



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

**MAR 24 2015**

REPLY TO THE ATTENTION OF:

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

Curtis Dowell  
Safety/Environmental Manager  
Alliance Castings Company, LLC  
1001 East Broadway Street  
Alliance, Ohio 44601

Dear Mr. Dowell:

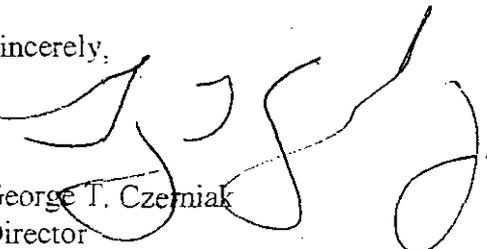
The U.S. Environmental Protection Agency is issuing the enclosed Notice and Finding of Violation (NOV/FOV) to Alliance Castings Company, LLC (you) related to activities at your facility at 1001 East Broadway Street, Alliance, Ohio (the facility). EPA has determined that the facility is in violation of the National Emission Standard for Hazardous Air Pollutants for Iron and Steel Foundries, the facility's Title V Permit, a Permit-to-Install, and the Prevention of Significant Deterioration regulations in the Ohio State Implementation Plan (SIP). Violations of the National Emission Standard for Hazardous Air Pollutants for Iron and Steel Foundries constitute violations of Section 112 of the Clean Air Act (the Act), 42 U.S.C. § 7412. Violations of a Permit-to-Install, and the Ohio SIP constitute violations of Section 110 of the Act, 42 U.S.C. § 7410. Violations of a Title V Permit constitute violations of Section 503 of the Act, 42 U.S.C. § 7661b.

Section 113 of the Act, 42 U.S.C. § 7413, 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 NOV/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 addition, in order to make the conference more productive, we encourage you to submit to us information responsive to the NOV/FOV prior to the conference date.

The EPA contacts in this matter are Virginia Galinsky, Environmental Engineer, Alexandra Letuchy, Environmental Engineer, and Christine Liszewski, Associate Regional Counsel. You may call them at (312) 353-2089, (312) 886-6035 and (312) 886-4670, respectively, if you wish to request a conference. You should make the request for a conference within 10 calendar days following receipt of this letter. We should hold any conference within 30 calendar days following receipt of this letter.

Sincerely,



George T. Czerniak  
Director  
Air and Radiation Division

cc: Bob Hodanbosi, Ohio Environmental Protection Agency  
Terri Dzienis, Canton City Health Department

Enclosure

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5

IN THE MATTER OF:	)	
	)	
Alliance Castings Company, LLC	)	NOTICE AND FINDING OF
Alliance, Ohio	)	VIOLATION
	)	
	)	EPA-5-15-OH-07
Proceedings Pursuant to	)	
the Clean Air Act	)	
42 U.S.C. § 7401 <i>et seq.</i>	)	

**NOTICE AND FINDING OF VIOLATION**

Alliance Castings Company, LLC (Alliance Castings) owns and operates a steel foundry at 1001 East Broadway Street, Alliance, Stark County, Ohio (facility). Operations at the facility include an electric arc furnace, sand storage bins, sand heaters, core machines, and EMI sand mixers, and their associated air pollution control devices.

The U.S. Environmental Protection Agency is sending this Notice and Finding of Violation (NOV/FOV or Notice) to notify the facility that we have found violations of the General Provisions to the National Emission Standard for Hazardous Air Pollutants (NESHAP), the NESHAP for Iron and Steel Foundries, the facility's Title V Permit, a Permit-to-Install issued to the facility, and the Prevention of Significant Deterioration (PSD) regulations in the Ohio State Implementation Plan (SIP).

**Clean Air Act**

1. Section 112(b) of the Clean Air Act (Act), 42 U.S.C. § 7412(b), lists 188 Hazardous Air Pollutants (HAPs) that cause adverse health or environmental effects.
2. Section 112(d) of the Act, 42 U.S.C. § 7412(d), requires EPA to promulgate regulations establishing emissions standards for each category or subcategory of major and area sources of HAPs that are listed for regulation pursuant to Section 112(c), 42 U.S.C. § 7412(c).

**NESHAP General Provisions**

3. 40 C.F.R. § 63.6(e)(1)(i) requires, among other things, that "[a]t 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."

## NESHAP for Iron and Steel Foundries

4. Under Section 112(d) of the Act, 42 U.S.C. § 7412(d), EPA promulgated the National Emission Standard for Hazardous Air Pollutants for Iron and Steel Foundries (NESHAP for Iron and Steel Foundries), effective April 22, 2004. See 69 Fed. Reg. 21923. The NESHAP for Iron and Steel Foundries is codified at 40 C.F.R. Part 63, Subpart EEEEE.

5. 40 C.F.R. § 63.7682(a) provides that “[t]he affected source is each new or existing iron and steel foundry.”

6. 40 C.F.R. § 63.7682(c) provides that “[a]n affected source is existing if you commenced construction or reconstruction of the affected source before December 23, 2002.”

7. 40 C.F.R. § 63.7683(a) provides that “[e]xcept as specified in paragraph (b) of this section, if you have an existing affected source, you must comply with each emissions limitation, work practice standard, and operation and maintenance requirement in this subpart that applies to you no later than April 23, 2007. Major source status for existing affected sources must be determined no later than April 23, 2007.”

8. 40 C.F.R. § 63.7690(a)(7) provides that “[f]or each building or structure housing any iron and steel foundry emissions source at the iron and steel foundry, you must not discharge any fugitive emissions to the atmosphere from foundry operations that exhibit opacity greater than 20 percent (6-minute average), except for one 6-minute average per hour that does not exceed 27 percent opacity.”

9. 40 C.F.R. § 63.7710(b) provides, among other things, that “[y]ou must prepare and operate at all times according to a written operation and maintenance plan for each capture and collection system and control device for an emissions source subject to a PM, metal HAP, TEA, or VOHAP emissions limit in §63.7690(a). Your operation and maintenance plan also must include procedures for igniting gases from mold vents in pouring areas and pouring stations that use a sand mold system.” Each plan must contain, among other things, the elements described below.

