat cycle", sometimes referred to as a "heat", is the period of time beginning when scrap is charged to an empty EAF and ending when the EAF tap is completed.

The LMF is a second electric arc furnace that provides further refinement of the material to produce a desired liquid steel specification. It is equipped with a bulk flux and alloy batching system, alloy wire feeders, water-cooled roof, and electrodes to allow temperature adjustments. Argon gas is also bubbled through the ladle to aid in the refining. Lime is added to react with impurities to form "slag", which floats on top of the liquid steel. Periodically, the operator takes a sample of the steel for analysis. Based on the sample results, the operator adds controlled amounts of lime and alloys. As needed, alloys are added to the steel by using the bulk alloy system, dumping bagged alloys into the ladle, and by using the wire feeder to feed metallurgical wire containing alloys. Alloys ensure that certain material properties are met. The electrodes may be used to adjust or maintain steel temperature. When the chemistry and temperature of the steel are within specifications, the LMF ladle is taken to the continuous caster. Before tapping, the furnace is tilted to pour slag into the furnace pit.

Refined liquid steel is gravity fed from the LMF ladle into the refractory-lined tundish (reservoir) of the continuous caster, which may generate small amounts of particulate matter. The continuous caster feeds numerous molds that form steel billets or bars. Billets are stored and later melted in an existing billet reheat furnace, which fires natural gas as the exclusive fuel. Various rolling and wire machines are used to process the refined molten steel from the billet recovery furnace into rebar, wire, and rod.

Hot slag is poured off the top of the steel bath from the electrical arc furnaces into the slag pit located in the Melt Shop building. Here it cools and solidifies. Front-end loaders remove slag from the pit and transport it to the slag processing area, where it is screened and sized for transport off site. The following process flow diagram is from EPA's draft AP-42 Section 12.5.1 for "minimills" and shows the general steel production process.



In addition, a process flow diagram for the Gerdau Ameristeel plant is provided in the Attachments to this Technical Evaluation and Preliminary Determination.

Project Description

On September 21, 2005, the Department issued Permit No. 0310157-007-AC/PSD-FL-349 to Gerdau Ameristeel for the construction of a new melt shop, electric arc furnace (EAF), ladle metallurgical furnace (LMF), and a billet reheat furnace (BRF). On February 3, 2006, the Department received an application proposing the installation of a second gas-fired billet reheat furnace (BRF) to allow for the simultaneous processing of steel billets. The new BRF will be dedicated to producing wire or rod and the originally permitted BRF will be used to produce rebar.

The new BRF will be identical to the originally permitted BRF (222 MMBtu per hour). CO and PM/PM₁₀ emissions will be minimized by the proper furnace design and efficient combustion of natural gas. SO₂ emissions will be minimized by the firing of natural gas, which contains nearly negligible amount of sulfur. NO_x emissions will be minimized by the installation of low-NO_x burners and good combustion practices.

The new wire/rod mill BRF (EU-011) will be located approximately 150 feet southwest of the rebar mill BRF (EU-009) and north of the new Melt Shop building. The maximum billet steel production rate for the wire/rod mill BRF billet steel will match the new EAF, LMF and rebar mill BRF production rates, which are: 160 tons/hour (daily average) and 140 tons/hour (monthly average). It will also be possible to process steel billets delivered to the plant from outside sources. However, the proposed new wire/rod mill BRF will be limited to 500,000 billet tons of steel per consecutive 12-months.

2. RULE APPLICABILITY

Federal Requirements

Based on PSD application received for this project, the facility is not major for emissions of hazardous air pollutants. Therefore, the NESHAP, Subpart EEEEE (Iron and Steel Foundries), in 40 CFR Part 63 does not apply.

State Regulations

The proposed project is subject to the applicable environmental laws specified in Section 403 of the Florida Statutes (F.S.). The Florida Statutes authorize the Department of Environmental Protection to establish rules and regulations regarding air

quality as part of the Florida Administrative Code (F.A.C.). This project is subject to the applicable rules and regulations defined in the following Chapters of the Florida Administrative Code (F.A.C.): Chapters 62-4 (Permitting Requirements), 62-204 (Ambient Air Quality Requirements, PSD Increments, and Federal Regulations Adopted by Reference), 62-210 (Definitions, Required Permits, Public Notice, Reports, Stack Height Policy, Circumvention, Excess Emissions, and Forms), 62-212 (Preconstruction Review, PSD Requirements, and BACT Determinations), 62-296 (Emission Limiting Standards), and 62-297 (Test Methods and Procedures, Continuous Monitoring Specifications, and Alternate Sampling Procedures). In addition, operation of the proposed equipment is subject to the requirements of Chapter 62-213, F.A.C. (Operation Permits for Major Sources of Air Pollution).

PSD Applicability Review

The Department regulates major air pollution sources in accordance with Florida's Prevention of Significant Deterioration (PSD) of Air Quality program, as defined in Rule 62-212.400, F.A.C. A PSD preconstruction review is only required in areas that are currently in attainment with the National Ambient Air Quality Standard (AAQS) for a given pollutant or areas designated as "unclassifiable" such pollutants. A PSD-major facility is one that emits or has the potential to emit: 250 tons per year or more of any regulated air pollutant; or 100 tons per year or more of any regulated air pollutant and the facility belongs to one of the 28 PSD Major Facility Categories; or 5 tons per year of lead.

This facility is located in Duval County, which is classified as: in attainment with the ambient air quality standards for the pollutants carbon monoxide (CO) and nitrogen dioxide (NO₂); unclassifiable for the pollutant particulate matter with an aerodynamic diameter of ten microns or less (PM₁₀) and sulfur dioxide (SO₂); and a maintenance area for the pollutant ozone, which is regulated by the control of volatile organic compounds (VOC). There is also a as a maintenance area for the particulate matter (PM) that covers a partial area in Duval County described by the regulations as, "... the downtown Jacksonville area in Duval County located within the following boundary lines: south and then west along the St. Johns River from its confluence with Long Branch Creek, to Main Street; north along Main Street to Eighth Street; east along Eighth Street to Evergreen Avenue; north along Evergreen Avenue to Long Branch Creek; and east along Long Branch Creek to the St. Johns River". However, the project is not located within this area.

The existing facility belongs to one of the 28 PSD Major Facility Categories (Secondary Metal Production Plants) listed in Rule 62-210.200(Definitions), F.A.C. Potential emissions of at least one pollutant from the existing plant are greater than 100 tons per year. Therefore, the plant is an existing PSD-major facility. New projects at PSD-major facilities must be reviewed for the applicability of the Prevention of Significant Deterioration (PSD) of Air Quality pursuant to Rules 62-210.200(Definitions) and 62-212.400(PSD), F.A.C.

Due to timing with previous Permit No. 0310157-007-AC/PSD-FL-349, the Department considers the proposed project to be a revision of that original project. Therefore, the potential emissions from the original project will be aggregated with the proposed project to determine PSD applicability as shown in the following table.

Table 2A. PSD Applicability Analysis – Proposed New Wire/Rod Mill Billet Reheat Furnace

Pollutant	Past Actual Emissions (TPY) ⁴	Original Project Potential Emissions (TPY) ⁵	Proposed Project Potential Emissions (TPY) ⁶	Net Emissions Increase (TPY)	PSD Significant Emission Rates (TPY)	Subject To PSD?
PM ¹	37.7	89.5	3.0	55	25	Yes
PM ₁₀ ¹	30.8	74.6	3.0	47	15	Yes
NO _x	111.1	272.5	31.7	193	40	Yes
CO	325.6	1225.9	13.9	914	100	Yes
SO ₂ ²	43.2	119.9	0.2	77	40	Yes
VOC ²	37.8	82.2	2.0	46	40	Yes
Pb ³	0.592 (1,184 lb)	1.163 (2,326 lb)	0.0	0.571 (1142 lb)	0.6 (1200 lb)	No

Notes:

1. PM and PM₁₀ emissions include fugitive emissions from the slag handling and storage operations. PM₁₀ emissions are assumed equivalent to the PM emissions because the NSPS regulates only PM. The PM/PM₁₀ emissions factor for the slag processing was based on the AORs.

2. For the EAF and Caster operations, the SO₂ emission factor was derived from an in-house engineering study. For the BRF, SO₂ and VOC emissions are based on tests conducted in 2002.
3. Lead emissions are based on test results from calendar years 1997 thru 2004, with a mean of 0.00195 lb/ton of steel produced, which is equivalent to 0.312 lb/hr and 2326 lbs/yr (1.163 TPY). Based on the 2004 particulate stack test conducted on the existing EAF and Melt Shop and their baghouse control systems, it is estimated that 99%+ of the lead emissions are filterable type emissions (0.8% was determined to be condensable lead). Therefore, the new No. 5 baghouse control system will remove most of the particulate lead emissions. The limit allows the modification to avoid PSD preconstruction review.
4. Past actual emissions use the original baseline emissions (2002 – 2003).
5. Potential emissions based on following capacities for new EAF, LMF, Rebar Mill BRF, continuous caster and support facilities: 8520 hrs/yr operation; 1,192,800 tons/year of liquid steel; and 1,000,000 acfm (834,581 dscfm) flow rate for new No. 5 baghouse control system.
6. Potential emissions for Wire/Rod Mill BRF are based on the following: emission factors (PM/PM₁₀, SO₂, and VOC); proposed BACT standards (CO and NO_x); maximum heat input rates of 222 MMBtu/hour and 792,857 MMBtu/year; and a maximum billet steel processing rate of 500,000 tons/year.

Based on the above analysis, the proposed project is subject to the applicable PSD preconstruction review requirements of Rule 62-212.400, F.A.C. (Prevention of Significant Deterioration (PSD) of Air Quality) with regard to the following pollutants: CO, NO_x, PM/PM₁₀, VOC and SO₂. These are the same pollutants for which the original project was subject to PSD preconstruction review. Therefore, the Department will make Best Available Control Technology (BACT) determinations for these pollutants for the new wire/rod BRF. In addition, the applicant provided an air quality modeling analysis predicting emissions impacts resulting from the full combined emissions of both projects.

PSD Preconstruction Review Requirements

For new PSD-major facilities and modifications to existing PSD-major facilities, each regulated pollutant is reviewed for PSD applicability based on emissions thresholds known as the Significant Emission Rates identified in Rule 62-210.200(243), F.A.C. Pollutant emissions from the project exceeding these rates are considered "significant" and the applicant must employ the Best Available Control Technology (BACT) to minimize emissions of each such pollutant and evaluate the air quality impacts. Although a facility may be "major" with respect to PSD for only one regulated pollutant, it is required to install BACT controls for each "PSD-significant" pollutant. In accordance with Rule 62-212.400(4), F.A.C., the applicant must provide the following information:

- (a) *A description of the nature, location, design capacity, and typical operating schedule of the source or modification, including specifications and drawings showing its design and plant layout;*
- (b) *A detailed schedule for construction of the source or modification;*
- (c) *A detailed description as to what system of continuous emission reduction is planned for the source or modification, emission estimates, and any other information necessary to determine best available control technology (BACT) including a proposed BACT;*
- (d) *The air quality impact of the source or modification, including meteorological and topographical data necessary to estimate such impact and an analysis of "good engineering practice" stack height; and*
- (e) *The air quality impacts, and the nature and extent of any or all general commercial, residential, industrial, and other growth which has occurred since August 7, 1977, in the area the source or modification would affect.*

"Best Available Control Technology" or "BACT" as is defined in Rule 62-210.200(38), F.A.C. as follows:

- (a) *An emission limitation, including a visible emissions standard, based on the maximum degree of reduction of each pollutant emitted, which the Department, on a case by case basis, taking into account:*
 1. *Energy, environmental and economic impacts, and other costs;*
 2. *All scientific, engineering, and technical material and other information available to the Department; and*
 3. *The emission limiting standards or BACT determinations of Florida and any other state; determines is achievable through application of production processes and available methods, systems and techniques (including fuel cleaning or treatment or innovative fuel combustion techniques) for control of each such pollutant.*
- (b) *If the Department determines that technological or economic limitations on the application of measurement*

methodology to a particular part of an emissions unit or facility would make the imposition of an emission standard infeasible, a design, equipment, work practice, operational standard or combination thereof, may be prescribed instead to satisfy the requirement for the application of BACT. Such standard shall, to the degree possible, set forth the emissions reductions achievable by implementation of such design, equipment, work practice or operation.

- (c) *Each BACT determination shall include applicable test methods or shall provide for determining compliance with the standard(s) by means which achieve equivalent results.*
- (d) *In no event shall application of best available control technology result in emissions of any pollutant which would exceed the emissions allowed by any applicable standard under 40 CFR Parts 60, 61, and 63.*

The Department conducts case-by-case BACT determinations in accordance with the requirements given above. Additionally, the Department generally conducts such reviews so that the determinations are consistent with those conducted using the "Top-Down Methodology" described by EPA.

In addition to the required BACT determinations, a PSD preconstruction review also requires an Air Quality Analysis for each PSD-significant pollutant. The Air Quality Analysis consists of: an air dispersion modeling analysis to estimate the resulting ambient air pollutant concentrations; a comparison of predicted project concentrations with the National Ambient Air Quality Standards (NAAQS) and PSD increments; an analysis of the air quality impacts from the proposed project upon soils, vegetation, wildlife, and visibility; and an evaluation of the air quality impacts resulting from associated commercial, residential, and industrial growth related to the proposed project.

The proposed project is subject to PSD preconstruction review for CO, NO_x, PM/PM₁₀, SO₂ and VOC emissions. This requires the following air quality analyses: a significant impact analysis for CO, NO_x, PM/PM₁₀, and SO₂; a PSD increment analysis for SO₂ and NO₂; an Ambient Air Quality Standards (AAQS) analysis for SO₂ and NO₂; and an analysis of impacts on soils, vegetation, and visibility and of growth-related air quality modeling impacts.

3. BACT ANALYSIS – PROPOSED NEW WIRE/ROD MILL BILLET REHEAT FURNACE

The proposed new wire/rod billet reheat furnace (BRF) will fire natural gas to reheat steel billets for processing into wire and rod. The unit is identical to the previously permitted rebar BRF with a maximum heat input rate of 222 MMBtu/hour. The following table summarizes the future potential emissions from the proposed new wire/rod BRF.

Table 3A. Summary of Emissions – Wire/Rod Billet Reheat Furnace

Pollutant	Emission Factor (lb/MMBtu)	Potential Emissions (lbs/hr) ²	Potential Emissions (TPY) ³
PM	0.0075	1.67	3.0
PM ₁₀	0.0075	1.67	3.0
NO _x	0.08 ¹	17.8	31.7
CO	0.035 ¹	7.77	13.9
SO ₂	0.0006	0.133	0.2
VOCs	0.005	1.11	2.0
Pb	0.0	0.0	0.0

Notes:

- Proposed emissions limits.
- Based on firing natural gas at a maximum of 222 MMBtu/hr heat input.
- Based on the following capacities: 8760 hours/year; 500,000 billet tons/year of steel; and 792,857 MMBtu/yr.

This section discusses the air pollution control options available for each PSD-significant pollutant (CO, NO_x, PM/PM₁₀, and SO₂) for the proposed new wire/rod BRF, the applicant's proposed BACT, and the Department's draft BACT determination. The applicant identified previous BACT determinations for BRFs listed in EPA's RACT/BACT/LAER Clearinghouse. These are presented as an attachment to this Technical Evaluation and Preliminary Determination.

Carbon Monoxide (CO) Emissions

CO Control Options

CO emissions are generated from the incomplete combustion of natural gas. Add-on controls to reduce CO emissions include thermal and catalytic incineration. Thermal systems may be direct flame incinerators, flame incinerators with a recuperative heat exchanger, or regenerative systems utilizing energy recovery. Catalytic systems include fixed-bed (packed bed or monolith) systems and fluidized-bed systems. Such systems are capable of achieving greater than 90% destruction efficiencies depending on the inlet concentration.

The billet reheat furnace design generally provides an efficient combustion design with sufficient temperature, turbulence and residence time to complete combustion of the fuel. Good combustion practices maintain efficient combustion and minimize products of incomplete combustion. To assure good combustion, process monitors can be used to monitor the oxygen content of the reheat furnace flue gas. Real time data is fed to the control room. The operator uses the real time data to adjust the operation to ensure sufficient excess air levels.

