

Mr. August A. Cijan
Haynes International Inc.
2000 West Deffenbaugh Street
Kokomo, Indiana 46904

Re: **067-11021**
First Administrative Amendment to
Part 70067-7729-00009

Dear Mr. Cijan :

Haynes International Inc. was issued a permit on June 24, 1999 for a stationary rolling, drawing, and extruding of nonferrous metal foundry operation that produces nonferrous metal alloys. A letter requesting a modification to upgrade the existing dust collector to increase collection efficiency was received on May 28, 1999. Since there is no increase in potential to emit criteria pollutants and no new units are being installed, the permit is hereby administratively amended as follows, pursuant to the provisions of 2-7-11:

- (a) The new dust collector (DC-22) controls the particulate matter emissions from the one (1) electric arc furnace (EAF). The electric arc furnace (EAF) will continue to be in compliance with all applicable requirements, including those of 326 IAC 6-1-2. Section A.2 on page 5 of 51 has been changed to reflect the new emission point identification, as the electric arc furnace (EAF) now vents to only one duct, identified as DC-22 :

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)]
[326 IAC 2-7-5(15)]

This stationary source consists of the following emission units and pollution control devices:

Metal Melting and Machining Operations

- (1) One (1) argon oxygen decarbonization (AOD) vessel processing a metal throughput of 5.0 tons per hour with a dust collector for particulate matter control and exhausting to one (1) stack (S/V ID: DC-14);
- (2) Six (6) electroslag remelting furnaces (ESR) processing a total metal throughput of 5.51 tons per hour with a dust collector for particulate matter control and exhausting to one (1) stack (S/V ID: DC-18);
- (3) One (1) electric arc furnace (EAF) processing a metal throughput of 5.0 tons per hour with a five (5) module dust collector for particulate matter control and exhausting to ~~five (5) one (1) ducts~~ (S/V ID: DC-22(1), DC-22(2), DC-22(3), DC-22(4), and DC-22(5), respectively);

- (b) The Facility Description on page 32 of 51 has been changed to reflect the new emission point identification, as the electric arc furnace (EAF) now vents to only one duct, identified as DC-22 :

Facility Description [326 IAC 2-7-5(15)] - Metal Melting and Machining Operations including:

- (1) One (1) argon oxygen decarbonization (AOD) vessel processing a metal throughput of 5.0 tons per hour with a dust collector for particulate matter control and exhausting to one (1) stack (S/V ID: DC-14);
 - (2) Six (6) electroslag remelting furnaces (ESR) processing a total metal throughput of 5.51 tons per hour with a dust collector for particulate matter control and exhausting to one (1) stack (S/V ID: DC-18);
 - (3) One (1) electric arc furnace (EAF) processing a metal throughput of 5.0 tons per hour with a five (5) module dust collector for particulate matter control and exhausting to ~~five (5) one (1) ducts~~ (S/V ID: DC-22(1), DC-22(2), DC-22(3), DC-22(4), and DC-22(5), respectively);
- (c) The new dust collector (DC-22) controls the particulate matter emissions from the one (1) electric arc furnace (EAF). The electric arc furnace (EAF) will continue to be in compliance with all applicable requirements, including those of 326 IAC 6-1-2. Condition D.1.6 on page 34 of 51 has been changed to reflect the pressure drop range of the new dust collector, identified as (DC-22):

D.1.6 Parametric Monitoring

The Permittee shall record the total static pressure drop across the dust collectors used in conjunction with the facilities mentioned below, at least once daily when the facilities are in operation when venting to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the baghouse shall be maintained within the range specified below or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.

<u>Facility</u>	<u>Pressure Drop (inches of water)</u>
AOD (DC-14):	2.0 - 4.0
ESR (DC- 18):	6.0 - 8.0
EAF(DC- 22):	3.0 - 5.0 4.0 - 5.0
Saw/Grind (DC-31):	2.0 - 4.0
Rotoblast (DC-36):	1.0 - 3.0
Grinders (DC-1, DC-3, and DC-4):	2.0 - 4.0 each
Grinders (DC-23C and DC-23B):	2.0 - 4.0 each
Sawing (DC-2, DC-5, and DC-23A):	2.0 - 4.0 each
CMI grinder (DC-32):	2.0 - 4.0
CMI grinder (DC-37):	2.0 - 4.0

All other conditions of the permit shall remain unchanged and in effect. Please attach a copy of this amendment and the following revised permit pages to the front of the original permit.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter please contact Phillip Ritz, at 973-575-2555 (ext. 3241) or 1-800-451-6027 press 0 and ask for extension 3-6878.

