



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5  
77 WEST JACKSON BOULEVARD  
CHICAGO, IL 60604-3590

JUN 29 2015

REPLY TO THE ATTENTION OF:

**CERTIFIED MAIL**  
**RETURN RECEIPT REQUESTED**

Mike Brooks  
Environmental Engineer  
Steel Dynamics, Inc.  
8000 North County Road 225 East  
Pittsboro, Indiana 46167

Re: Finding of Violation  
Steel Dynamics, Inc., Pittsboro, Indiana

Dear Mr. Brooks:

The U.S. Environmental Protection Agency is issuing the enclosed Finding of Violation (FOV) to Steel Dynamics, Inc. (SDI) under Section 113(a) of the Clean Air Act, 42 U.S.C. § 7413(a). We find that SDI is violating the New Source Performance Standards, the National Emission Standards for Hazardous Air Pollutants, and its Title V permits at the facility in Pittsboro, Indiana.

Section 113 of the Clean Air Act gives us several enforcement options. These options include issuing an administrative compliance order, issuing an administrative penalty order, and bringing a judicial civil or criminal action.

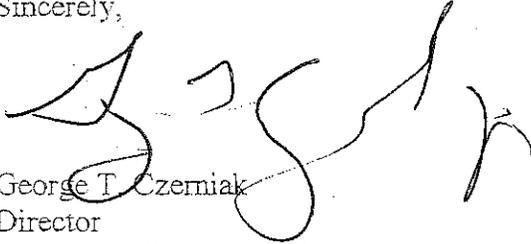
We are offering you an opportunity to confer with us about the violations alleged in the FOV. The conference will give you an opportunity to present information on the specific findings of violation, any efforts you have taken to comply, and the steps you will take to prevent future violations. In order to make the conference more productive, we encourage you to submit information responsive to the FOV to us prior to the conference date.

Please plan for your technical and management personnel to attend the conference to discuss compliance measures and commitments. You may have an attorney represent you at this conference.



The EPA contact in this matter is Alexandra Letuchy. You may call her at (312) 886-6035 to request a conference. You should make the request within 10 calendar days following receipt of this letter. We should hold any conference within 30 calendar days following receipt of this letter.

Sincerely,

A handwritten signature in black ink, appearing to read "G. Czerniak". The signature is fluid and cursive, with a large initial "G" and a long, sweeping tail.

George T. Czerniak  
Director  
Air and Radiation Division

Enclosure

cc: Phil Perry, Chief, Air Compliance and Enforcement Branch, IDEM



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5

IN THE MATTER OF:	)	
	)	
Steel Dynamics, Inc.	)	FINDING OF VIOLATION
Pittsboro, Indiana	)	
	)	
	)	EPA-5-15-IN-09
Proceedings Pursuant to Section 113(a)(1)	)	
and (3) of the Clean Air Act, 42 U.S.C.	)	
§ 7413(a)(1) and (3)	)	

**FINDING OF VIOLATION**

The U.S. Environmental Protection Agency (EPA) is issuing this Finding of Violation (FOV) under Sections 113(a) of the Clean Air Act (the Act), 42 U.S.C. § 7413(a). EPA finds that Steel Dynamics, Inc. (SDI) is violating the New Source Performance Standards, the National Emission Standards for Hazardous Air Pollutants, and its Title V permits, at its Pittsboro, Indiana facility (the Facility) as follows:

**Statutory and Regulatory Authority**

1. All terms in the following numbered paragraphs shall have their ordinary meaning, unless such terms are defined in the Act, 42 U.S.C. §§ 7401 to 7671(q), or Volume 40 of the Code of Federal Regulations, in which case such statutory or regulatory definitions shall apply.

**New Source Performance Standards**

2. Section 111(b) of the Act, 42 U.S.C. § 7411(b), requires EPA to publish a list of categories of stationary sources and, within a year after the inclusion of a category of stationary sources in the list, to publish proposed regulations establishing federal standards of performance for new sources within the source category. These emission standards are known as the New Source Performance Standards (NSPS). EPA codified these standards at 40 C.F.R. Part 60.
3. 40 C.F.R. Part 60, Subpart A (NSPS Subpart A), contains the General Provisions for the NSPS.
4. The provisions of NSPS Subpart A apply to the owner or operator of any stationary source which contains an affected facility, the construction or modification of which is commenced after the date of publication in this part of any standard (or, if earlier, the date of publication of any proposed standard) applicable to that facility. 40 C.F.R. § 60.1(a).

