

# DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL

## DIVISION OF AIR QUALITY

Statutory Authority: 7 Delaware Code, Chapter 60 (7 **Del.C.** Ch. 60)  
7 **DE Admin. Code** 1123

### FINAL

Secretary's Order No.: 2018-A-0004

**RE: Approving Final Repeal of 7 DE Admin. Code 1123:**  
***Standards of Performance for Steel Plants: Electric Arc Furnaces***

**Date of Issuance: February 1, 2018**  
**Effective Date of the Amendment: March 11, 2018**

#### **1123 Standards of Performance for Steel Plants: Electric Arc Furnaces**

Under the authority vested in the Secretary of the Department of Natural Resources and Environmental Control ("Department" or "DNREC") pursuant to 7 **Del.C.** §§6006 and 6010, and the following findings of fact based on the record, reasons and conclusions are entered as an Order of the Secretary in the above-referenced regulatory proceeding.

#### **Background, Procedural History and Findings of Fact**

This Order relates to the proposed regulation repeal of 7 **DE Admin. Code** 1123, *Standards of Performance for Steel Plants: Electric Arc Furnaces*. The Department's Division of Air Quality is proposing the aforementioned repeal pursuant to 29 **Del.C.** §10407, which directs all State of Delaware executive branch agencies to conduct a periodic review of regulations promulgated by such agency to determine which regulations, if any, should be modified or eliminated. The current regulatory review process commenced on January 1, 2016, at which time the Department performed a focused review of its existing, older regulations, with the purpose to identify and remove regulatory hurdles, and modernize and streamline any regulations that may be outdated or unnecessarily burdensome, while maintaining the state's commitment to improving public health and environmental performance.

Among the considerations of the Department's review of its existing regulations was to ensure that all regulations continue to serve the original purpose for which they were adopted, and to provide for improvements. To that end, the Department's Division of Air Quality identified 7 **DE Admin. Code** 1123, *Standards of Performance for Steel Plants: Electric Arc Furnaces*, as an existing, older regulation which required repeal.

The Department is proposing to repeal 7 **DE Admin. Code** 1123, *Standards of Performance for Steel Plants: Electric Arc Furnaces*, as this regulation applies to electric arc furnaces in steel plants. Currently, there is no source in Delaware to which this regulation applies, and other more restrictive State and Federal requirements would apply should a new electric arc furnace be constructed here in Delaware in the future.

The Department's Division of Air Quality commenced the regulatory development process with Start Action Notice #2017-07 (July 3, 2017). The Department published its proposed regulation repeal in the October 1, 2017 Delaware *Register of Regulations*. The Department then held a public hearing on October 25, 2017. Members of the public attended that hearing, however, no comment was received by the Department at that time. Consistent with 29 **Del.C.** §10118(a), the public hearing record remained open for public comment through November 10, 2017. No comment was received from the public during the post-hearing phase of this promulgation.

Hearing Officer Vest prepared a Hearing Officer's Report dated January 18, 2018 ("Report"). The Report documents the proper completion of the required regulatory amendment process, establishes the record, and recommends the adoption of the proposed repeal as attached to the Report as Appendix "A".

#### **Reasons and Conclusions**

Based on the record developed by the Department's experts and established by the Hearing Officer's Report, I find that the proposed regulatory repeal of 7 **DE Admin. Code** 1123, *Standards of Performance for Steel Plants: Electric Arc Furnaces*, is well-supported. Therefore, the recommendations of the Hearing Officer are hereby adopted, and I direct that the proposed regulatory repeal be promulgated as final.

I find that the Department's experts in the Division of Air Quality fully developed the record to support adoption of this regulatory repeal. The adoption of this regulatory repeal will enable the Department to eliminate this antiquated regulation. Currently, there is no source in Delaware to which this regulation applies, and other more restrictive State and Federal

requirements would apply should a new electric arc furnace be constructed here in Delaware in the future.

