Steel Dynamics, Inc.®
Long Products Group
Structural and Rail Division
2601 South County Road 700 East
Columbia City, Indiana 46725
(260) 625-8100
(260) 625-8950 fax
www.steeldynamics.com

183-48004-00030
MAI 10839

Preliminary Application Received by

State of Indiana IDEM-OAQ via Email 6-26-tc-1

June 25, 2024

Via Email (airpermitapps@idem.in.gov) and Certified Mail #7020 0090 0002 1359 0219

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53, IGCN 1003
Indianapolis, IN 46204-2251

RE: Steel Dynamics, Inc. – Structural & Rail Division
2601 S 700E, Columbia City, Whitley County
Source ID 183-00030
Application to Add Lime Injection System

To Whom It May Concern:

Steel Dynamics, Inc. – Structural & Rail Division (SDI) submits the enclosed application for a Significant Source Modification/Significant Permit Modification to construct and operate a lime injection system.

SDI plans to install a lime injection system to inject lime directly into the EAF shells. SDI currently introduces lime into the EAF along with the scrap charge prior to arcing the EAF. Injecting the lime directly into the liquid steel bath will allow for more effective distribution and reduce the amount of lime used in each heat. There will be no increase in steel production at the EAFs as a result of this project.

The new lime injection system consists of three vessels – one silo located outdoors and two day bins located inside the melt shop. The outdoor silo will be pneumatically loaded by truck. There will be no increase in truck traffic due to this project because the lime injection system is more efficient at delivering the lime into the EAFs than the current practice, so truck traffic is expected to stay the same or decrease. The lime from the silo is then pneumatically conveyed to the day bins and from there directly into the injection vessels for direct injection into the EAFs.

The new silo and day bins will each be equipped with a self-maintaining air cleaner (SMAC) unit using filters with no lower than a 97% minimum average efficiency rating for the lime material. The fans in the SMAC units will be programmed through PLC to turn on when loading is occurring. The injection vessels are a closed system and therefore will not result in emissions. The new system is described as follows:

> ***One lime injection system, consisting of one lime silo and two day bins, using SMAC units as control. The day bins exhaust indoors.***

The enclosed calculations set out the relevant specifications and assumptions with respect to the number of annual loading hours when the facility is operating at design, as well as the nominal airflow and control efficiency rating for the SMAC units. The uncontrolled PTE is as follows:

Uncontrolled PTE

	PM (tpy)	PM10 (tpy)	PM2.5 (tpy)
Lime Injection System	33.67	33.67	12.52
Significant Modification Threshold	25	25	25
Significant Modification Triggered?	Yes	Yes	No

This project involves only new equipment and will not result in modification of existing emission units. The table below evaluates the after-control project emissions increases against the PSD significant emission rates (SER):

Project Emissions Increases

	PM (tpy)	PM10 (tpy)	PM2.5 (tpy)
Lime Injection System	1.01	1.01	0.38
Significant Modification Threshold	25	15	10
Significant Modification Triggered?	No	No	No

As shown above, the increase in PTE from the proposed lime injection system is well below the relevant PSD thresholds.

Pursuant to 326 IAC 2-7-10.5(g)(4), this project can be processed as a significant source modification. Because SDI seeks to make the SMAC filters federally enforceable to avoid PSD applicability, this project is considered a significant permit modification pursuant to 326 IAC 2-7-12(d).

We appreciate your help with this request; if you have any questions concerning this application, please contact Jaime Saylor at 317-464-2623 or jaime.saylor@h2lawyers.com.

Sincerely,

STEEL DYNAMICS, INC.

Eric McClees
Environmental Engineer

Forrest France
Environmental Engineer

AIR PERMIT APPLICATION COVER SHEET

State Form 50639 (R4 / 1-10)
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

IDEM – Office of Air Quality – Permits Branch
100 N. Senate Avenue, MC 61-53 Room 1003
Indianapolis, IN 46204-2251
Telephone: (317) 233-0178 or
Toll Free: 1-800-451-6027 x30178 (within Indiana)
Facsimile Number: (317) 232-6749
www.IN.gov/idem

NOTES:

- The purpose of this cover sheet is to obtain the core information needed to process the air permit application. This cover sheet is required for all air permit applications submitted to IDEM, OAQ. Place this cover sheet on top of all subsequent forms and attachments that encompass your air permit application packet.
- Submit the completed air permit application packet, including all forms and attachments, to **IDEM Air Permits Administration** using the address in the upper right hand corner of this page.
- IDEM will send a bill to collect the filing fee and any other applicable fees.
- Detailed instructions for this form are available on the Air Permit Application Forms website.

