

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5**

<b>IN THE MATTER OF:</b>	)	
	)	
AK Steel Corporation	)	<b>NOTICE OF VIOLATION</b>
Middletown, Ohio, facility	)	
	)	<b>EPA-5-00-OH-10</b>
Proceedings Pursuant to the	)	
Section 113 of the Clean Air Act,	)	
42 U.S.C. § 7413	)	

**NOTICE OF VIOLATION**

The Administrator of the United States Environmental Protection Agency (U.S. EPA) is issuing this Notice of Violation pursuant to Section 113(a) (1) of the Clean Air Act (Act), 42 U.S.C. § 7413(a) (1). The Administrator of the U.S. EPA, by authority duly delegated to the undersigned, finds that AK Steel Corporation (AK Steel), Middletown, Ohio, is in violation of Parts C and D of Title I of the Act, and the Ohio State Implementation Plan (SIP) adopted under the Act.

Specifically, AK Steel is in violation of the Nonattainment New Source Review (NSR) provisions of Part D of Title I of the Act, 42 U.S.C. §§ 7501-7515; the Prevention of Significant Deterioration (PSD) provisions of Part C of Title I of the Act, 42 U.S.C. §§ 7470-7492; the Federal PSD regulations, codified at 40 C.F.R. § 52.21; the Ohio SIP Nonattainment NSR Rules, codified at Ohio Administrative Code (OAC) Chapter 3745-31; and the Ohio SIP General Permit Requirements, codified at OAC Chapter 3745-31 for failing to obtain a Nonattainment NSR permit, a PSD permit, or a permit to install prior to commencing construction of a major modification to a major emitting facility. In addition, AK Steel is in violation of the Ohio SIP Permit to Operate provision, codified at OAC 3745-35-02, for operating its No. 3 blast furnace without obtaining a permit as required by that provision.

**REGULATORY AUTHORITY**

1. Section 110 of the Act, 42 U.S.C. § 7410, requires states to adopt, and submit to the U.S. EPA for approval, SIPs providing for the implementation, maintenance, and enforcement of the National Ambient Air Quality Standards (NAAQS) promulgated by U.S. EPA pursuant to Section 109 of the Act, 42 U.S.C. § 7409. U.S. EPA has promulgated NAAQS for, among other pollutants, particulate matter.

2. The NSR provisions of Parts C and D of Title I of the Act require preconstruction review and permitting for modifications of stationary sources. See 42 U.S.C. §§ 7470-7492 and 7501-7575, respectively. Pursuant to applicable regulations, if the owner or operator of a major stationary source plans to make a major modification, then that source must obtain either a PSD permit or a nonattainment NSR permit, depending on whether the source is located in an attainment, unclassifiable, or nonattainment area for the pollutant increased above the significance level. If the modification of the major stationary source is not major, the owner or operator must obtain a general, or "minor" NSR permit regardless of the location. To obtain the required permit, the source must agree to install best available control technology (BACT) for an attainment or unclassifiable pollutant or achieve the lowest available emission rate (LAER) in a nonattainment area, or, in the case of a modification that is not major, must meet the emission limit called for under the applicable minor NSR program.
3. Pursuant to Part D of the Act, the Ohio SIP prohibits construction or operation of a major modification of a major stationary source in an area designated as nonattainment without first obtaining a permit under the Ohio Administrative Code (OAC) 3745-31. U.S. EPA approved OAC 3745-31 as part of the federally enforceable Ohio SIP on October 31, 1980 (45 Fed. Reg. 72119) and September 8, 1993 (58 Fed. Reg. 47211).
4. Pursuant to Section 110(c) of the Act, the Ohio SIP prohibits a person from commencing construction or modification of any source or facility without first applying for and obtaining a permit to install ("general, or minor NSR permit"). See OAC 3745-31.
5. Pursuant to Section 110(c) of the Act, the Ohio SIP prohibits a person from causing, permitting, or allowing the operation or other use of any air contaminant source without applying for and obtaining a permit to operate in accordance with the requirements of OAC Rule 3745-35-02.
6. "Major stationary source" is defined at 40 C.F.R. § 52.21(b)(1)(i), 40 C.F.R. Part 51, App. S, II.A.4(i), and OAC 3745-31-01 through 3745-31-08 as, among other things, any iron and steel mill plant that emits or has the potential to emit, 100 tons per year of any air pollutant subject to regulation under the Act.
7. The term "modification" is defined in Section 111(a)(4) of the Act as any physical change in, or change in the method of operation of, a stationary source which increases the amount of any air pollutant emitted by such source or which results in the emission of any air pollutant not previously emitted.
8. "Major modification" is defined at 40 C.F.R. § 52.21(b)(2)(i), 40 C.F.R.