Sincerely,

Paul Dubenetzky, Chief
Permits Branch
Office of Air Management

Attachments
PR/EVP

cc: File - Elkhart County
U.S. EPA, Region V
Elkhart County Health Department
Air Compliance Section Inspector - Doug Elliott
Compliance Data Section - Jerri Curless
Administrative and Development - Janet Mobley
Technical Support and Modeling - Nancy Landau

**PART 70 OPERATING PERMIT
and ENHANCED NEW SOURCE REVIEW
OFFICE OF AIR MANAGEMENT**

**Haynes International Inc.
2000 West Deffenbaugh Street
Kokomo, Indiana 46904**

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 and 326 IAC 2-1-3.2 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Operation Permit No.: T067-7729-00009	
Issued by: Janet G. McCabe, Assistant Commissioner Office of Air Management	Issuance Date: June 24, 1999
First Administrative Amendment: 067-11021	Pages Affected: 5, 32, 34
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date:

SECTION A

SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

The Permittee owns and operates a stationary rolling, drawing, and extruding of nonferrous metal foundry operation that produces nonferrous metal alloys.

Responsible Official: A. A. Cijan
Source Address: 2000 West Deffenbaugh Street, Kokomo, Indiana, 46904
Mailing Address: 1020 West Park Avenue, P.O. Box 9013, Kokomo, Indiana, 46904-9013
SIC Code: 3356
County Location: Howard
County Status: Attainment for all criteria pollutants
Source Status: Part 70 Permit Program
Major Source, under PSD Rules;
Major Source, Section 112 of the Clean Air Act

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source consists of the following emission units and pollution control devices:

Metal Melting and Machining Operations

- (1) One (1) argon oxygen decarbonization (AOD) vessel processing a metal throughput of 5.0 tons per hour with a dust collector for particulate matter control and exhausting to one (1) stack (S/V ID: DC-14);
- (2) Six (6) electroslag remelting furnaces (ESR) processing a total metal throughput of 5.51 tons per hour with a dust collector for particulate matter control and exhausting to one (1) stack (S/V ID: DC-18);
- (3) One (1) electric arc furnace (EAF) processing a metal throughput of 5.0 tons per hour with a five (5) module dust collector for particulate matter control and exhausting to one (1) duct (S/V ID: DC-22);
- (4) One (1) sawing operation consisting of one (1) swing frame abrasive cut-off saw and one (1) automatic abrasive cut-off saw processing a total metal throughput of 4.0 tons per hour with a dust collector for particulate matter control and exhausting to one (1) stack (S/V ID: DC-31);
- (5) One (1) CMI automatic abrasive billet grinder processing a metal throughput of 3.0 tons per hour with a dust collector for particulate matter control and exhausting to one (1) stack (S/V ID: DC-32);
- (6) One (1) rotoblast shot blaster processing a metal throughput of 8.0 tons per hour with a dust collector (DC-36) for particulate matter control and exhausting inside the building R35;

SECTION D.1

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)] - Metal Melting and Machining Operations including:

- (1) One (1) argon oxygen decarbonization (AOD) vessel processing a metal throughput of 5.0 tons per hour with a dust collector for particulate matter control and exhausting to one (1) stack (S/V ID: DC-14);
- (2) Six (6) electroslag remelting furnaces (ESR) processing a total metal throughput of 5.51 tons per hour with a dust collector for particulate matter control and exhausting to one (1) stack (S/V ID: DC-18);
- (3) One (1) electric arc furnace (EAF) processing a metal throughput of 5.0 tons per hour with a five (5) module dust collector for particulate matter control and exhausting to one (1) duct (S/V ID: DC-22);
- (4) One (1) sawing operation consisting of one (1) swing frame abrasive cut-off saw and one (1) automatic abrasive cut-off saw processing a total metal throughput of 4.0 tons per hour with a dust collector for particulate matter control and exhausting to one (1) stack (S/V ID: DC-31);
- (5) One (1) CMI automatic abrasive billet grinder processing a metal throughput of 3.0 tons per hour with a dust collector for particulate matter control and exhausting to one (1) stack (S/V ID: DC-32);
- (6) One (1) rotoblast shot blaster processing a metal throughput of 8.0 tons per hour with a dust collector (DC-36) for particulate matter control and exhausting inside the building R35;
- (7) One (1) new CMI grinder processing a metal throughput of 3.0 tons per hour with one (1) dust collector for particulate control and exhausting to one (1) stack (S/V ID: DC-37);
- (8) One (1) grinding operation consisting of three (3) trackbound traveling abrasive grind machines (Grind 1), each grinder processing a metal throughput of 1.875 tons per hour with three (3) dust collectors for particulate matter control and exhausting to three (3) stacks (S/V ID: DC-1, DC-3, and DC-4), respectively;
- (9) One (1) grinder operation consisting of one (1) track bound traveling abrasive grind machine and one (1) stationary abrasive end grinder (Grind 2), each grinder processing a metal throughput of 4.35 tons per hour with two (2) dust collectors for particulate matter control and exhausting to two (2) stacks (S/V ID: DC-23C and DC-23B), respectively;
- (10) One (1) sawing operation consisting of one (1) fox automatic abrasive cut-off saw and two (2) swing frame cut-off saws (Saw 1), each processing a metal throughput of 2.8 tons per hour with three (3) dust collectors for particulate matter control and exhausting to three (3) stacks (S/V ID: DC-2, DC-5, and DC-23A) respectively;

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.1.1 Particulate Matter (PM) [326 IAC 6-1-2]

Pursuant to 326 IAC 6-1-2(a)(Nonattainment Area Particulate Limitations), particulate matter (PM) emissions from the above listed facilities shall be limited to 0.03 grain per dry standard cubic foot (dscf).

