

Bill No. 3746-08

No. 09-08-0R

AN ORDINANCE

An Ordinance of the County of Allegheny amending Article XXI of the Allegheny County Health Department's Rules and Regulations, "Air Pollution Control Regulations and Addition to State Implementation Plan, modifying Section 2104.02, which will change the particulate emissions limitations for the US Steel Clairton Works' Coke Screening #3 process.

Whereas, after a duly advertised public comment period from August 7, 2007 to September 18, 2007, including the opportunity to present oral comments and the consideration of any comments received, the Board by a unanimous vote at a publicly advertised meeting on November 7, 2007, adopted the attached amendments to its Article XXI, which will revise PM 10 emissions limitations pursuant to the attached revision to Allegheny County's portion of the Pennsylvania State Implementation Plan for the attainment and maintenance of National Ambient Air Quality Standards, a copy of which is attached hereto and made a part hereof; and

Whereas, the Local Health Administration Law, Pa. Stat. Ann. tit. 16 § 12001 *et seq.*, provides for the submission of proposed health regulations or the amendment of existing health regulations to the Allegheny County Chief Executive for approval and rejection; and,

Whereas, in compliance with the Local Health Administration Law, the Director of the Allegheny County Health Department, on behalf of the Board, has submitted the amendment to Article XXI to the Allegheny County Chief Executive, with the recommendation that the County should approve the amendment; and,

Whereas, the Allegheny County Chief Executive has submitted this Ordinance to Allegheny County Council for its consideration.

The Council of the County of Allegheny hereby enacts as follows:

SECTION 1 Incorporation of the Preamble.

The provisions set forth in the preamble to this Ordinance are incorporated by reference in their entirety herein.

SECTION 2. Council Approval of Amendment to Article XXI of Health Department Rules and Regulations.

Pursuant to a request from the Chief Executive, the County Council does hereby approve the amendments to Section 2104.02 (f) of the Allegheny County Health Department's Rules and Regulations, Article XXI Air Pollution Control which will allow the Coke Screening #3 process

at the USX Corporation facility in Clairton, PA to be operated in such a manner that emissions of PM-10 do not exceed 1.26 pounds per hour. Upon execution of this Ordinance by the Chief Executive, the modifications to Section 2104.02 (f) of the Allegheny County Health Department's Rules and Regulations, Article XXI, Air Pollution Control shall be adopted by Allegheny County.

SECTION 3. Submission of Amendment to Article XXI to Appropriate State and Federal Authorities.

The Director, on behalf of the Board, is hereby authorized to submit the attached amendment to Article XXI to the Pennsylvania Department of Environmental Protection and the United States Environmental Protection Agency.

SECTION 4. Severability. If any provision of this Ordinance shall be determined to be unlawful, invalid, void or unenforceable, then that provision shall be considered severable from the remaining provisions of this Ordinance, which shall be in full force and effect.

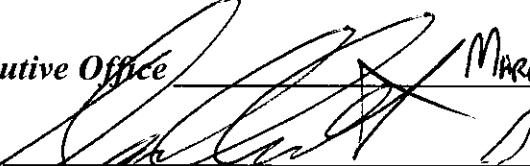
SECTION 5. Repealer. Any Resolution or Ordinance or part thereof conflicting with the provisions of this Ordinance is hereby repealed so far as the same affects this Resolution.

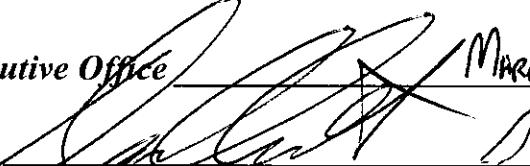
Enacted in Council, this 4th day of March, 2008.

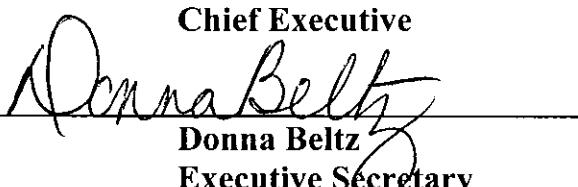
Council Agenda No. 3746-08


Rich Fitzgerald
President of Council

Attest: 
John Mascio
Clerk of Council

Chief Executive Office  March 13, 2008.

