



State of Ohio Environmental Protection Agency

**RE: FINAL PERMIT TO INSTALL MODIFICATION
MUSKINGUM COUNTY**

CERTIFIED MAIL

Street Address:

122 S. Front Street

Lazarus Gov. Center TELE: (614) 644-3020 FAX: (614) 644-2329

Mailing Address:
Lazarus Gov. Center
P.O. Box 1049

Application No: 06-04694

Fac ID: 0660010006

DATE: 3/7/2006

AK Steel Corporation - Zanesville Works
J. Cory Leavengood
1724 Linden Ave
Zanesville, OH 43701-2307

Enclosed Please find a modification to the Ohio EPA Permit To Install referenced above which will modify the terms and conditions.

You are hereby notified that this action by the Director is final and may be appealed to the Ohio Environmental Review Appeals Commission pursuant to Chapter 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. It must be filed within thirty (30) days after the notice of the Directors action. A copy of the appeal must be served on the Director of the Ohio Environmental Protection Agency within three (3) days of filing with the Commission. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission
309 South Fourth Street, Room 222
Columbus, Ohio 43215

Sincerely,

Michael W. Ahern

Michael W. Ahern, Manager
Permit Issuance and Data Management Section
Division of Air Pollution Control

CC: USEPA

SEDO



Permit To Install
Terms and Conditions

Issue Date: 3/7/2006
Effective Date: 3/7/2006

FINAL ADMINISTRATIVE MODIFICATION OF PERMIT TO INSTALL 06-04694

Application Number: 06-04694
Facility ID: 0660010006
Permit Fee: **\$0**
Name of Facility: AK Steel Corporation - Zanesville Works
Person to Contact: J. Cory Leavengood
Address: 1724 Linden Ave
Zanesville, OH 43701-2307

Location of proposed air contaminant source(s) [emissions unit(s)]:
1724 Linden Ave
Zanesville, Ohio

Description of proposed emissions unit(s):
Administrative modification of PTI 06-4694, issued December 28, 1995, to correct emission limits based on updated AP-42 emission factors.

The above named entity is hereby granted a modification to the permit to install described above pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this modification does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the above described source(s) of environmental pollutants will operate in compliance with applicable State and Federal laws and regulations, and does not constitute expressed or implied assurance that if constructed or modified in accordance with those plans included in the application, the above described source(s) of pollutants will be granted the necessary operating permits.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Director

AK Steel Corporation - Zanesville Works
PTI Application: 06-04694
Modification Issued: 3/7/2006

Facility ID: 066001000

Part I - GENERAL TERMS AND CONDITIONS

A. Permit to Install General Terms and Conditions

1. Compliance Requirements

The emissions unit(s) identified in this Permit to Install shall remain in full compliance with all applicable State laws and regulations and the terms and conditions of this permit.

2. Reporting Requirements

The permittee shall submit required reports in the following manner:

- a. Reports of any required monitoring and/or recordkeeping information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
- b. Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the appropriate Ohio EPA District Office or local air agency. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

3. Records Retention Requirements

Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.

4. Inspections and Information Requests

The Director of the Ohio EPA, or an authorized representative of the Director, may, subject to the safety requirements of the permittee and without undue delay, enter upon

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the premises of this source at any reasonable time for purposes of making inspections, conducting tests, examining records or reports pertaining to any emission of air contaminants, and determining compliance with any applicable State air pollution laws and regulations and the terms and conditions of this permit. The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying, reopening or revoking this permit or to determine compliance with this permit. Upon verbal or written request, the permittee shall also furnish to the Director of the Ohio EPA, or an authorized representative of the Director, copies of records required to be kept by this permit.

5. Scheduled Maintenance/Malfunction Reporting

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction of any emissions units or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with paragraph (B) of OAC rule 3745-15-06. Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emissions unit(s) that is (are) served by such control system(s).

6. Permit Transfers

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The appropriate Ohio EPA District Office or local air agency must be notified in writing of any transfer of this permit.

7. Air Pollution Nuisance

The air contaminants emitted by the emissions units covered by this permit shall not cause a public nuisance, in violation of OAC rule 3745-15-07.

8. Termination of Permit to Install

This Permit to Install shall terminate within eighteen months of the effective date of the Permit to Install if the owner or operator has not undertaken a continuing program of installation or modification or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation or modification. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.