5. 40 C.F.R. § 60.11(d) states, in pertinent part, that at all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions.

The NSPS for Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels Constructed After August 17, 1983

6. On October 31, 1984, EPA promulgated the Standards of Performance for Steel Plants: Electric Arc Furnaces (EAF) and Argon-Oxygen Decarburization Vessels Constructed After August 17, 1983 at 40 C.F.R. Part 60, Subpart AAa (Subpart AAa). See 49 Fed. Reg. 43,845 (Oct. 31, 1984).
7. Subpart AAa applies to EAFs that commenced construction, modification, or reconstruction after August 17, 1983. See 40 C.F.R. § 60.270a(b).
8. 40 C.F.R. § 60.272a(a)(3) provides that owners or operators of subject facilities must not cause the discharge into the atmosphere from an EAF any gases which exit from a shop and, due solely to the operations of any affected EAF(s), exhibit six percent opacity or greater.
9. 40 C.F.R. § 60.273a(d) provides that a furnace static pressure monitoring device is not required on any EAF equipped with a direct evacuation control (DEC) system if observations of shop opacity are 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 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.
10. 40 C.F.R. § 60.274a(b) provides that the owner or operator subject to the provisions of 40 C.F.R. Part 60, Subpart AAa shall check and record on a once-per-shift basis the furnace static pressure (if DEC system is in use, and a furnace static pressure gauge is installed according to paragraph (f) of this section) 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.
11. 40 C.F.R. § 60.274a(c) provides that when the owner or operator of an affected facility is required to demonstrate compliance with the standards under 40 C.F.R. § 60.272a(a)(3)

and at any other time that the Administrator may require (under section 114 of the Act, 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 paragraph (b) of this section.

12. 40 C.F.R. § 60.276a(c) provides that operation at a furnace static pressure that exceeds the value established under 40 C.F.R. § 60.274a(g) and either operation of control system fan motor amperes at values exceeding  $\pm 15$  percent of the value established under 40 C.F.R. § 60.274a(c) or operation at flow rates lower than those established under 40 C.F.R. § 60.274a(c) may be considered by the Administrator to be unacceptable operation and maintenance of the affected facility. Operation at such values shall be reported to the Administrator semiannually.

#### National Emission Standards for Hazardous Air Pollutants

13. Section 112 of the Act, 42 U.S.C. § 7412, requires EPA to promulgate a list of all categories and subcategories of major sources and area sources of hazardous air pollutants (HAP) and establish emissions standards for the categories and subcategories. These emission standards are known as the National Emission Standards for Hazardous Air Pollutants (NESHAP). EPA codified these standards at 40 C.F.R. Parts 61 and 63.
14. "Hazardous air pollutant" means "any air pollutant listed in or pursuant to" Section 112(b) of the Act. 42 U.S.C. § 7412(a)(6).
15. "Major sources" means any stationary source that emits or has the potential to emit considering controls, in the aggregate, 10 tons per year or more of any hazardous air pollutant, or 25 tons per year or more of any combination of hazardous air pollutants. *See* 42 U.S.C. § 7412(a)(1).
16. "Area source" means any stationary source of hazardous air pollutants that is not a major source. *See* 42 U.S.C. § 7412(a)(2).
17. 40 C.F.R. Part 63, Subpart A, contains the General Provisions for the NESHAP.
18. 40 C.F.R. § 63.6(e)(1)(i) states, in pertinent part, at all times, including periods of startup, shutdown, and malfunction, the owner or operator must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions.

#### The NESHAP for Electric Arc Furnace Steelmaking Facilities

19. Pursuant to Section 112 of the Act, EPA promulgated the NESHAP for EAF Steelmaking Facilities at 40 C.F.R. Part 63, Subpart YYYYY, 40 C.F.R. §§ 63.10680-63.10692, on December 28, 2007. *See* 72 Fed. Reg. 74,111 (Dec. 28, 2007).