FOR OFFICE USE ONLY
PERMIT NUMBER:
183-48004-00030
DATE APPLICATION WAS RECEIVED:

1. Tax ID Number:

PART A: Purpose of Application

Part A identifies the purpose of this air permit application. For the purposes of this form, the term "source" refers to the plant site as a whole and NOT to individual emissions units.

2. Source / Company Name: Steel Dynamics, Inc. - Structural & Rail Division **3. Plant ID:** 183 — 00030

4. Billing Address: 2601 S 700E

City: Columbia City **State:** IN **ZIP Code:** 46725 –

5. Permit Level: ☐ Exemption ☐ Registration ☐ SSOA ☐ MSOP ☐ FESOP ☒ TVOP ☐ PBR

6. Application Summary: *Check all that apply. Multiple permit numbers may be assigned as needed based on the choices selected below.*

☐ Initial Permit ☐ Renewal of Operating Permit ☐ Asphalt General Permit
☐ Review Request ☐ Revocation of Operating Permit ☐ Alternate Emission Factor Request
☐ Interim Approval ☐ Relocation of Portable Source ☐ Acid Deposition (Phase II)
☐ Site Closure ☐ Emission Reduction Credit Registry

☐ Transition (between permit levels) *From:* *To:*

☐ Administrative Amendment: ☐ *Company Name Change* ☐ *Change of Responsible Official*
☐ *Correction to Non-Technical Information* ☐ *Notice Only Change*
☐ *Other (specify):*

☒ Modification: ☐ *New Emission Unit or Control Device* ☐ *Modified Emission Unit or Control Device*
☐ *New Applicable Permit Requirement* ☐ *Change to Applicability of a Permit Requirement*
☐ *Prevention of Significant Deterioration* ☐ *Emission Offset* ☐ *MACT Preconstruction Review*
☐ *Minor Source Modification* ☒ *Significant Source Modification*
☐ *Minor Permit Modification* ☒ *Significant Permit Modification*
☐ *Other (specify):*

7. Is this an application for an initial construction and/or operating permit for a **"Greenfield" Source**? ☐ Yes ☒ No

8. Is this an application for construction of a new emissions unit at an **Existing Source**? ☒ Yes ☐ No

Continued on Next Page

PART B: Pre-Application Meeting

Part B specifies whether a meeting was held or is being requested to discuss the permit application.

9. Was a meeting held between the company and IDEM prior to submitting this application to discuss the details of the project?

☒ No ☐ Yes: *Date:*

10. Would you like to schedule a meeting with IDEM management and your permit writer to discuss the details of this project?

☒ No ☐ Yes: *Proposed Date for Meeting:*

PART C: Confidential Business Information

Part C identifies permit applications that require special care to ensure that confidential business information is kept separate from the public file.

Claims of confidentiality must be made at the time the information is submitted to IDEM, and must follow the requirements set out in the Indiana Administrative Code (IAC). To ensure that your information remains confidential, refer to the IDEM, OAQ information regarding submittal of confidential business information. For more information on confidentiality for certain types of business information, please review IDEM's Nonrule Policy Document Air-031-NPD regarding Emission Data.

11. Is any of the information contained within this application being claimed as **Confidential Business Information**?

☒ No ☐ Yes

PART D: Certification Of Truth, Accuracy, and Completeness

Part D is the official certification that the information contained within the air permit application packet is truthful, accurate, and complete. Any air permit application packet that we receive without a signed certification will be deemed incomplete and may result in denial of the permit.

For a Part 70 Operating Permit (TVOP) or a Source Specific Operating Agreement (SSOA), a "responsible official" as defined in 326 IAC 2-7-1(34) must certify the air permit application. For all other applicants, this person is an "authorized individual" as defined in 326 IAC 2-1.1-1(1).