Applicant's CO Review

A review of EPA's RACT/BACT/LAER Clearinghouse shows that previous BACT determinations for BRFs range from 0.01 to 0.084 lb/MMBtu. The wide range of emission rates is due to differences in reheat furnace design and operation. In addition, all of the listed CO BACT determinations for BRFs have all been based on good combustion design and practices. With estimated potential CO emissions of only 13.9 tons per year, the addition of an incineration system would be cost prohibitive. Therefore, the applicant proposes a CO emission limit of 0.035 lb/MMBtu based on proper furnace design and good combustion practices, including the control of combustion air and combustion temperature.

Department's CO Review

Historical test data for the existing BRF shows actual CO emissions to be very low. Compliance tests conducted on the existing BRF over the last five years indicate the following actual tested emission rates: 0.0013 lb/MMBtu in 2001; 0.0010 lb/MMBtu in 2002; 0.0003 lb/MMBtu in 2003; 0.0070 lb/MMBtu in 2004; and, 0.0010 lb/MMBtu in 2005. These values are well below the current allowable limit of 0.035 lb/MMBtu. However, it is noted that CO emissions can fluctuate due to the non-steady, cyclic nature of operating the billet reheat furnace. The vendor of the new BRF has guaranteed the proposed CO emissions rate of 0.035 lb/MMBtu in conjunction with the proposed NO_x emission rate of 0.08 lb/MMBtu.

The estimated potential CO emissions are 13.9 tons per year based on vendor's predicted emission rate. At this level, the installation of an add-on control system would be cost prohibitive, particularly given the expected actual emissions. Consideration is also given to the proposed NO_x emission limit of 0.08 lb/MMBtu for the new BRF. For such external combustion processes, vendor guarantees for CO and NO_x emissions are typically linked – lower CO guarantees mean higher NO_x guarantees. Therefore, the Department determines the draft BACT to be the control of CO emissions by proper design, efficient combustion, and exclusive firing of natural gas to achieve an emission limit of 0.035 lb/MMBtu. Compliance shall be demonstrated by conducting an initial test in accordance with EPA Method 10.

Nitrogen Oxides (NO_x) Emissions

The three fundamental mechanisms of NO_x formation in a BRF include thermal NO_x, fuel bound nitrogen NO_x, and prompt NO_x. Thermal NO_x arises from the thermal dissociation and subsequent reaction of nitrogen and oxygen molecules in air in a high temperature combustion zone. Fuel NO_x formation results from the evolution and reaction of fuel-bound nitrogen compounds with oxygen. The prompt NO_x mechanism involves the intermediate formation of hydrogen cyanide with fossil fuel combustion followed by the rapid oxidation of HCN to NO.

Thermal NO_x is the most prevalent form. Thermal NO_x formation takes place at temperatures above 2000 °F, when both nitrogen and oxygen are present and sufficient residence time is allowed. In an EAF, where the furnace temperature reaches 3000 to 3400 °F, conditions exist for the formation of NO_x to a relatively high degree. Although EAFs have been considered a minor source of NO_x emissions and verified emissions data are limited, EPA investigations have identified NO_x emission factors ranging from 0.1 to over 0.7 pounds per ton of liquid steel produced. Modern high energy furnaces may be found at the higher end of the range.

These new furnaces will use LNBs to limit the formation of NO_x by staged combustion. This lowers combustion zone temperatures sufficiently to reduce the amount of thermal NO_x generated.

NO_x Control Options

Fuel-bound NO_x emissions are almost negligible because natural gas contains little nitrogen. The contribution of prompt NO_x is small. The majority of NO_x emissions from the BRF will be thermal NO_x. A summary of potential NO_x control

options are presented in the following table with a brief discussion of each option thereafter.

Table 3B. NO_x Control Options – Billet Reheat Furnace:

Available Control Option	Estimated Efficiency	Technically Feasible	Demonstrated	Proposed for the Project?
<i>Chemical Reduction</i>				
1. Selective Catalytic Reduction (SCR)	35 – 80%	Y	N	NA
2. Selective Non-Catalytic Reduction (SNCR)	35 – 80%	N	NA	NA
<i>Peak Temperature Reduction</i>				
3. Flue Gas Recirculation (FGR)	15 – 25%	N	NA	NA
4. Natural Gas Reburning (NGR)	15 – 25%	N	NA	NA
5. Over Fire Air (OFA)	15 – 25%	N	NA	NA
6. Less Excess Air (LEA)	15 – 25%	Y	Y	Y
7. Combustion Optimization	15 – 25%	Y	Y	Y
8. Low NO _x Burners (LNBs)	15 – 25%	Y	Y	Y

Notes:

NA = Not Applicable

General descriptions of these control systems are provided in the previous section covering EAF/LMF operations.

1. *Selective Catalytic Reduction (SCR)*: Effective SCR systems can achieve NO_x reductions approaching 90%. SCR is technically feasible for a BRF.
2. *Selective Non-Catalytic Reduction (SNCR)*: The temperature requirement for SNCR is greater than the temperature available exiting the reheat furnace. Therefore, SNCR is not technically feasible for this project. Also, there are no known installations of SNCR on BRFs.
3. *Flue Gas Recirculation (FGR)*: FGR has been applied to large utility and industrial boilers, but has not been demonstrated in small reheat furnaces and is not considered appropriate for this project.
4. *Natural Gas Reburn (NGR)*: Reburn has been applied to large utility and industrial boilers, but has not been demonstrated in small reheat furnaces and is not considered appropriate for this project.
5. *Over-Fire Air (OFA)*: OFA has been applied to large utility and industrial boilers, but has not been demonstrated in small reheat furnaces and is not considered appropriate for this project.
6. *Less Excess Air*: Excess airflow combustion has been correlated to the amount of NO_x generated. Limiting the net excess airflow can limit the NO_x content of the flue gas and will be used for this project.
7. *Combustion Optimization*: Combustion optimization is integral to the design process and shakedown procedure for each combustion unit. Combustion optimization will be used for this process.
8. *Low-NO_x Burners (LNBs)*: The new BRF will incorporate low-NO_x burners.

Applicant's NO_x Review

A review of EPA's RACT/BACT/LAER Clearinghouse indicated previous BACT determinations for billet reheat furnaces in the range of 0.077 to 0.172 lb NO_x per MMBtu. This range also represents the three most recent determinations. Although SCR is technically feasible, there is only one known installation for a reheat furnace. The Beta Steel plant in Portage, Indiana was originally limited to 14.7 lb/MMscf with SCR control, which is equivalent to 0.014 lb/MMBtu. Subsequent stack testing showed that the BRF could not meet this limit with test results ranging from 17.7 to 77.1 lbs/MMscf. As a result, Beta Steel requested a revised permit limit equivalent to 0.077 lb/MMBtu, which was the highest tested emission rate. The Indiana Department of Environmental Management (IDEM) conducted an investigation and issued a Notice of Approval in May of 2003 that stated, "Beta Steel has demonstrated that, due to the non-steady state nature of the reheat furnace process, it is not possible to maintain a consistent level of performance from SCR control. This results in lowered efficiency of control of NO_x. The following factors contribute to reduction in SCR control efficiency:

- The reheat furnace operation is a non-steady state operation where emission rates vary depending upon heat input rate and material being heated;
- Varying flue gas temperature at the inlet of SCR causes fluctuations in the catalyst performance; and
- The catalyst performance is affected due to deposition of particulate matter from the flue gas stream. As it is not possible to run the gas through any kind of add-on control before the SCR, this factor is inherent to this application of SCR.”

IDEM concluded that a permit limit of 0.077 lb/MMBtu was still more stringent than any other BACT determination and granted the request.

In the review of SCR for the reheat furnace, the applicant estimated a capital cost of \$1.5 million. The total annualized cost was estimated at \$215,700 per year. As proposed, potential uncontrolled NO_x emissions are approximately 31.7 tons per year. Assuming 44.5% reduction (Haldor Topsoe estimate), the SCR system would remove approximately 14.1 tons per year of NO_x, which results in a cost effectiveness of approximately \$15,000 per ton of NO_x removed. Therefore, the applicant rejects SCR due to unreasonable costs.

The applicant proposes a NO_x emissions limit of 0.08 lb/MMBtu, which is based on the application of LNBs and low excess air as well as the vendor’s guarantee. This level is within the range of the lowest and most recent BACT determinations for BRFs. For all practical purposes, the proposed limit is essentially equivalent to the Beta Steel limit of 0.077 lb/MMBtu that is based on SCR control as well as the new rebar BRF authorized for this facility in air construction Permit No. 0310157-007-AC/PSD-FL-349 issued 09/21/2005.

Department’s NO_x Review

Based on the applicant’s cost estimates, SCR would result in high initial capital costs and is not cost effective at \$15,000 per ton of NO_x removed. The Department does not support or reject the applicant’s cost analysis, but notes that at even higher control efficiencies the cost effectiveness remains very high. In addition, the actual control efficiency achievable is uncertain based on the one existing SCR installation and the non-steady state, cyclic nature of the billet reheat furnace.

Therefore, the Department determines the draft BACT to be the control of NO_x emissions by the combination of LNBs, low excess air, and good combustion practices to achieve an emissions limit of 0.08 lb/MMBtu. Compliance shall be demonstrated by conducting an initial test in accordance with EPA Method 7E. This level of control is consistent with previous BACT determinations for billet reheat furnaces.

Particulate Matter (PM/PM₁₀) Emissions

PM/PM₁₀ Control Options

PM/PM₁₀ emissions result from the combustion of natural gas via three potential mechanisms: ash found in the fuel; particulates in the combustion air; and unburned carbon formed by incomplete combustion of the fuel. Such emissions from firing natural gas are low because natural gas contains negligible amounts of ash and is readily combusted. Most standard control options are available for removing particulate matter including settling chambers, cyclones, electrostatic precipitators, fabric filters, and wet scrubbers.

Applicant’s PM/PM₁₀ Review

A review of EPA’s RACT/BACT/LAER Clearinghouse indicates that previous PM/PM₁₀ BACT determinations have been exclusively based on good combustion for BRFs firing natural gas. Previous PM/PM₁₀ BACT determinations range from 0.002 to 0.08 lb per MMBtu, including the most recent determinations. Although all control options are technically feasible, add-on controls to remove particulate matter from reheat furnaces or industrial boilers are not typically required for gas-fired units. Therefore, the applicant proposes to control PM/PM₁₀ emissions by the efficient combustion and exclusive firing of natural gas. This is expected to result in a maximum emission rate of 0.0075 lb/MMBtu.

Department’s PM/PM₁₀ Review

Particulate emissions from the wire/rod BRF are entirely due to the combustion of natural gas with no additional inputs from the process. With respect to particulate matter, natural gas is a clean fuel that supports the concept of pollution prevention. Previous BACT determinations for BRFs firing natural gas have relied on the efficient combustion of this clean fuel. In addition, the costs to reduce particulate matter with add-on controls would be prohibitive given the actual expected emissions from the BRF.

The Department determines the draft BACT to be the control of PM/PM₁₀ emissions by the efficient combustion and the

exclusive firing of natural gas. In addition, the following visible emissions standard will be established as a surrogate for particulate matter emissions:

Visible emissions from the wire/rod BRF shall not exceed 10% opacity, except for up to one 6-minute period per hour during which the opacity shall not exceed 20%.

This is a reduction of the current visible emission standard, which is 15% opacity. The draft CO BACT standard will serve as an indicator of efficient combustion. No PM/PM₁₀ emissions testing will be required.

SO₂ Emissions

SO₂ Control Options

SO₂ emissions may be generated due any sulfur in the fuel combusted. SO₂ emissions from the BRF are nearly negligible when firing natural gas. Most standard control options would be available for reducing SO₂ emissions including spray dryer absorbers, wet flue gas scrubbers, etc.

Applicant's SO₂ Review

The proposed new BRF will fire natural gas as the exclusive fuel, which results in potential SO₂ emissions of 0.2 tons per year. At this rate, further reductions of SO₂ emissions with add-on control equipment would be cost prohibitive. Therefore, the applicant proposes the firing of natural gas as the exclusive fuel to control SO₂ emissions, which results in a potential emission rate of 0.0006 lb/MMBtu. This level of control is consistent with previous BACT determinations for BRFs.

Department's SO₂ Review

SO₂ emissions from the BRF are related entirely to fuel sulfur contributions with no additional inputs from the process. With respect to sulfur dioxide, natural gas is a clean fuel that supports the concept of pollution prevention. Further reduction by add-on control equipment would not be cost effective. The Department determines the draft BACT to be the control of SO₂ emissions by the exclusive firing of natural gas. No SO₂ emissions testing will be required.

VOC Emissions

VOC Control Options

VOC emissions from natural gas fired sources are primarily the result of incomplete combustion. Combustion is a function of three variables: time, temperature and turbulence. Once the combustion process begins, there must be enough residence time at the required temperature to complete the process, and enough turbulence or mixing to ensure that the fuel gets enough oxygen from the combustion air. Combustion systems with poor control of the air-to-fuel, poor mixing, and insufficient residence time at combustion temperature have higher VOC emissions than do those with good controls. Most standard VOC control options would be available for reducing emissions including thermal and catalytic oxidation.

Applicant's VOC Review

A review of EPA's RACT/BACT/LAER Clearinghouse indicates that previous VOC BACT determinations for BRFs have been exclusively based on good combustion design and practices. Such determinations range from 0.0014 to 0.0055 lb/MMBtu. The range of emissions is due to differences in reheat furnace design and operation. Base on the proposed equipment, maximum annual VOC emissions are estimated to be less than 5 tons per year. At this low level, the addition of control equipment would be cost prohibitive. Therefore, the applicant proposes to minimize VOC emissions by an efficient combustion design and the exclusive firing of natural gas. This is expected to result in a maximum emission rate of 0.005 lb/MMBtu.

Department's VOC Review

VOC emissions will be generated from the combustion of natural gas with no additional emissions related to the process. Natural gas will be readily combusted in the furnace with potential VOC emissions estimated to be approximately 2 tons per year. At this rate, add-on controls would not be cost effective. Therefore, the Department determines the draft BACT to be the control of VOC emissions by the proper design, efficient combustion, and exclusive firing of natural gas. The draft CO BACT standard will serve as an indicator of efficient combustion. No VOC testing is required.

Summary of Draft BACT Determinations

On September 21, 2005, the Department issued Permit No. 0310157-007-AC/PSD-FL-349 to Gerdau Ameristeel for the construction of a new melt shop, electric arc furnace (EAF), ladle metallurgical furnace (LMF), and a billet reheat furnace (BRF). The BACT determinations for the original project remain unchanged. The draft BACT determinations for the proposed new wire/rod mill BRF are summarized in the following table.

Table 3C. Summary of Draft BACT Determinations – Wire/Rod Mill BRF Operations:

Pollutant	Emission Limits ¹	Control Technology	Test Methods ²
PM/PM ₁₀	--	Efficient combustion design and firing natural gas	None
	Visible emissions ≤ 10% opacity, except for up to one 6-minute period per hour during which the opacity shall not exceed 20%.		EPA Method 9
NO _x	0.008 lb/ton steel	Low-NO _x burners, good combustion practices and low excess air	EPA Method 7E
CO	0.035 lb/MMBtu	Proper furnace design and good combustion practices, including control of combustion air and temperature	EPA Method 10
SO ₂	--	Firing natural gas	None
VOC	---	Efficient combustion design and firing natural gas	None

Notes:

1. The averaging time for each limit shall be in accordance with the test method.
2. Compliance tests on the Wire/Rod Mill BRF operation shall be conducted at a minimum rate of 144 billet tons per hour (BTPH) per Rule 62-297.310(2)(b) [160 BTPH x 90% = 144 BTPH].

Miscellaneous Permit Corrections and Revisions

The draft permit is a revision of original the project Permit No. 0310157-007-AC/PSD-FL-349 issued 09/21/2005. It simply adds the proposed new wire/rod mill BRF as an emissions unit and the associated requirements. It renames the previously permitted BRF as the “rebar mill BRF” to denote its association with the rebar mill. In addition, the revised permit corrects the following for the new rebar mill BRF: the required testing rate is changed from 126 to 144 billet tons per hour, which is now correctly based on the maximum *hourly* production; and the equivalent mass emissions rate for carbon monoxide is changed from 3.11 to 7.77 lbs/hour, which is simply to correct a mistake. For PSD purposes, the permit revision is identified as “PSD-FL-349A”.