(1) Monthly inspections of the equipment that is important to the performance of the total capture system (i.e., pressure sensors, dampers, and damper switches). This inspection must include observations of the physical appearance of the equipment (e.g., presence of holes in the ductwork or hoods, flow constrictions caused by dents or accumulated dust in the ductwork, and fan erosion). The operation and maintenance plan must also include requirements to repair the defect or deficiency as soon as practicable.

(2) A site-specific monitoring plan for each bag leak detection system. For each bag leak detection system that operates on the triboelectric effect, the monitoring plan must be consistent with the recommendations contained in the U.S. Environmental Protection Agency guidance document “Fabric Filter Bag Leak Detection Guidance” (EPA-454/R-98-015). The plan must address all of the items identified below.

(i) Installation of the bag leak detection system.

(ii) Initial and periodic adjustment of the bag leak detection system including how the alarm set-point will be established.

(iii) Operation of the bag leak detection system including quality assurance procedures.

(iv) How the bag leak detection system will be maintained including a routine maintenance schedule and spare parts inventory list.

(v) How the bag leak detection system output will be recorded and stored.

(3) Corrective action plan for each baghouse. The plan must include the requirement that, in the event a bag leak detection system alarm is triggered, you must initiate corrective action to determine the cause of the alarm within 1 hour of the alarm, initiate corrective action to correct the cause of the problem within 24 hours of the alarm, and complete the corrective action as soon as practicable.

(4) A site-specific monitoring plan for each bag leak detection system. For each bag leak detection system that operates on the triboelectric effect, the monitoring plan must be consistent with the recommendations contained in the U.S. Environmental Protection Agency guidance document "Fabric Filter Bag Leak Detection Guidance" (EPA-454/R-98-015). This baghouse monitoring plan is subject to approval by the Administrator. The owner or operator shall operate and maintain the bag leak detection system according to the site-specific monitoring plan at all times. The plan must address all of the items identified in paragraphs (b)(4)(i) through (v) of this section.

(i) Installation of the bag leak detection system.

(ii) Initial and periodic adjustment of the bag leak detection system including how the alarm set-point will be established.

(iii) Operation of the bag leak detection system including quality assurance procedures.

(iv) How the bag leak detection system will be maintained including a routine maintenance schedule and spare parts inventory list.

(v) How the bag leak detection system output will be recorded and stored.

(5) Corrective action plan for each baghouse. The plan must include the requirement that, in the event a bag leak detection system alarm is triggered, you must initiate corrective action to determine the cause of the alarm within 1 hour of the alarm, initiate corrective action to correct the cause of the problem within 24 hours of the alarm, and complete the corrective action as soon as practicable. Corrective actions taken may include, but are not limited to:

(i) Inspecting the baghouse for air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in emissions.

(ii) Sealing off defective bags or filter media.

(iii) Replacing defective bags or filter media or otherwise repairing the control device.

(iv) Sealing off a defective baghouse compartment.

(v) Cleaning the bag leak detection system probe or otherwise repairing the bag leak detection system.

(vi) Making process changes.

(vii) Shutting down the process producing the PM emissions.

(6) Procedures for providing an ignition source to mold vents of sand mold systems in each pouring area and pouring station unless you determine the mold vent gases either are not ignitable, ignite automatically, or cannot be ignited due to accessibility or safety issues. You must document and maintain records of this determination. The determination of ignitability, accessibility, and safety may encompass multiple casting patterns provided the castings utilize similar sand-to-metal ratios, binder formulations, and coating materials. The determination of ignitability must be based on observations of the mold vents within 5 minutes of pouring, and the flame must be present for at least 15 seconds for the mold vent to be considered ignited. For the purpose of this determination:

(i) Mold vents that ignite more than 75 percent of the time without the presence of an auxiliary ignition source are considered to ignite automatically; and

(ii) Mold vents that do not ignite automatically and cannot be ignited in the presence of an auxiliary ignition source more than 25 percent of the time are considered to be not ignitable.

10. 40 C.F.R. § 63.7731(b) provides that “[y]ou must conduct subsequent performance tests to demonstrate compliance with the opacity limit in § 63.7690(a)(7) for your iron and steel foundry no less frequently than once every 6 months.”

11. 40 C.F.R. § 63.7732(d) provides that “[t]o determine compliance with the opacity limit in § 63.7690(a)(7) for fugitive emission from buildings or structures housing any iron and steel foundry emissions source at the iron and steel foundry, follow the procedures in paragraph (d)(1) and (2) of this section.”

12. 40 C.F.R. § 63.7732(d)(1) provides that “[u]sing a certified observer conduct each opacity test according to the requirements in EPA Method 9 (40 C.F.R. Part 60, Appendix A) and § 63.6(h)(5) . . . .”

13. 40 C.F.R. § 63.7732(d)(2) provides that “[d]uring testing intervals when PM performance testing, if applicable, are being conducted, conduct the opacity test such [that] the opacity observation are recorded during the PM performance tests.”

14. 40 C.F.R. § 63.7740(b) provides that “[f]or each negative pressure baghouse or positive pressure baghouse equipped with a stack that is applied to meet any PM or total metal HAP emissions limitation in this subpart, you must at all times monitor the relative change in PM loadings using a bag leak detection system according to the requirements in § 63.7741(b).”

### **Performance Testing**

15. EPA Method 9 is found in Appendix A-4 of 40 C.F.R. Part 60.

16. EPA Method 9 provides that “[t]he observer shall record the name of the plant, emission location, type of facility, observer's name and affiliation, a sketch of the observer's position relative to the source, and the date on a field data sheet. The time, estimated distance to the emission location, approximate wind direction, estimated wind speed, description of the sky condition (presence and color of clouds), and plume background are recorded on a field data sheet at the time opacity readings are initiated and completed.”