9. Construction of New Sources(s)

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The proposed emissions unit(s) shall be constructed in strict accordance with the plans and application submitted for this permit to the Director of the Ohio Environmental Protection Agency. There may be no deviation from the approved plans without the express, written approval of the Agency. Any deviations from the approved plans or the above conditions may lead to such sanctions and penalties as provided under Ohio law. Approval of these plans does not constitute an assurance that the proposed facilities will operate in compliance with all Ohio laws and regulations. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed sources cannot meet the requirements of this permit or cannot meet applicable standards.

If the construction of the proposed emissions unit(s) has already begun or has been completed prior to the date the Director of the Environmental Protection Agency approves the permit application and plans, the approval does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the approved plans. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of OAC rule 3745-31-02. Furthermore, issuance of the Permit to Install does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Approval of the plans in any case is not to be construed as an approval of the facility as constructed and/or completed. Moreover, issuance of the Permit to Install is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities cannot meet the requirements of this permit or cannot meet applicable standards.

10. Public Disclosure

The facility is hereby notified that this permit, and all agency records concerning the operation of this permitted source, are subject to public disclosure in accordance with OAC rule 3745-49-03.

11. Applicability

This Permit To Install is applicable only to the emissions unit(s) identified in the Permit To Install. Separate Permit To Install for the installation or modification of any other emissions unit(s) are required for any emissions unit for which a Permit To Install is required.

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12. Best Available Technology

As specified in OAC Rule 3745-31-05, all new sources must employ Best Available Technology (BAT). Compliance with the terms and conditions of this permit will fulfill this requirement.

13. Source Operation and Operating Permit Requirements After Completion of Construction

This facility is permitted to operate each source described by this Permit to Install for a period of up to one year from the date the source commenced operation. This permission to operate is granted only if the facility complies with all requirements contained in this

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permit and all applicable air pollution laws, regulations, and policies. Pursuant to OAC Chapter 3745-35, the permittee shall submit a complete operating permit application within ninety (90) days after commencing operation of the emissions unit(s) covered by this permit.

14. Construction Compliance Certification

The applicant shall provide Ohio EPA with a written certification (see enclosed form) that the facility has been constructed in accordance with the Permit to Install application and the terms and conditions of the Permit to Install. The certification shall be provided to Ohio EPA upon completion of construction but prior to startup of the source.

15. Fees

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78. The permittee shall pay all applicable Permit to Install fees within 30 days after the issuance of this Permit to Install.

B. Permit to Install Summary of Allowable Emissions

The following information summarizes the total allowable emissions, by pollutant, based on the individual allowable emissions of each air contaminant source identified in this permit.

SUMMARY (for informational purposes only)
TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS

<u>Pollutant</u>	<u>Tons Per Year</u>
PE	3.51
SO ₂	0.31
VOC	2.85
NO _x	258
CO	43.41
HF	0.63

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PTI A

Modification Issued: 3/7/2006

Emissions Unit ID: P008

Part II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

- 1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>
P008 - No. 1 annealing and pickling line vented to 2 packed tower wet scrubbers	OAC rule 3745-31-05(A)(3)
	OAC rule 3745-17-11
	OAC rule 3745-17-07(A)
(Administrative modification of PTI 06-04694, issued 12/28/95, to correct emissions limits based on revised AP-42 emissions factors)	OAC rule 3745-18-06(E)(2)
	OAC rule 3745-23-06(B)
	OAC rule 3745-21-08(B)

AK Steel Corporation - Zanesville Works

PTI Application: 06 04604

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Facility ID: 066001000

Emissions Unit ID: P008

Applicable Emissions
Limitations/Control
Measures

Particulate emissions (PE) shall not exceed 0.80 lb/hr, 3.51 tpy.

Emissions of sulfur dioxide (SO₂) shall not exceed 0.07 lb/hr, 0.31 tpy.

Emissions of volatile organic compounds (VOC) shall not exceed 0.65 lb/hr, 2.85 tpy.

Emissions of nitrogen oxides (NO_x) shall not exceed 58.99 lbs/hr, 258 tpy.

Emissions of carbon monoxide (CO) shall not exceed 9.91 lbs/hr, 43.41 tpy.

Emissions of hydrogen fluoride (HF) shall not exceed 0.143 lb/hr, 0.63 tpy.

The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-21-08(B), and 3745-23-06(B).

See A.I.2.a below.

