

§2101.20 DEFINITIONS {unless specifically indicated, all definitions effective October 20, 1995}

“**Pushing**” means the operation by which coke is removed from a coke oven and transported to a quench station, beginning, ~~for the coke oven batteries designated 13, 14, 15, 20, and B at the USX Corporation Clairton Works, at the time the coke mass starts to move and ending at the time the coke transfer car enters the coke quenching system, and for all other coke oven batteries,~~ **beginning** when **either** the **pusher side or** coke side door is first removed from a coke oven and continuing until the **quench water spray is applied to the coke in the coke transfer car** ~~quenching operation is commenced.~~ {effective February 1, 1994}

“**Soaking emissions** ~~from a standpipe cap~~” means **uncombusted** emissions from an open standpipe which has been dampered off in preparation of pushing the coke mass out of the oven and shall end when pushing begins, ~~i.e., when the coke side door is removed.~~ {Added by August 29, 2013 amendment, effective September 23, 2013}

**§2105.21 COKE OVENS AND COKE OVEN GAS**

*{portions effective August 15, 1997, the remainder effective February 1, 1994; Paragraph e.6 added June 22, 1995, effective July 11, 1995 and amended May 14, 2010 effective May 24, 2010; §2105.21.b, e, and h amended effective August 15, 1997; Subsection f amended February 12, 2007 effective April 1, 2007. Subsection i added August 29, 2013, effective September 23, 2013. Paragraph e.6 amended November 13, 2014, effective January 1, 2015.}*

a. **Charging.** No person shall operate, or allow to be operated: ~~1. a~~ Any battery of coke ovens ~~installed, replaced, or reconstructed, or at which a major modification was made on or after January 1, 1978,~~ in such manner that the ~~aggregate of~~ visible charging emissions exceeds ten (10) seconds per charge, ~~a total of 55 seconds during any five (5) consecutive charges on such battery;~~ or

~~2. Any other battery of coke ovens in such manner that the aggregate of visible charging emissions exceeds a total of 75 seconds during any four (4) consecutive charges on such battery.~~

b. **Door Areas.** No person shall operate, or allow to be operated, any battery of coke ovens in such manner that:

1. ~~For any batteries installed, replaced, or reconstructed, or at which a major modification was made on or after January 1, 1978,~~ At any time, there are visible emissions from more than one (1) five percent (5%) of the door areas of the operating coke ovens per observed battery side ~~in such battery, excluding the two door areas of the last oven charged and any door areas obstructed from view;~~ or

~~2. For any other batteries, other than those subject to Paragraph b.3 of this Section, at any time, there are visible emissions from more than ten percent (10%) of the door areas of the operating coke ovens in such battery, excluding the two door areas of the last oven charged and any door areas obstructed from view;~~

~~3. For any of the following batteries, at any time, there are visible emissions from more than eight percent (8%) of the door areas of the operating coke ovens in such battery, excluding the two door areas of the last oven charged and any door areas obstructed from view:~~

**SPECIFIC COKE OVEN BATTERIES**

Source Name \_\_\_\_\_ Location \_\_\_\_\_

~~A. Coke Battery #1 \_\_\_\_\_ USX Corp. Clairton, PA \_\_\_\_\_~~

~~B. Coke Battery #2 \_\_\_\_\_ USX Corp. Clairton, PA \_\_\_\_\_~~

~~C. Coke Battery #3 \_\_\_\_\_ USX Corp. Clairton, PA \_\_\_\_\_~~

~~D. Coke Battery #7 \_\_\_\_\_ USX Corp. Clairton, PA \_\_\_\_\_~~

- ~~E. Coke Battery #8 USX Corp. Clairton, PA~~
- ~~F. Coke Battery #9 USX Corp. Clairton, PA~~
- ~~G. Coke Battery #19 USX Corp. Clairton, PA; or~~

~~2.4. Emissions from a the door areas of a any coke oven exceed an opacity of 30%40% at any time. 15 or more minutes after such oven has been charged.~~