☒ *I certify under penalty of law that, based on information and belief formed after reasonable inquiry, the statements and information contained in this application are true, accurate, and complete.*

Chris Gionti	General Manager
Name *(typed)*	Title
Signature	6-25-24
	Date

OAQ GENERAL SOURCE DATA APPLICATION
GSD-01: Basic Source Level Information

State Form 50640 (R5 / 1-10)
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

IDEM – Office of Air Quality – Permits Branch
100 N. Senate Avenue, MC 61-53 Room 1003
Indianapolis, IN 46204-2251
Telephone: (317) 233-0178 or
Toll Free: 1-800-451-6027 x30178 (within Indiana)
Facsimile Number: (317) 232-6749
www.IN.gov/idem

NOTES:

- The purpose of GSD-01 is to provide essential information about the entire source of air pollutant emissions. GSD-01 is a required form.
- Detailed instructions for this form are available on the Air Permit Application Forms website.
- All information submitted to IDEM will be made available to the public unless it is submitted under a claim of confidentiality. Claims of confidentiality must be made at the time the information is submitted to IDEM, and must follow the requirements set out in 326 IAC 17.1-4-1. Failure to follow these requirements exactly will result in your information becoming a public record, available for public inspection.

PART A: Source / Company Location Information

1. Source / Company Name: Steel Dynamics, Inc. - Structural & Rail Division

2. Plant ID: 183 – 00030

3. Location Address: 2601 S 700E

City: Columbia City | **State**: IN | **ZIP Code**: 46725 –

4. County Name: Whitley | **5. Township Name**:

6. Geographic Coordinates:

Latitude: 41 08' 30" | **Longitude**: 85 30' 30"

7. Universal Transferal Mercadum Coordinates *(if known)*:

Zone: | **Horizontal**: | **Vertical**:

8. Adjacent States: Is the source located within 50 miles of an adjacent state?

☐ No ☒ Yes – *Indicate Adjacent State(s):* ☐ Illinois (IL) ☒ Michigan (MI) ☒ Ohio (OH) ☐ Kentucky (KY)

9. Attainment Area Designation: Is the source located within a non-attainment area for any of the criteria air pollutants?

☒ No ☐ Yes – *Indicate Nonattainment Pollutant(s):* ☐ CO ☐ Pb ☐ NO_x ☐ O_3 ☐ PM ☐ PM_{10} ☐ $PM_{2.5}$ ☐ SO_2

10. Portable / Stationary: Is this a portable or stationary source? ☐ Portable ☒ Stationary

PART B: Source Summary

11. Company Internet Address *(optional)*:

12. Company Name History: Has this source operated under any other name(s)?

☒ No ☐ Yes – *Provide information regarding past company names in Part I, Company Name History.*

13. Portable Source Location History: Will the location of the portable source be changing in the near future?

☒ Not Applicable ☐ No ☐ Yes – *Complete Part J, Portable Source Location History, and Part K, Request to Change Location of Portable Source.*

14. Existing Approvals: Have any exemptions, registrations, or permits been issued to this source?

☐ No ☒ Yes – *List these permits and their corresponding emissions units in Part M, Existing Approvals.*

15. Unpermitted Emissions Units: Does this source have any unpermitted emissions units?

☒ No ☐ Yes – *List all unpermitted emissions units in Part N, Unpermitted Emissions Units.*

16. New Source Review: Is this source proposing to construct or modify any emissions units?

☐ No ☒ Yes – *List all proposed new construction in Part O, New or Modified Emissions Units.*

17. Risk Management Plan: Has this source submitted a Risk Management Plan?

☒ Not Required ☐ No ☐ Yes → Date submitted: EPA Facility Identifier: – –

Continued on Next Page

PART C: Source Contact Information

IDEM will send the original, signed permit decision to the person identified in this section. This person MUST be an employee of the permitted source.

18. Name of Source Contact Person: Eric McClees

19. Title *(optional)*: Environmental Engineer

20. Mailing Address: 2601 S 700E

City: Columbia City	**State**: IN	**ZIP Code**: 46725 –

21. Electronic Mail Address *(optional)*: eric.mcclees@steeldynamics.com

22. Telephone Number: (260) 625 – 8484	**23. Facsimile Number** *(optional)*: ( ) –

PART D: Authorized Individual/Responsible Official Information

IDEM will send a copy of the permit decision to the person indicated in this section, if the Authorized Individual or Responsible Official is different from the Source Contact specified in Part C.