### **Prevention of Significant Deterioration of Air Quality**

17. Part C of Title I of the Act, 42 U.S.C. §§ 7470-7492, sets forth requirements for the prevention of significant deterioration (PSD) of air quality in those areas designated as either attainment or unclassifiable for purposes of meeting the National Ambient Air Quality Standards (NAAQS). These requirements are designed to protect public health and welfare, to assure that economic growth will occur in a manner consistent with the preservation of existing clean air resources, and to assure that any decision to permit increased air pollution is made only after careful evaluation of all the consequences of such a decision and after public participation in the decision making process. See 42 U.S.C. § 7470. These provisions are referred to as the Clean Air Act's “PSD Program.”

18. Part C of Title I of the Act and the regulations implementing Part C, at 40 C.F.R. § 52.21, prohibit a major stationary source from constructing a modification without first obtaining a PSD permit, if the modification is major in that it will result in a significant net increase in emissions of a regulated pollutant, and if the source is located in an area which has achieved the NAAQS for that pollutant. Part C and its implementing regulations further require that a source subject to PSD regulations install best available control technology (BACT).

19. Ohio Administrative Code (OAC) Rule 3745-31-01(FFFFF)(2) provides that, for stationary sources located in an attainment area, “regulated NSR pollutant” includes, among other things, any pollutant for which a national ambient air quality standard has been

promulgated and any constituents or precursors for such pollutants (e.g., volatile organic compounds (VOCs) are precursors for ozone).

20. Sections 110(a) and 161 of the Act, 42 U.S.C. 7410(a) and 7471, require states to adopt a SIP that contains emission limitations and such other measures as may be necessary to prevent significant deterioration of air quality in areas designated as attainment or unclassifiable.

21. A state may comply with Sections 110(a) and 161 of the Act by having its own PSD regulations approved as part of its SIP by EPA, provided they are at least as stringent as those set forth at 40 C.F.R. § 51.166.

22. If a state does not have a PSD program that has been approved by EPA and incorporated into the SIP, the federal PSD regulations set forth at 40 C.F.R. § 52.21 may be incorporated by reference into the SIP. 40 C.F.R. § 52.21(a).

23. On May 1, 1980, EPA disapproved Ohio's proposed PSD program and incorporated by reference the PSD regulations of 40 C.F.R. § 52.21(b) through (w) into the Ohio SIP. EPA also delegated to Ohio the authority to implement the federal PSD program incorporated into the Ohio SIP. 46 Fed. Reg. 9580 (January 29, 1981). See 40 C.F.R. § 52.1884.

24. On October 10, 2001, EPA conditionally approved revisions to the Ohio SIP to incorporate Ohio's PSD program, effective October 10, 2001. 66 Fed. Reg. 51570 (October 10, 2001). On January 22, 2003, EPA granted final approval for Ohio's PSD program, effective March 10, 2003. 68 Fed. Reg. 2909 (January 22, 2003). On February 25, 2010, EPA partially approved revisions to Ohio's PSD program, effective March 29, 2010. 75 Fed. Reg. 8496 (February 25, 2010). On February 20, 2013, EPA partially approved revisions to Ohio's PSD program, effective March 22, 2013. 78 Fed. Reg. 11748 (February 20, 2013).

25. OAC Rule 3745-31-01(LLI)(2)(b) provides that “[f]or stationary sources located in an attainment area for a given regulated air pollutant”, a “major stationary source” is considered to be “any stationary source that emits, or has the potential to emit, two hundred fifty tons per year or more of any regulated NSR pollutant.”

26. OAC Rule 3745-31-01(JJI) defines “major modification” as: “[a]ny physical change in or change in the method of operation of a major stationary source that would result in: (1) A significant emissions increase of a regulated NSR pollutant; and (2) A significant net emissions increase of that pollutant from the major stationary source.”

27. OAC Rule 3745-31-01(JJI)(3) provides that “[a]ny significant emissions increase from any emissions units or net emissions increase at a major stationary source that is considered significant for VOCs shall be considered significant for ozone.”

28. OAC Rule 3745-31-01(JJI)(4)(b) provides that, for NSR projects that only involve construction of a new emissions unit “[a] significant emissions increase of a regulated NSR pollutant is projected to occur if the sum of the difference between the potential to emit from each new emissions unit following completion of the NSR project and the baseline actual

emissions of these emissions units before the NSR project equals or exceeds the significant amount for that pollutant.”

29. OAC Rule 3745-31-01(TTT) defines "net emissions increase" as "the amount by which the sum of the following, except as limited by paragraph (TTT)(3) of this rule, exceeds zero:

- (1) Any increase in emissions from a particular physical change or change in the method of operation at a stationary source as calculated under this rule; and
- (2) Any other increases and decreases in actual emissions at the stationary source that are contemporaneous with the particular change and are otherwise creditable. Baseline actual emissions for calculating increases and decreases under paragraph (TTT) of this rule shall be determined as provided in paragraph (O) of this rule, except that paragraphs (O)(1)(c) and (O)(2)(d) of this rule shall not apply."

30. OAC Rule 3745-31-01(MMMMM) defines "significant," in reference to a net emissions increase, as any increase in VOC of 40 tons or more per year.

31. OAC Rule 3745-31-12(C)(4) and (5) require that a source submit the air quality impact(s) of a major modification.

32. OAC Rule 3745-31-13(A) provides that no major modification shall begin actual construction unless, at a minimum, the requirements of OAC Rules 3745-31-01 through 3745-31-20 have been met and the stationary source has obtained a valid Ohio EPA permit to install.

33. OAC Rule 3745-31-15(D) requires a major modification to apply BACT for each regulated pollutant for which it would result in a significant net emissions increase at the source.

### **Title V Permit Program**

34. Title V of the Act, 42 U.S.C. §§ 7661-7661f, established an operating permit program for major sources of air pollution.

35. 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. 32295 (July 21, 1992). Those regulations are codified at 40 C.F.R. Part 70.

36. Section 502(d) of the Act, 42 U.S.C. § 7661a(d), provides that each state must submit to EPA a permit program meeting the requirements of Title V.

