

## Aemilia Hamel

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**From:** Air.Pollution Control  
**Sent:** Monday, 18 October, 2021 07:13  
**To:** APC Permitting  
**Subject:** FW: Response to Additional Information Request Letter 979247  
**Attachments:** Response to TDEC Rod Heater Application Information Request 101521.pdf

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**From:** Will Ownby <William.Ownby@gerdau.com>  
**Sent:** Friday, October 15, 2021 3:21 PM  
**To:** Air.Pollution Control <Air.Pollution.Control@tn.gov>; Doug S. Wright <Doug.S.Wright@tn.gov>; Greg Forte <Greg.Forte@tn.gov>  
**Cc:** Josh Wigger <Josh.Wigger@gerdau.com>; Jeff.Twaddle@erm.com; Steve Marquardt <Steve.Marquardt@erm.com>; Sonny Crews <Sonny.Crews@gerdau.com>  
**Subject:** [EXTERNAL] Response to Additional Information Request Letter 979247

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Please find attached the information requested in TDEC's Additional Information Request letter 979247. If you need any further information or have any questions please do not hesitate to give me a call.

Thanks and have a great weekend,

Will Ownby  
Environmental Manager  
Gerdau – Jackson TN Mill  
801 Gerdau Drive  
Jackson, TN 38305  
(731)423-5274 (Office)  
(731)225-3797 (Cell)



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October 15, 2021

Technical Secretary  
Tennessee Department of Environment and Conservation  
Division of Air Pollution Control  
William R. Snodgrass Tennessee Tower  
312 Rosa L. Parks Avenue, 15th Floor  
Nashville, TN 37243

RE: **Response to Request for Additional Information**  
**Gerdau AmeriSteel U.S. Inc.,**  
**Emission Source Reference No. 57-0189-11/ Permit No. 979247**

To Whom It May Concern:

This letter is in response to the request for additional information in the Division's letter dated October 12, 2021 related to the construction permit application for the post process heating operation, submitted August 3, 2021. We have include TDEC's requests in bold below and responded below each.

- 1. Provide a PSD analysis. This would be a comparison of the potential emission increases and the PSD significant increase levels. Your facility is an existing major source for PSD purposes. This would include a comparison of the maximum pollutant emissions per hour for all pollutants, maximum pollutant emissions in ton at 8760 hours per year, and pollutant emissions limits in tons per proposed 12 month period (currently proposed at 4700 hours per 12-months period). Also, because your facility is a major source for PSD purposes, please verify that this project is not related to (or would be considered a part of) any other relatively new permitted process at your facility, and does not debottle neck a process of cumulatively increase the emissions of any of the criteria pollutants above the PSD increment thresholds.**

Below is a table that compares to potential emissions at 8760 hours per year, emission at the proposed at 4,700 hours per year and the PSD significant increase threshold. The hourly emissions and associated emission calculation to support the PTE at 8760 hours of operation is attached.

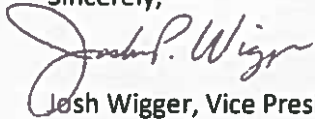
	PM Emission Rate (tons/yr)	PM <sub>10</sub> Emission Rate (tons/yr)	PM <sub>2.5</sub> Emission Rate (tons/yr)	VOC Emission Rate (tons/yr)	SO <sub>2</sub> Emission Rate (tons/yr)	CO Emission Rate (tons/yr)	NO <sub>x</sub> Emission Rate (tons/yr)	CO <sub>2</sub> e Emission Rate (tons/yr)
Potential Emissions (At 8760 hr/yr)	0.7	0.7	0.7	0.51	0.06	7.79	9.28	11,196
Potential Emissions (At 4700 hr/yr)	0.38	0.38	0.38	0.27	0.03	4.18	4.98	6,007
PSD Significant Increase Threshold	25	15	10	40	40	100	40	75,000
Subject to PSD? Yes/No	No	No	No	No	No	No	No	No

This project is not related to any recent projects. The most recent projects have been related to non-ferrous metal operations associated with recovery of non-ferrous metals from scrap operations. This project is for post processing of already produced bar and does not debottle neck any upstream operations.

2. The current agreement letter as submitted has a restriction on the hours of operation per 12-month period at 4,700 hours) for the post process heating operation; however, it does not include the limit of the NO<sub>x</sub> emission per hour and NO<sub>x</sub> emission per consecutive 12-month period. Please include a purposed NO<sub>x</sub> emission limit in terms of lbs per hour and also tons per year consecutive 12-month periods and specify how compliance with this will be demonstrated.