4. SOURCE IMPACT ANALYSIS

Introduction

The proposed project is a major modification to an existing facility and will increase PM₁₀, SO₂, NO_x and CO emissions at levels in excess of PSD significant amounts. PM₁₀, SO₂, and NO_x, are criteria pollutants and have national and state ambient air quality standards (AAQS), PSD increments and significant impact levels defined for them. CO is a criteria pollutant and has only AAQS and significant impact levels defined for it. Emissions of VOC are related to the formation of ozone and are not generally modeled for individual stationary sources. The air quality impact analyses required by the PSD regulations for these pollutants include:

- An analysis of existing air quality for PM₁₀, SO₂, NO_x; and VOC;
- A significant impact analysis for PM₁₀, SO₂, NO_x and CO;
- A PSD increment analysis for SO₂ and NO₂;
- An Ambient Air Quality Standards (AAQS) analysis for SO₂ and NO₂; and,
- An analysis of impacts on soils, vegetation, and visibility and of growth-related air quality modeling impacts.

The analysis of existing air quality generally relies on preconstruction monitoring data collected with EPA-approved methods. The significant impact, PSD increment, and AAQS analyses depend on air quality dispersion modeling carried out in accordance with EPA guidelines.

Based on the required analyses, the Department has reasonable assurance that the proposed project, as described in this report and subject to the conditions of approval proposed herein, will not cause or significantly contribute to a violation of any AAQS or PSD increment. However, the following EPA-directed stack height language is included: "In approving this permit, the Department has determined that the application complies with the applicable provisions of the stack height regulations as revised by EPA on July 8, 1985 (50 FR 27892). Portions of the regulations have been remanded by a panel of the U.S. Court of Appeals for the D.C. Circuit in NRDC vs. Thomas, 838 F. 2d 1224 (D.C. Cir. 1988). Consequently, this permit may be subject to modification if and when EPA revises the regulation in response to the court decision. This

may result in revised emission limitations or may affect other actions taken by the source owners or operators." A discussion of the required analyses follows.

Analysis of Existing Air Quality

Preconstruction ambient air quality monitoring is required for all pollutants subject to PSD review unless otherwise exempted or satisfied. This monitoring requirement may be satisfied by using previously existing representative monitoring data, if available. An exemption to the monitoring requirement shall be granted by rule if either of the following conditions is met: the maximum predicted air quality impact resulting from the projected emissions increase, as determined by air quality modeling, is less than a pollutant-specific de minimis ambient concentration; or the existing ambient concentrations are less than a pollutant-specific de minimis ambient concentration. If preconstruction ambient monitoring is exempted, determination of background concentrations for PSD significant pollutants with established AAQS may still be necessary for use in any required AAQS analysis. These concentrations may be established from the required preconstruction ambient air quality monitoring analysis or from the existing representative monitoring data. These background ambient air quality concentrations are added to pollutant impacts predicted by modeling and represent the air quality impacts of sources not included in the modeling. No de minimis ambient concentration is provided for ozone. Instead the net emissions increase of VOC is compared to a de minimis monitoring emission rate of 100 tons per year.

The table below shows project air quality impacts for comparison to de minimis ambient concentrations.

Maximum Project Air Quality Impacts Compared to the Regulatory De Minimis Concentrations				
Pollutant	Averaging Time	Modeled Concentration ($\mu\text{g}/\text{m}^3$)	De Minimis Level ($\mu\text{g}/\text{m}^3$)	Impact Greater Than De Minimis?
SO ₂	24-hr	13	13	Yes
PM ₁₀	24-hr	6	10	No
CO	8-hr	279	575	No
NO ₂	Annual	5	14	No
Ozone	Annual	43 TPY of VOC	100 TPY of VOC	No

As shown in the table PM₁₀, NO₂ and CO impacts from the project are predicted to be less than the de minimis levels; therefore, preconstruction monitoring is not required for these pollutants. VOC emissions are predicted to be less than the de minimis emission rate; therefore preconstruction monitoring is not required for ozone.

However, the table shows that SO₂ impacts from the project are predicted to be greater than the corresponding de minimis level. Therefore, the applicant is not exempt from preconstruction monitoring for SO₂. The applicant may instead satisfy this requirement using previously existing representative data. Previously existing representative monitoring data does exist from SO₂ monitors located in Duval County; this data is appropriate for fulfilling the monitoring requirement for this pollutant and to establish a background concentration for use in the SO₂ AAQS analysis. Background concentrations for SO₂ are shown in the table below. In addition, determination of an NO₂ background concentration is required since an AAQS analysis for NO₂ will be required as will be shown in the significant impact section. This background concentration is derived from an NO₂ monitor in Duval County.

Background Concentrations Used in AAQS Analyses		
Pollutant	Averaging Time	Background Concentration ($\mu\text{g}/\text{m}^3$)
SO ₂	24-hour	58
	3-hour	170
PM ₁₀	24-hour	56
NO ₂	Annual	27

Models and Meteorological Data Used in Significant Impact, PSD increment and AAQS Analyses**PSD Class II Area**

The EPA-approved Industrial Source Complex Short-Term (ISCST3) dispersion model was used to evaluate the pollutant emissions from the proposed project in the surrounding Class II Area and the portion of the Okefenokee National Wilderness Area (NWA) Class I area located within 50 km of the project. This model determines ground-level concentrations of inert gases or small particles emitted into the atmosphere by point, area, and volume sources. It incorporates elements for plume rise, transport by the mean wind, Gaussian dispersion, and pollutant removal mechanisms such as deposition. The ISCST3 model allows for the separation of sources, building wake downwash, and various other input and output features. A series of specific model features, recommended by the EPA, are referred to as the regulatory options. The applicant used the EPA recommended regulatory options. Direction-specific downwash parameters were used for all sources for which downwash was considered. The stacks associated with this project all satisfied the good engineering practice (GEP) stack height criteria.

Meteorological data used in the ISCST3 model consisted of a concurrent 5-year period of hourly surface weather observations from the National Weather Service (NWS) station at Jacksonville International Airport, Florida and twice-daily upper air soundings from Waycross, Georgia. The 5-year period of meteorological data was from 1984 through 1988. These NWS stations were selected for use in the study because they are the closest primary weather stations to the study area and are most representative of the project site. The surface observations included wind direction, wind speed, temperature, cloud cover, and cloud ceiling.

Since five years of data were used in ISCST3, the highest-second-high (HSH) short-term predicted concentrations were compared with the appropriate AAQS or PSD increments. For the annual averages, the highest predicted yearly average was compared with the standards. For determining the project's significant impact area in the vicinity of the facility and in the PSD Class I area, both the highest short-term predicted concentrations and the highest predicted yearly averages were compared to their respective significant impact levels.

PSD Class I Area

The nearest distance of this site from the Okefenokee NWA Class I PSD area is 37 kilometers; however, much of the Okefenokee NWA is greater than 50 km from the project site. In addition, the applicant assessed the predicted impacts on other PSD Class I areas located within 200 km of the site. These are the Wolf Island NWA, the Chassahowitzka NWA and the St. Marks NWA located at 131, 180 and 193 km from the project site, respectively. Since a large part of the PSD Class I areas are greater than 50 km from the proposed facility, long-range transport modeling was required. The California Puff (CALPUFF) dispersion model was used to evaluate the potential impact of the proposed pollutant emissions on the PSD Class I increments and the following Air Quality Related Values (AQRVs): regional haze, nitrogen and sulfur deposition. CALPUFF is a non-steady state, Lagrangian, long-range transport model that incorporates Gaussian puff dispersion algorithms. This model determines ground-level concentrations of inert gases or small particles emitted into the atmosphere by point, line, area, and volume sources. The CALPUFF model has the capability to treat time-varying sources. It is also suitable for modeling domains from tens of meters to hundreds of kilometers, and has mechanisms to handle rough or complex terrain situations. Finally, the CALPUFF model is applicable for inert pollutants as well as pollutants that are subject to linear removal and chemical conversion mechanisms.

The meteorological data used in the CALPUFF model was processed by the California Meteorological (CALMET) model. The CALMET model utilizes data from multiple meteorological stations and produces a three-dimensional modeling grid domain of hourly temperature and wind fields. The wind field is enhanced by the use of terrain data, which is also input into the model. Two-dimensional fields such as mixing heights, dispersion properties, and surface characteristics are produced by the CALMET model as well. Meteorological data were obtained and processed for the calendar years of 1990, 1992 and 1996, the years for which MM4 and MM5 data are available. The CALMET wind field and the CALPUFF model options used were consistent with the suggestions of the federal land managers.

Significant Impact Analysis

Preliminary modeling is conducted using only the proposed project's worst-case emission scenario for each pollutant and applicable averaging time. Over 3000 receptors were placed along the facility's restricted property line and out to 7 km from the facility, which is located in a PSD Class II area. 500 receptors were placed in the Okefenokee NWA PSD Class I area. In addition 30, 58 and 35 receptors were placed in the Wolf Island NWA, Chassahowitzka NWA and St Marks NWA PSD Class I areas, respectively.

For each pollutant subject to PSD and also subject to PSD increment and/or AAQS analyses, this modeling compares maximum predicted impacts due to the project with PSD significant impact levels to determine whether significant impacts

due to the project were predicted in a PSD Class II area in the vicinity of the facility or in any PSD Class I area. In the event that the maximum predicted impact of a proposed project is less than the appropriate significant impact level, a full impact analysis for that pollutant is not required. Full impact modeling is modeling that considers not only the impact of the project but also other major sources, including background concentrations, located within the vicinity of the project to determine whether all applicable AAQS or PSD increments are predicted to be met for that pollutant. Consequently, a preliminary modeling analysis, which shows an insignificant impact, is accepted as the required air quality analysis (AAQS and PSD increments) for that pollutant and no further modeling for comparison to the AAQS and PSD increments is required for that pollutant. The tables below show the results of this modeling. The radius of significant impact, if any, for each pollutant and applicable pollutant averaging time is also shown in the tables below.

Maximum Project Air Quality Impacts Compared to the PSD Class II Significant Impact Levels in the Vicinity of the Facility					
Pollutant	Averaging Time	Maximum Predicted Impact ($\mu\text{g}/\text{m}^3$)	Significant Impact Level ($\mu\text{g}/\text{m}^3$)	Significant Impact?	SIA (km)
SO ₂	Annual	0.2	1	No	None
	24-hr	13	5	Yes	<1
	3-hr	32	25	Yes	<1
PM ₁₀	Annual	0.6	1	No	None
	24-hr	6	5	Yes	<1
CO	8-hr	279	500	No	None
	1-hr	780	2,000	No	None
NO ₂	Annual	5	1	Yes	<1

Maximum Project Impacts Compared to the PSD Class I Significant Impact Levels				
Pollutant	Averaging Time	Maximum Predicted Impact ($\mu\text{g}/\text{m}^3$)	Significant Impact Level ($\mu\text{g}/\text{m}^3$)	Significant Impact?
SO ₂	Annual	0.007	0.1	No
	24-hr	0.19	0.2	No
	3-hr	0.72	1.0	No
PM ₁₀	Annual	0.003	0.2	No
	24-hr	0.07	0.3	No
NO ₂	Annual	0.02	0.1	No

Annual PM₁₀ and CO were predicted to have less than significant impacts in the Class II area while all the applicable pollutants were predicted to have less than significant impacts in the Class I areas. This demonstrates compliance with ambient air quality standards and PSD increments for these pollutants in these areas. Except for NO₂ and short-term PM₁₀ and SO₂ in the Class II area, no further dispersion modeling was required to be performed for these pollutants.

The SIA based on maximum predicted ambient air concentrations of PM₁₀, SO₂ and NO₂ were less than 1 km. Therefore, refined dispersion modeling, including other sources in the area, was required and conducted for these pollutants to demonstrate compliance with the PSD increments and the AAQS within this SIA.

PSD Increment Analysis in the Class II Area in the Vicinity of the Facility

The PSD increment represents the amount that new sources in an area may increase ambient ground level concentrations of a pollutant over a baseline level set in 1977 for PM₁₀ and SO₂ and 1988 for NO₂. Refined Class II Increment compliance modeling is performed only if the SIA determination modeling indicates that the project would have a significant impact on air quality. The purpose of Class II increment compliance modeling is to demonstrate that the new sources will not significantly cause or contribute to a violation of a PSD Increment.

This modeling involved the sources under review as well as sources from within the SIA and within 80 km of the facility using approved screening techniques for determining the sources to be included in the modeling analysis.

The results of the Class II increment analyses are given below and show that the maximum predicted impacts are less than the respective allowable increments.

PSD Class II Increment Analysis				
Pollutant	Averaging Time	Maximum Predicted Impact ($\mu\text{g}/\text{m}^3$)	Impact Greater than Allowable Increment?	Allowable Increment ($\mu\text{g}/\text{m}^3$)
SO ₂	24-hr	13	No	91
	3-hr	50	No	512
PM ₁₀	24-hr	6	No	30
NO ₂	Annual	6	No	25

AAQS Analysis

For pollutants subject to an AAQS review, the total impact on ambient air quality is obtained by adding a "background" concentration to the maximum-modeled concentration. This "background" concentration takes into account all sources of a particular pollutant that are not explicitly modeled. The determination of the maximum modeled concentration involved the sources under review as well as sources from within the SIA and within 80 km of the facility using approved screening techniques for determining the sources to be included in the modeling analysis. The results of the AAQS analysis are summarized in the table below. As shown in this table, emissions from the proposed facility are not expected to cause or significantly contribute to a violation of any AAQS.

Maximum Ambient Air Quality Impacts						
Pollutant	Averaging Time	Modeled Sources ($\mu\text{g}/\text{m}^3$)	Background Concentration ($\mu\text{g}/\text{m}^3$)	Total Impact ($\mu\text{g}/\text{m}^3$)	Total Impact Greater than AAQS	Florida AAQS ($\mu\text{g}/\text{m}^3$)
SO ₂	24-hr	52	58	110	No	260
	3-hr	177	170	347	No	1300
PM ₁₀	24-hr	5	56	61	No	150
NO ₂	Annual	7	27	34	No	100

Additional Impacts Analysis

Impacts on Soils, Vegetation, Wildlife, and Visibility

The maximum ground-level concentrations predicted to occur due to PM₁₀, NO_x, CO and SO₂ emissions as a result of the proposed project, including all other nearby sources, will be below the associated AAQS. The AAQS are designed to protect both the public health and welfare. As such, this project is not expected to have a harmful impact on soils and vegetation in the PSD Class II area. An air quality related values (AQRV) analysis was done by the applicant for the four Class I areas within 200 km of the project. No significant impacts on this area are expected. A Level 1 visibility screening analysis using the VISCREEN model was used to evaluate visibility impacts in the Class I area located within 50 km of the site. This analysis showed no significant impact on visibility in this area. A regional haze analysis using the long-range transport model CALPUFF was done for the portions of the PSD Class I areas located greater than 50 km from the site. No adverse regional haze impacts were predicted for these areas. Total nitrogen (N) and sulfur (S) deposition rates on the Class I areas were also predicted using CALPUFF. The maximum predicted deposition rates are below the federal land manager recommended deposition threshold levels for N and S.

Growth-Related Air Quality Impacts

The proposed modification will not significantly change employment, population, housing or commercial/industrial development in the area to the extent that a significant air quality impact will result.

Good Engineering Practice Stack Height Determination

A Good Engineering Practice (GEP) review was conducted for each proposed new source to determine if building downwash effects needed to be included in the modeling and to determine the appropriate stack heights to be used with the models. The new stacks will be lower than GEP height; therefore building downwash effects were included in the modeling analyses

Additional Requirements

The permit has additional requirements that provide reasonable assurance that Department rules can be met. Some of these are conditions that limit fuels and materials to exclude hazardous wastes, contaminated materials and other fuels.

5. CONCLUSION

The permitting authority has determined that a PSD air construction permit revision is required in order to construct the proposed new emissions unit, as described above. The permitting authority intends to issue this air construction permit based on the belief that reasonable assurances have been provided to indicate that the construction and operation of the affected emissions units will not adversely impact air quality and will comply with all appropriate provisions of Chapters 62-4, 62-204, 62-210, 62-212, 62-256, 62-257, 62-281, 62-296, and 62-297, F.A.C. Based on the foregoing technical evaluation of the application, the Department makes a preliminary determination that the proposed project will be in compliance with all applicable state and federal air pollution regulations. The General and Specific Conditions are provided in the attached Draft Permit.