37. On August 15, 1995, EPA approved the State of Ohio operating permit program (OAC Rule 3745-77) with an effective date of October 1, 1995.

38. 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.

39. 40 C.F.R. § 70.6(b)(1) provides that all terms and conditions in a Title V Permit are enforceable by EPA.

### **Federally Enforceable State Permits to Install**

40. On January 22, 2003, EPA approved OAC Rule 3745-31-05 as part of the federally-enforceable Ohio SIP with an effective date of March 10, 2003. 68 Fed. Reg. 29009.

41. OAC Rule 3745-31-05 authorizes the Ohio Environmental Protection Agency (Ohio EPA) to issue federally-enforceable Permits-to-Install (PTI) with such terms and conditions as are necessary to ensure compliance with applicable laws and to ensure adequate protection of environmental quality.

### **Factual Background**

42. Alliance Castings owns and operates a steel foundry at 1001 East Broadway Street, Alliance, Stark County, Ohio. The facility includes several emission units, including an electric arc furnace, sand storage bins, sand heaters, core machines, and EMI sand mixers.

43. Stark County, Ohio, where the facility is located, has been designated by EPA as attainment or unclassifiable for the NAAQS for ozone.

44. The facility emits, or has the potential-to-emit, greater than 250 tons per year of VOCs. VOCs are precursors for ozone and are a regulated NSR pollutant. Thus, the facility is a major stationary source as defined at OAC 3745-31-01(LL)(2)(b).

45. The facility emits or has the potential to emit considering controls, in the aggregate, 10 tons per year or more of any HAP or 25 tons per year or more of any combination of HAPs. Thus, the facility is a major source of HAPs and an affected source under the NESHAP for Iron and Steel Foundries.

46. On August 20, 2004, Alliance Castings submitted to EPA an Initial Notification that the facility is subject to the NESHAP for Iron and Steel Foundries.

47. The facility was constructed before December 23, 2002 and is thus an existing affected source under the NESHAP for Iron and Steel Foundries.

48. On August 13 – 14, 2013, EPA conducted an inspection at the facility.

49. On January 16, 2014, EPA issued an information request to Alliance Castings pursuant to Section 114 of the Act, 42 U.S.C. § 7414.

50. Alliance Castings provided a response to the information request on April 22, 2014.

Permitting Background

*Title V Permit*

51. Ohio EPA issued a Title V Permit to the facility on January 30, 2002 (Title V Permit).

52. The significant emission units (EU) and associated emission capture equipment in the Title V Permit relevant to this NOV/FOV are:

<b>Emission Unit ID</b>	<b>Description</b>	<b>Baghouse</b>
P001	Electric Furnace	D007
P002	Shakeout	D002
P003	Monorail Shot Blast	D008
P004	Small Parts Blast	D014
P006	Chromite Separator	D016
P008	S. End Sand System	D002S
P009	Sand Washer	D010
P010	No. 17 Sand Mill	D010
P011	Silica Sand Str & Hdl	D003
P012	SE Sand Sys # 2Fdy	D010
P013	No. 10 Shakeout	D002
P014	No. 1 Shakeout	D001
P015	No. 7 Shakeout	D001
P016	Chromite Sand Silo	D003
P017	Cereal Silo	D003
P018	Bentonite Silo	D003
P020	No. 4 Sand Mill	D003
P023	No. 3 Sand Mill	D003
P026	Carrier Blast	D009
P028	Rapper Station	D005
P030	No. 19 Sand Mill	D003
P031	No. 1 Sand Cooler	D003
P032	N.E. Sand System	D003
P033	No. 16 Sand Mill	D003

53. The operational restrictions for EUs P001, P002, P003, P004, P006, P008, P009, P011, P012, P013, P014, P015, P016, P017, P018, P020, P023, P026, P028, P020, P030, P031, P032, and P033 at Part III. A.II.1 of the Title V Permit require that “[t]he pressure drop across the baghouse shall be maintained within the range of 4.0 and 6.0 inches of water while the emissions unit is in operation.”

54. Ohio EPA issued PTI number 15-01570 to the facility on December 16, 2004.

55. The significant EUs and associated emission capture equipment in PTI 15-01570 relevant to this NOV/FOV are:

Emission Unit ID	Description	Emission Capture Equipment – as Permitted in PTI 15-01570	Emission Capture Equipment – As Built, according to Alliance
P040	Sand storage bin system	Baghouse D018	Baghouse D018
P041	Sand heater no. 1		
P042	Sand heater no. 2		
P043	Sand heater no. 3		
P044	Sand heater no. 4		
P045	EMI sand mixer	Scrubber D019	Scrubber D019
P046	Aristand sand mixer		
P047	EMI CB500 on Piece Core Production		
P048	Aristand A80 one piece core machine		
P049	Aristand A12 one piece core making machine		

56. PTI 15-01570 permitted the construction of EUs P040, P041, P042, P043, P044, P045, and P046, controlled by one baghouse. However, Alliance Castings has indicated in its response to EPA's Section 114 Information Request that EUs P040, P041, P042, P043, and P044 are controlled by Baghouse D018, and that EUs P045 and P046 are controlled separately by Scrubber D019.

57. Part III.A.1.1. of the PTI 15-01570 for EU P040, P041, P042, P043, P044, P045, and P046 limits emissions of particulate matter less than 10 microns in diameter (PM<sub>10</sub>) from these emission units to 0.01 lb./hr. and 0.05 tons per year.

58. Part III.A.1.2.a of the PTI for EU P040 requires that "[t]he permittee shall employ a fabric filter to control PE and PM<sub>10</sub> emissions from this sand storage bin system in order to comply with the BAT emission limitations specified in section A.1.1. The fabric filter shall have a control efficiency of at least 99.9 %."

59. Part III.A.1.2.a of the PTI for EU P041, P042, P043, and P044 requires that "[t]he permittee shall employ a fabric filter to control PE emissions from this sand heater system in order to comply with the BAT emission limitations specified in section A.1.1. The fabric filter shall have a control efficiency of at least 99.9 %."