20. The NESHAP at 40 C.F.R. Part 63, Subpart YYYYYY, applies to an owner or operator of an EAF steelmaking facility that is an area source of HAP emissions. *See* 40 C.F.R. § 63.10680(a).
21. Table 1 of 40 C.F.R. Part 63, Subpart YYYYYY incorporates 40 C.F.R. § 63.6(e)(1)(i) by reference.
22. 40 C.F.R. § 63.10681(a) states that the compliance date for an existing affected source is June 30, 2008.
23. 40 C.F.R. § 63.10680(b) states that 40 C.F.R. Part 63, Subpart YYYYYY applies to each existing affected source, where an affected source is each EAF steelmaking facility. An affected source is existing if construction or reconstruction of the affected source was commenced on or before September 20, 2007. *See* 40 C.F.R. § 63.10680(b)(1).
24. 40 C.F.R. § 63.10686(b)(2), in pertinent part, provides that owners or operators of subject facilities must not discharge or cause the discharge into the atmosphere from an EAF any gases which exit from a melt shop and, due solely to the operations of any affected EAF(s), exhibit six percent opacity or greater.
25. 40 C.F.R. § 63.10686(a) provides that owners or operators of subject facilities must install, operate, and maintain a capture system that collects the emissions from each EAF (including charging, melting, and tapping operations) and conveys the collected emissions to a control device for the removal of particulate matter (PM).
26. 40 C.F.R. § 63.10686(d)(2) provides that owners or operators of subject facilities must conduct performance tests to demonstrate initial compliance with the applicable emissions limit for each emissions source subject to an emissions limit in 40 C.F.R. § 63.10686(b) or (c), and that owners or operators of subject facilities must conduct each opacity test for a melt shop according to the procedures in 40 C.F.R. § 63.6(h) and Method 9 of Appendix A-4 of 40 C.F.R. Part 60.

#### Title V Permit Program

27. Title V of the Act, 42 U.S.C. §§ 7661-7661f, established an operating permit program for major sources of air pollution.
28. In accordance with Section 502(b) of the Act, 42 U.S.C. § 7661a(b), EPA promulgated regulations establishing the minimum elements of a Title V permit program to be administered by any air pollution control agency. *See* 57 Fed. Reg. 32,295 (July 21, 1992). Those regulations are codified at 40 C.F.R. Part 70.
29. Section 502(d) of the Act, 42 U.S.C. § 7661a(d), provides that each state must submit to the EPA a permit program meeting the requirements of Title V.
30. On May 16, 2002, EPA approved the State of Indiana's operating permit program with an effective date of July 15, 2002. *See* 40 C.F.R. Part 70, Appendix A and 67 Fed. Reg. 34,844 (May 16, 2002).

31. Section 502(a) of the Act, 42 U.S.C. § 7661a(a), and 40 C.F.R. § 70.7(b) provide that, after the effective date of any permit program approved or promulgated under Title V of the Act, no source subject to Title V may operate except in compliance with a Title V permit.
32. 40 C.F.R. § 70.6(b)(1) provides that all terms and conditions in a Title V permit are enforceable by EPA.

#### SDI's Title V Permits

33. Indiana Department of Environmental Management (IDEM) issued a Part 70 Operating Permit, No. 063-27230-00037, on June 3, 2010 (2010 Title V Permit).
34. IDEM issued a Part 70 Operating Permit, No. 063-30899-00037, on March 22, 2012 (March 2012 Title V Permit).
35. IDEM issued a Part 70 Operating Permit, No. 063-30946-00037, on April 11, 2012 (April 2012 Title V Permit).
36. Condition D.1.5(a) of the 2010 Title V Permit, March 2012 Title V Permit, and April 2012 Title V Permit states that the EAF Baghouse shall control filterable particulate emission at all times that the EAF is in operation.
37. Condition D.1.5(b) of the 2010 Title V Permit, March 2012 Title V Permit, and April 2012 Title V Permit states that the Ladle Metallurgical Station (LMS) Baghouse shall control filterable particulate emission at all times that the LMS is in operation.