Project Engineer: Bruce Mitchell

Project Meteorologist: Cleve Holladay

Reviewed and Approved by Jeffery F. Koerner, P.E.

ATTACHMENTS

10/15/2004

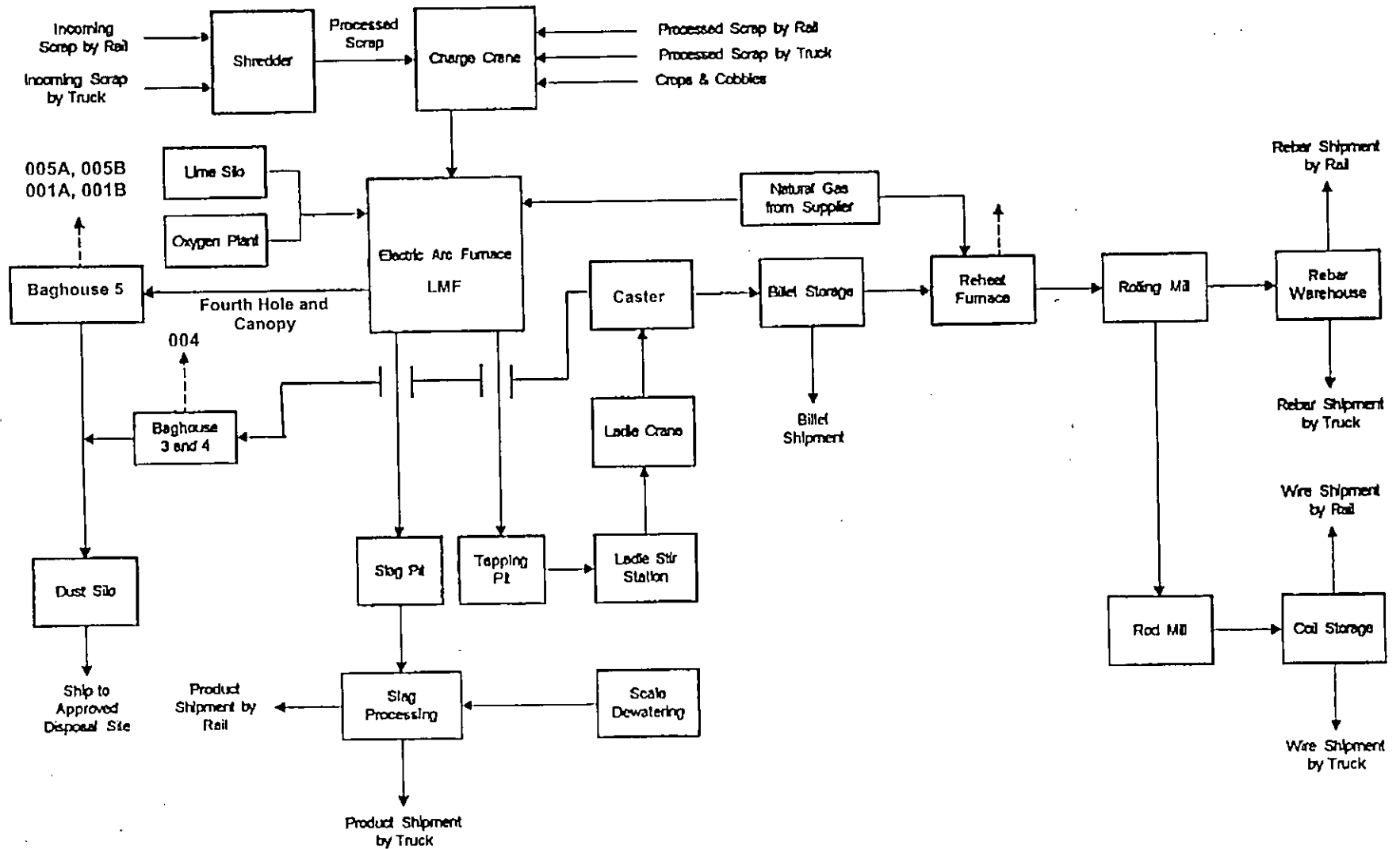


Figure 2-3.
Proposed Process Flow Diagram
Gerdau Ameristeel – Jacksonville Plant

Source: Golder, 2003.

Process Flow Legend

Solid/Liquid —————>

Gas - - - - ->

Table 5-9. BACT Determinations for Reheat Furnaces, 1998 - 2004

Facility	State	Date	NO _x	CO	VOC	SO ₂	PM/PM ₁₀
Nucor Steel Corp (Draft Determination)	Nebraska	6/22/2004	0.096	0.035	0.0055	0.0006	--
Steel Dynamics, Hendricks	Indiana	8/29/2003	0.08	0.084	0.0050	0.0006	0.0019
Beta Steel*	Indiana	5/30/2003	0.077	0.04	--	--	--
Nucor Steel	North Carolina	2002	0.128	0.084	0.005	0.00058	--
IPSCO Steel	Iowa	2002	0.269	--	--	--	--
Nucor Yamato	Arkansas	2001	0.094	0.0824	0.0054	0.0006	0.0168
Charter Steel	Wisconsin	2000	0.09	0.011	0.0014	0.00061	0.082
Republic Technologies Int.	Ohio	1/27/1999	0.112	0.039	--	--	0.005
SDI Steel, Whitley	Indiana	1999	0.11	0.03	0.0055	--	--
Gerdau-Ameristeel	Florida	1999	0.19	0.035	--	--	0.0108
IPSCO Steel Inc.	Alabama	10/16/1998	0.172	--	--	--	0.0058
Quanex Corporation - Macsteel Division	Arkansas	2/18/1998	0.14	0.035	--	--	0.0031
Chaparral Steel	Virginia	1998	0.21	0.075	0.0053	0.0006	--

Note: All measurements in lb/MMBtu.

Source: Golder, 2004.

**Gerdau Ameristeel
Jacksonville Steel Mill**

**Facility ID No.: 0310157
Duval County**

Air Construction Permit Project No.: 0310157-008-AC/PSD-FL-349A
Revision to Air Construction Permit No.: 0310157-007-AC/PSD-FL-349

Permitting Authority:

State of Florida
Department of Environmental Protection
Division of Air Resource Management
Bureau of Air Regulation
Mail Station #5505
2600 Blair Stone Road
Tallahassee, Florida 32399-2400
Telephone: 850/488-0114
Fax: 850/922-6979
Fax: 850/921-9533

Compliance Authority:

Environmental Resource Management Department
Environmental Quality Division
117 West Duval Street, Suite 225
Jacksonville, Florida 32202
Telephone: (904)630-4900
Fax: (904)630-3638

Permittee:

Gerdau Ameristeel
16770 Rebar Road
Baldwin, FL 32234

Permit Project No.: 0310157-008-AC/PSD-FL-349A**Revision To:** 0310157-007-AC/PSD-FL-349**Facility ID No.:** 0310157**SIC No.:** 3390**Expiration Date:** To be established**Project:** New Wire/Rod Mill Billet Reheat Furnace**Facility Description**

Gerdau Ameristeel operates the existing Jacksonville Steel Mill (SIC No. 3390), which is located at 16770 Rebar Road in Baldwin, Duval County, Florida. The plant is a secondary metal production facility that recycles scrap iron and steel. The map coordinates are: UTM Zone 17, 405.7 km East, 3350.2 km North; Latitude: 30° 16' 52" / Longitude: 81° 58' 50".

Project Description

On September 21, 2005, the Department issued Permit No. 0310157-007-AC/PSD-FL-349 to Gerdau Ameristeel for the construction of a new melt shop, electric arc furnace (EAF), ladle metallurgical furnace (LMF), and a billet reheat furnace (BRF). In February of 2006, the Department received an application proposing the installation of a second gas-fired billet reheat furnace (BRF) to allow for the simultaneous processing of steel billets. The new BRF will be dedicated to producing wire or rod and the originally permitted BRF will be used to produce rebar. The projects were aggregated due to the timing of the applications. This permit is a revision of original Permit No. 0310157-007-AC/PSD-FL-349 to add the new Wire/Rod Mill BRF. The revision also corrects the testing rate and carbon monoxide hourly emission rate for the Rebar Mill BRF. For PSD purposes, the permit revision is identified as "PSD-FL-349A".

This air construction permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297. The above named permittee is hereby authorized to operate the facility shown on the application and approved drawings, plans, and other documents, attached hereto or on file with the permitting authority, in accordance with the terms and conditions of this permit.

Referenced attachments made a part of this permit:

Appendix SS-1, Stack Sampling Facilities

TABLE 297.310-1, CALIBRATION SCHEDULE (dated 10/07/96)

Attachment "40 CFR 60, Subpart A"

FIGURE 1 - SUMMARY REPORT - GASEOUS AND OPACITY EXCESS EMISSIONS

AND MONITORING SYSTEMS PERFORMANCE REPORT (40 CFR 60, July 1996)

Michael G. Cooke, Director
Division of Air Resource Management

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.161, 403.727, or 403.859 through 403.861, F.S. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of the conditions.
2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
3. As provided in Subsections 403.087(6) and 403.722(5), F.S., the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.
4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.
5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permitted to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.
6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed and used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.
7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at a reasonable time, access to the premises, where the permitted activity is located or conducted to:
 - a. Have access to and copy any record that must be kept under the conditions of the permit;
 - b. Inspect the facility, equipment, practices, or operations regulated or required under this permit; and
 - c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:
 - a. A description of and cause of non-compliance; and,
 - b. The period of non-compliance, including dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

GENERAL CONDITIONS:

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Sections 403.73 and 403.111, F.S. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.
10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.
11. This permit is transferable only upon Department approval in accordance with Rules 62-4.120 and 62-730.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.
12. This permit or a copy thereof shall be kept at the work site of the permitted activity.
13. This permit also constitutes:
- (x) Determination of Best Available Control Technology (BACT)
 - (x) Determination of Prevention of Significant Deterioration (PSD)
 - (x) Compliance with New Source Performance Standards (NSPS)
 - () Compliance with National Emission Standards for Hazardous Air Pollutants/ Maximum Available Control Technology (MACT)
14. The permittee shall comply with the following:
- a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.
 - b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.
 - c. Records of monitoring information shall include:
 - the date, exact place, and time of sampling or measurements;
 - the person responsible for performing the sampling or measurement;
 - the dates analyses were performed;
 - the person responsible for performing the analyses;
 - the analytical techniques or methods used; and
 - the results of such analyses.
15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

SPECIFIC CONDITIONS:

SPECIFIC CONDITIONS:

A. The following specific conditions apply facility-wide:

1. General Pollutant Emission Limiting Standards. Objectionable Odor Prohibited. The permittee shall not cause, suffer, allow, or permit the discharge of air pollutants which cause or contribute to an objectionable odor.

[Rule 62-296.320(2), F.A.C.; and, Rule 2.1001, JEPB]

2. General Particulate Emission Limiting Standards. General Visible Emissions Standard.

Except for emissions units that are subject to a particulate matter or opacity limit set forth or established by rule and reflected by conditions in this permit, no person shall cause, let, permit, suffer or allow to be discharged into the atmosphere the emissions of air pollutants from any activity, the density of which is equal to or greater than 20 percent opacity in accordance with Rule 62-296.320(4)(b)1., F.A.C., and Rule 2.1001, JEPB. EPA Method 9 is the method of compliance pursuant to Chapter 62-297, F.A.C., and Rule 2.1101, JEPB. Testing shall be required upon request of the Department.

[Rule 62-296.320(4)(b)1., F.A.C.; and, Rule 2.1101, JEPB]

3. General Pollutant Emission Limiting Standards. Volatile Organic Compounds (VOC) Emissions or Organic Solvents (OS) Emissions. The permittee shall allow no person to store, pump, handle, process, load, unload, or use in any installation, VOC or OS without applying known and existing vapor emission control devices or systems deemed necessary and ordered by the Department.

[Rule 62-296.320(1)(a), F.A.C.; and, Rule 2.1001, JEPB]

4. Insignificant Emissions Units and/or Activities. Appendix I-1, List of Insignificant Emissions Units and/or Activities, is part of this permit.

[Rules 62-213.440(1), 62-213.430(6), and 62-4.040(1)(b), F.A.C.; and, Rules 2.501 and 2.1301, JEPB]

5. Unconfined Particulate Matter Emissions. Unconfined particulate matter emissions from yard operations, open stock piling of materials and/or materials handling operations, such as the slag handling operations (including, but not limited to, screening, crushing, and sizing operations of steel slag), shall be controlled by using the following reasonable precautions when visible emissions are equal to or greater than 20 percent opacity.

a. Reduced speed for vehicular traffic in the plant to 5 miles per hour.

b. Use of liquid resinous adhesives or other liquid (water) dust suppressants or wetting agents.

c. Use of paving or other asphaltic materials.

d. Removal of particulate matter from paved roads and/or other paved areas by vacuum cleaning or otherwise by wetting prior to sweeping.

e. Covering of trucks, trailers, front end loaders, and other vehicles or containers to prevent spillage of particulate matter during transport.

f. Use of mulch, hydroseeding, grassing, and/or other vegetative ground cover on barren areas to prevent or reduce particulate matter from being windblown.

g. Use of hoods, fans, filters, and similar equipment to contain, capture, and vent particulate matter.

h. Enclosures or covering of conveyor systems.

[Rules 62-296.320(4)(b) & (c)2., F.A.C.; 0310157-004-AC/PSD-FL-261; Rule 2.1001, JEPB; and, 0310157-007-AC/PSD-FL-349]

6. The permittee shall submit all compliance related notifications and reports required of this permit to:

Environmental Resource Management Department
Environmental Quality Division
117 West Duval Street, Suite 225
Jacksonville, FL 32202
Telephone: 904/630-4900
Fax: 904/630-3638

7. Any reports, data, notifications, certifications, and requests required to be sent to the United States Environmental Protection Agency should be sent to:

United States Environmental Protection Agency
Region 4
Air, Pesticides & Toxics Management Division
Air & EPCRA Enforcement Branch, Air Enforcement Section
61 Forsyth Street
Atlanta, GA 30303-8960
Telephone: (404) 562-9155
Fax: (404) 562-9163

8. The facility shall be subject to the City of Jacksonville Ordinance Code, Title X, Chapter 360 [Environmental Regulation], Chapter 362 [Air and Water Pollution], Chapter 376 [Odor Control], and JEPB Rule 1 [Final Rules with Respect to Organization, Procedure, and Practice].

9. The facility shall be subject to JEPB Rule 2, Parts I through VII, and Parts IX through XIII.

10. Construction and Expiration: The permit expiration date includes sufficient time to complete construction, perform required testing, submit test reports, and submit an application for a Title V operation permit to the Department. Approval to construct shall become invalid for any of the following reasons: construction is not commenced within 18 months after issuance of this permit; construction is discontinued for a period of 18 months or more; or construction is not completed within a reasonable time. The Department may extend the 18-month period upon a satisfactory showing that an extension is justified. In conjunction with an extension of the 18-month period to commence or continue construction (or to construct the project in phases), the Department may require the permittee to demonstrate the adequacy of any previous determination of Best Available Control Technology (BACT) for emissions units regulated by the project. For good cause, the permittee may request that this PSD air construction permit be extended. Such a request shall be submitted to the Department's Bureau of Air Regulation at least sixty (60) days prior to the expiration of this permit.

[Rules 62-4.070(4), 62-4.080, 62-210.300(1), and 62-212.400(6)(b), F.A.C.; 40 CFR 52.21(r)(2); 40 CFR 51.166(j)(4)]

11. New or Additional Conditions: For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time.

[Rule 62-4.080, F.A.C.]

12. Relaxations of Restrictions on Pollutant Emitting Capacity: If a previously permitted facility or modification becomes a facility or modification which would be subject to the preconstruction review requirements of this rule if it were a proposed new facility or modification solely by virtue of a relaxation in any federally enforceable limitation on the capacity of the facility or modification to emit a pollutant (such as a restriction on hours of operation), which limitation was established after August 7, 1980, then at the time of such relaxation the preconstruction review requirements of this rule shall apply to the facility or modification as though construction had not yet commenced on it.

[Rule 62-212.400(2)(g), F.A.C.]

