

STATEMENT OF BASIS
Addendum to TITLE V PERMIT – Significant Modification #2

Facility Name: Gerdau AmeriSteel US Inc.

City: Jackson

County: Madison

Date Application Received: June 15, 2018

Date Application Deemed Complete: June 15, 2018
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Emission Source Reference Number: 57-0189
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Permit Number: 574449

INTRODUCTION

This narrative is being provided to assist the reader in understanding the content of the attached Title V operating permit. This Title V Permit Statement is written pursuant to Tennessee Air Pollution Control Rule 1200-03-09-.02(11)(f)1.(v). The primary purpose of the Title V operating permit is to consolidate and identify existing state and federal air requirements applicable to Gerdau AmeriSteel and to provide practical methods for determining compliance with these requirements. The following narrative is designed to accompany the Title V Operating Permit. It initially describes the facility receiving the permit, then the applicable requirements and their significance, and finally the compliance status with those applicable requirements. This narrative is intended only as an adjunct for the reviewer and has no legal standing. Any revisions made to the permit in response to comments received during the public participation process will be described in an addendum to this narrative.

Acronyms

PSD - Prevention of Significant Deterioration

NESHAP - National Emission Standards for Hazardous Air Pollutants

NSPS - New Source Performance Standards

MACT - Maximum Achievable Control Technology

NSR - New Source Review

I. Identification Information

A. Source Description

The facility is a steel scrap recycling mill. The process operation consists of 1) steel scrap shredder followed by ferrous and non-ferrous separation with four sorting hubs; 2) electric arc furnace; 3) preheaters, 4) reheat furnace and 5) product straightener process line. The following table includes a description of each emission source.

Emission Source Reference Number	Source Description
57-0189-01	One (1) electrically powered scrap steel shredder with ferrous and non-ferrous separation (including four (4) non-ferrous separation hubs). Ferrous and non-ferrous metals as well as Auto Shredder Residue (ASR) are separated by various methods including magnetic separation. Emissions from the separation of ASR are controlled with a cyclone (SHRED1). Non-ferrous Separation System - Non-ferrous material handling and separation processes that receive shredded material from the outlet of the existing scrap shredder, direct non-ferrous materials to the new sorting hubs. The shredded metal infeed to the hubs will come from the existing steel scrap shredder or other steel scrap providers and an on-site landfill. The sorted product will initially be stored in piles of uniformly sized materials and then will either be used in the existing steel melting process or be shipped offsite to customers. Source includes four (4) stand-alone sorting hubs (Steps 10, 11, 12, 15) with conveyor belts, separators, and destoners to separate miscellaneous metals including ferrous materials, ICW (insulated copper wire), copper, Zurik (primarily stainless steel), Zorba (primarily Al) and non-ferrous microfines. A shared cyclone and baghouse system (BH1) controls particulate matter emissions from the destoners on Steps 11 and 15 (Sorting Hubs 11 and 15).
57-0189-02	One Electric Arc Steel Melting Furnace (EAF) with Continuous Caster, EAF dust silo and lime storage with baghouse controls. The EAF has six (6) oxy-fuel burners with a total maximum rated heat capacity of 54,000,000 Btu per hour. The EAF uses a mixture of natural gas and oxygen as a supplemental fuel to the electric supply. The EAF particulate matter emissions are controlled by a direct evacuation control system and a canopy hood evacuation system. EAF dust is collected in a baghouse and stored in a silo, which has an additional baghouse. Lime storage silos are controlled by a baghouse.
57-0189-03	Nine preheaters with a total maximum heat input capacity of 48,000,000 BTU per hour, using natural gas as fuel. Fuel burning sources include three (3) ladle preheaters with low NOx burners, 10 MMBtu/hour each; two (2) tundish preheaters, 4.4 MMBtu/hour each; one ladle dryout heater, 6.2 MMBtu/hour; and one ladle cover dryout heater, one tundish dryout preheater, and one tapping spout dryout preheater, 1 MMBtu/hour each.
57-0189-04	One reheat furnace, used to heat billets to rolling temperature, has a maximum rated heat input capacity of 144,000,000 Btu per hour. Natural gas is the primary fuel and No.2 fuel oil is used as backup fuel.
57-0189-05	One product straightener process including sixteen (16) mill stands and a baghouse (BSBH1) for control of PM emissions. This product straightener is electrically powered.
57-0189-10	Auto Shredder Residue (ASR) Dryer with Baghouse - This scrap steel processing operation includes a 34 MMBtu/hour Heat Input and ASR Material Handling equipment (Conveyors and storage locations)
57-0189-11	Post Processing Heating Operation for Steel bars - This post processing operation has a heat input of 21.6 MMBtu/hour (Natural Gas fired)