Attached is a revised agreement letter that include hourly and 12-month NO<sub>x</sub> limit. Should any further information be required, please do not hesitate to contact our consultant, Jeff Twaddle of ERM at (615) 656-4636.

Sincerely,



Josh Wigger, Vice President/General Manager

#### Attachments

Cc: Greg Forte, TDEC  
Will Ownby, Gerdau  
Jeff Twaddle, ERM



October 15, 2021

Technical Secretary  
Tennessee Department of Environment and Conservation  
Division of Air Pollution Control  
William R. Snodgrass Tennessee Tower  
312 Rosa L. Parks Avenue, 15th Floor  
Nashville, TN 37243

RE: **Agreement Letter for NOx  
Gerdau AmeriSteel U.S. Inc.,  
Emission Source Reference No. 57-0189-11/ Permit No. 979247**

To Whom It May Concern:

In accordance with TAPCR 1200-03-07-.07(2), Gerdau AmeriSteel U.S. Inc., agrees to the following NOx limits for the post process heating operation as the above referenced source.

	NOx Emission Limit	
	Pound per Hour	Ton per year
Agreed Emission Limit	2.12	4.98

Compliance will be demonstrated by tracking hours of operations of the post process heating operation and the use of NOx emission factor from AP-42, 5th Edition, Volume I, Section 1.4: Natural Gas Combustion, Table 1.4-1 and the capacity of the burners.

I have reviewed this document in its entirety and to the best of my knowledge, and based on information and belief formed after reasonable inquiry, the statements and information contained in this document are true, accurate, and complete.

Should you have any questions or concerns, please feel free to contact Mr. Will Ownby, Environmental Manager, at (731)423-5274.

Sincerely,

Josh Wigger, Vice President/General Manager

**Attachments**

Cc: Greg Forte, TDEC  
Will Ownby, Gerdau  
Jeff Twaddle, ERM

Parameter	Value	Units
Annual Operation	8,760	hrs/yr
Average Annual Production	60,000	tpy
Heat Input Capacity	21.6	MMBtu/hr
Heating Value	1,020	Btu/scf
Maximum Hourly Natural Gas Consumption	2.12E-02	MMscf/hr

**Notes:**

1. Heating value obtained from AP-42, 5th Edition, Volume I, Section 1.4: Natural Gas Combustion

Pollutant Type	Pollutant	Emission Factor (lb/MMscf)	Hourly Emission Rate (lb/hr)	Annual Emission Rate (tpy)
Criteria	NOx	100	2.12	9.28
	CO	84	1.78	7.79
	Total PM	7.6	0.16	0.70
	Condensable PM	5.7	0.12	0.53
	Filterable PM	1.9	4.02E-02	0.18
	SO <sub>2</sub>	0.6	1.27E-02	0.06
	VOC	5.5	0.12	0.51
	Lead	5.00E-04	1.06E-05	4.64E-05
Greenhouse Gas (GHG)	CO <sub>2</sub>	120,000	2,541	11,130
	CH <sub>4</sub>	2.3	4.87E-02	0.21
	N <sub>2</sub> O	2.2	4.66E-02	0.20
	Greenhouse Gas Equivalent(CO <sub>2</sub> e)	-	2,556	11,196
Hazardous Air Pollutants (HAPs)	2-Methylnaphthalene	2.40E-05	5.08E-07	2.23E-06
	3-Methylcholanthrene	1.80E-06	3.81E-08	1.67E-07
	7,12-Dimethylbenz(a)anthracene	1.60E-05	3.39E-07	1.48E-06
	Acenaphthene	1.80E-06	3.81E-08	1.67E-07
	Acenaphthylene	1.80E-06	3.81E-08	1.67E-07
	Anthracene	2.40E-06	5.08E-08	2.23E-07
	Benz(a)anthracene	1.80E-06	3.81E-08	1.67E-07
	Benzene	2.10E-03	4.45E-05	1.95E-04
	Benz(a)anthracene	1.20E-06	2.54E-08	1.11E-07
	Benzo(b)fluoranthene	1.80E-06	3.81E-08	1.67E-07
	Benzo(g,h,i)perylene	1.20E-06	2.54E-08	1.11E-07
	Benzo(k)fluoranthene	1.80E-06	3.81E-08	1.67E-07
	Chrysene	1.80E-06	3.81E-08	1.67E-07
	Dibenzo(a,h)anthracene	1.20E-06	2.54E-08	1.11E-07
	Dichlorobenzene	1.20E-03	2.54E-05	1.11E-04
	Fluoranthene	3.00E-06	6.35E-08	2.78E-07
	Fluorene	2.80E-06	5.93E-08	2.60E-07
	Formaldehyde	0.08	1.59E-03	6.96E-03
	Hexane	1.80	3.81E-02	0.17
	Indeno(1,2,3-cd)pyrene	1.80E-06	3.81E-08	1.67E-07
	Naphthalene	6.10E-04	1.29E-05	5.66E-05
	Phenanathrene	1.70E-05	3.60E-07	1.58E-06
	Pyrene	5.00E-06	1.06E-07	4.64E-07
	Toluene	3.40E-03	7.20E-05	3.15E-04
	Arsenic	2.00E-04	4.24E-06	1.86E-05
	Beryllium	1.20E-05	2.54E-07	1.11E-06
	Cadmium	1.10E-03	2.33E-05	1.02E-04
	Chromium	1.40E-03	2.96E-05	1.30E-04
	Cobalt	8.40E-05	1.78E-06	7.79E-06
	Manganese	3.80E-04	8.05E-06	3.52E-05
	Mercury	2.60E-04	5.51E-06	2.41E-05
	Nickel	2.10E-03	4.45E-05	1.95E-04
	Selenium	2.40E-05	5.08E-07	2.23E-06
	Total HAPs	1.89	4.00E-02	0.18