13. Modifications: No emissions unit or facility subject to this permit shall be constructed or modified without obtaining an air construction permit from the Department. Such permit shall be obtained prior to beginning construction or modification.

[Rule 62-4.030 and Chapters 62-210 and 62-212, F.A.C.]

14. Title V Air Operation Permit: This permit authorizes construction of the permitted emissions units and initial operation to determine compliance with Department rules. A Title V air operation permit is required for regular operation of the permitted emissions units. The permittee shall apply for a Title V air operation permit at least 180 days (**March 24, 2008**) prior to expiration of this permit, but no later than 180 days after commencing operation, whichever occurs first. To apply for a Title V air operation permit, the applicant shall submit the appropriate application form, compliance test results, and such additional information as the Department may by law require. The application shall be submitted to the ERMD-EQD office.

[Rules 62-4.030, 62-4.050, 62-4.220 and Chapter 62-213, F.A.C.]

B. New Melt Shop Building and EAF (Electric Arc Furnace) Operations and New Continuous Caster Building and LMF (Ladle Metallurgical Furnace) Operations with a New No. 5 Baghouse Control System Serving Its Dust-Handling System and the EAF and LMF Operations: Emissions Units Nos. 008 and 010.

Emissions Unit Descriptions: A new Melt Shop Building will be built along with a new electric arc furnace (EAF) for processing recycled scrap-based steel; and, a new Continuous Caster Building will be built to include the continuous caster operations and the new LMF operations, which will be used for refining the tapped (liquid) steel received from the EAF. Emissions of particulate matter (both PM and PM₁₀) and visible emissions from the EAF's and LMF's operations will be controlled by a new No. 5 baghouse control system. The new No. 5 baghouse control system will also be used to control its associated dust-handling system. Heat will be provided by natural gas fired through low-NO_x oxy-fuel sidewall burners (LNBs) and with electric arcs from carbon electrodes.

Emissions Control: Proper engineering design; firing of natural gas; low-NO_x oxy-fuel sidewall burners (LNBs); low excess air; good combustion practice; a new baghouse control system, designated as Baghouse No. 5, and associated canopy hoods with duct work; Direct-Shell Evacuation Control (DEC) systems (EAF's and LMF's); and, usage of a scrap management plan.

Definitions: 40 CFR 60, Subpart AAa.

- a. Electric arc furnace (EAF): means a furnace that produces molten steel and heats the charge materials with electric arcs from carbon electrodes; and, an EAF shall consist of the furnace shell and roof and the transformer.
- b. Ladle metallurgical furnace (LMF): means an EAF that does the final refining of the molten steel that it receives from the EAF.
- c. Charge: means the addition of iron and steel scrap or other materials into the top of an electric arc furnace.
- d. Heat cycle: means the period beginning when scrap is charged to an empty EAF and ending when the EAF tap is completed.
- e. Tap: means the pouring of molten steel from an EAF.
- f. Dust-handling system: means the equipment used to handle particulate matter collected by the control device for an EAF and consists of the control device dust hoppers, the dust-conveying equipment, any central dust storage equipment, the dust-treating equipment (e.g., pug mill, pelletizer), dust transfer equipment (from storage to truck), and any secondary control devices used with the dust transfer equipment.
- g. Refining: means that phase of the steel production cycle during which undesirable elements are removed from the molten steel and alloys are added to reach the final metal chemistry.
- h. Direct-shell evacuation control system (DEC system): means a system that maintains a negative pressure within the EAF (and LMF) above the slag or metal and ducts emissions to the control device.
- i. Bag leak detection system: means a system that is capable of continuously monitoring relative particulate matter (dust) loadings in the exhaust of a baghouse to detect bag leaks and other conditions that result in increases in particulate loadings. A bag leak detection system includes, but is not limited to, an instrument that operates on triboelectric, electrodynamic, light scattering, light transmittance, or other effect to continuously monitor relative particulate matter loadings.

The following specific conditions apply to the emission units described above.

General.

B.0. Post-Construction.

a. The installation of an EAF, a LMF, a continuous caster, DEC's, canopy hoods and a baghouse control system No. 5., was authorized in air construction permit (AC), No. 0310157-007-AC/PSD-FL-349, issued September 21, 2005. The construction shall be in accordance with the application and associated documents provided to the Permitting Authority for the issuance of that AC. Any changes to the project that are contrary to those documents and permit shall be reported in writing to the Permitting Authority by the P.E. of Record.

[Rules 62-4.070(3) and 62-4.160(2), F.A.C.]

b. The existing EAF shall be removed from service upon commissioning and establishing normal operation of the new EAF and the initial performance tests have been conducted satisfactorily pursuant to 40 CFR 60.8 and the conditions of this permit.

The existing LMF shall be removed from service upon commissioning and establishing normal operation of the new LMF and the initial performance tests have been conducted satisfactorily pursuant to 40 CFR 60.8 and the conditions of this permit. A letter shall be sent to the City of Jacksonville's Environmental Resource Management Department – Environmental Quality Division (ERMD-EQD) and the Department's Northeast District (NED) offices upon completion of this specific condition. [Rules 62-4.070(3) and 62-212.400(5) & (6), F.A.C.; and, 0310157-007-AC/PSD-FL-349]

B.1.a. 40 CFR 60, Subpart AAa, Standards of Performance for Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels, shall apply to the emissions units described herein.

b. 40 CFR 60, Subpart A, General Provisions, shall apply to the emissions units described herein. [Rule 62-204.800, F.A.C.; Rule 2.201, JEPB; and, 40 CFR 60, Subparts A and AAa]

B.2. The owner and operator shall abide by the scrap management plan attached to the permit (see Gerdau Ameristeel: Scrap Receiving Policy and Procedures). The owner or operator shall update this plan as necessary through the Title V air operation permit approval process.

[Rule 62-4.070(3), F.A.C.]

Essential Potential to Emit (PTE) Parameters.

B.3. The maximum heat inputs shall not exceed the following :

a. EAF: 34.6×10^6 Btu per hour firing natural gas.

b. LMF: 34.6×10^6 Btu per hour firing natural gas.

[Rules 62-210.200(PTE) and 62-212.400(5), F.A.C.; Rule 2.401, JEPB; and, 0310157-007-AC/PSD-FL-349]

B.4. Permitted Capacity. The production rates shall not exceed any of the following:

a. EAF:

1. 176 tons of raw materials (scrap steel, fluxes, alloys, etc.) per hour, maximum daily average;

2. 160 tons of tapped steel (liquid) per hour, maximum daily average.

3. 140 billet tons of tapped steel (liquid) per hour, maximum monthly average.

4. 1,192,800 tons of tapped steel (liquid) during any consecutive 12 months.

b. LMF:

1. 160 tons of tapped steel (liquid) per hour, maximum daily average.

[Rules 62-210.200(PTE) and 62-212.400(5), F.A.C.; Rule 2.401, JEPB; and, 0310157-007-AC/PSD-FL-349]

B.5. The allowable hours of operation shall not exceed the following:

a. EAF: 8,520 hours per year.

b. LMF: 8,520 hours per year.

[Rules 62-210.200(PTE) and 62-212.400(5), F.A.C.; Rule 2.401, JEPB; and, 0310157-007-AC/PSD-FL-349]

Emission Limitations and Standards.

B.6. Best Available Control Technology Determination.

The following table shows the BACT emission limits, control technology, and test methods determined by the Department for the new EAF and LMF operations:

Pollutant	Emission Limits ¹	Control Technology	Test Methods ^{2 and 3}
PM as PM/PM ₁₀	0.0018 gr/dscf	Direct-shell evacuation control (DEC) systems (fourth hole vent with O ₂); and, canopy hoods and new No. 5 baghouse control system	EPA Reference Method 5 40 CFR 60, Appendix A
NO _x	0.33 lb/ton tapped steel	Low-NO _x oxy-fuel sidewall burners (LNBs) and furnace pressure control (good combustion practices – low excess air by the DEC systems)	EPA Reference Method 7, 7A or 7E; 40 CFR 60, Appendix A
SO ₂	0.2 lb/ton tapped steel	Scrap management plan and supplemental firing of natural gas	EPA Reference Method 8 40 CFR 60, Appendix A
CO	2.0 lbs/ton tapped steel	DEC systems; and, proper design, operation and control of the combustion process	EPA Reference Method 10 40 CFR 60, Appendix A
VOCs	0.13 lb/ton tapped steel	DEC systems; proper design, operation and control of the combustion process; and, usage of a scrap management plan	EPA Reference Method 18, 25 or 25A 40 CFR 60, Appendix A
Visible Emissions	<3% Opacity: No. 5 baghouse control system <6% Opacity: Melt Shop Roof and Continuous Caster Building Roof	No. 5 baghouse control system and associated roof canopy hoods; and, usage of the associated DEC systems	EPA Reference Method 9 40 CFR 60, Appendix A
Visible Emissions	<10% Opacity: Miscellaneous pickup and transfer points along the dust-handling system for the No. 5 baghouse control system	No. 5 baghouse control system	EPA Reference Method 9 40 CFR 60, Appendix A

¹ Unless otherwise specified, the averaging time for each limit shall be in accordance with the test method.

² For the EAF and LMF operations, the sampling time and sample volume of each PM test run shall be at least 4 hours and 160 dscf, respectively, and the sampling time shall include an integral number of heats. Compliance with the CO standard shall be based on the average of three (3) 3-hour test runs.

[Rule 62-204.800, F.A.C., and 40 CFR 60.275a(e)(1)]

³ Compliance tests on the EAF and LMF operations shall be conducted at a minimum production rate of 144 tons per hour (TPH) tapped steel per Rules 62-297.310(2) & (2)(b), F.A.C. [160 TPH x 90% = 144 TPH tapped steel]

B.7. Particulate matter (PM/PM₁₀) emissions shall not exceed 0.0018 grains per dry standard cubic foot (gr/dscf), 12.88 lbs/hr, and 54.9 TPY from the combined operations of the EAF and LMF, including the dust-handling system, based on the average of three (3) test runs conducted in accordance with EPA Reference Method 5 (as described in 40 CFR 60, Appendix A) and consistent with the requirements of 40 CFR 60.275a(e)(1). (See specific condition **B.33.**)

[Rule 62-212.400(BACT), F.A.C.; Rule 2.401, JEPB; and, 0310157-007-AC/PSD-FL-349]

B.8. Visible Emissions (VE).

a. VE from the control device, the No. 5 baghouse control system, shall be less than 3 percent opacity.

[40 CFR 60.272a(a)(2); Rule 62-212.400(BACT), F.A.C.; Rule 2.401, JEPB; and, 0310157-007-AC/PSD-FL-349]

b. VE from any opening in the melt shop building or continuous caster building shall be less than 6 percent opacity.

[40 CFR 60.272a(a)(3); Rule 62-212.400(BACT), F.A.C.; Rule 2.401, JEPB; and, 0310157-007-AC/PSD-FL-349]

c. VE from any pickup points along the dust-handling system connected with the No. 5 baghouse control system shall be less than 10 percent opacity. Such points include the baghouse hoppers, enclosed screw conveyors or enclosed chain/paddle conveyors, dust silo building, and the enclosed loading building for the truck and rail load-out operations.
[40 CFR 60.272a(b); Rule 62-212.400(BACT), F.A.C.; Rule 2.401, JEPB; and, 0310157-007-AC/PSD-FL-349]

B.9. Carbon monoxide (CO) emissions shall not exceed 2.0 lbs/ton of steel, 320.0 pounds per hour, and 1,192.80 TPY from the combined operations of the EAF and LMF, based on the average of three (3) 3-hour test runs conducted in accordance with EPA Reference Method 10 (as described in 40 CFR 60, Appendix A).
[Rule 62-212.400(BACT), F.A.C.; Rule 2.401, JEPB; and, 0310157-007-AC/PSD-FL-349]

B.10. Nitrogen oxides (NO_x) emissions shall not exceed 0.33 lb/ton of steel, 52.8 lbs/hr, and 196.8 TPY from the combined operations of the EAF and LMF, based on the average of three (3) test runs conducted in accordance with EPA Reference Method 7, 7A or 7E (as described in 40 CFR 60, Appendix A).
[Rule 62-212.400(BACT), F.A.C.; Rule 2.401, JEPB; and, 0310157-007-AC/PSD-FL-349]

B.11. Volatile organic compounds (VOC) emissions shall not exceed 0.13 lb/ton of steel, 20.8 lbs/hr, and 77.5 TPY from the combined operations of the EAF and LMF, based on the average of three (3) test runs conducted in accordance with EPA Reference Method 18, 25, or 25A (as described in 40 CFR 60, Appendix A).
[Rule 62-212.400(1), F.A.C.; Rule 2.401, JEPB; and, 0310157-007-AC/PSD-FL-349]

B.12. Lead (Pb) emissions shall not exceed 0.00195 lb/ton of steel produced, 0.312 lb/hr, and 1.163 TPY from the combined operations of the EAF and LMF, based on the average of three (3) test runs conducted in accordance with EPA Reference Method 12 (as described in 40 CFR 60, Appendix A).
[Rules 62-4.070(3) and 62-212.400(1), (2)(d)4. and (2)(g) , F.A.C.; Rule 2.401, JEPB; and, 0310157-007-AC/PSD-FL-349]

Excess Emissions

B.13. Excess emissions resulting from startup, shutdown or malfunction of any emissions unit shall be permitted providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration.
[Rule 62-210.700(1), F.A.C.; and, Part III, Rule 2.301, JEPB]

B.14. Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown, or malfunction shall be prohibited.
[Rule 62-210.700(4), F.A.C.; and, Part III, Rule 2.301, JEPB]

Emissions Monitoring

B.15. Observations of the opacity of the visible emissions from the control device shall be performed by a certified visible emission observer in accordance with 40 CFR 60.273a(c). Visible emission observations shall be conducted at least once per day for at least three 6-minute periods when the furnace is operating in the melting and refining period. All visible emission observations shall be conducted in accordance with EPA Reference Method 9. If visible emissions occur from more than one point, the opacity shall be recorded for any points where visible emissions are observed. Where it is possible to determine that a number of visible emission sites relate to only one incident of the visible emission, only one set of three 6-minute observations will be required. In that case, the EPA Reference Method 9 observations must be made for the site of highest opacity that directly relates to the cause (or location) of visible emissions observed during a single incident. Records shall be maintained of any 6-minute average that is in excess of the emission limit specified in 40 CFR 60.272a(a). "Furnace" means the EAF (melting) and the LMF (refining).
[40 CFR 60.273a(c); and, Rule 2.201, JEPB]

B.16. A furnace static pressure monitoring device is not required on the EAF nor the LMF because each is equipped with a DEC system. Observations of shop opacity shall be performed by a certified visible emission observer as follows: Shop opacity observations shall be conducted at least once per day when the furnace is operating in the meltdown and refining period. Shop opacity shall be determined as the arithmetic average of 24 consecutive 15-second opacity observations of emissions from the shop taken in accordance with EPA Reference Method 9. Shop opacity shall be recorded for any point(s) where visible emissions are observed. Where it is possible to determine that a number of visible emission sites relate to only one incident of

visible emissions, only one observation of shop opacity will be required. In this case, the shop opacity observations must be made for the site of highest opacity that directly relates to the cause (or location) of visible emissions observed during a single incident. "Shop" shall include both the melt shop building and the continuous caster building; and, "furnace" means the EAF (melting) and the LMF (refining).
[40 CFR 60.273a(d); and, Rule 2.201, JEPB]

B.17. A bag leak detection system must be installed and continuously operated on the No. 5 Baghouse control system because the owner or operator elected not to install and operate a continuous opacity monitoring system as provided for under 40 CFR 60.273a(c). In addition, the owner or operator shall meet the visible emissions observation requirements in 40 CFR 60.273a(c) (see specific condition **B.15.**). The bag leak detection system must meet the specifications and requirements of 40 CFR 60.273a(e)(1) through (8).