The emission limitation required by this rule is less stringent than the

emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.

The emission limitation required by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

See A.I.2.b below.

See A.I.2.c below.

2. Additional Terms and Conditions

2.a The permittee shall employ low NOx burners, the addition of urea to pickling baths, and a packed bed scrubber to reduce NOx emissions whenever this emissions unit is in operation.

2.b The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On February 15, 2005, OAC rule 3745-23-06 was rescinded and is no longer part of State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revision to the SIP, the requirement to satisfy the "latest available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

2.c The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

II. Operational Restrictions

1. For the acid fume scrubber (Heil Process Co.), the pressure drop across the scrubber shall be continuously maintained at a value of not less than 2 inches of water while the emissions unit is in operation.
2. For the kolene scrubber (Enviroclear), the pressure drop across the scrubber shall be continuously maintained at a value of not less than 1 inch of water while the emissions unit is in operation.
3. The permittee shall maintain the urea feed rate for each product type produced in this emissions unit at an hourly rate that is not less than the urea feed rate established during the most recent emission tests that demonstrated this emissions unit was in compliance with the hourly allowable NOx emission limitation of 58.99 lbs/hr.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall properly operate and maintain equipment to continuously monitor the static pressure drop across each scrubber while the emissions unit is in operation. The monitoring devices and any recorders shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals.
2. The permittee shall collect and record the following information each day:
 - a. the pressure drop across each scrubber, in inches of water; and
 - b. the downtimes for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.
3. The permittee shall maintain monthly records of the following information:
 - a. the production rate, in tons;
 - b. the average hourly production rate, in tons/hour;
 - c. the total amount of natural gas employed by the emissions unit, in mmcf; and
 - d. the average hourly natural gas usage, calculated as follows:
$$\text{mmcf/hr} = \frac{\text{the total amount of natural gas employed, in mmcf}}{\text{the total hours of}}$$

operation.

4. The permittee shall maintain records of the following information for each run of each product type produced in this emissions unit:
 - a. the total amount of urea employed, in gallons;
 - b. the hours of operation for the product type run; and
 - c. the average hourly urea feed rate, in gallons/hour.

5. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
 - a. the color of the emissions;
 - b. whether the emissions are representative of normal operations;
 - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
 - d. the total duration of any visible emission incident; and
 - e. any corrective actions taken to eliminate the visible emissions.

Note: The presence of water vapor in the scrubber plume does not constitute visible emissions.

IV. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that identify all periods of time during which the static pressure drop across each scrubber was not maintained at or above the required level.
2. The permittee shall submit quarterly deviation (excursion) reports that identify any urea feed rate that did not comply with the operational restriction specified in section A.II.3.
3. The deviation reports shall be submitted in accordance with the requirements specified in Part I - General Term and Condition A.1.c.
4. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible

AK Si**PTI A****Modification Issued: 3/7/2006**Emissions Unit ID: **P008**

particulate emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

V. Testing Requirements

1. Compliance with the emission limitations in section A.I.1 of these terms and conditions shall be determined in accordance with the following methods:

- a. Emission Limitation:
Particulate emissions (PE) shall not exceed 0.80 lb/hr.

Applicable Compliance Method:

Compliance shall be determined using the following calculation method, where total particulate emissions equal the summation of emissions from the natural gas annealing furnace and the pickling and kolene process:

- i. Annealing furnace particulate emissions are calculated by multiplying the emission factor from AP-42, Table 1.4-2, 7/98 (1.9 lbs/mmcf) by the annealing furnace maximum fuel usage (0.118 mmcf/hr).
- ii. Pickling and kolene particulate emissions are calculated by multiplying the stack test- derived emission factor of 0.02 lb PE/ton metal (submitted by the permittee in PTI 06-04694 application) by the maximum process weight rate of P008 (28.7 ton metal/hr).
- iii. Total allowable emissions = 0.23 lb/hr + 0.57 lb/hr = 0.8 lb PE/hr

If required, compliance shall also be determined in accordance with the procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 5.

- b. Emission Limitation:
Particulate emissions (PE) shall not exceed 3.51 tpy.

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by the annual hours of operation, and then dividing by 2000 lbs/ton.

- c. Emission Limitation:

Emissions Unit ID: P008

Emissions of sulfur dioxide (SO₂) shall not exceed 0.07 lb/hr.