~~5. Unless for any of the following batteries at the USX Clairton Coke Works, Clairton, Pennsylvania, there is installed big plug doors on the coke side of each oven by January 1, 2000. Any replacement doors on these batteries, replaced after January 1, 2000, will also be big plug doors. A big plug door is a door that, when installed, contains a plug with minimum dimensions as listed below:~~

~~SPECIFIC COKE OVEN BATTERIES~~

<del>Source Name</del>	<del>Minimum Width</del>	<del>Minimum Depth</del>
<del>A. Coke Battery #1</del>	<del>18 1/4"</del>	<del>14 1/2"</del>
<del>B. Coke Battery #2</del>	<del>18 1/4"</del>	<del>14 1/2"</del>
<del>C. Coke Battery #3</del>	<del>18 1/4"</del>	<del>14 1/2"</del>
<del>D. Coke Battery #7</del>	<del>17"</del>	<del>16 3/16"</del>
<del>E. Coke Battery #8</del>	<del>17"</del>	<del>16 3/16"</del>
<del>F. Coke Battery #9</del>	<del>17"</del>	<del>16 3/16"</del>
<del>G. Coke Battery #19</del>	<del>17"</del>	<del>16 1/4"</del>
<del>H. Coke Battery #20</del>	<del>17"</del>	<del>16 1/4"</del>

c. **Charging Ports.** No person shall operate, or allow to be operated: ~~1. aAny battery of coke ovens installed, replaced, or reconstructed, or at which a major modification was made on or after January 1, 1978, in such manner that, at any time, there are visible emissions from any more than one percent (1%) of the charging ports or charging port seals on the operating coke ovens of such battery. This subsection does not apply to charging emissions.~~ ~~or~~

~~2. Any other battery of coke ovens in such manner that, at any time, there are visible emissions from more than two percent (2%) of the charging ports or charging port seals on the operating coke ovens of such battery.~~

d. **Offtake Piping.** Except as provided in subsection d.3, n~~N~~o person shall operate, or allow to be operated:

1. Any battery of coke ovens ~~installed, replaced, or reconstructed, or at which a major modification was made on or after January 1, 1978,~~ in such manner that, at any time, there are visible emissions from more than one (1) four percent (4%) of the offtake piping on the ~~operating~~ coke ovens per observed battery side ~~of such~~

battery; or

~~2. Any other battery of coke ovens in such manner that, at any time, there are visible emissions from more than five percent (5%) of the offtake piping on the operating coke ovens of such battery.~~

**2. Emissions from an open offtake piping of any coke oven exceed an opacity of 60% at any time.**

**3. Subsections d.1 and d.2 do not apply to soaking emissions or for pushing operations.**

e. **Pushing.** No person shall operate, or allow to be operated, any battery of coke ovens unless there is installed on such battery a pushing emission control device which is designed to reduce fugitive emissions from pushing to the minimum attainable through the use of BACT, nor shall any person operate, or allow to be operated any battery of coke ovens in such manner that:

~~1. At any time, the particulate mass emission rate from the pushing emission control device, for any battery other than those subject to Paragraph e.2 or e.3 of this Section, exceeds a rate determined by an outlet concentration of 0.020 grains per dry standard cubic foot, or the rate determined by the following formula, whichever is greater:~~

$$A = 0.76W^{0.42}$$

~~where A = allowable mass emission rate in pounds per hour per battery, and  
W = actual coke pushing rate in tons of coke per hour per battery;~~

**1.2.** At any time, the particulate mass emission rate from the pushing emission control device, ~~for any of the following batteries,~~ exceeds a rate determined by an outlet concentration of 0.010 grains per dry standard cubic foot~~;~~