- (1) The bag leak detection system must be certified by the manufacturer to be capable of detecting particulate matter emissions at concentrations of 1 milligram per actual cubic meter (0.00044 grains per actual cubic foot) or less.
 - (2) The bag leak detection system sensor must provide output of relative particulate matter loadings and the owner or operator shall continuously record the output from the bag leak detection system using electronic or other means (e.g., using a strip chart recorder or a data logger.)
 - (3) The bag leak detection system must be equipped with an alarm system that will sound when an increase in relative particulate loading is detected over the alarm set point established according to 40 CFR 60.273a(e)(4), and the alarm must be located such that it can be heard by the appropriate plant personnel.
 - (4) For each bag leak detection system required by 40 CFR 60.273a(e), the owner or operator shall develop and submit to the permitting authority, for approval, a site-specific monitoring plan that addresses the items identified in paragraphs (i) through (v) of 40 CFR 60.273a(e)(4). For each bag leak detection system that operates based on the triboelectric effect, the monitoring plan shall be consistent with the recommendations contained in the U.S. Environmental Protection Agency guidance document "Fabric Filter Bag Leak Detection Guidance" (EPA-454/R-98-015). The owner or operator shall operate and maintain the bag leak detection system according to the site-specific monitoring plan at all times. The plan shall describe the following:
 - (i) Installation of the bag leak detection system;
 - (ii) Initial and periodic adjustment of the bag leak detection system including how the alarm set-point will be established;
 - (iii) Operation of the bag leak detection system including quality assurance procedures;
 - (iv) How the bag leak detection system will be maintained including a routine maintenance schedule and spare parts inventory list; and,
 - (v) How the bag leak detection system output shall be recorded and stored.
 - (5) The initial adjustment of the system shall, at a minimum, consist of establishing the baseline output by adjusting the sensitivity (range) and the averaging period of the device, and establishing the alarm set points and the alarm delay time (if applicable).
 - (6) Following initial adjustment, the owner or operator shall not adjust the averaging period, alarm set point, or alarm delay time without approval from the permitting authority except as provided for in 40 CFR 60.273a(e)(6)(i) and (ii).
 - (i) Once per quarter, the owner or operator may adjust the sensitivity of the bag leak detection system to account for seasonal effects including temperature and humidity according to the procedures identified in the site-specific monitoring plan required under 40 CFR 60.273a(e)(4).
 - (ii) If opacities greater than zero percent are observed over four consecutive 15-second observations during the daily opacity observations required under 40 CFR 60.273a(c) and the alarm on the bag leak detection system does not sound, the owner or operator shall lower the alarm set point on the bag leak detection system to a point where the alarm would have sounded during the period when the opacity observations were made.
 - (7) For negative pressure, induced air baghouses, and positive pressure baghouses that are discharged to the atmosphere through a stack, the bag leak detection sensor must be installed downstream of the baghouse and upstream of any wet scrubber.
 - (8) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.
- [40 CFR 60.273a(e)(1) thru (8)]

B.18. For the bag leak detection system installed according to 40 CFR 60.273a(e), the owner or operator shall initiate procedures to determine the cause of all alarms within 1 hour of an alarm. Except as provided for under 40 CFR 60.273a(g), the cause of the alarm must be alleviated within 3 hours of the time the alarm occurred by taking whatever corrective action(s) are necessary. Corrective actions may include, but are not limited to, the following:

- (1) Inspecting the baghouse for air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in particulate emissions;
- (2) Sealing off defective bags or filter media;
- (3) Replacing defective bags or filter media or otherwise repairing the control device;

- (4) Sealing off a defective baghouse compartment;
 - (5) Cleaning the bag leak detection system probe or otherwise repairing the bag leak detection system; and,
 - (6) Shutting down the process producing the particulate emissions.
- [40 CFR 60.273a(f)]

B.19. In approving the site-specific monitoring plan required in 40 CFR 60.273a(e)(4), the compliance authority may allow owners or operators more than 3 hours to alleviate specific conditions that cause an alarm if the owner or operator identifies the condition that could lead to an alarm in the monitoring plan, adequately explains why it is not feasible to alleviate the condition within 3 hours of the time the alarm occurred, and demonstrates that the requested additional time will ensure alleviation of the condition as expeditiously as practicable.

[40 CFR 60.273a(g)]

Monitoring of Operations.

B.20. Determination of Process Variables.

(a) **Required Equipment.** The owner or operator of an emissions unit for which compliance tests are required shall install, operate, and maintain equipment or instruments necessary to determine process variables, such as process weight input or heat input, when such data are needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.

(b) **Accuracy of Equipment.** Equipment or instruments used to directly or indirectly determine process variables, including devices such as belt scales, weight hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value.

[Rule 62-297.310(5), F.A.C.; and, Part XI, Rule 2.1001, JEPB]

B.21. The owner or operator shall maintain records of the following information:

- (1) All data obtained under 40 CFR 60.274a(b); and,
 - (2) All monthly operational status inspections performed under 40 CFR 60.274a(c).
- [40 CFR 60.274a(a)]

B.22. Except as provided under 40 CFR 60.274a(e), the owner or operator shall check and record on a once-per-shift basis the furnace static pressure (if DEC system(s) is/are in use, and a furnace static pressure gauge is installed according to 40 CFR 60.274a(f)) and either: check and record the control system fan motor amperes and damper position on a once-per-shift basis; install, calibrate, and maintain a monitoring device that continuously records the volumetric flow rate through each separately ducted hood; or install, calibrate, and maintain a monitoring device that continuously records the volumetric flow rate at the control device inlet and check and record damper positions on a once-per-shift basis. The monitoring device(s) may be installed in any appropriate location in the exhaust duct such that reproducible flow rate monitoring will result. The flow rate monitoring device(s) shall have an accuracy of ± 10 percent over its normal operating range and shall be calibrated according to the manufacturer's instructions. The compliance authority may require the owner or operator to demonstrate the accuracy of the monitoring device(s) relative to EPA Reference Methods 1 and 2 of Appendix A, 40 CFR 60. "Furnace" means both the EAF and the LMF.

[40 CFR 60.274a(b)]

B.23. When the owner or operator of an affected facility is required to demonstrate compliance with the standards under 40 CFR 60.272a(a)(3) and at any other time that the compliance authority may require (under section 114 of the CAA, as amended) either: the control system fan motor amperes and all damper positions, the volumetric flow rate through each separately ducted hood, or the volumetric flow rate at the control device inlet and all damper positions shall be determined during all periods in which a hood is operated for the purpose of capturing emissions from the affected facility subject to 40 CFR 60.274a(b). The owner or operator may petition the permitting authority for reestablishment of these parameters whenever the owner or operator can demonstrate to the permitting authority's satisfaction that the affected facility operating conditions upon which the parameters were previously established are no longer applicable. The values of these parameters as determined during the most recent demonstration of compliance shall be maintained at the appropriate level for each applicable period. Operation at other than baseline values may be subject to the requirements of 40 CFR 60.276a(c).

[40 CFR 60.274a(c)]

B.24. Except as provided under 40 CFR 60.274a(e), the owner or operator shall perform monthly operational status inspections of the equipment that is important to the performance of the total capture system (i.e., pressure sensors, dampers, and damper switches). This inspection shall include observations of the physical appearance of the equipment (e.g., presence of holes in duct-work or hoods, flow constrictions caused by dents or accumulated dust in ductwork, and fan erosion). Any deficiencies shall be noted and proper maintenance performed.

[40 CFR 60.274a(d)]

B.25. The owner or operator may petition the permitting authority to approve any alternative to either the monitoring requirements specified in 40 CFR 60.274a(b) or the monthly operational status inspections specified in 40 CFR 60.274a(d) if the alternative will provide a continuous record of operation of each emission capture system.

[40 CFR 60.274a(e)]

B.26. Except as provided for under 40 CFR 60.273a(d), if emissions during any phase of the heat time are controlled by the use of a DEC system, the owner or operator shall install, calibrate, and maintain a monitoring device that allows the pressure in the free space inside the EAF and the LMF to be monitored. The pressure shall be recorded as 15-minute integrated averages. The monitoring device may be installed in any appropriate location in the EAF and the LMF or their DEC duct prior to the introduction of ambient air such that reproducible results will be obtained. The pressure monitoring device shall have an accuracy of ± 5 mm of water gauge over its normal operating range and shall be calibrated according to the manufacturer's instructions.

[40 CFR 60.274a(f)]

B.27. Except as provided for under 40 CFR 60.273a(d), when the owner or operator of an EAF and a LMF controlled by a DEC is required to demonstrate compliance with the standard under 40 CFR 60.272a(a)(3), and at any other time the Administrator may require (under section 114 of the Clean Air Act, as amended), the pressure in the free space inside the furnace shall be determined during the meltdown and refining period(s) using the monitoring device required under 40 CFR 60.274a(f). The owner or operator may petition the permitting authority for reestablishment of the pressure whenever the owner or operator can demonstrate to the permitting authority's satisfaction that the EAF and the LMF operating conditions upon which the pressures were previously established are no longer applicable. The pressure determined during the most recent demonstration of compliance shall be maintained at all times when the EAF and/or the LMF is operating in a meltdown and refining period. Operation at higher pressures may be considered by the compliance authority to be unacceptable operation and maintenance of the affected facility.

[40 CFR 60.274a(g)]

B.28. During any performance test required under 40 CFR 60.8, and for any report thereof required by 40 CFR 60.276a(f), or to determine compliance with 40 CFR 60.272a(a)(3), the owner or operator shall monitor the following information for all heats covered by the test:

(1) Charge weights and materials, and tap weights and materials;

(2) Heat times, including start and stop times, and a log of process operation, including periods of no operation during testing and the pressure inside an EAF and a LMF when direct-shell evacuation control systems are used;

(3) Control device operation log; and,

(4) Continuous opacity monitor or EPA Reference Method 9 data.

[40 CFR 60.274a(h)]

Test Methods and Procedures

B.29. During performance tests required in 40 CFR 60.8, the owner or operator shall not add gaseous diluents to the effluent gas stream after the fabric in any pressurized fabric filter collector, unless the amount of dilution is separately determined and considered in the determination of emissions.

[40 CFR 60.275a(a)]

B.30. When emissions from any EAF and/or LMF are combined with emissions from facilities not subject to the provisions of 40 CFR 60, Subpart AAa, but controlled by a common capture system and control device, the owner or operator shall use either or both of the following procedures during a performance test (see also 40 CFR 60.276a(e)):

- (1) Determine compliance using the combined emissions.
 - (2) Use a method that is acceptable to the Administrator and that compensates for the emissions from the facilities not subject to the provisions of 40 CFR 60, Subpart AAa.
- [40 CFR 60.275a(b)]

B.31. When emissions from any EAF and/or LMF are combined with emissions from facilities not subject to the provisions of 40 CFR 60, Subpart AAa, the owner or operator shall demonstrate compliance with 40 CFR 60.272(a)(3) based on emissions from only the affected facility(ies).

[40 CFR 60.275a(c)]

B.32. In conducting the performance tests required in 40 CFR 60.8, the owner or operator shall use as reference methods and procedures the test methods in Appendix A, 40 CFR 60, or other methods and procedures as specified in this section, except as provided in 40 CFR 60.8(b).

[40 CFR 60.275a(d)]

B.33. The owner or operator shall determine compliance with the particulate matter standards in 40 CFR 60.272a as follows:

- (1) EPA Reference Method 5 shall be used for negative-pressure fabric filters and other types of control devices and EPA Reference Method 5D shall be used for positive-pressure fabric filters to determine the particulate matter concentration and volumetric flow rate of the effluent gas. The sampling time and sample volume for each run shall be at least 4 hours and 4.50 dscm (160 dscf) and, when a single EAF and LMF are sampled, the sampling time shall include an integral number of heats.
- (3) Method 9 and the procedures of 40 CFR 60.11 shall be used to determine opacity.
- (4) To demonstrate compliance with 40 CFR 60.272a(a) (1), (2), and (3), the Method 9 test runs shall be conducted concurrently with the particulate matter test runs, unless inclement weather interferes.

[40 CFR 60.275a(e)(1), (3) and (4)]

B.34. To comply with 40 CFR 60.274a(c), (f), (g), and (h), the owner or operator shall obtain the information required in these paragraphs during the particulate matter runs. (see specific conditions **B.23.**, **B.26.**, **B.27.**, and **B.28.**, respectively)

[40 CFR 60.275a(f)]

B.35. Any control device subject to the provisions of 40 CFR 60, Subpart AAa, shall be designed and constructed to allow measurement of emissions using applicable test methods and procedures.

[40 CFR 60.275a(g)]

B.36. Where emissions from any EAF and/or LMF are combined with emissions from facilities not subject to the provisions of this subpart but controlled by a common capture system and control device, the owner or operator may use any of the following procedures during a performance test:

- (1) Base compliance on control of the combined emissions;
- (2) Utilize a method acceptable to the Administrator that compensates for the emissions from the facilities not subject to the provisions of 40 CFR 60, Subpart AAa, or;
- (3) Any combination of the criteria of 40 CFR 60.275a(h)(1) and (h)(2).

[40 CFR 60.275a(h)]

B.37. Where emissions from any EAF and/or LMF are combined with emissions from facilities not subject to the provisions of 40 CFR 60, Subpart AAa, determinations of compliance with 40 CFR 60.272a(a)(3) will only be based upon emissions originating from the affected facility(ies).

[40 CFR 60.275a(i)]

B.38. Unless the presence of inclement weather makes concurrent testing infeasible, the owner or operator shall conduct concurrently the performance tests required under 40 CFR 60.8 to demonstrate compliance with 40 CFR 60.272a(a)(1), (2), and (3) of 40 CFR 60, Subpart AAa.

[40 CFR 60.275a(j)]

B.39. PM. Testing for demonstration of compliance shall be performed in accordance with EPA Reference Method 5 (as described in 40 CFR 60, Appendix A) and 40 CFR 60.275a(e)(1) for PM. Tests shall be conducted initially and annually. (See specific condition **B.33.**)

[40 CFR 60.275(e)(1); Rules 62-212.400(BACT) and 62-297.310, F.A.C.; Rule 2.1101, JEPB; and, 0310157-007-AC/PSD-FL-349]

B.40. VE. Testing for demonstration of compliance shall be performed concurrently with the PM test in accordance with EPA Reference Method 9 (as described in 40 CFR 60, Appendix A) for the visual determination of opacity. (See specific condition **B.33.**)

[40 CFR 60.275(e)(4); Rule 62-297.310, F.A.C.; Rule 2.1101, JEPB; and, 0310157-007-AC/PSD-FL-349]

B.41. CO. Testing for demonstration of compliance shall be performed in accordance with EPA Reference Method 10 (as described in 40 CFR 60, Appendix A) for CO. Tests shall be conducted initially and annually.

[Rules 62-212.400(BACT) and 62-297.310, F.A.C.; Rule 2.1101, JEPB; and, 0310157-007-AC/PSD-FL-349]

B.42. NO_x. Testing for demonstration of compliance shall be performed in accordance with EPA Reference Method 7, 7A or 7E (as described in 40 CFR 60, Appendix A) for NO_x (as NO₂). Tests shall be conducted initially and annually.

[Rules 62-212.400(BACT) and 62-297.310, F.A.C.; Rule 2.1101, JEPB; and, 0310157-007-AC/PSD-FL-349]

B.43. VOC. Testing for demonstration of compliance shall be performed in accordance with EPA Reference Method 18, 25, or 25A (as described in 40 CFR 60, Appendix A) for VOC. Tests shall be conducted initially and annually.

[Rules 62-212.400(BACT) and 62-297.310, F.A.C.; Rule 2.1101, JEPB; and, 0310157-007-AC/PSD-FL-349]

B.44. Pb. Testing for demonstration of compliance shall be performed in accordance with EPA Reference Method 12 (as described in 40 CFR 60, Appendix A) for Pb. Tests shall be conducted initially and annually.

[Rules 62-212.400(2)(g) and 62-297.310, F.A.C.; Rule 2.1101, JEPB; and, 0310157-007-AC/PSD-FL-349]

B.45. Required Number of Test Runs. For mass emission limitations, a compliance test shall consist of three complete and separate determinations of the total air pollutant emission rate through the test section of the stack or duct and three complete and separate determinations of any applicable process variables corresponding to the three distinct time periods during which the stack emission rate was measured; provided however, that three complete and separate determinations shall not be required if the process variables are not subject to variation during a compliance test, or if three determinations are not necessary in order to calculate the unit's emission rate. The three required test runs shall be completed within one consecutive five day period. In the event that a sample is lost or one of the three runs must be discontinued because of circumstances beyond the control of the owner or operator, and a valid third run cannot be obtained within the five day period allowed for the test, the Secretary or his or her designee may accept the results of the two complete runs as proof of compliance, provided that the arithmetic mean of the results of the two complete runs is at least 20 percent below the allowable emission limiting standards. [Rule 62-297.310(1), F.A.C.; and, Part XI, Rule 2.1001, JEPB]

B.46. Operating Rate During Testing. Testing of emissions shall be conducted with the emissions unit operation at permitted capacity, which is defined as 90 to 100 percent of the maximum operation rate allowed by the permit. If it is impracticable to test at permitted capacity, an emissions unit may be tested at less than the minimum permitted capacity; in this case, subsequent emissions unit operation is limited to 110 percent of the test load until a new test is conducted. Once the emissions unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity.