Approved: 
Dan Onorato
Chief Executive

Attest: 
Donna Beltz
Executive Secretary

SUMMARY OF LEGISLATION

This legislation would amend Article XXI of the Allegheny County Health Department's Rules and Regulations, "Air Pollution Control Regulations and Addition to State Implementation Plan, modifying Section 2104.02, which will change the particulate emissions limitations for the US Steel Clairton Works' Coke Screening #3 process.

ATTACHMENT A

**Revision to ALLEGHENY COUNTY'S portion of the
PENNSYLVANIA STATE IMPLEMENTATION PLAN
for the
Attainment and Maintenance of the National
Ambient Air Quality Standards**

Revision 59

**Regulation Change to Particulate Emissions Limits for the
US Steel Clairton Works Coke Screening #3 Process**

**Allegheny County Health Department
Rules and Regulations**

**Article XXI, Air Pollution Control
§2104.02 Particulate Mass Emissions, Subsection f**

Table of Contents

- 1. Changes to Article XXI Rules and Regulations:**

§2104.02 Particulate Mass Emissions, Subsection f

- 2. Technical Support Document**

Article XXI Changes

Deletions are shown with strikethroughs.

Additions are shown in larger font, bolded, and underlined.

PART D - POLLUTANT EMISSION STANDARDS

§2104.02 PARTICULATE MASS EMISSIONS

{effective February 1, 1994, as §2104.6; renumbered and amended effective October 20, 1995, 2104.02.a, e, g, and h amended effective August 15, 1997}

- f. No person shall operate, or allow to be operated, the Coke Screening #3 process at the USX Corporation facility in Clairton, PA, {permit number to be assigned}, unless there is installed on such process an emission control device, nor shall any person operate, or allow to be operated such process in such manner that emissions of PM-10 from such process exceed **1.26 pounds per hour** ~~2.8 grains/ton of coke~~ at any time.

This Subsection shall apply to the sum of all stack emissions from such process including all emissions from any air pollution control device outlet(s) associated with such process. All fugitive emissions from such process shall be included in the sum of all stack emissions for purposes of this Subsection unless the stack emissions can be accurately measured and all fugitive emissions do not exceed the standards established by §2104.01 of this Article or any alternative standard(s) established for such source pursuant to §2104.01 of this Article.

2. Technical Support Document

Summary of Change

Subsection 2104.02.f of Article XXI outlines particulate emissions limitations from the US Steel Clairton Works' Coke Screening #3 process. The limit of 2.8 grains PM₁₀ per ton of coke was developed during the PM₁₀ SIP development in the early 1990's. A baghouse is the particulate control device used to control emissions from this process. Analysis of the process since the PM₁₀ SIP found that this limit is physically infeasible for any baghouse. It has been determined that the Article XXI limit is the result of an error in calculations or in efficiency estimations.

A new baghouse has been proposed for installation at the Coke Screening #3 process. The new proposed Article XXI limit of 1.26 pounds of PM₁₀ per hour is based on an efficiency rating of 0.0065 grains PM₁₀ per dry standard cubic feet for the new baghouse, equivalent to approximately 66 grains PM₁₀ per ton of coke. Although this change represents an increase in Article XXI emission limits, Industrial Source Complex (ISC) modeling performed to simulate this emissions change showed no significant impact at any location adjacent to the Clairton Works.

Because this regulation change revises PM₁₀ emissions limitations, it constitutes a revision to the State Implementation Plan (SIP) for PM₁₀.

Proposed Process Configuration

An installation permit application for the new baghouse system was received by ACHD in December 2006 [*permit ref. # 0052-1003*]. Diagrams of the process are given in the installation permit application.

Details of the proposed Coke Screening #3 process configuration, as given in the installation permit application, include the following:

- Design Production Rate: 1,157,050 tons of coke/yr
- Total Annual Production Rate: 939,835 tons of coke/yr
- Operation: Continuous year-round
- Air Flow: 23,000 acfm (actual ft³/min); approx. 21,236 dscfm (dry standard)
- Bag Material: Polypropylene
- Outlet Grain Loading: 0.0065 grains/dscf (dry standard ft³)
- Modeled Emission Rate: 0.1586 grams/s, or 1.26 lbs/hr
- Location: 79°52'27" W, 40°18'11" N
- Base Elevation: 764 ft
- Stack Height: 65.5 ft from top floor (top floor is 73 ft above ground)
- Screening Emissions (baghouse): 5.17 tons PM₁₀/yr (max. potential)
- Loadout Emissions (fugitive): 0.02 tons PM₁₀/yr (max. potential)

Model Results

Modeling was performed in support of the proposed Screening #3 baghouse installation. The

model used in the original PM₁₀ SIP was IGM, a model that incorporated ISC in conjunction with other models. Since IGM is now an outdated model, the latest EPA-approved version of ISC (version 02035) was used for modeling the Coke Screening #3 baghouse.