The following reasons and conclusions are entered:

1. The Department has the statutory basis and legal authority to act with regard to the proposed repeal of 7 **DE Admin. Code** 1123, *Standards of Performance for Steel Plants: Electric Arc Furnaces*, pursuant to 7 **Del.C.** Ch. 60;
2. The Department has jurisdiction under its statutory authority, pursuant to 7 **Del.C.** Ch. 60, to issue an Order adopting this proposed regulatory repeal as final;
3. The Department provided adequate public notice of the proposed regulatory repeal, and all proceedings associated with the same, in a manner required by the law and regulations. The Department provided the public with an adequate opportunity to comment on the proposed repeal, including at the time of the public hearing held on October 25, 2017, and held the record open through close of business on November 10, 2017, consistent with 29 **Del.C.** §10118(a), in order to consider public comment on the same before making any final decision;
4. Promulgation of the proposed regulatory repeal of 7 **DE Admin. Code** 1123, *Standards of Performance for Steel Plants: Electric Arc Furnaces* will enable the Department to eliminate this antiquated regulation. Currently, there is no source in Delaware to which this regulation applies, and other more restrictive State and Federal requirements would apply should a new electric arc furnace be constructed here in Delaware in the future;
5. The Department has reviewed this proposed regulatory repeal in light of the Regulatory Flexibility Act, consistent with 29 **Del.C.** Ch. 104, and has selected Exemption "A" regarding same, as this proposed regulation repeal will not apply to small businesses or individuals at all;
6. The Department's Hearing Officer's Report, including its established record and the recommended proposed regulatory repeal as set forth in Appendix "A", is hereby adopted to provide additional reasons and findings for this Order;
7. The Department's proposed regulatory repeal, as published in the October 1, 2017 Delaware *Register of Regulations*, and as set forth in Appendix "A" as noted above, is adequately supported, is not arbitrary or capricious, and is consistent with the applicable laws and regulations. Consequently, it is approved as a final regulatory repeal, which shall go into effect ten days after its publication in the next available issue of the Delaware *Register of Regulations*; and
8. The Department shall submit this Order approving as final the proposed repeal of 7 **DE Admin. Code** 1123, *Standards of Performance for Steel Plants: Electric Arc Furnaces*, to the Delaware *Register of Regulations* for publication in its next available issue, and provide such other notice as the law and regulation require and the Department determines is appropriate.

Shawn M. Garvin, Secretary

#### **~~1123 Standards of Performance for Steel Plants: Electric Arc Furnaces~~**

02/01/1981

##### **1.0 Applicability**

~~The provisions of this regulation are applicable to existing electric arc furnaces over 100 tons capacity and their associated dust handling equipment in steel plants.~~

04/18/1983

##### **2.0 Definitions**

As used in this regulation, all terms not defined herein shall have the meaning given them in 7 **Del.C.**, Ch. 60 and in 7 **DE Admin. Code** 1101.

~~"Capture system" means the equipment (including ducts, hoods, fans, dampers, etc.) used to capture or transport particulate matter generated by an EAF to the air pollution control device.~~

~~"Charge" means the addition of iron and steel scrap or other materials into the top of an electric arc furnace.~~

~~"Charging period" means the time period commencing at the moment an EAF starts to open and ending either three minutes after the EAF roof is returned to its closed position or six minutes after commencement of opening of the roof, whichever is longer.~~

~~"Control device" means the air pollution control equipment used to remove particulate matter generated by an EAF from the effluent gas stream.~~

~~"Direct shell evacuation system" means any system that maintains a negative pressure within the EAF above the slag or metal and ducts these emissions to the control device.~~

~~"Dust handling equipment" means any equipment used to handle particulate matter collected by the control device and located at or near the control device for an EAF subject to this regulation.~~

~~"Electric arc furnace (EAF)" means any furnace that produces molten steel and heats the charge materials with electric arcs from carbon electrodes. Furnaces from which the molten steel is cast into the shape of finished products, such as in foundry, are not applicable facilities included within the scope of this definition. Furnaces which, as the primary source of iron, continuously feed prerduced ore pellets are not applicable facilities within the scope of this definition.~~

**"Heat time"** means the period commencing when scrap is charged to an empty EAF and terminating when the EAF tap is completed.

**"Meltdown and refining"** means that phase of the steel production cycle when charge material is melted and undesirable elements are removed from the metal.

**"Meltdown and refining period"** means the time period commencing at the termination of the initial charging period and ending at the initiation of the tapping period, excluding any intermediate charging periods.