[Rules 62-297.310(2) & (2)(b), F.A.C.; Rule 2.1301, JEPB; and, 0310157-007-AC/PSD-FL-349]

B.47. Calculation of Emission Rate. The indicated emission rate or concentration shall be the arithmetic average of the emission rate or concentration determined by each of the three separate test runs unless otherwise specified in a particular test method or applicable rule.

[Rule 62-297.310(3), F.A.C.; and, Part XI, Rule 2.1001, JEPB]

B.48. Applicable Test Procedures.

(a) Required Sampling Time.

1. Unless otherwise specified in the applicable rule, the required sampling time for each test run shall be no less than one hour and no greater than four hours, and the sampling time at each sampling point shall be of equal intervals of at least two minutes.
 2. Opacity Compliance Tests. When either EPA Method 9 or DEP Method 9 is specified as the applicable opacity test method, the required minimum period of observation for a compliance test shall be sixty (60) minutes for emissions units which emit or have the potential to emit 100 tons per year or more of particulate matter, and thirty (30) minutes for emissions units which have potential emissions less than 100 tons per year of particulate matter and are not subject to a multiple-valued opacity standard. The opacity test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur. Exceptions to these requirements are as follows:
 - a. For batch, cyclical processes, or other operations which are normally completed within less than the minimum observation period and do not recur within that time, the period of observation shall be equal to the duration of the batch cycle or operation completion time.
 - b. The observation period for special opacity tests that are conducted to provide data to establish a surrogate standard pursuant to Rule 62-297.310(5)(k), F.A.C., Waiver of Compliance Test Requirements, shall be established as necessary to properly establish the relationship between a proposed surrogate standard and an existing mass emission limiting standard.
 - c. The minimum observation period for opacity tests conducted by employees or agents of the Department to verify the day-to-day continuing compliance of a unit or activity with an applicable opacity standard shall be twelve minutes.
- (b) Minimum Sample Volume.** Unless otherwise specified in the applicable rule, the minimum sample volume per run shall be 25 dry standard cubic feet.
- (c) Required Flow Rate Range.** For EPA Method 5 particulate sampling, acid mist/sulfur dioxide, and fluoride sampling which uses Greenburg Smith type impingers, the sampling nozzle and sampling time shall be selected such that the average sampling rate will be between 0.5 and 1.0 actual cubic feet per minute, and the required minimum sampling volume will be obtained.
- (d) Calibration of Sampling Equipment.** Calibration of the sampling train equipment shall be conducted in accordance with the schedule shown in Table 297.310-1, attached as part of this permit.
- (e) Allowed Modification to EPA Method 5.** When EPA Method 5 is required, the following modification is allowed: the heated filter may be separated from the impingers by a flexible tube.
[Rule 62-297.310(4), F.A.C.; and, Part XI, Rule 2.1001, JEPB]

B.49. Required Stack Sampling Facilities. When a mass emissions stack test is required, the permittee shall comply with the requirements contained in Appendix SS-1, Stack Sampling Facilities, attached to this permit.
[Rule 62-297.310(6), F.A.C.; and, Part XI, Rule 2.1001, JEPB]

B.50. Frequency of Compliance Tests. The following provisions apply only to those emissions units that are subject to an emissions limiting standard for which compliance testing is required.

(a) General Compliance Testing.

2. For excess emission limitations for particulate matter specified in Rule 62-210.700, F.A.C., a compliance test shall be conducted annually while the emissions unit is operating under soot blowing conditions in each federal fiscal year during which soot blowing is part of normal emissions unit operation, except that such test shall not be required in any federal fiscal year in which a fossil fuel steam generator does not burn liquid fuel for more than 400 hours other than during startup.
3. The owner or operator of an emissions unit that is subject to any emission limiting standard shall conduct a compliance test that demonstrates compliance with the applicable emission limiting standard prior to obtaining a renewed operation permit. Emissions units that are required to conduct an annual compliance test may submit the most recent annual compliance test to satisfy the requirements of this provision. In renewing an air operation permit pursuant to Rule 62-210.300(2)(a)3.b., c., or d., F.A.C., the permitting authority shall not require submission of emission compliance test results for any emissions unit that, during the year prior to renewal:
 - a. Did not operate; or
 - b. In the case of a fuel burning emissions unit, burned liquid fuel for a total of no more than 400 hours.
4. During each federal fiscal year (October 1– September 30), unless otherwise specified by rule, order, or permit, the owner or operator of each emissions unit shall have a formal compliance test conducted for:
 - a. Visible emissions, if there is an applicable standard;

- b. Each of the following pollutants, if there is an applicable standard, and if the emissions unit emits or has the potential to emit: 5 tons per year or more of lead or lead compounds measured as elemental lead; 30 tons per year or more of acrylonitrile; or 100 tons per year or more of any other regulated air pollutant; and
- c. Each NESHAP pollutant, if there is an applicable emission standard.

5. An annual compliance test for particulate matter emissions shall not be required for any fuel burning emissions unit that, in a federal fiscal year, does not burn liquid and/or solid fuel, other than during startup, for a total of more than 400 hours.

9. The owner or operator shall notify the ERMD-EQD and DEP-NED, at least 30 days prior to the initial NSPS performance test and 15 days prior to the date on which each subsequent formal compliance test is to begin, of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted for the owner or operator.

(b) Special Compliance Tests. When the ERMD-EQD or DEP-NED, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in a Department rule or in a permit issued pursuant to those rules is being violated, it may require the owner or operator of the emissions unit to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions unit and to provide a report on the results of said tests to the ERMD-EQD and DEP-NED.
[Rule 62-297.310(7), F.A.C.; Part XI, Rule 2.1101, JEPB; 40 CFR 60.8; and, SIP approved]

Recordkeeping and Reporting Requirements

B.51. Records of the measurements required in 40 CFR 60.274a must be retained for at least 5 years following the date of the measurement.

[40 CFR 60.276a(a); Rule 62-213.440(1)(b), F.A.C.; and, Rule 2.501, JEPB]

B.52. Each owner or operator shall submit a written report of exceedances of the control device opacity to the compliance authority semi-annually. For the purposes of these reports, exceedances are defined as all 6-minute periods during which the average opacity is 3 percent or greater.

[40 CFR 60.276a(b)]

B.53. Operation at a furnace static pressure that exceeds the value established under 40 CFR 60.274a(g) and either operation of control system fan motor amperes at values exceeding ± 15 percent of the value established under 40 CFR 60.274a(c) or operation at flow rates lower than those established under 40 CFR 60.274a(c) may be considered by the compliance authority to be unacceptable operation and maintenance of the affected facility. Operation at such values shall be reported to the compliance authority semiannually.

[40 CFR 60.276a(c)]

B.54. The requirements of 40 CFR 60.276a remain in force until and unless EPA, in delegating enforcement authority to a State under section 111(c) of the Act, approves reporting requirements or an alternative means of compliance surveillance adopted by such State. In that event, affected sources within the State will be relieved of the obligation to comply with this section, provided that they comply with the requirements established by the State.

[40 CFR 60.276a(d)]

B.55. When the owner or operator of an EAF and/or LMF are required to demonstrate compliance with the standard under 40 CFR 60.275a(b)(2) or a combination of (b)(1) and (b)(2), the owner or operator shall obtain approval from the permitting authority of the procedure(s) that will be used to determine compliance. Notification of the procedure(s) to be used must be postmarked at least 30 days prior to the performance test.

[40 CFR 60.276a(e)]

B.56. For the purpose of this subpart, the owner or operator shall conduct the demonstration of compliance with 40 CFR 60.272a(a) of this subpart and furnish the compliance authority a written report of the results of the test. This report shall include the following information:

- (1) Facility name and address;
- (2) Plant representative;
- (3) Make and model of process, control device, and continuous monitoring equipment;
- (4) Flow diagram of process and emission capture equipment including other equipment or process(es) ducted to the same control device;
- (5) Rated (design) capacity of process equipment;

- (6) Those data required under § 60.274a(h) of this subpart;
 - (i) List of charge and tap weights and materials;
 - (ii) Heat times and process log;
 - (iii) Control device operation log; and
 - (iv) Continuous monitor or Reference Method 9 data.
 - (7) Test dates and test times;
 - (8) Test company;
 - (9) Test company representative;
 - (10) Test observers from outside agency;
 - (11) Description of test methodology used, including any deviation from standard reference methods;
 - (12) Schematic of sampling location;
 - (13) Number of sampling points;
 - (14) Description of sampling equipment;
 - (15) Listing of sampling equipment calibrations and procedures;
 - (16) Field and laboratory data sheets;
 - (17) Description of sample recovery procedures;
 - (18) Sampling equipment leak check results;
 - (19) Description of quality assurance procedures;
 - (20) Description of analytical procedures;
 - (21) Notation of sample blank corrections; and,
 - (22) Sample emission calculations.
- [40 CFR 60.276a(f)]

B.57. The owner or operator shall maintain records of all shop (melt shop and continuous caster buildings) opacity observations made in accordance with 40 CFR 60.273a(d). All shop (melt shop roof and continuous caster building roof) opacity observations in excess of the emission limit specified in 40 CFR 60.272a(a)(3) of 40 CFR 60, Subpart AAa, shall indicate a period of excess emission, and shall be reported to the compliance authority semi-annually, according to 40 CFR 60.7(c).

[40 CFR 60.276a(g)]

B.58. The owner or operator shall maintain the following records for each bag leak detection system required under 40 CFR 60.273a(e):

- (1) Records of the bag leak detection system output;
- (2) Records of bag leak detection system adjustments, including the date and time of the adjustment, the initial bag leak detection system settings, and the final bag leak detection system settings; and,
- (3) An identification of the date and time of all bag leak detection system alarms, the time that procedures to determine the cause of the alarm were initiated, if procedures were initiated within 1 hour of the alarm, the cause of the alarm, an explanation of the actions taken, the date and time the cause of the alarm was alleviated, and if the alarm was alleviated within 3 hours of the alarm.

[40 CFR 60.276a(h)]

B.59. The owner or operator shall keep records of steel production to demonstrate compliance with the steel production capacities specified in this permit.

[Rule 62-4.070(3), F.A.C.]

C. BRF (Billet Reheat Furnace). Rebar Mill BRF: Emissions Unit No. 009 and Wire/Rod Mill BRF: Emissions Unit No. 011.

Emissions Unit Descriptions: The facility processes steel billets into steel rebar, wire and rod. This is accomplished by reheating the steel billets that are either imported and/or produced by the continuous caster in the Rebar Mill BRF and processing them through various rolling and wire machines in the rolling and wire mills.

EU-009 The new Rebar Mill BRF (EU-009) will be located immediately south and east of the existing furnace and its stack will be located east of the rolling mill building. The production limits are the same as the new EAF/LMF as follows:

- 160 billet tons of steel per hour, maximum daily average;
- 1,192,800 billet tons of steel per consecutive 12-months; and,
- 8,520 hours per year operation.

EU-011 The proposed new Wire/Rod Mill BRF (EU-011) will be located approximately 150 feet southwest of the new Rebar Mill BRF (EU-009) and north of the new Melt Shop building. The production limits of the new Wire/Rod Mill BRF are:

- 160 billet tons of steel per hour, maximum daily average; and,
- 500,000 billet tons of steel per consecutive 12-months.

For the new Wire/Rod Mill BRF, the above production rates may be in addition to the maximum production rates of the EAF/LMF operation due to stored inventory and imported billets delivered to the plant.

Emissions Control: Proper engineering design; firing of natural gas; low-NO_x burners (LNBs); low excess air; good combustion practice, including control of combustion air and temperature, and the firing of natural gas.

Billet: means a semi-finished bar of steel nearly square in section made from the continuous caster operation or imported.

The following specific conditions apply to the emissions unit above.

General.

C.0. Post-Construction.

a. Rebar Mill BRF. The installation of a new Billet Reheat Furnace (BRF), designated now as the "Rebar Mill BRF", was authorized in air construction permit, No. 0310157-007-AC/PSD-FL-349, issued September 21, 2005. The construction shall be in accordance with the application and associated documents provided to the Permitting Authority for the issuance of that Previously issued permit. Any changes to the project that are contrary to those documents and permit shall be reported in writing to the Permitting Authority by the P.E. of Record.

[Rules 62-4.070(3) and 62-4.160(2), F.A.C.; and, 0310157-007-AC/PSD-FL-349]

b. Wire/Rod Mill BRF. This permit authorizes the installation of a Wire/Rod Mill BRF. The construction shall be in accordance with the application and associated documents provided to the Permitting Authority for the issuance of this permit. Any changes to the project that are contrary to those documents and permit shall be reported in writing to the Permitting Authority by the P.E. of Record.

[Rules 62-4.070(3) and 62-4.160(2), F.A.C.; and, 0310157-008-AC/PSD-FL-349A]

Essential Potential to Emit (PTE) Parameters.

C.1. Heat Input While Firing Natural Gas.

a. Rebar Mill BRF and Wire/Rod Mill BRF: The maximum heat input shall not exceed 222.0 x MMBtu per hour.

b. Wire/Rod Mill BRF: The total heat input shall not exceed 792,857 MMBtu per consecutive 12-months (778 MMcu ft per consecutive 12-months @ 1,019 Btu/cu ft).

[Rule 62-212.400(5), F.A.C.; Rule 2.401, JEPB; 0310157-007-AC/PSD-FL-349; and, 0310157-008-AC/PSD-FL-349A]

C.2. Steel processing throughput shall not exceed any of the following:

- a. Rebar Mill BRF: 160 billet tons of steel per hour (maximum daily average).
- b. Rebar Mill BRF: 1,192,800 billet tons of steel per consecutive 12-months.
[Rule 62-212.400(5), F.A.C.; Rule 2.401, JEPB; and, 0310157-007-AC/PSD-FL-349]
- c. Wire/Rod Mill BRF: 160 billet tons of steel per hour (maximum daily average).
- d. Wire/Rod Mill BRF: 500,000 billet tons of steel per consecutive 12-months.
[Rule 62-212.400(5), F.A.C.; Rule 2.401, JEPB; and, 0310157-008-AC/PSD-FL-349A]

C.3. The hours of operation shall not exceed:

- a. Rebar Mill BRF: 8,520 hours per year.
[Rule 62-212.400(5), F.A.C.; Rule 2.401, JEPB; and, 0310157-007-AC/PSD-FL-349]
- b. Wire/Rod Mill BRF: not restricted.
[Rule 62-212.400(5), F.A.C.; Rule 2.401, JEPB; and, 0310157-008-AC/PSD-FL-349A]

Emission Limitations and Standards

C.4. Best Available Control Technology Determination.

The following table shows the BACT emission limits, control technology, and test methods determined by the Department for the Rebar Mill BRF operations and the Wire/Rod Mill BRF operations:

Pollutant	Emission Limits ¹	Control Technology	Test Methods ²
PM as PM/PM ₁₀	--	Firing natural gas	--
NO _x	0.08 lb/MMBtu	Low-NO _x burners (LNBs); and, good combustion practices and low excess air	EPA Reference Method 7, 7A or 7E; 40 CFR 60, Appendix A
SO ₂	--	Firing natural gas	--
CO	0.035 lb/MMBtu	Proper furnace design and good combustion practices, including control of combustion air and temperature	EPA Reference Method 10 40 CFR 60, Appendix A
VOCs	--	Firing natural gas; and, proper furnace design and good combustion practices, including control of combustion air and temperature	--
Visible Emissions	≤10% opacity, except for one 6-min period per hour in which the opacity shall not exceed 20%	Firing natural gas	EPA Reference Method 9 40 CFR 60, Appendix A

¹ The averaging time for each limit shall be in accordance with the test method.