24. Name of Authorized Individual or Responsible Official: Chris Gionti

25. Title: General Manager

26. Mailing Address: 2601 S 700E

City: Columbia City	**State**: IN	**ZIP Code**: 46725 –

27. Telephone Number: (260) 625 – 8800	**28. Facsimile Number** *(optional)*: ( ) –

29. Request to Change the Authorized Individual or Responsible Official: Is the source officially requesting to change the person designated as the Authorized Individual or Responsible Official in the official documents issued by IDEM, OAQ? *The permit may list the title of the Authorized Individual or Responsible Official in lieu of a specific name.*

☒ No ☐ Yes – ***Change Responsible Official to:***

PART E: Owner Information

30. Company Name of Owner: Steel Dynamics, Inc. - Structural & Rail Division

31. Name of Owner Contact Person: Chris Gionti

32. Mailing Address: 2601 S 700E

City: Columbia City	**State**: IN	**ZIP Code**: 46725 –

33. Telephone Number: (260) 625 – 8800	**34. Facsimile Number** *(optional)*: ( ) –

34. Operator: Does the "Owner" company also operate the source to which this application applies?

☐ No – *Proceed to Part F below.*	☒ Yes – *Enter "SAME AS OWNER" on line 35 and proceed to Part G below.*

PART F: Operator Information

35. Company Name of Operator: SAME AS OWNER

36. Name of Operator Contact Person:

37. Mailing Address:

City:	**State**:	**ZIP Code**: –

38. Telephone Number: ( ) –	**39. Facsimile Number** *(optional)*: ( ) –

Continued on Next Page

PART G: Agent Information

40. Company Name of Agent: Hatchett & Hauck LLP

41. Type of Agent: ☐ Environmental Consultant ☒ Attorney ☐ Other (specify):

42. Name of Agent Contact Person: Jaime Saylor

43. Mailing Address: 150 W Market St., Suite 200

City: Indianapolis	**State**: IN	**ZIP Code**: 46204 –

44. Electronic Mail Address *(optional)*: jaime.saylor@h2lawyers.com

45. Telephone Number: (317) 464 – 2623	**46. Facsimile Number** *(optional)*: ( ) –

47. Request for Follow-up: Does the "Agent" wish to receive a copy of the preliminary findings during the public notice period (if applicable) and a copy of the final determination? ☐ No ☒ Yes

PART H: Local Library Information

48. Date application packet was filed with the local library: within 10 days of this submittal

49. Name of Library: Peabody Public Library

50. Name of Librarian *(optional)*:

51. Mailing Address: 1160 E State Rd. 205, PO Box 406

City: Columbia City	**State**: IN	**ZIP Code**: 46725 –

52. Internet Address *(optional)*: www.ppl.lib.in.us

53. Electronic Mail Address *(optional)*: librarian@ppl.lib.in.us

54. Telephone Number: (260) 244 – 5541	**55. Facsimile Number** *(optional)*: ( ) –

PART I: Company Name History *(if applicable)*

Complete this section only if the source has previously operated under a legal name that is different from the name listed above in Section A.

56. Legal Name of Company	**57. Dates of Use**
N/A	to
	to
	to
	to
	to
	to
	to
	to
	to
	to

58. Company Name Change Request: Is the source officially requesting to change the legal name that will be printed on all official documents issued by IDEM, OAQ?

☒ No ☐ Yes – ***Change Company Name to:***

Continued on Next Page

PART J: Portable Source Location History *(if applicable)*

Complete this section only if the source is portable and the location has changed since the previous permit was issued. The current location of the source should be listed in Section A.

59. Plant ID	60. Location of the Portable Source	61. Dates at this Location
–	N/A	to
–		to
–		to
–		to
–		to
–		to
–		to
–		to
–		to
–		to
–		to
–		to
–		to
–		to
–		to
–		to
–		to
–		to
–		to
–		to

PART K: Request to Change Location of Portable Source *(if applicable)*

Complete this section to request a change of location for a portable source.

62. Current Location:

Address: N/A

City:	**State**:	**ZIP Code**: –

County Name:

63. New Location:

Address:

City:	**State**:	**ZIP Code**: –

County Name:

Continued on Next Page

PART L: Source Process Description

Complete this section to summarize the main processes at the source.

64. Process Description	65. Products	66. SIC Code	67. NAICS Code
Secondary steel mill	steel beams	3312	331111

PART M: Existing Approvals *(if applicable)*

Complete this section to summarize the approvals issued to the source since issuance of the main operating permit.