60. Part III.A.I.2.a of the PTI for EU P045 and P046 requires that “[t]he permittee shall employ a fabric filter to control PE emissions from this sand mixer system in order to comply with the BAT emission limitations specified in section A.I.1. The fabric filter shall have a control efficiency of at least 99.9 %.”

61. Scrubber D019 control emissions from EU P047, P048, and P049.

62. Part III.A.I.1. of PTI 15-01570 limits VOC emissions from EU P047 to 0.04 lb./hr. and 0.18 tons per year.

63. Part III.A.I.2.b of the PTI for EU P047 requires that “[t]he control efficiency of the packed bed wet scrubber shall be 99.8 % for removal of amine based VOC compounds (Isofast 705 catalyst VOC).”

64. Part III.A.I.1. of PTI 15-01570 limits VOC emissions from EU P048 to 0.02 lb./hr. and 0.09 tons per year.

65. Part III.A.I.2.b of the PTI for EU P048 requires that “[t]he control efficiency of the packed bed wet scrubber shall be 99.8 % for removal of amine based VOC compounds (Isofast 705 catalyst VOC).”

66. Part III.A.I.1 of PTI 15-01570 limits VOC emissions from EU P049 to 0.01 lb./hr. and 0.04 tons per year.

67. Part III.A.I.2.b of the PTI for EU P049 requires that “[t]he control efficiency of the packed bed wet scrubber shall be 99.8 % for removal of amine based VOC compounds (Isofast 705 catalyst VOC).”

68. Part III.A.II.1. of the PTI for EUs P040, P041, P042, P043, and P044 requires that “[t]he pressure drop across the baghouse shall be maintained within the range of 4 to 9 inches of water, while the EU is in operation.”

69. Part III.A.II.1. of the PTI for EUs P045 and P046 requires that “[t]he pressure drop across the baghouse shall be maintained within the range of 4 to 9 inches of water, while the EU is in operation.”

70. Part III.A.II.1. of the PTI for EUs P047, P048, and P049 requires that “[t]he pressure drop across the scrubber bed shall be maintained between 4 inches of water pressure and 6 inches of water pressure at all times.”

#### *PTI P0116125*

71. Ohio EPA issued PTI number P0116125 to the facility on September 4, 2014.

72. The PTI allows the installation of an EMI CB800 Core Making Line at the facility. The EMI CB800 Core Making Line consists of three sand silos, three electrically heated

sand heaters, a sand/resin mixer and the CB800 Core Machine. The CB800 Core Making Line is identified as EU P050 in the PTI.

73. The Core Machine emissions outlet is controlled by the Scrubber D019.

74. The emissions limitations at Part C.1.(b)(1)a. of PTI P0116125 limits VOC emissions from EU P050 to 39.320 tons per year.

75. The testing requirements for EU P050 at Part C.1.(f)(1)(a) of the PTI, indicate that this emission limit covers only dimethylisopropylamine (DMIPA), and not all VOCs.

#### NESHAP for Iron and Steel Foundries

##### *Failure to Demonstrate Compliance with Building Opacity Limit*

76. Baghouse D007 and Baghouse D022 control emissions from the electric arc furnace identified as EU P001 in the Title V Permit.

77. On June 19, 2012, July 2, 2013, and February 19, 2014, Fastway Incorporated Environmental Services conducted opacity observations at the building housing the core room, foundry, and furnace shop at the facility. The June 19, 2012 and February 19, 2014 observations did not include a sketch of the observer's position relative to the source.

78. On August 14 – 15, 2012, Bureau Veritas North America, Inc. conducted a performance test consisting of three runs of Reference Method 5 and 9 to determine the particulate emission rate and opacity from Baghouse D007 and D022 (2012 Performance Test). Opacity observations of fugitive emissions from the building housing the electric arc furnace were not conducted.

##### *Failure to Install Properly Sized Baghouse to Control EAF Emissions During Charging and Tapping*

79. In 2006, Alliance Castings hired a third party to conduct a ventilation study to determine the size of a dust collection system needed to control emissions from the electric arc furnace during charging and tapping (2006 Ventilation Study). The study determined the minimum canopy exhaust air volume that would be required to adequately capture the charging and tapping emissions.

80. Alliance Castings installed Baghouse D022 to control emissions from the electric arc furnace during charging and tapping. According to the 2012 Annual Emission Report, Alliance Castings began operation of Baghouse D022 on February 12, 2009.

81. During the 2012 Performance Test, the average flow rate at Baghouse D022 was 55,408 actual cubic feet per minute (acfm).

82. The baghouse that Alliance Castings installed to capture emissions from the electric arc furnace during charging and tapping is considerably less than the minimum canopy exhaust air volume recommended in the 2006 Ventilation Study, as demonstrated by the average air flow during the 2012 Performance Test.

83. During the EPA inspection, inspectors noted that during tapping and charging, some emissions escaped the canopy hood.

*Poor Operation and Maintenance on Baghouse D007*

84. Based on Alliance Castings' monthly inspection reports for Baghouse D007, certain exterior and interior items inspected were not repaired as soon as practicable. The table below highlights some of the reoccurring defects/deficiencies identified during the inspections and provides the duration:

<b>Category</b>	<b>Identified Defect</b>	<b>Duration</b>
Fan Belts and Bearings	Fan bearing and motor/belts/shaft are improperly aligned	October 2011 – March 2012
Housing	Housing corrosion	December 2011 – March 2013
	Water leaks/corner seams opening up	August 2012 - February 2014
Dust Removal	Large amount of material in the dust box/hopper	July 2011 – March 2014
Flow	Low Air Flow	April 2011, October– January 2011, June 2012 – March 2013
Shakers	Shaker drive boxes have stiffeners that are cracked	June 2011 – April 2012
	#5 and #6 breaker boxes switched	June – September 2012
Internal Compartment	Excessive dust buildup on bags (bag stretching, milking)	March 2013 – February 2014
Duct Work	Duct at the furnace is bent at its opening	September 2011 – November 2012
	Slide gate appears to be held by one bolt connection	March 2013 – March 2014

*Incomplete Operation and Maintenance Plan*

85. On April 10, 2007, Alliance Castings prepared an Operation and Maintenance Plan for the EAF dust collector. Alliance Castings revised the plan on September 18, 2007 (2007 Operation and Maintenance Plan). In March 2014, Alliance Castings prepared a new Operation and Maintenance Plan (2014 Operation and Maintenance Plan).