² Compliance tests on each BRF operation shall be conducted at a minimum rate of 144 billet tons per hour (BTPH) per Rules 62-297.310(2) & (2)(b), F.A.C. [160 BTPH x 90% = 144 BTPH].
[Rules 62-4.070(3) and 62-212.400(PSD NSR & BACT), F.A.C.; 0310157-007-AC/PSD-FL-349; and, 0310157-008-AC/PSD-FL-349A]

C.5. PM/PM₁₀, SO₂ and VOC. Emissions shall be limited by firing natural gas.

[Rule 62-212.400(BACT), F.A.C.; Rule 2.401, JEPB; 0310157-007-AC/PSD-FL-349; and, 0310157-008-AC/PSD-FL-349A]

C.6. VE. VE shall not exceed 10 percent opacity, except for one 6-minute period per hour during which the opacity shall not exceed 20 percent.

[Rule 62-212.400(BACT), F.A.C.; Rule 2.401, JEPB; 0310157-007-AC/PSD-FL-349; and, 0310157-008-AC/PSD-FL-349A]

C.7. CO. CO emissions shall not exceed:

- a. Rebar Mill BRF: 0.035 lb/MMBtu, 7.77 lbs/hr, and 33.02 TPY, based on the average of three (3) test runs conducted in accordance with EPA Reference Method 10 (as described in 40 CFR 60, Appendix A).
[Rule 62-212.400(BACT), F.A.C.; Rule 2.401, JEPB; 0310157-007-AC/PSD-FL-349; and, 0310157-008-AC/PSD-FL-349A]
- b. Wire/Rod Mill BRF: 0.035 lb/MMBtu, 7.77 lbs/hr, and 13.9 TPY, based on the average of three (3) test runs conducted in accordance with EPA Reference Method 10 (as described in 40 CFR 60, Appendix A).
[Rule 62-210.200(Definitions - BACT), F.A.C.; Rule 2.401, JEPB; and, 0310157-008-AC/PSD-FL-349A]

C.8. NO_x. NO_x emissions shall not exceed:

- a. Rebar Mill BRF: 0.08 lb/MMBtu, 17.76 lbs/hr, and 75.7 TPY, based on the average of three (3) test runs conducted in accordance with EPA Reference Method 7, 7A or 7E (as described in 40 CFR 60, Appendix A).
[Rule 62-212.400(BACT), F.A.C.; Rule 2.401, JEPB; and, 0310157-007-AC/PSD-FL-349]
- b. Wire/Rod Mill BRF: 0.08 lb/MMBtu, 17.76 lbs/hr, and 31.7 TPY, based on the average of three (3) test runs conducted in accordance with EPA Reference Method 7, 7A or 7E (as described in 40 CFR 60, Appendix A).
[Rule 62-210.200(Definitions - BACT), F.A.C.; Rule 2.401, JEPB; and, 0310157-008-AC/PSD-FL-349A]

Excess Emissions

C.9. Excess emissions resulting from startup, shutdown or malfunction of any emissions unit shall be permitted providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration.
[Rule 62-210.700(1), F.A.C.; and, Part III, Rule 2.301, JEPB]

C.10. Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown, or malfunction shall be prohibited.
[Rule 62-210.700(4), F.A.C.; and, Part III, Rule 2.301, JEPB]

Monitoring of Operations.

C.11. Determination of Process Variables.

- (a) Required Equipment. The owner or operator of an emissions unit for which compliance tests are required shall install, operate, and maintain equipment or instruments necessary to determine process variables, such as process weight input or heat input, when such data are needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.
- (b) Accuracy of Equipment. Equipment or instruments used to directly or indirectly determine process variables, including devices such as belt scales, weight hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value.
[Rule 62-297.310(5), F.A.C.; and, Part XI, Rule 2.1001, JEPB]

Test Methods and Procedures

C.12. VE. Testing for demonstration of compliance shall be performed in accordance with EPA Reference Method 9 (as described in 40 CFR 60, Appendix A) for the visual determination of opacity. Tests shall be conducted initially and annually.
[40 CFR 60.275(e); Rule 62-297.310, F.A.C.; Rule 2.1101, JEPB; 0310157-007-AC/PSD-FL-349; and, 0310157-008-AC/PSD-FL-349A]

C.13. CO. Testing for demonstration of compliance shall be performed in accordance with EPA Reference Method 10 (as described in 40 CFR 60, Appendix A) for CO. Tests shall be conducted initially and upon renewal.
[40 CFR 60.275(e); Rule 62-297.310, F.A.C.; Rule 2.1101, JEPB; 0310157-007-AC/PSD-FL-349; and, 0310157-008-AC/PSD-FL-349A]

C.14. NO_x. Testing for demonstration of compliance shall be performed in accordance with EPA Reference Method 7, 7A or 7E (as described in 40 CFR 60, Appendix A) for NO_x. Tests shall be conducted initially and upon renewal.
[40 CFR 60.275(e); Rule 62-297.310, F.A.C.; Rule 2.1101, JEPB; 0310157-007-AC/PSD-FL-349; and, 0310157-008-AC/PSD-FL-349A]

C.15. Required Number of Test Runs. For mass emission limitations, a compliance test shall consist of three complete and separate determinations of the total air pollutant emission rate through the test section of the stack or duct and three complete and separate determinations of any applicable process variables corresponding to the three distinct time periods during which the stack emission rate was measured; provided however, that three complete and separate determinations shall not be required if the process variables are not subject to variation during a compliance test, or if three determinations are not necessary in order to calculate the unit's emission rate. The three required test runs shall be completed within one consecutive five day period. In the event that a sample is lost or one of the three runs must be discontinued because of circumstances beyond the control of the owner or operator, and a valid third run cannot be obtained within the five day period allowed for the test, the Secretary or his or her designee may accept the results of the two complete runs as proof of compliance, provided that the arithmetic mean of the results of the two complete runs is at least 20 percent below the allowable emission limiting standards.
[Rule 62-297.310(1), F.A.C.; and, Part XI, Rule 2.1001, JEPB]

C.16. Operating Rate During Testing. Testing of emissions shall be conducted with the emissions unit operation at permitted capacity, which is defined as 90 to 100 percent of the maximum operation rate allowed by the permit. If it is impracticable to test at permitted capacity, an emissions unit may be tested at less than the minimum permitted capacity; in this case, subsequent emissions unit operation is limited to 110 percent of the test load until a new test is conducted. Once the emissions unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity.
[Rules 62-297.310(2) & (2)(b), F.A.C.; Rule 2.1301, JEPB; and, 0310157-007-AC/PSD-FL-349]

C.17. Calculation of Emission Rate. The indicated emission rate or concentration shall be the arithmetic average of the emission rate or concentration determined by each of the three separate test runs unless otherwise specified in a particular test method or applicable rule.
[Rule 62-297.310(3), F.A.C.; and, Part XI, Rule 2.1001, JEPB]

C.18. Applicable Test Procedures.

(a) Required Sampling Time.

1. Unless otherwise specified in the applicable rule, the required sampling time for each test run shall be no less than one hour and no greater than four hours, and the sampling time at each sampling point shall be of equal intervals of at least two minutes.
2. **Opacity Compliance Tests.** When either EPA Method 9 or DEP Method 9 is specified as the applicable opacity test method, the required minimum period of observation for a compliance test shall be sixty (60) minutes for emissions units which emit or have the potential to emit 100 tons per year or more of particulate matter, and thirty (30) minutes for emissions units which have potential emissions less than 100 tons per year of particulate matter and are not subject to a multiple-valued opacity standard. The opacity test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur. Exceptions to these requirements are as follows:
 - a. For batch, cyclical processes, or other operations which are normally completed within less than the minimum observation period and do not recur within that time, the period of observation shall be equal to the duration of the batch cycle or operation completion time.
 - b. The observation period for special opacity tests that are conducted to provide data to establish a surrogate standard pursuant to Rule 62-297.310(5)(k), F.A.C., Waiver of Compliance Test Requirements, shall be established as necessary to properly establish the relationship between a proposed surrogate standard and an existing mass emission limiting standard.
 - c. The minimum observation period for opacity tests conducted by employees or agents of the Department to verify the day-to-day continuing compliance of a unit or activity with an applicable opacity standard shall be twelve minutes.

(b) Minimum Sample Volume. Unless otherwise specified in the applicable rule, the minimum sample volume per run shall be 25 dry standard cubic feet.

(c) Required Flow Rate Range. For EPA Method 5 particulate sampling, acid mist/sulfur dioxide, and fluoride sampling which uses Greenburg Smith type impingers, the sampling nozzle and sampling time shall be selected such that the average sampling rate will be between 0.5 and 1.0 actual cubic feet per minute, and the required minimum sampling volume will be obtained.

(d) Calibration of Sampling Equipment. Calibration of the sampling train equipment shall be conducted in accordance with the schedule shown in Table 297.310-1, attached as part of this permit.

(e) Allowed Modification to EPA Method 5. When EPA Method 5 is required, the following modification is allowed: the heated filter may be separated from the impingers by a flexible tube.

[Rule 62-297.310(4), F.A.C.; and, Part XI, Rule 2.1001, JEPB]

C.19. Required Stack Sampling Facilities. When a mass emissions stack test is required, the permittee shall comply with the requirements contained in Appendix SS-1, Stack Sampling Facilities, attached to this permit.

[Rule 62-297.310(6), F.A.C.; and, Part XI, Rule 2.1001, JEPB]

C.20. Frequency of Compliance Tests. The following provisions apply only to those emissions units that are subject to an emissions limiting standard for which compliance testing is required.

(a) General Compliance Testing.

2. For excess emission limitations for particulate matter specified in Rule 62-210.700, F.A.C., a compliance test shall be conducted annually while the emissions unit is operating under soot blowing conditions in each federal fiscal year during which soot blowing is part of normal emissions unit operation, except that such test shall not be required in any federal fiscal year in which a fossil fuel steam generator does not burn liquid fuel for more than 400 hours other than during startup.

3. The owner or operator of an emissions unit that is subject to any emission limiting standard shall conduct a compliance test that demonstrates compliance with the applicable emission limiting standard prior to obtaining a renewed operation permit. Emissions units that are required to conduct an annual compliance test may submit the most recent annual compliance test to satisfy the requirements of this provision. In renewing an air operation permit pursuant to Rule 62-210.300(2)(a)3.b., c., or d., F.A.C., the permitting authority shall not require submission of emission compliance test results for any emissions unit that, during the year prior to renewal:

a. Did not operate; or

b. In the case of a fuel burning emissions unit, burned liquid fuel for a total of no more than 400 hours.

4. During each federal fiscal year (October 1-- September 30), unless otherwise specified by rule, order, or permit, the owner or operator of each emissions unit shall have a formal compliance test conducted for:

a. Visible emissions, if there is an applicable standard;

b. Each of the following pollutants, if there is an applicable standard, and if the emissions unit emits or has the potential to emit: 5 tons per year or more of lead or lead compounds measured as elemental lead; 30 tons per year or more of acrylonitrile; or 100 tons per year or more of any other regulated air pollutant; and

c. Each NESHAP pollutant, if there is an applicable emission standard.

5. An annual compliance test for particulate matter emissions shall not be required for any fuel burning emissions unit that, in a federal fiscal year, does not burn liquid and/or solid fuel, other than during startup, for a total of more than 400 hours.

9. The owner or operator shall notify the ERMD-EQD and DEP-NED, at least 30 days prior to the initial NSPS performance test and 15 days prior to the date on which each subsequent formal compliance test is to begin, of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted for the owner or operator.

(b) Special Compliance Tests. When the ERMD-EQD or DEP-NED, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in a Department rule or in a permit issued pursuant to those rules is being violated, it may require the owner or operator of the emissions unit to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions unit and to provide a report on the results of said tests to the ERMD-EQD and DEP-NED.

[Rule 62-297.310(7), F.A.C.; Part XI, Rule 2.1101, JEPB; 40 CFR 60.8; and, SIP approved]

Recordkeeping and Reporting Requirements

C.21. Monthly records shall be maintained for the following:

a. Rebar Mill BRF and Wire/Rod Mill BRF: Billet tons of steel processed per month.

b. Rebar Mill BRF: Hours of operation.

c. Wire/Rod Mill BRF: Cubic feet of natural gas fired.

[Rule 62-212.400(5), F.A.C.; Rule 2.401, JEPB; 0310157-007-AC/PSD-FL-349; and, 0310157-008-AC/PSD-FL-349A]

C.22. Records shall be maintained for a minimum of five (5) years and made available to the Department upon request.

[Rule 62-213.440(1)(b), F.A.C.; Rule 2.501, JEPB; 0310157-007-AC/PSD-FL-349; and, 0310157-008-AC/PSD-FL-349A]

P.E. CERTIFICATION STATEMENT

APPLICANT

Gerdau Ameristeel
16770 Rebar Road
Baldwin, Florida 32234

Project No. 0310157-008-AC
Permit No. PSD-FL-349A
Jacksonville Steel Mill
Proposed New Wire/Rod BRF
Duval County, Florida

PROJECT DESCRIPTION

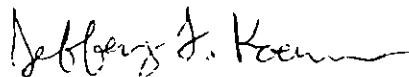
Gerdau Ameristeel operates the existing Jacksonville Steel Mill (SIC No. 3390), which is located at 16770 Rebar Road in Baldwin, Duval County, Florida. The plant is a secondary metal production facility that recycles scrap iron and steel. On February 3, 2006, the applicant applied for an air construction permit to: add a new gas-fired billet reheat furnace (BRF) to serve the existing wire/rod mill at the steel mill; associate the previously permitted BRF with the rebar mill; and, correct the testing rate and carbon monoxide hourly emission rate for the rebar mill BRF. Only the new wire/rod BRF and identified corrections are subject to review. This will be a revision of the previously issued air construction Permit No. 0310157-007-AC/PSD-FL-349, which authorized a production increase and installation of the following equipment: a new melt shop; a new continuous caster building; and a new billet reheat furnace (BRF).

The facility is located in Duval County, which is an area that is currently in attainment with (or designated as unclassifiable for) all pollutants subject to state and federal Ambient Air Quality Standards. The existing plant is a major facility with respect to the Prevention of Significant Deterioration (PSD) of Air Quality as defined in Rules 62-210.200(Definitions) and 62-212.400(PSD), F.A.C. The proposed project is subject to an applicability analysis for PSD preconstruction review.

The proposed new BRF will fire natural gas as the exclusive fuel. Based on the application, potential annual emissions from the proposed BRF in terms of "tons per year" (TPY) will be: 14 TPY of carbon monoxide (CO); 32 TPY of nitrogen oxides (NO_x); 3 TPY of particulate matter (PM/PM₁₀); 0.2 TPY of sulfur dioxide (SO₂); and 2 TPY of volatile organic compounds (VOC). However, due to the timing of the projects, the current project is considered a revision to previous Permit No. 0310157-007-AC/PSD-FL-349, which was subject to PSD preconstruction review for CO, NO_x, PM/PM₁₀, SO₂, and VOC emissions. When aggregated with the original project, the current project is subject to PSD preconstruction review for these pollutants as well. Each PSD-significant pollutant requires a determination of the Best Available Control Technology (BACT).

The proposed draft permit includes the following preliminary BACT determinations for the new BRF. CO, PM/PM₁₀, and VOC emissions will be minimized by the proper furnace design and efficient combustion of natural gas. SO₂ emissions will be minimized by the firing of natural gas, which contains nearly negligible amount of sulfur. NO_x emissions will be minimized by the installation of low-NO_x burners and good combustion practices.

***I HEREBY CERTIFY** that the air pollution control engineering features described in the above referenced application and subject to the proposed permit conditions provide reasonable assurance of compliance with applicable provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 62-4 and 62-204 through 62-297. However, I have not evaluated and I do not certify aspects of the proposal outside of my area of expertise (including, but not limited to, the electrical, mechanical, structural, hydrological, geological, and meteorological features).*



Jeffery F. Koerner, P.E.
Registration No. 49441

3-14-06

(Date)

■ Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. Donald R. Shumake
Vice President/General Manager
Gerdau Ameristeel
Jacksonville Steel Mill
16770 Rebar Road
Baldwin, Florida 32234

Harry Ervin 2/20/00
D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type

☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number

(Transfer from service label)

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Mr. Donald R. Shumake
Vice President/General Manager
Gerdau Ameristeel
Jacksonville Steel Mill
16770 Rebar Road
Baldwin, Florida 32234

PS Form 3800, May 2000

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