#### Relevant Factual Background

38. SDI owns and operates a stationary steel mini-mill at the Facility in Pittsboro, Indiana.
39. The EAF at the Facility is subject to 40 C.F.R. Part 60, Subpart AAa and 40 C.F.R. Part 63, Subpart YYYYYY.
40. EPA conducted an inspection of the Facility on June 3, 2013.
41. EPA issued SDI an information request under Section 114 of the Act on February 6, 2014 (2014 Information Request). SDI submitted a response on June 2, 2014 (2014 Information Request Response).

#### 2005 Ventilation Study

42. In 2005, Air Applications conducted a heat/emissions study at the Caster, Ladle Metallurgical Furnace (LMF), and Refractory Areas. The study found that as the roof vents above the LMF are capped, uncaptured emissions from the LMF migrate to the caster deck and exit the building at the gravity vents above the Caster.

43. In the 2014 Information Request Response, SDI stated that recommendations from the study were never implemented.

Monitoring

44. For compliance with NSPS Subpart AAa, SDI stated in its NSPS Quarterly reports that it maintains records of shop opacity, in lieu of monitoring furnace static pressure, and maintains records of fan motor amperage. SDI also stated that they maintain records of furnace static pressure as a backup measure.
45. In the 2014 Information Request, EPA requested information recorded and maintained, pursuant to 40 C.F.R. § 60.274(a). SDI did not provide any records of damper position in the 2014 Information Request Response.
46. SDI's daily visible emission evaluations note whether a plume is or is not visible at the EAF and the melt shop. The evaluations failed to include opacity observations taken every 15-seconds or an arithmetic average of 24 consecutive 15-second opacity observations taken in accordance with Method 9.
47. SDI's fan motor amperage data indicated that the operation of control system fan motor amperages deviated from the  $\pm 15$  percent of the value established during performance tests and the furnace static pressure exceeded the value established during the performance test. The table below, for the time period identified, provides the number of days indicating deviations.

	Fan 1 Amperage	Fan 2 Amperage	Fan 3 Amperage	Furnace Static Pressure
Compliance Set points	144 – 195 <sup>1</sup>	164 – 222 <sup>2</sup>	145 – 197 <sup>1</sup>	-1.6 <sup>1</sup>
2010 (Q3 and Q4 only)	3.0	0.5	5.5	167.0
2011	3.5	1.5	12.5	297.5
2012	43.5	0	54	89.5
2013	38	0.5	47	57.5
2014 (Q1 only)	11.5	0.0	4	8.5

1. Established during October 9, 2009 Performance Test.
2. Established during April 20, 2007 Performance Test.

### Shop Opacity During Performance Testing

48. In April 2007, SDI conducted particulate matter performance testing at the LMS in accordance with U.S. EPA Method 1-4, 5, and 202 (2007 Performance Test).
49. In October 2009, SDI conducted particulate matter performance testing at the EAF and LMS in accordance with US EPA Method 1-4, 5, and 202 (2009 Performance Test).
50. During the 2007 and 2009 Performance Tests, SDI failed to conduct shop opacity observations in accordance with U.S. EPA Method 9.

### Electric Arc Furnace/Ladle Metallurgical Furnace Capacity

51. SDI submitted permit application #063-16628-0037 on December 2, 2008 (December 2008 Permit Application), stating that the nominal exhausted flow rate from the combined EAF/LMS baghouse stack would be increased from a nominal 760,000 actual cubic feet per minute (acfm) to 1,500,000 acfm (December 2008 Permit Application). Based on the increased airflow, SDI increased the permitted emission rate for PM in lb/hr.
52. In February 2012, SDI planned to increase the airflow of the EAF baghouse from the operation average flow of 500,000 acfm to its designed capacity of 675,000 acfm. Due to modifications in 2003, airflow at the EAF Baghouse had dropped to as low as 425,000 acfm during final melting and refining stages of the furnace cycle.
53. In March 2013, SDI conducted NO<sub>x</sub> and VOC performance testing at the EAF and LMS (2013 Performance Test). The average airflow during the test was 528,903 acfm.