**Notes:**

2. Emission factors obtained from AP-42, 5th Edition, Volume I, Section 1.4: Natural Gas Combustion, Table 1.4-1: Emssion Factors for Nitrogen Oxides (NOx) and Carbon Monoxide (CO) from Natural Gas Combustion, Table 1.4-2: Emission Factors for Criteria Pollutants and Greenhouse Gases from Natural Gas Combustion, and Table 1.4-3: Emission Factors for Speciated Organic Compounds from Natural Gas Combustion.

3. GHG equivalent factors from 40 CFR Part 98, Table A-1.

Gerdau - Jackson

Parameter		Value	Units
Allowable Annual Operation		4,700	hrs/yr
Maximum Annual Production		195,833	tpy
Heat Input Capacity		21.6	MMBtu/hr
Heating Value		1,020	Btu/scf
Maximum Hourly Natural Gas Consumption		0.02	MMscf/hr
Maximum Annual Natural Gas Consumption		99.53	MMscf/yr

Notes:

1. Heating value obtained from AP-42, 5th Edition, Volume I, Section 1.4: Natural Gas Combustion

Pollutant Type	Pollutant	Emission Factor (lb/MMscf)	Hourly Emission Rate (lb/hr)	Annual Emission Rate (tpy)
Criteria	NOx	100	2.12	4.98
	CO	84	1.78	4.18
	Total PM	7.6	0.16	0.38
	Condensable PM	5.7	0.12	0.28
	Filterable PM	1.9	4.02E-02	0.09
	SO <sub>2</sub>	0.6	1.27E-02	0.03
	VOC	5.5	0.12	0.27
	Lead	5.00E-04	1.06E-05	2.49E-05
Greenhouse Gas (GHG)	CO <sub>2</sub>	120,000	2,541	5,972
	CH <sub>4</sub>	2.3	4.87E-02	0.11
	N <sub>2</sub> O	2.2	4.66E-02	0.11
	Greenhouse Gas Equivalent(CO <sub>2</sub> e)	-	2,556	6,007
Hazardous Air Pollutants (HAPs)	2-Methylnaphthalene	2.40E-05	5.08E-07	1.19E-06
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	Fluorene	2.80E-06	5.93E-08	1.39E-07
	Formaldehyde	0.08	1.59E-03	3.73E-03
	Hexane	1.80	3.81E-02	0.09
	Indeno(1,2,3-cd)pyrene	1.80E-06	3.81E-08	8.96E-08
	Naphthalene	6.10E-04	1.29E-05	3.04E-05
	Phenanathrene	1.70E-05	3.60E-07	8.46E-07
	Pyrene	5.00E-06	1.06E-07	2.49E-07
	Toluene	3.40E-03	7.20E-05	1.69E-04
	Arsenic	2.00E-04	4.24E-06	9.95E-06
	Beryllium	1.20E-05	2.54E-07	5.97E-07
	Cadmium	1.10E-03	2.33E-05	5.47E-05
	Chromium	1.40E-03	2.96E-05	6.97E-05
	Cobalt	8.40E-05	1.78E-06	4.18E-06
	Manganese	3.80E-04	8.05E-06	1.89E-05
	Mercury	2.60E-04	5.51E-06	1.29E-05
	Nickel	2.10E-03	4.45E-05	1.05E-04
	Selenium	2.40E-05	5.08E-07	1.19E-06
	Total HAPs	1.89	4.00E-02	0.09

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