#### SPECIFIC COKE OVEN BATTERIES

~~Source Name \_\_\_\_\_ Location \_\_\_\_\_~~

~~A. Coke Battery #1 \_\_\_\_\_ USX Corp. Clairton, PA~~

~~B. Coke Battery #2 \_\_\_\_\_ USX Corp. Clairton, PA~~

~~C. Coke Battery #3 \_\_\_\_\_ USX Corp. Clairton, PA~~

~~D. Coke Battery #7 \_\_\_\_\_ USX Corp. Clairton, PA~~

~~E. Coke Battery #8 \_\_\_\_\_ USX Corp. Clairton, PA~~

~~F. Coke Battery #9 \_\_\_\_\_ USX Corp. Clairton, PA~~

~~G. Coke Battery #19 \_\_\_\_\_ USX Corp. Clairton, PA~~

H. ~~Coke Battery #1~~ ~~Shenango Inc Neville PA~~

- ~~2.3.~~ At any time, the particulate mass emission rate from the pushing emission control device, ~~for any of the following batteries~~, exceeds a rate determined by an outlet concentration of ~~0.020~~ **0.040** pounds per ton of coke **produced**;

**SPECIFIC COKE OVEN BATTERIES**

Source Name \_\_\_\_\_ Location \_\_\_\_\_

A. ~~Coke Battery #13~~ ~~USX Corp. Clairton, PA~~

B. ~~Coke Battery #14~~ ~~USX Corp. Clairton, PA~~

C. ~~Coke Battery #15~~ ~~USX Corp. Clairton, PA~~

D. ~~Coke Battery #20~~ ~~USX Corp. Clairton, PA~~

E. ~~Coke Battery B~~ ~~USX Corp. Clairton, PA~~

- ~~3.4.~~ ~~Fugitive P~~ pushing emissions or emissions from the pushing emission control device outlet **shall** equal or exceed an opacity of ~~10%~~ **20%** at any time; ~~or, except if the Department determines in writing, upon written application from the person responsible for the coke ovens setting forth all information needed to make such determination, that such emissions are of only minor significance with respect to causing air pollution and do not prevent or interfere with the attainment or maintenance of any ambient air quality standard (any such determination shall be submitted as a proposed revision to Allegheny County's portion of the SIP);~~

- ~~5.~~ ~~Visible emissions from the transport of hot coke in the open atmosphere exceed ten percent (10%) opacity at any time; or~~

- ~~4.6.~~ For any of the following batteries, at any time, the hot coke fails to be held under the hood of the pushing emission control (PEC) device for at least 67 seconds immediately after the pusher ram begins to move and the damper to the PEC device is opened or for at least 15 seconds immediately following the fall of the last of the coke into the hot car, whichever is longer:

**SPECIFIC COKE OVEN BATTERIES**

Source Name \_\_\_\_\_ Location \_\_\_\_\_

A. Coke Battery #1 **U. S. Steel** ~~USX~~ Corp. Clairton, PA

B. Coke Battery #2 **U. S. Steel** ~~USX~~ Corp. Clairton, PA

C. Coke Battery #3 **U. S. Steel** ~~USX~~ Corp. Clairton, PA

D. Coke Battery #7 **U. S. Steel** ~~USX~~ Corp. Clairton, PA

E. Coke Battery #8 **U. S. Steel** ~~USX~~ Corp. Clairton, PA

F. Coke Battery #9 **U. S. Steel** ~~USX~~ Corp. Clairton, PA

G.	Coke Battery #13	<u>U. S. Steel</u> <del>USX</del> Corp. Clairton, PA
H.	Coke Battery #14	<u>U. S. Steel</u> <del>USX</del> Corp. Clairton, PA
I.	Coke Battery #15	<u>U. S. Steel</u> <del>USX</del> Corp. Clairton, PA
J.	Coke Battery #19	<u>U. S. Steel</u> <del>USX</del> Corp. Clairton, PA
K.	Coke Battery #20	<u>U. S. Steel</u> <del>USX</del> Corp. Clairton, PA

except that this Paragraph shall only be effective during the period from 30 days following the issuance of a written notice by the Department to the owner or operator of such battery that EPA has required the implementation of the contingency measures under the portion of the PM-10 SIP for the Liberty Borough/Clairton area, until issuance of a written notice by the Department that such measures are no longer required.