86. The 2007 Operation and Maintenance Plan, in effect from April 2007 until March 2014, did not include the following items:

- a) A site-specific monitoring plan for each BLDS, including initial installation, periodic adjustment, operation, a maintenance schedule, a spare parts inventory, and procedures for recording and storing data, as required by 40 C.F.R. § 63.7710(b)(4);
- b) A corrective action plan for each baghouse with requirements to initiate corrective action within one hour of a BLDS alarm as required by 40 C.F.R. § 63.7710(b)(5); and
- c) Procedures for igniting gases from mold vents in pouring areas and pouring stations, as required by 40 C.F.R. § 63.7710(b)(6).

87. The 2014 Operation and Maintenance Plan prepared by Alliance Castings in March 2014 still does not include a site-specific monitoring plan for the BLDS on Baghouse D022, including installation of the BLDS, initial and periodic adjustment of the BLDS, and how the alarm set-point will be established, as required by 40 C.F.R. § 63.7710(b)(4).

88. The 2014 Operation and Maintenance Plan does not include requirements to repair the defect or deficiency identified during an inspection as soon as practicable, as required by 40 C.F.R. § 63.7710(b)(1).

#### *Late Bag Leak Detection System Installation on Baghouse D022*

89. The 2012 Annual Emissions Reports states that Baghouse D022 was installed on February 12, 2009. According to Alliance Castings' baghouse maintenance records, Alliance Castings did not install the BLDS on Baghouse D022 until approximately March 2013.

#### *Bag Leak Detection System Does Not Meet Operation and Maintenance Requirements*

90. In the monthly inspection reports for Baghouse D007 in June and July 2011, the inspectors noted that "[w]e removed a light to moderate coating of dust from the Broken Bag Detectors." In every inspection report prior to these, it was noted that only a light coating of dust was removed from the bag leak detection system probes.

91. In the monthly inspection report for Baghouse D007 in June 2013, the inspectors noted that "[w]e removed and cleaned a light coating of dust from the Broken Bag detector probes. They had a little more dust coat on them then [sic] normal."

92. In the monthly inspection report for Baghouse D007 in March 2014, the inspectors noted that "[w]e did find minor leakage on the north and south radius of (3) bags in #1 compartment and the north radius of (1) bag in #2 compartment. We also found (1) bag in #2 compartment with a small ½" tear at a sewn seam about 8" from the bottom of the bag. We replaced the bag with the tear and removed, cleaned and re-installed the bags with the leakage at the radius. This is a typical problem with this design . . . ."

93. In response to EPA’s January 16, 2014 Information Request, Alliance Castings stated that, for the BLDS, “[t]here has never been an action alarm . . . .”

94. The failure of the BLDS to alarm, even when inspections showed that there were broken bags and greater particulate loading around the BLDS probe than normal, indicates that the alarm set points for the BLDS have not been properly established.

95. The U.S. Environmental Protection Agency guidance document “Fabric Filter Bag Leak Guidance,” EPA-454/R-98-015 (September 1997) recommends setting the alarm level at 2 times the maximum height of a typical cleaning spike for bag leak detection. Section 3.4 of the March 2014 Operation and Maintenance Plan states, among other things, that the action alarm level will be set based on 3 times the baseline signal.

Title V Permit

*Pressure Drop Limit Exceedances*

96. Alliance Castings’ daily and weekly recorded pressure drop readings deviated from the pressure drop range identified in the Title V Permit for the dates prior to February 5, 2013 and from the revised pressure drop range identified in the 114 Response for the dates after February 5, 2013, as follows:

Baghouse	Emission Unit	Number of Days Readings Outside of Range		
		2011	2012	2013
D007	P001	0	18	0
D022	P001	100	104	13
D001	P015, P014	2	1	3
D003	P011, P016, P017, P018, P020, P023, P029, P030, P031, P032, P033	1	0	0
D002 (North)	P002, P008	0	7	1
D002 (South)	P002, P008	6	6	4
D021	P005, P009, P010, P012	13	23	1
D009	P026	0	8	17
D005	P028	7	63	3
D014	P004	34	42	17
D008	P003	0	73	17

PTI 15-01570

*Failed Performance Test at D018*

97. As stated above, Baghouse D018 was permitted in PTI 15-01570 to control emissions from EUs P040, P041, P042, P043, P044, P045, and P046. However, Alliance Castings has indicated in its response to EPA's Section 114 Information Request that Baghouse D018 only controls emissions from EUs P040, P041, P042, P043, and P044.

98. On May 15, 2008, Grace Consulting, Inc. performed three runs of EPA Reference Methods 201A and 202 to determine the particulate matter emissions from control device D018. The PM<sub>10</sub> emission rate during the test was 0.16 lb./hr. which is more than 16 times higher than the emissions limitation of 0.01 lbs./hr. in PTI 15-01570. The control efficiency was 91.9% which is lower than the control efficiency of 99.9% required by the PTI.

*Failed Performance Test at D019*

99. Scrubber D019 controls emissions from EUs P047, P048, and P049. In its response to EPA's information request, Alliance Castings stated that Scrubber D019 also controls emissions from EUs P045 and P046.

100. P047, P048, and P049 are all core machines that use the isocure core making process.

101. On July 27, 2007, Grace Consulting, Inc. performed three runs of EPA Reference Methods 18 and 25 to determine the volatile organic carbon emissions from control device D019. The test report indicates that only emissions from EUs P047, P048, and P049 were tested.