D.1.6 Parametric Monitoring

The Permittee shall record the total static pressure drop across the dust collectors used in conjunction with the facilities mentioned below, at least once daily when the facilities are in operation when venting to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the baghouse shall be maintained within the range specified below or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.

<u>Facility</u>	<u>Pressure Drop (inches of water)</u>
AOD (DC-14):	2.0 - 4.0
ESR (DC- 18):	6.0 - 8.0
EAF(DC- 22):	4.0 - 5.0
Saw/Grind (DC-31):	2.0 - 4.0
Rotoblast (DC-36):	1.0 - 3.0
Grinders (DC-1, DC-3, and DC-4):	2.0 - 4.0 each
Grinders (DC-23C and DC-23B):	2.0 - 4.0 each
Sawing (DC-2, DC-5, and DC-23A):	2.0 - 4.0 each
CMI grinder (DC-32):	2.0 - 4.0
CMI grinder (DC-37):	2.0 - 4.0

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge Specifications, of this permit, shall be subject to approval by IDEM, OAM, and shall be calibrated at least once every six (6) months.

D.1.7 Baghouse/Dust Collector Inspections

An inspection shall be performed each calendar quarter of all bags controlling the melting, grinding, and sawing operations listed in this section when venting to the atmosphere. A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors. All defective bags shall be replaced.

D.1.8 Broken or Failed Bag Detection

In the event that bag failure has been observed.

- (a) The affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).
- (b) For single compartment baghouses, failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Appendix A: Process Particulate Emissions

Company Name: Haynes, International, Inc.
Address City IN Zip: 2000 West Deffenbaugh Street, Kokomo, IN 46904
Title V: T067-7729-00009
Reviewer: JM/EVP
Date: August 18, 1998

Potential Emissions (tons/year)															
Process	Dust Collector ID	No. of Units	acfm	Gas Temp F	Grain Loading per Actual Cubic Foot of Outlet Air	Air to Cloth Ratio Air Flow (acfm/ft ²)	Total Filter Area (ft ²)	Control Efficiency	Potential PM Emissions (tons/yr) Uncontrolled	Potential PM Emissions (tons/yr) Controlled	dscfm	grains/dscf	Allowable PM Emissions (lb/hr) (326 IAC 6-1-2)	Allowable PM Emissions (tons/yr) (326 IAC 6-1-2)	In Compliance with 326 IAC 6-1-2
EAF Furnace	DC-22	1	68,900	250	0.00520	2.5	27,650	99.00%	1344.08	13.44	40,991	0.009	10.54	46.17	(will comply)
Total Emissions Based on Rated Capacity at 8,760 Hours/Year									1344.08	13.44				46.17	

The applicant will conduct a performance test on the EAF furnace for PM to determine compliance with 326 IAC 6-1-2.

Methodology:

Potential (uncontrolled):

$$\text{Baghouse (tons/yr)} = \text{No. Units} * \text{Loading (grains/acf)} * \text{Air/Cloth Ratio (acfm/ft}^2\text{)} * \text{Filter Area (ft}^2\text{)} * 1 \text{ lb/7,000 grains} * 60 \text{ min/hr} * 8760 \text{ hr/yr} * 1 \text{ ton/2,000 lbs} * 1/(1-\text{Control Efficiency})$$

Potential (controlled):

$$\text{Baghouse (tons/yr)} = \text{No. Units} * \text{Loading (grains/acf)} * \text{Air/Cloth Ratio (acfm/ft}^2\text{)} * \text{Filter Area (ft}^2\text{)} * 1 \text{ lb/7,000 grains} * 60 \text{ min/hr} * 8760 \text{ hr/yr} * 1 \text{ ton/2,000 lbs}$$

Compliance with 326 IAC 6-1-2

The following calculations determine compliance with 326 IAC 6-1-2 (for counties listed in 326 IAC 6-1-7) to 0.03 grains/dscf of outlet air.

A sample calculation is given below of unit AOD:

$$\frac{13.66 \text{ ton/yr} * 2000 \text{ lb/ton} * 7000 \text{ gr/lb}}{525,600 \text{ min/yr} * 41,645 \text{ dscf/min}} = 0.009 \text{ gr/dscf} \quad (\text{will comply})$$

Allowable particulate emissions under 326 IAC 6-1-2 equate to 46.90 tons per year, or 10.71 lbs/hr.

Note:

$$\text{SCFM} = \frac{70,000 \text{ acfm} * (460 + 68) * (1.0 - 0.2)}{41,645 \text{ scfm} * (460 + 250)}$$

Assumes exhaust gas temperature of 250F, exhaust gas moisture content of 20% and exhaust gas flow of 70,000 acfm.