**"Shop opacity"** means the arithmetic average of 24 or more opacity observations of emissions from the shop taken from the applicable time periods in accordance with Method 9 set forth in Appendix A, 40 CFR Part 60, revised July 1, 1975. All sections of Method 9 not previously adopted are hereby adopted by reference.

**"Shop"** means the building which houses one or more EAFs.

**"Tap"** means the pouring of molten steel from an EAF.

**"Tapping period"** means the time period commencing at the moment an EAF begins to tilt to pour and ending either three minutes after an EAF returns to an upright position or six minutes after commencing to tilt, whichever is longer.

04/18/1983

### **3.0 Standard for Particulate Matter**

- 3.1- ~~No owner or operator subject to the provisions of this regulation shall cause to be discharged into the atmosphere from an electric arc furnace any gases which:~~
  - 3.1.1 ~~Exit from a control device and contain particulate matter in excess of 12 mg/dscm (0.0052 gr/dscf).~~
  - 3.1.2 ~~Exit from a control device and exhibit 3% opacity or greater.~~
  - 3.1.3 ~~Exit from a shop and, due solely to operations of any EAF or EAFs, exhibit greater than zero% shop opacity except:~~
    - 3.1.3.1 ~~Shop opacity greater than zero%, but less than 20%, may occur during charging periods.~~
    - 3.1.3.2 ~~Shop opacity greater than zero%, but less than 40%, may occur during tapping periods for no longer than 13 minutes, with an additional three minute period of less than 10% opacity.~~
    - 3.1.3.3 ~~Where the capture system is operated such that the roof of the shop is closed during the charge and the tap, and emissions to the atmosphere are prevented until the roof is opened after completion of the charge or tap, the shop opacity standards under paragraph 3.1.3 of this regulation shall apply when the roof is opened and shall continue to apply for the length of time defined by the charging or tapping periods.~~
- 3.2- ~~No owner or operator subject to the provisions of 3.0 of this regulation shall cause to be discharged into the atmosphere from dust handling equipment any gases which exhibit 10% opacity or greater.~~

02/01/1981

### **4.0 Monitoring of Operations**

- 4.1- ~~The owner or operator subject to the provisions of this regulation shall maintain records daily of the following information:~~
  - 4.1.1 ~~Time and duration of each charge; all records shall be made available to the Department upon request.~~
  - 4.1.2 ~~Time and duration of each tap; all records shall be made available to the Department upon request.~~
  - 4.1.3 ~~All flow rate data obtained under 4.2 of this regulation, or equivalent obtained under 4.4 of this regulation; and~~
  - 4.1.4 ~~All pressure data obtained under 4.5 of this regulation.~~
- 4.2- ~~Except as provided under 4.4 of this regulation, the owner or operator subject to the provisions of 4.0 of this regulation shall install, calibrate, and maintain a monitoring device that continuously records the volumetric flow rate through each separately ducted hood. The monitoring device or devices may be installed in any appropriate location in the exhaust duct such that reproducible flow rate monitoring will result. The flow rate monitoring device or devices shall have an accuracy of +/- 10% over its normal operating range and shall be calibrated according to the manufacturer's instruction. The Secretary may require the owner or operator to demonstrate the accuracy of monitoring device or devices relative to Methods 1 and 2 of Appendix A, 40 CFR Part 60, revised July 1, 1975.~~
- 4.3- ~~When the owner or operator of an EAF is required to demonstrate compliance with the standard under 3.1.3 of this regulation and at any other time the Secretary may require the volumetric flow rate through each separately ducted hood shall be determined during all periods in which the hood is operated for the purpose of capturing emissions from the EAF using the monitoring device under 4.2 of this regulation. The owner or operator may petition the Secretary for reestablishment of these flow rates whenever the owner or operator can demonstrate to the Secretary's satisfaction that the EAF operating conditions upon which the flow rates were previously established are no longer applicable. The flow rates determined during the most recent demonstration of compliance shall be maintained (or may be exceeded) at the appropriate level for each~~