68. Permit ID	69. Emissions Unit IDs	70. Expiration Date
46964	see TV Renewal 46964 issued 5/14/24	5/14/2029

PART N: Unpermitted Emissions Units *(if applicable)*

Complete this section only if the source has emission units that are not listed in any permit issued by IDEM, OAQ.

71. Emissions Unit ID	72. Type of Emissions Unit	73. Actual Dates		
		Began Construction	Completed Construction	Began Operation

PART O: New or Modified Emissions Units *(if applicable)*

Complete this section only if the source is proposing to add new emission units or modify existing emission units.

74. Emissions Unit ID	75. NEW	76. MOD	77. Type of Emissions Unit	78. Estimated Dates		
				Begin Construction	Complete Construction	Begin Operation
			See application cover letter	11/15/2024	12/15/2024	1/15/2024

Emission Calculations
Silos

Company Name: Steel Dynamics, Inc. - Structural and Rail Division
Lime Injection System
Source ID: 183-00030

Silos with Control Devices With Fans Operating Only During Loading Operations:

Process Description	Loading Hours (hours/yr)	Nominal Flow Rate (acfm)	Nominal Flow Rate (dscfm)	Outlet Grain Loading (gr/dscf)	Control Efficiency (%)	PTE of PM/PM_{10} after Control (lbs/hr)	PTE of $PM_{2.5}$ after Control (lbs/hr)	PTE of PM/PM_{10} after Control (tons/yr)	PTE of $PM_{2.5}$ after Control (tons/yr)	PTE of PM/PM_{10} before Control (lbs/hr)	PTE of $PM_{2.5}$ before Control (lbs/hr)	PTE of PM/PM_{10} before Control (tons/yr)	PTE of $PM_{2.5}$ before Control (tons/yr)
Silo	5407.00	12600.00	12,451.61	0.002	[redacted]	2.13E-01	7.84E-02	5.77E-01	2.16E-01	7.12	2.65	19.24	7.15
Day Bin A	4056.00	6300.00	6,225.80	0.002	[redacted]	1.07E-01	3.97E-02	2.16E-01	8.05E-02	3.56	1.32	7.21	2.68
Day Bin B	4056.00	6300.00	6,225.80	0.002	[redacted]	1.07E-01	3.97E-02	2.16E-01	8.05E-02	3.56	1.32	7.21	2.68
								1.01	**0.38**			**33.67**	**12.52**

Notes

PM2.5 emissions calculated based on EPA's PM calculator.

Before-control estimates are backcalculated from controlled values. This methodology over-estimates PTE before control because the values are backcalculated using nominal air flow and a theoretical control device efficiency instead of factors better reflecting unit operation (e.g., air volume displaced by loaded material or dust loading in influent air to the control device, both of which would be much lower). Also, day bins are simultaneously feeding lime into pressure vessels at a rate two times higher than the loading rate into the bin, so the PTE calculations are again expected to be conservative.

Methodology

PTE after Control (lbs/hr) = Grain Loading (gr/dscfm) x Nominal Flow Rate (dscfm) x 60 min/hr x 1/7000 lb/gr
PTE after Control (tons/yr) = Grain Loading (gr/dscfm) x Nominal Flow Rate (dscfm) x 60 min/hr x 1/7000 lb/gr x hours/yr x 1/2000 ton/lbs
PTE before Control (lbs/hr) = PTE of PM/PM_{10}/$PM_{2.5}$ after Control (lbs/hr) / (1-Control Efficiency)
PTE before Control (tons/yr) = PTE of PM/PM_{10}/$PM_{2.5}$ after Control (tons/yr) / (1-Control Efficiency)

Process Weight Rate Calculations (326 IAC 6-3-2)

Process	Process Weight Rate (P)		Uncontrolled PM	Rate of Emissions (E)	Controls Required to Meet Limit?
	(lb/hr)	(tons/hr)	(lb/hr)	(lb/hr)	
Silo	27000	13.5	7.12	23.4	No
Day Bin A	18000	9	3.56	17.9	No
Day Bin B	18000	9	3.56	17.9	No

$E = 4.10P^{0.67}$

E = Rate of emissions (lb/hr)

P = Process weight rate (tons/hr)