f. **Combustion Stacks.** No person shall operate, or allow to be operated, any battery of coke ovens in such manner that, at any time, emissions from the combustion stack serving such battery:

1. ~~For any battery of coke ovens installed, replaced, or reconstructed, or at which a major modification was made on or after January 1, 1978, E~~ exceed a particulate concentration of 0.010 ~~0.015~~ grains per dry standard cubic foot;
- ~~2. For any battery other than those subject to Paragraph f.1 of this Section, exceed a particulate concentration of 0.030 grains per dry standard cubic foot;~~
- ~~2.3.~~ Equal or exceed an opacity of 20% for a period or periods aggregating in excess of three (3) minutes in any 60 minute period; or
- ~~3.4.~~ Equal or exceed an opacity of 60% at any time.

Measurements of opacity shall be performed according to the methods for visible emissions established by §2107.11 of this Article.

g. **Quenching.** No person shall quench, or allow the quenching of, coke unless the emissions from such quenching are vented through a baffled quench tower and the water used for such quenching is equivalent to, or better than, the water quality standards established for the nearest stream or river by regulations promulgated by the DEP under the Pennsylvania Clean Streams Law, Act of June 22, 1937, PL. 1987, as amended, 35 P.S. 691.1 et seq., except that water from the nearest stream or river may be used for the quenching of coke. The nearest stream or river to the U. S. Steel ~~USX~~ Corporation facility in Clairton, PA, shall be the Monongahela River.

h. **Coke oven gas.** Except as provided for in this Section, no person shall operate, or allow to be operated, any source in such manner that unburned coke oven gas is emitted into the open air. In addition, no person shall flare, mix, or combust coke oven gas, or allow such gas to be flared, mixed, or combusted, unless the concentration of measured sulfur compounds, ~~expressed measured~~ as hydrogen sulfide, in such gas is less than or equal to the following concentrations:

1. Where the rated production capacity of the coke plant producing such gas is less than 70 million standard cubic feet of coke oven gas per day, a concentration of **thirty-five (35)** 70 grains per hundred dry standard cubic feet of coke oven gas or the concentration determined by the following formula whichever is less:

$A = 156E^{-0.27}$  where A = allowable hydrogen sulfide content in grains per hundred dry standard cubic feet of coke oven gas, and

E = maximum coke oven gas production rate in millions of cubic feet per day;

2. For all coke batteries installed, replaced, or reconstructed, or at which a major modification was made on or after January 1, 1978, where the rated production capacity of the coke plant producing such gas is equal to or more than 70 million standard cubic feet of coke oven gas per day, ~~other than those subject to Paragraph h. 3 of this Section,~~ a concentration of ten **(10)** grains per hundred dry cubic feet of coke oven gas;

- ~~3. For the following battery, on and before December 31, 1996, a concentration of 45 grains per hundred dry cubic feet of coke oven gas, and after December 31, 1996, a concentration of 34 grains per hundred dry cubic feet of coke oven gas:~~

#### ~~SPECIFIC COKE OVEN BATTERIES~~

~~Source Name \_\_\_\_\_ Location \_\_\_\_\_~~

~~A. \_\_\_\_\_ Coke Battery #1 \_\_\_\_\_ Shenango Inc Neville PA \_\_\_\_\_~~

- ~~3.5.~~ For all other coke batteries, where the rated production capacity of the coke plant producing such gas is equal to or more than 70 million standard cubic feet of coke oven gas per day, other than those subject to Paragraph h.2 ~~or h. 3~~ of this Section, a concentration of **fifty (50)** grains per hundred dry cubic feet of coke oven gas.