102. The volatile organic carbon rate during the 2007 test was 1.95 lb./hr. which is more than 27 times higher than the combined emissions limitations of 0.07 lb./hr. for P047, P048, and P049 combined (0.04 lbs./hr. for P047, 0.02 lbs./hr. for P048 and 0.01 lbs./hr. for P049 by PTI 15-01570). The control efficiency of the scrubber was 61.51%. The control efficiency of the scrubber in removing only amine based VOC compounds was not tested. Alliance Castings' estimate of the amine-based VOC compound removal efficiency based on this test was 97.96% which is lower than the control efficiency of 99.8% required in the PTI.

*Pressure Drop Limit Exceedances*

103. Alliance Castings' daily and weekly recorded pressure drop readings deviated from the pressure drop range identified in the PTI 15-01570 permit for the dates prior to February 5, 2013 and for the revised pressure drop range identified in the 114 Response for the dates after February 5, 2013 as follows:

Control Device	Emission Unit	Number of Days Readings Outside of Range		
		2011	2012	2013
D018	P040, P041, P042, P043, P044	84	154	4
D023	P045, P046	136	200	17
D019 (daily average over several readings)	P047, P048, P049	102	192	15

PTI P0116125

*Potential to Emit VOCs Greater than 40 tons per year*

104. The CB800 Core Making Line identified as EU P050 in PTI P0116125 will use the same materials as the EMI CB500 one piece core production identified as EU P047, the Aristand A80 one piece core machine identified as EU P048 and the Aristand A12 one piece core making machine identified as EU P049 in PTI 15-01570.

105. Test results from the July 27, 2007 performance test conducted on EUs P047, P048, and P049 show that 1.95 lbs./hr. of VOCs were emitted during the test from the outlet for the scrubber identified as D019. The test report states that the comparable emission rate for DMIPA was 0.032 lbs./hr. Thus, the total VOC emission rate is approximately 61 times the emission rate of DMIPA.

106. PTI P0116125 limits VOC emissions of DMIPA from the D019 scrubber stack to 0.0025 lbs. VOC as DMIPA per pound of resin used. The PTI does not include a comparable limit for total pounds of VOCs per pound of resin used. As demonstrated by the testing described in Paragraph 103, the total VOC emission rate from the core productions lines is significantly higher than the DMIPA emission rate. Consequently, Alliance Castings does not have a federally-enforceable limit for total VOCs from EU P050.

107. Based on the results from the July 27, 2007 performance test conducted on EUs P047, P048, and P049 and an analysis of the maximum potential throughput of VOC-containing compounds in EU P050, EU P050 will have the potential to emit more than 40 tons per year of total VOCs.

108. Because the total VOC emission rate from EU P050 is expected to be greater than the PSD significance threshold of 40 tons per year for VOCs, the project is a "major modification" under the PSD program.

109. Alliance Castings has begun construction of EU P050 and expects to complete construction in July 2015.

110. Alliance Castings did not conduct any modeling or apply BACT controls prior to beginning construction of EU P050.

111. PTI P0116125 is not a valid Ohio EPA permit to install for a major modification under the Ohio SIP Rule at OAC 3745-31-13(A) since it does not include BACT controls and modeling as required by the PSD program.

## **Violations**

### **NESHAP for Iron and Steel Foundries**

#### *Failure to Demonstrate Compliance with Building Opacity Limit*

112. By failing to conduct performance testing to demonstrate compliance with the opacity limits in 40 C.F.R. § 63.7690(a)(7) at least once every 6 months during 2012 and 2013, Alliance Castings has violated performance testing requirements at 40 C.F.R. § 63.7731(b).

113. By failing to include a sketch of the observer's position relative to the source in accordance with EPA Method 9, Alliance Castings has violated performance testing requirements at 40 C.F.R. § 63.7732(d)(1) and EPA Method 9 in Appendix A-4 of 40 C.F.R. Part 60 on one occasion in 2012 and one occasion in 2014.

114. By failing to conduct opacity observations from the building housing the electric arc furnace during the August 14 – 15, 2012 performance test, Alliance Castings has violated performance testing requirements at 40 C.F.R. § 63.7732(d) and failed to demonstrate compliance with the opacity limit in 63.7690(a)(7).

#### *Failure to Install Properly Sized Baghouse to Control EAF Emissions During Charging and Tapping*

115. By installing a dust collection system to control emissions during charging and tapping that was smaller than the system recommended by the 2006 Ventilation Study, Alliance Castings has failed to operate its iron and steel foundry in a manner consistent with good air pollution control practices for minimizing emissions, in violation of the operation and maintenance requirements at 40 C.F.R. § 63.6(e)(1)(i) from February 12, 2009 to the present.

*Poor Operation and Maintenance on Baghouse D007*

116. By failing to repair defects or deficiencies identified during monthly inspections at Baghouse D007 as soon as practicable, Alliance Castings has failed to operate its iron and steel foundry in a manner consistent with good air pollution control practices for minimizing emissions, in violation the operation and maintenance requirements at 40 C.F.R. § 63.6(e)(1)(i) from at least April 2011 to March 2014.

117. By failing to repair defects or deficiencies identified during monthly inspections at Baghouse D007 as soon as practicable, Alliance Castings has failed to operate its iron and steel foundry at all times according to its written Operation and Maintenance Plan, in violation of the operation and maintenance requirements at 40 C.F.R. § 63.7710(b) from at least April 2011 to March 2014.

*Incomplete Operation and Maintenance Plan*

118. By failing to include a site-specific monitoring plan for each BLDS in the 2007 Operation and Maintenance Plan, Alliance Castings violated the requirements for an operation and maintenance plan at 40 C.F.R. § 63.7710(b)(4) from April 23, 2007 until March 2014.

119. By failing to include a corrective action plan for each baghouse in the 2007 Operation and Maintenance Plan, Alliance Castings violated the requirements for an operation and maintenance plan at 40 C.F.R. § 63.7710(b)(5) from April 23, 2007 until March 2014.

120. By failing to include procedures for igniting gases from mold vents in pouring areas in the 2007 Operation and Maintenance Plan, Alliance Castings violated the operation and maintenance requirements at 40 C.F.R. § 63.7710(b)(6) from April 23, 2007 until March 2014.