Part 51, App. S, II.A.5(i), and OAC 3745-31-01 through 3745-31-08 as "any physical change in or change in the method of operation of a major stationary source that would result in a significant net emissions increase of any pollutant subject to regulation under the Act."

9. "Significant" is defined at 40 C.F.R. § 52.21(b)(23)(i) and 40 C.F.R. Part 51, App. S, II.A.10(i) as, "in reference to a net emissions increase or the potential of a source to emit any of the following pollutants, a rate of emissions that would equal or exceed any of the following rates" including but not limited to: 25 tons per year (TPY) of particulate matter and 15 TPY of PM<sub>10</sub>.

#### **FACTUAL BACKGROUND**

10. AK Steel owns and operates an integrated steel production facility located at 1801 Crawford Street, Middletown, Butler County, Ohio ("Middletown Works"). The facility consists of numerous steel making operations including the No. 3 blast furnace.
11. The facility at 1801 Crawford Street was owned by ARMCO, Inc. prior to 1989, and by and Armco Steel Company, L.P. between 1989 and 1993. For purposes of this Notice of Violation, all references to AK Steel between 1989 and 1993 mean Armco Steel Company, L.P. All references to AK Steel prior to 1989 mean ARMCO, Inc.
12. The Middletown plant is located in Butler County, Ohio, an area that has the following attainment classifications from 1980 to the present:

For PM:	1980-1993:	Nonattainment (secondary TSP)
	1993-1999:	Unclassifiable (PM10)

#### **FINDINGS OF FACT - MODIFICATIONS**

##### **1984 No. 3 Blast Furnace Major Modification**

13. Commencing in 1984, AK Steel modified the No. 3 blast furnace. This modification represented a major modification within the meaning of the PSD regulations and OAC 3745-31, and included the following activities: installation of new skip cars to increase volume by 33%; installation of high conductivity refractories with high density cooling; installation of redesigned hot blast main and bustle pipe system to allow for higher future blast temperatures; installation of hardened tuyere stocks; automation of the stockhouse to increase available charging time by 12%; and installation of new cast house runners to allow casting at higher production rates.

14. In addition, as part of the No. 3 blast furnace major modification begun in 1984, in 1987 AK Steel installed a newly designed Nippon top to the No. 3 blast furnace to allow for an increase in the top pressure. The Nippon Top allowed for an increase in top pressure from 31.0 kPa to 51.7 kPa.
15. As part of the No. 3 blast furnace major modification begun in 1984, AK Steel, in 1990 and 1991, rebuilt all three blast furnace stoves using a Hoogovens Design. During the rebuild, AK Steel increased the height of the stoves, from 110 feet to 123 feet 7 inches, and changed the stove to a mushroom dome design. The 1990 rebuild of the blast furnace stoves permitted an increase in the hot blast temperature from approximately 1800° F to 2050° F. This increase in temperature also contributed to an increase in the top pressure.
16. On March 3, 1992, AK Steel submitted to the Ohio Environmental Protection Agency an application to renew its permit to operate the No. 3 blast furnace. In this application, AK Steel stated that the maximum hourly production from the No. 3 blast furnace was 468,000 pounds of iron or 5600 tons of iron produced per day. This maximum production rate was based on the calendar year 1991 as stated in the permit application.
17. As a result of the 1984 No. 3 blast furnace major modification, AK Steel's potential capacity to produce molten iron increased from approximately 3600 tons per day to approximately 5600 tons per day. This increase resulted in a net emissions increase of particulate matter of greater than 25 TPY.

**1995 No. 3 Blast Furnace Major Modification - Replaced Skip Hoist Motor, Upgrade in Iron Troughs and Oxygen Injection**

18. In 1995, AK Steel made an additional major modification to the No. 3 blast furnace. This major modification consisted of:
  - a. Modification of the oxygen supply lines to the No. 3 blast furnace to accommodate additional oxygen to increase production. This included installing a 12 inch diameter oxygen line. Blueprints provided by AK Steel indicate that the old oxygen supply line was only 6 inches in diameter;
  - b. Replacement of the No. 3 blast furnace skip hoist with a redesigned skip hoist. This skip hoist was specifically installed to accommodate the potential increase in production by increasing the charging rate to the No. 3 blast furnace; and
  - c. Widening of the east and west iron troughs of the blast furnace.