Applicable Compliance Method:

Compliance shall be determined by multiplying the emission factor from AP-42, Table 1.4-2, 7/98 (0.6 lbs SO₂/mmcf) by the annealing furnace maximum fuel usage (0.118 mmcf/hr).

If required, compliance shall also be determined in accordance with 40 CFR Part 60, Appendix A, Method 6.

d. Emission Limitation:

Emissions of sulfur dioxide (SO₂) shall not exceed 0.31 tpy.

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by the annual hours of operation, and then dividing by 2000 lbs/ton.

e. Emission Limitation:

Emissions of volatile organic compounds (VOC) shall not exceed 0.65 lb/hr.

Applicable Compliance Method:

Compliance shall be determined by multiplying the emission factor from AP-42, Table 1.4-2, 7/98 (5.5 lbs VOC/mmcf) by the annealing furnace maximum fuel usage (0.118 mmcf/hr).

If required, compliance shall also be determined in accordance with 40 CFR Part 60, Appendix A, Method 25.

f. Emission Limitation:

Emissions of volatile organic compounds (VOC) shall not exceed 2.85 tpy.

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by the annual hours of operation, and then dividing by 2000 lbs/ton.

g. Emission Limitation:

Emissions of nitrogen oxides (NO_x) shall not exceed 58.99 lbs/hr.

Applicable Compliance Method:

Compliance shall be determined using the following calculation method, where total NO_x emissions equal the summation of emissions from the natural gas annealing furnace and the pickling and kolene process:

i. Annealing furnace NO_x emissions are calculated using the manufacturer data supplied in the permittee's application (multiply the emission factor of 0.108 lb/million Btu by the maximum rated capacity of the annealing

furnace, 127 million Btu/hr.

- ii. Pickling and kolene NO_x emissions are calculated by using the 1995 stack test- derived emission factor supplied in the permittee's application (multiply the emission factor of 1.58 lb PE/ton metal by the maximum process weight rate of P008, 28.65 ton metal/hr).
- iii. Total allowable emissions = 13.72 lbs/hr + 45.27 lbs/hr = 58.99 lbs PE/hr

If required, compliance shall also be determined in accordance with the procedures specified in 40 CFR Part 60, Appendix A, Methods 7.

- h. Emission Limitation:
Emissions of nitrogen oxides (NO_x) shall not exceed 258 tpy.

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by the annual hours of operation, and then dividing by 2000 lbs/ton.

- i. Emission Limitation:
Emissions of carbon monoxide (CO) shall not exceed 9.91 lbs/hr

Applicable Compliance Method:

Compliance shall be determined by multiplying the emission factor from AP-42, Table 1.4-1, 7/98 (84 lbs CO/mmcf) by the annealing furnace maximum fuel usage (0.118 mmcf/hr).

If required, compliance shall also be determined in accordance with 40 CFR Part 60, Appendix A, Method 10.

- j. Emission Limitation:
Emissions of carbon monoxide (CO) shall not exceed 43.41 tpy.

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by the annual hours of operation, and then dividing by 2000 lbs/ton.

- k. Emission Limitation:
Emissions of hydrogen fluoride (HF) shall not exceed 0.143 lb/hr.

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PTI A**

Emissions Unit ID: **P008**

Modification Issued: 3/7/2006

Applicable Compliance Method:

Compliance with the above emission limit was last demonstrated by a stack test conducted by the facility on September 13, 1995, resulting in HF emissions of 0.143 lb/hr.

If required, compliance shall also be determined in accordance with 40 CFR Part 60, Appendix A, Method 26A.

I. Emission Limitation:

Emissions of hydrogen fluoride (HF) shall not exceed 0.63 tpy.

Applicable Compliance Method:

Compliance shall be demonstrated by multiplying the allowable hourly emission limitation by the annual hours of operation, and then dividing by 2000 lbs/ton.

m. Emission Limitation:

Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.

Applicable Compliance Method:

If required, compliance shall be demonstrated based upon the procedures specified in Test Method 9 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60.

VI. Miscellaneous Requirements

None.

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P008 - No. 1 annealing and pickling line vented to 2 packed tower wet scrubbers		

2. Additional Terms and Conditions

- 2.a None.

II. Operational Restrictions

None.

III. Monitoring and/or Recordkeeping Requirements

None.

IV. Reporting Requirements

None.

V. Testing Requirements

None.

VI. Miscellaneous Requirements

None.