121. By failing to include a site-specific monitoring plan for the BLDS on Baghouse D022, including installation of the BLDS, initial and periodic adjustment of the BLDS, and how the alarm set-point will be established in the 2014 Operation and Maintenance Plan, Alliance Castings has violated the requirements for an operation and maintenance plan at 40 C.F.R. § 63.7710(b)(4) from March 2014 to the present.

122. By failing to include requirements to repair the defect or deficiency identified during an inspection as soon as practicable in the 2014 Operation and Maintenance Plan, Alliance Castings has violated the requirements for an operation and maintenance plan at 40 C.F.R. § 63.7710(b)(1) from March 2014 to the present.

*Late Bag Leak Detection System Installation on D022*

123. By failing to install a BLDS on Baghouse D022 until 2013, i.e., four years after the baghouse was installed, Alliance Castings failed to at all times monitor the relative change in PM loadings using a BLDS, in violation of the monitoring requirements at 40 C.F.R. § 63.7740(b).

### *Bag Leak Detection System Does Not Meet Operation and Maintenance Requirements*

124. By failing to establish alarm set points on the BLDS to alarm when bags have broken or particulate matter loading in the area of the BLDS probe has otherwise noticeably increased, Alliance Castings has violated the requirement to operate and maintain monitoring equipment in a manner consistent with good air pollution control practices for minimizing emissions, in violation of the operation and maintenance requirements at 40 C.F.R. § 63.6(e) from April 23, 2007 to the present.

125. By failing to establish the action alarm level as recommended by U.S. Environmental Protection Agency guidance document "Fabric Filter Bag Leak Detection Guidance" (EPA-454/R-98-015), Alliance Castings has violated the requirement that the BLDS monitoring plan must be consistent with the recommendations contained in this guidance document at 40 C.F.R. § 63.7710(b)(4) from April 23, 2007 to the present.

### Title V Permit

#### *Pressure Drop Limit Exceedances*

126. By failing to maintain the pressure drop across the baghouses within the range established in the Title V Permit and revised on February 5, 2013, on 584 days during 2011, 2012, and 2013, Alliance Castings violated the operational restrictions at Part III, A.II.1 of the Title V Permit for EUs P001, P002, P003, P004, P006, P008, P009, P011, P012, P013, P014, P015, P016, P017, P018, P020, P023, P026, P028, P029, P030, P031, P032, and P033.

### PTI 15-01570

#### *Failed Performance Test at D018*

127. By failing to limit the PM<sub>10</sub> emissions from EUs P040, P041, P042, P043, and P044 below 0.01 lbs./hr. of PM<sub>10</sub>, Alliance Castings has violated the emission limitation at Part III.A.I.1 of PTI 15-01570 from at least May 2008 to the present.

128. By failing to achieve 99.9% control of PM emissions from EUs P040, P041, P042, P043, and P044, Alliance Castings has violated the control efficiency requirement Part III.A.1.2.a of PTI 15-01570 from at least May 2008 to the present.

#### *Failed Performance Test at D019*

129. By failing to limit the VOC emissions from EUs P047, P048, and P049 below 0.04, 0.02, and 0.01 lb./hr., respectively, Alliance Castings has violated the emission limitations at Part III.A.1.1 of PTI 15-01570 for these emission units from at least July 2007 to the present.

130. By failing to achieve 99.8% control of amine-based VOC emissions from EUs P047, P048, and P049, Alliance Castings has violated the control efficiency requirements at Part III.A.1.2.b of PTI 15-01570 for these emission units from at least July 2007 to the present.

*Pressure Drop Limit Exceedances*

131. By failing to maintain the pressure drop across the baghouses within the ranges established in PTI 15-01570 and revised on February 5, 2013, on 904 days during 2011, 2012, and 2013, Alliance Castings violated the operational restrictions at Part III. A.II.I. of the PTI for EUs P040, P041, P042, P043, P044, P045, P046, P047, P048, and P049.

PTI P0116125

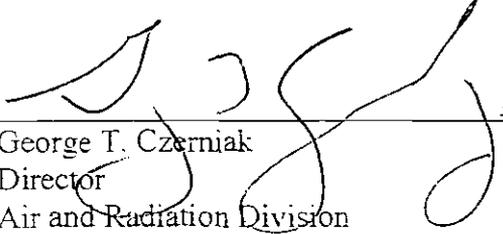
*Potential to Emit VOCs Greater than 40 tons per year*

132. Alliance Castings' failure to apply BACT to control emissions of VOC from the CB800 Core Making Line identified as EU P050 in PTI P0116125 prior to construction is a violation of the Ohio SIP Rule at OAC 3745-31-15(D).

133. Alliance Castings' failure to obtain a valid Ohio EPA permit to install that meets the PSD requirements in the Ohio SIP Rules at OAC 3745-31-01 through 3745-31-20 constitutes a violation of the Ohio SIP Rule at OAC 3745-31-13(A).

Date

3/24/15

  
George T. Czerniak  
Director  
Air and Radiation Division

**CERTIFICATE OF MAILING**

I, Loretta Shaffer, certify that I sent a Notice and Finding of Violation, No. EPA-5-14-IL-07, by Certified Mail, Return Receipt Requested, to:

Curtis Dowell  
Safety/Environmental Manager  
Alliance Castings Company, LLC  
1001 East Broadway Street  
Alliance, Ohio 44601

I also certify that I sent a copy of the Notice and Finding of Violation by first-class mail to:

Bob Hodanbosi  
Chief, Division of Air Pollution Control  
Ohio Environmental Protection Agency  
1800 WaterMark Drive  
Columbus, Ohio 43266-1049

Terri Dzienis  
Canton City Health Department  
420 Market Ave. North  
Canton, OH 44702-1544

On the 26<sup>th</sup> day of March 2015.

CERTIFIED MAIL RECEIPT NUMBER:

7014 2870 0001 9588 5234



Loretta Shaffer, Program Assistant  
PAS, AECAB