- applicable period. Operation at lower flow rates may be considered by the Secretary to be unacceptable operation and maintenance of the applicable facility.
- 4.4- The owner or operator may petition the Secretary to approve any alternative method that will provide a continuous record of operation of each emission capture system.
- 4.5- Where emissions during any phase of the heat time are controlled by use of a direct shell evacuation system, the owner or operator shall install, calibrate, and maintain a monitoring device that continuously records the pressure in the free space inside the EAF. The pressure shall be recorded as 15-minute integrated averages. The monitoring device may be installed in any appropriate location in the EAF such that reproducible results will be obtained. The pressure monitoring device shall have an accuracy of  $\pm 5$  mm of water gauge over its normal operating range and shall be calibrated according to the manufacturer's instructions.
- 4.6- When the owner or operator of an EAF is required to demonstrate compliance with the standard under 3.1.3 of this regulation and at any other time the Secretary may require, the pressure in the free space inside the furnace shall be determined during the meltdown and refining period or periods using the monitoring device under 4.5 of this regulation. The owner or operator may petition the Secretary for reestablishment of the 15-minute integrated average pressure whenever the owner or operator can demonstrate to the Secretary's satisfaction that the EAF operating conditions upon which the pressures were previously established are no longer applicable. The pressure determined during the most recent demonstration of compliance shall be maintained at all times the EAF is operating in a meltdown and refining period. Operating at higher pressures may be considered by the Secretary to be unacceptable operation and maintenance of the applicable facility.
- 4.7- Where the capture system is designed and operated such that all emissions are captured and ducted to a control device, the owner or operator shall not be subject to the requirements of 4.0 of this regulation.

02/01/1981

## **5.0 Test Methods and Procedures**

- 5.1- Except as allowed pursuant to 4.4 of this regulation, reference method in Appendix A, 40 CFR Part 60, revised July 1, 1975, shall be used to determine compliance with the standards prescribed under 3.0 of this regulation as follows:
- 5.1.1 Method 5 for concentration of particulate matter and associated moisture content;
  - 5.1.2 Method 1 for sample and velocity traverses;
  - 5.1.3 Method 2 for velocity and volumetric flow rate; and
  - 5.1.4 Method 3 for gas analysis.
- 5.2- For Method 5, the sampling time for each run shall be at least four hours. When a single EAF is sampled, the sampling time for each run shall also include an integral number of heats. Shorter sampling times, when necessitated by process variables or other factors, may be approved by the Secretary. The minimum sample volume shall be 4.5 dscm (160 dscf).
- 5.3- For the purpose of 5.0 of this regulation, the owner or operator shall conduct the demonstration of compliance with 3.1.3 of this regulation and furnish the Secretary a written report of the results of the test.
- 5.4- During any performance test required by 5.0 of this regulation, no gaseous diluents may be added to the effluent gas stream after the fabric in any pressurized fabric filter collector, unless the amount of dilution is separately determined and considered in the determination of emissions.
- 5.5- When more than one control device serves the EAF or EAFs being tested, the concentration of particulate matter shall be determined by dividing the total of the particulate matter discharged from each control device, in mg/dscm, by the total of the volumetric flow rates of each effluent gas stream, in dscm/hour.
- 5.6- Any control device subject to the provisions of 5.0 of this regulation shall be designed and constructed to allow measurement of emissions using applicable test methods and procedures.
- 5.7- Where emissions from an EAF are combined with emissions from facilities not subject to the provisions of 5.0 of this regulation but controlled by a common capture system and control device, the owner or operator may use any of the following procedures during a performance test:
- 5.7.1 Base compliance on control of the combined emissions.
  - 5.7.2 Utilize a method acceptable to the Secretary which compensates for the emissions from the facilities not subject to the provisions of 5.0 of this regulation.
  - 5.7.3 Any combination of the criteria of 5.7.1 and 5.7.2 of this regulation.
- 5.8- Where emissions from an EAF are combined with emissions from facilities not subject to the provisions of 5.0 of this regulation, the owner or operator may use any of the following procedures for demonstrating compliance with 3.1.3 of this regulation:-
- 5.8.1 Base compliance on control of the combined emissions.
  - 5.8.2 Shut down operation of facilities not subject to the provisions of 5.0 of this regulation.
  - 5.8.3 Any combination of the criteria of 5.8.1 and 5.8.2 of this regulation.