List of insignificant activities

Insignificant Activity	TAPCR 1200-03-09
Roll Spray Welding	-.04(5)(a)4.(i)
All Storage Tanks with a capacity of ≤10,000 gallons	-.04(5)(f)17
Diesel Fuel Storage Tanks, capacity ≤40,000 gallons	-.04(5)(f)17
Gas Torches	-.04(5)(g)17
Gas Cutting Torches	-.04(5)(g)17
Hot Water Gas Heater	-.04(5)(a)4.(i)
Unpaved Roads	-.04(5)(f)(1)
Paved Roads	-.04(5)(f)(2)
Gas Space Heaters	-.04(5)(f)(14)
Gas Rooftop Heating Units	-.04(5)(f)(14)
Parts Washers (5)	-.04(5)(f)(22)
Emergency Generators (4)	-.04(5)(f)(37)

B. Facility Classification

1. Attainment or Non-Attainment Area Location
Area *is* designated as an attainment area for all criteria pollutants.
2. Company *is* located in a *Class II area*.

C. Regulatory Status

1. PSD/NSR
This facility *is* a major source under PSD.
2. Title V Major Source Status by Pollutant

Pollutant	Is the pollutant emitted?	If emitted, what is the facility's status?	
		Major Source Status	Non-Major Source Status
PM	Yes	Yes	No
PM ₁₀	Yes	Yes	No
SO ₂	Yes	Yes	No
VOC	Yes	Yes	No
NO _x	Yes	Yes	No
CO	Yes	Yes	No
Individual HAP	Yes	No	Yes
Total HAPs	Yes	No	Yes

3. MACT Standards

This facility is an *area source* of HAP emissions.

This facility is subject to the following MACT standards:

- 40 CFR 63, Subpart YYYYYY - *National Emission Standards for Hazardous Air Pollutants for Area Sources: Electric Arc Furnace Steelmaking Facilities*

- 40 CFR 63, Subpart ZZZZ – *National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*

4. Program Applicability

Are the following programs applicable to the facility?

PSD - Yes, the facility is a major source under PSD regulations

NESHAP - Yes, 40 CFR 63, Subpart YYYYYY and 40 CFR 63, Subpart ZZZZ

NSPS - Yes, this facility is subject to the following NSPS standards:

- 40 CFR 60, Subpart AA – *Standards of performance for Steel Plants: Electric Arc Furnaces Constructed after October 21, 1974, and On or Before August 17, 1983*
- 40 CFR 60, Subpart IIII – *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*

5. New requirements and permit conditions:

There are no new applicable requirements under this permit renewal.

II. Compliance Information

A. Compliance Status

Is the facility currently in compliance with all applicable requirements? (yes)

If no, explain.

Are there any applicable requirements that will become effective during the permit term? (no)

III. Other Requirements

A. Emissions Trading

The facility is not involved in an emission trading program.

B. Acid Rain Requirements

This facility is not subject to any requirements in Title IV of the Clean Air Act.