This modification was completed to allow casting at the higher production rates.

19. As a result of the 1995 No. 3 blast furnace major modification, AK Steel's potential capacity to produce molten iron increased from approximately 5600 tons per day to approximately 6300 tons per day. This increase resulted in a net emissions increase of particulate matter of greater than 25 TPY.

#### **FINDINGS OF VIOLATION**

20. On April 9, 1999, U.S. EPA issued a Notice of Violation to AK Steel. That Notice of Violation informed AK Steel that it had committed multiple violations of the Prevention of Significant Deterioration regulations and violations of the Ohio SIP emission limits at OAC 3745-17-07.
21. Between 1984 and the date of this Notice, AK Steel has made "major modifications" as defined by 40 C.F.R. § 52.21, and OAC 3745-31 at the Middletown plant. These modifications are described in Paragraphs 13-19 of this notice.
22. For each modification listed above, AK Steel did not obtain a permit pursuant to NSR provisions of Part D of Title I of the Act, 42 U.S.C. §§ 7501-7515; the PSD provisions of Part C of Title I of the Act, 42 U.S.C. §§ 7470-7492; the federal PSD regulations, codified at 40 C.F.R. § 52.21; the Ohio SIP Nonattainment NSR Rules, codified at OAC Chapter 3745-31, and the Ohio SIP General Permit Requirements, codified at OAC Chapter 3745-31 before commencing construction to a major emitting facility. In addition, AK Steel failed to obtain a permit to operate its No. 3 blast furnace, in violation of the Ohio SIP Permit to Operate provision, codified at OAC 3745-35-02.
23. AK Steel has violated, and is in violation of, the NSR provisions of Part D of Title I of the Act, 42 U.S.C. §§ 7501-7515; the Prevention of Significant Deterioration (PSD) provisions of Part C of Title I of the Act, 42 U.S.C. §§ 7470-7492; the federal PSD regulations, codified at 40 C.F.R. § 52.21; the Ohio SIP Nonattainment NSR Rules, codified at OAC Chapter 3745-31; the Ohio SIP General Permit Requirements, codified at OAC Chapter 3745-31; and the Ohio SIP Permit to Operate provision, codified at OAC 3745-35-02 with regard to the 1984 No. 3 blast furnace major modification discussed in Paragraphs 13-17.
24. AK Steel has violated, and is in violation of, the NSR provisions of Part D of Title I of the Act, 42 U.S.C. §§ 7501-7515; the Prevention of Significant Deterioration (PSD) provisions of Part C of Title I of the Act, 42 U.S.C. §§ 7470-7492; the federal PSD regulations, codified at 40

Chapter 3745-31; the Ohio SIP General Permit Requirements, codified at OAC Chapter 3745-31; and the Ohio SIP Permit to Operate provision, codified at OAC 3745-35-02 with regard to the 1984 No. 3 blast furnace major modification discussed in Paragraphs 19-20.

7-24-00

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Date



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Bharat Mathur, Director  
Air and Radiation Division

CERTIFICATE OF MAILING

**Re: Notice of Violation at AK Steel Corporation, Middletown, Ohio**

I, Loretta Shaffer, do hereby certify that a Notice of Violation Pursuant to the Clean Air Act was sent by Certified Mail, Return Receipt Requested, to:

Richard M. Wardrop, President  
AK Steel  
703 Curtis Street  
Middletown, Ohio 45044

I, Loretta Shaffer, certify that a copy of the Notice of Violation Pursuant to the Clean Air Act was sent by first class mail to:

Robert Hodanbosi, Chief  
Division of Air Pollution Control  
Ohio Environmental Protection Agency  
1600 WaterMark Drive  
Columbus, Ohio 43215

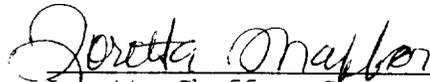
and

Cory Chadwick, Program Manager  
Hamilton County Department of Environmental Services  
1632 Central Parkway  
Cincinnati, Ohio 45210

and

J. Jeffrey McNealey, Esquire  
Porter, Wright, Morris & Arthur  
41 High Street  
Columbus, Ohio 43215-3406

on the 28<sup>th</sup> day of February, 2000.

  
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Loretta Shaffer, Secretary  
AECAS MN/OH

2 199 026 566  
Certified Mail Article Number