### Baghouse Dust

54. In the 2014 Information Request Response, SDI provided the quantity of EAF baghouse dust collected per month from January 2009 to March 2014.
55. The data shows that the pounds of dust collected per ton of steel produced decreases with increased steel production on a monthly basis.

### Alleged Violations

56. By failing to improve air capture at the EAF and LMS as stated in the December 2008 Permit Application, SDI violated Condition D.1.5(a) and Condition D.1.5(b) of the 2010 Title V Permit, March 2012 Title V Permit, and April 2012 Title V Permit.
57. As demonstrated in the 2005 Ventilation Study, SDI failed to vent all emissions from the LMS to the LMS baghouse and thus violated Condition D.1.5(b) of the 2010 Title V Permit, March 2012 Title V Permit, and April 2012 Title V Permit.

58. By failing to maintain records of damper positions, SDI violated 40 C.F.R. § 60.274a(b).
59. By failing to conduct shop opacity observations in accordance with Method 9, SDI violated 40 C.F.R. § 60.274a(b) and failed to demonstrate compliance with 40 C.F.R. § 60.272a(a)(3).
60. By operating at a furnace static pressure that exceeds the value established under 40 C.F.R. § 60.274a(g) and operating the fan motor amperes at values exceeding +/- 15 percent of the value established under 40 C.F.R. § 60.274a(c), SDI violated 40 C.F.R. § 60.11(d) and failed to demonstrate compliance with § 60.272a(a)(3).
61. By failing to conduct opacity observations during the 2007 and 2009 Performance Tests, SDI violated 40 C.F.R. § 63.10686(d)(2) and failed to demonstrate compliance with 40 C.F.R. § 63.10686(b)(2).
62. By failing to improve air capture at the EAF and LMS as stated in the December 2008 Permit Application, SDI violated 40 C.F.R. § 60.11(d), 40 C.F.R. § 63.6(e)(1)(i), and 40 C.F.R. § 63.10686(a).
63. By increasing production at the EAF without modification to the baghouse, which exhibits a decrease in dust collection (on a per ton of steel produced basis) when steel production increases, SDI violated 40 C.F.R. § 60.11(d), 40 C.F.R. § 63.6(e)(1)(i), and 40 C.F.R. § 63.10686(a).

**Environmental Impact of Violations**

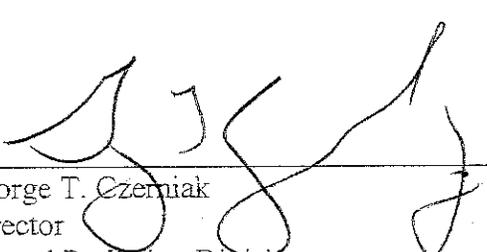
64. These violations have caused excess emissions of PM:

Particulate Matter: Particulate matter, especially fine particulates, contains microscopic solids or liquid droplets, which can get deep into the lungs and cause serious health problems. Particulate matter exposure contributes to:

- irritation of the airways, coughing, and difficulty breathing;
- decreased lung function;
- aggravated asthma;
- chronic bronchitis;
- irregular heartbeat;
- nonfatal heart attacks; and
- premature death in people with heart or lung disease.

Date

6/24/15

  
 George T. Czerniak  
 Director  
 Air and Radiation Division

CERTIFICATE OF MAILING

I, Kathy Jones, certify that I sent a Finding of Violation, No. EPA-5-15-IN-09, by Certified Mail, Return Receipt Requested, to:

Mike Brooks  
Environmental Engineer  
Steel Dynamics, Inc.  
8000 North County Road 225 East  
Pittsboro, Indiana 46167

I also certify that I sent copies of the Finding of Violation by first-class mail to:

Phil Perry, Chief  
Air Compliance and Enforcement Branch  
Indiana Department of Environmental  
Management  
100 N. Senate Ave.  
Mail Code 61-53 IGCN 1003  
Indianapolis, IN 46204-2251

On the 30<sup>th</sup> day of June, 2015.

Kathy Jones  
for Loretta Shaffer, Program Technician  
AECAB, PAS

CERTIFIED MAIL RECEIPT NUMBER: 7009 1680 0000 7644 3296