The model was run using the same meteorological and receptor data from the PM₁₀ SIP modeling. Meteorology was a full year of surface data for 1991. Receptors were spaced at 500 meters throughout the Liberty-Clairton area, with more dense areas of receptors spaced every 100 meters.

The original Coke Screening #3 configuration was included in the model as a negative emission rate source, and the new configuration included as a positive emission rate source. The baghouse outlet and the loadout fugitives were the sources included in the model. Modeled emission rates were slightly higher than the requested levels in the installation permit. Emission rates and source parameters used in the model are shown in the tables that follow.

Unit	Emission Rate	Stack Height	Temperature	Exit Velocity	Stack Diameter
PM₁₀ SIP Baghouse	-0.0046 grams/s	42.00 m	288.50 K	16.34 m/s	1.29 m
Proposed Baghouse	0.1581 grams/s	42.29 m	298.43 K	29.38 m/s	0.69 m

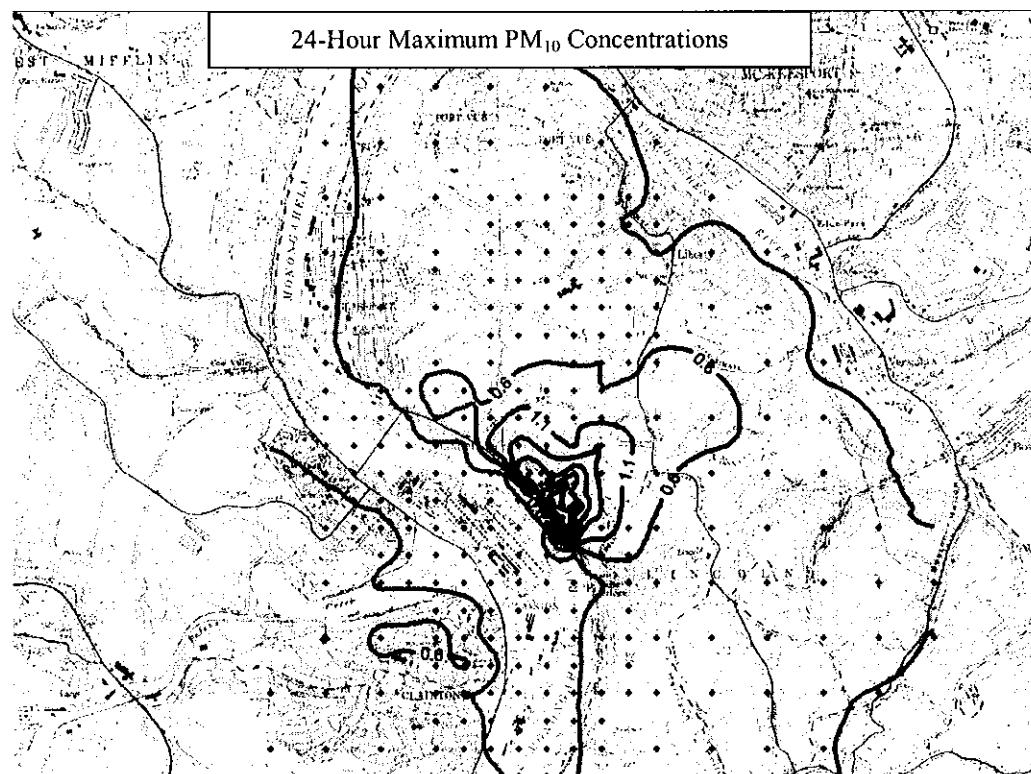
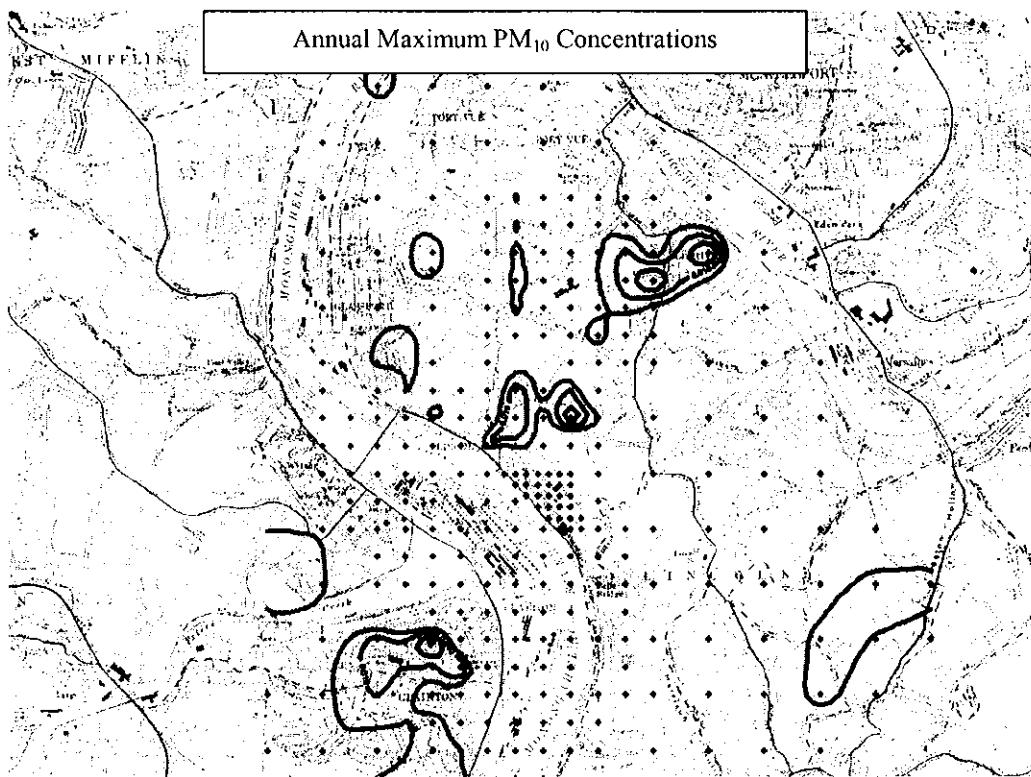
Unit	Emission Rate	Release Height	Initial Lateral Dimension	Initial Vertical Dimension
PM₁₀ SIP Loadout	-0.12082 grams/s	17.07 m	4.72 m	15.88 m
Proposed Loadout	0.0005 grams/s	17.07 m	4.72 m	15.88 m