4. The standards set forth in Paragraphs h.2 **and h.3** of this Section for the ~~following~~ coke oven batteries ~~designated 13, 14, 15, 20, and B~~ at the **U. S. Steel USX Corporation Clairton Plant Works** shall be deemed satisfied for such batteries if the coke oven gas ~~from the following batteries and treated by the Clairton Works coke oven gas desulfurization system in existence as of June 24, 1993,~~ has a **measured** sulfur compound concentration, ~~expressed measured~~ as **equivalent** H<sub>2</sub>S, of no greater than **thirty-five (35)** 40 grains per hundred dry standard cubic feet of coke oven gas produced by the Clairton **Plant Works**, when all sulfur emissions from its Claus Sulfur Recovery Plant and the tail gas cleaning equipment thereon, expressed as equivalent H<sub>2</sub>S, are added to the ~~expressed measured~~ H<sub>2</sub>S **concentration in the coke oven gas produced by the U. S. Steel Corporation Clairton Plant.**

**If any of the following conditions are met, then the standard for measured sulfur compound concentration, expressed as equivalent H<sub>2</sub>S, applicable**

under this subsection for the coke oven batteries shall be either the weighted average for the coke oven batteries in operation or thirty-five (35) grains per hundred dry standard cubic feet of coke oven gas, whichever is less:

- A. U. S. Steel Corporation Clairton Plant shuts downs or idles any of the coke oven batteries in operation as of July 1, 2018; or
- B. U. S. Steel Corporation Clairton Plant installs, replaces, reconstructs, or performs a major modification of a coke oven battery on or after July 1, 2018.

~~SPECIFIC COKE OVEN BATTERIES~~

~~Source Name \_\_\_\_\_ Location \_\_\_\_\_~~

- ~~A. Coke Battery #1 USX Corp. Clairton, PA~~
- ~~B. Coke Battery #2 USX Corp. Clairton, PA~~
- ~~C. Coke Battery #3 USX Corp. Clairton, PA~~
  
- ~~D. Coke Battery #7 USX Corp. Clairton, PA~~
- ~~E. Coke Battery #8 USX Corp. Clairton, PA~~
- ~~F. Coke Battery #9 USX Corp. Clairton, PA~~
  
- ~~G. Coke Battery #13 USX Corp. Clairton, PA~~
- ~~H. Coke Battery #14 USX Corp. Clairton, PA~~
- ~~I. Coke Battery #15 USX Corp. Clairton, PA~~
  
- ~~J. Coke Battery #19 USX Corp. Clairton, PA~~
- ~~K. Coke Battery #20 USX Corp. Clairton, PA~~
- ~~L. Coke Battery B USX Corp. Clairton, PA~~

The concentration of sulfur compounds specified by this Subsection shall include measured tail-gas sulfur compounds, expressed, ~~measured~~ as hydrogen sulfide, emitted from sulfur removal equipment.

- i. Soaking. No person shall operate, or allow to be operated, any battery of coke ovens in such manner that there are ~~At no time shall~~ soaking emissions from a standpipe cap opening ~~exceed twenty percent (20%) opacity.~~ An exclusion from this opacity requirement ~~limit~~ shall be allowed for two (2) minutes after a standpipe cap is initially opened or observed open. ~~Compliance with this standard shall be determined through observing the standpipe from a position where the observer can note the time the oven is dampered off and, following the two minute exclusion, read the soaking emissions from the open standpipe in accordance with Method 9.~~

j. Visible Emissions.

- 1. General. Except as provided in Subsection j.2 below, no person shall



**operate, or allow to be operated, any battery of coke ovens in such manner that the opacity of visible emissions from a coke battery, excluding uncombined water:**

- A. **Equal or exceed an opacity of 20% for a period or periods aggregating more than three (3) minutes in any 60 minute period; or**
- B. **Equal or exceed an opacity of 60% at any time.**

**2. Exception. Subsection j.1 shall not apply if both of the following conditions met:**

- A. **Visible emissions are observed from on-site; and**
- B. **Visible emissions are observed at an emission point specifically addressed in Subsections a through e and Subsection i in this Section.**

**This exception does not apply to visible emissions observed off-site.**

**3. Measurements of visible emissions under this section shall be performed according to the procedures established by §2107.11 of this Article.**