C. Prevention of Accidental Releases

Not Applicable

D. Greenhouse Gas Emissions

This facility has GHG potential emissions of 220,297 tons/year of CO₂e based on the June 15, 2018 Title V revision and is a major source for greenhouse gas emissions since emissions are above 75,000 tons/year of CO₂e threshold.

IV. Permit History

Initial Title V Permit Number 548094, issued September 20, 2001

Title V Renewal Permit Number 558867, issued September 7, 2007

Title V Renewal Permit Number 565713, issued December 18, 2013

Title V Renewal Permit Number 574449

V. Current Project Description

Title V Operating Permit Number 574449 represents the third renewal of the original Title V Operating Permit.

In addition to reorganizing the permit content to incorporate a sections E3 (incorporating the requirements of 40 CFR 60, Subpart AA) and E4 (incorporating the applicable requirements of 40 CFR 63, Subpart YYYYYY), the following changes were made during this permit renewal:

Condition E5-2: The requirement to submit quarterly reports of daily visible emission evaluations performed on the EAF baghouses and shop during periods of meltdown or refining was revised to require submittal of reports on a semiannual basis. This is consistent with the current requirements of 40 CFR §60.276(d) and 40 CFR §60.7(c).

Conditions E8-3 and E8-5 through E8-7: It has been determined that the preheaters that comprise this emission source are non-process emission sources subject to 1200-03-06 of the TAPCR instead of being process emission sources subject to 1200-03-07. The regulatory citations for these conditions have been revised to reflect 1200-03-06 applicability. The PM emission limit agreed to by the facility is significantly lower than the allowable limit specified in 1200-03-06-.02(2), and remains unchanged.

VI. Public Participation Procedures

Notification of this draft renewal permit was provided (via email) to the following agencies located within 50 miles of the facility:

1. EPA Region IV, Air Permitting Section
2. Arkansas Department of Environmental Quality, Air Division
3. Mississippi Department of Environmental Quality, Office of Pollution Control

Summary of Comments and Responses:

No comments were received during the comment period (see email from EPA, received November 12, 2019).

VII. Permitting Activities for Permit Since Original Permit Issuance

Significant Modification #1 to permit 574449 (Issued on October 3, 2023):

Adding Source 10, ASR Dryer with baghouse control:

Updated the language of several A-D conditions

Updated Condition E1; update Fee Emissions Summary table and current Annual Accounting Period dates

Updated Condition E2: Added Condition E11-4 to E2(a)(1)

Added Source 10 specific conditions E11-1, E11-2, E11-3, E11-4, E11-5, E11-6, E11-7, E11-8, and E11-9

Significant Modification #2 to permit 574449 (Issued on March 27, 2024):

Added Source 11, Post processing heating operation for round bars

Added additional Agreement Letters as part of Attachment 6; letters dated August 3, 2021, and October 15, 2021

Updated Condition E1; update Fee Emissions Summary table

Updated Condition E2; Added Condition E12-3 to E2(a)(1)

Added Condition E3-9; condition to include list of insignificant activities

Added Source 11 specific conditions E12-1, E12-2, E12-3, E12-4, E12-5, E12-6, E12-7, and E12-8

Added Section VII Summary of Allowable Emissions by Source Number to the Statement of Basis

VII. Summary of Allowable Emissions by Source Number

Source ID	PM (tpy)	SO₂ (tpy)	CO (tpy)	VOC (tpy)	NO_x (tpy)	Pb (tpy)
01: Scrap Steel Raw Material Processing	40.28					
02: Electric Arc Steel Melting Furnace	185.63	177.39	4139.10	194.91	319.30	4.91
03: Nine preheaters	8.40	0.44	17.30	1.20	20.60	
04: Reheat furnace	2.06	35.50	51.90	3.40	247.30	
05: Product straightener	9.42					
10: ASR Dryer	12.80	0.09	8.32	0.82	7.90	
11: Post Processing Heating Operation for round bars	0.38	0.05	4.18	0.28	4.98	
Total	258.97	213.47	4220.80	200.61	600.08	4.91