Model results at all receptors were compared to EPA significant impacts levels on annual and 24-hour bases. No receptor showed concentrations higher than the significant levels. The maximum concentrations and corresponding significant impact levels are shown in the table below.

Averaging Period	Maximum Concentration	EPA Significant Impact Level
Annual	0.12008 $\mu\text{g}/\text{m}^3$	1.0 $\mu\text{g}/\text{m}^3$
24-Hour	4.79033 $\mu\text{g}/\text{m}^3$	5.0 $\mu\text{g}/\text{m}^3$

Contour Maps

The maps below show contour plots of the annual and 24-hour maximum PM₁₀ concentration locations. Receptors are indicated by plus signs. Darker & denser contours indicate higher concentrations.



M E M O R A N D U M

OFFICE OF THE COUNTY MANAGER

TO: John Mascio
Chief Clerk

FROM: James M. Flynn, Jr.
County Manager

DATE: February 14, 2008

RE: Proposed Ordinance

Attached is an Ordinance amending Article XXI of the Allegheny County Health Department's Rules and Regulations, "Air Pollution Control Regulations and Addition to State Implementation Plan, modifying Section 2104.02, which will change the particulate emissions limitations for the US Steel Clairton Works' Coke Screening #3 process.

The Allegheny County Law Department has reviewed this legislation prior to submitting it to Council.

Please place this on the next agenda for County Council approval.

Thank you.

ALLEGHENY COUNTY COUNCIL
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