

217/782-2113

"REVISED"
CLEAN AIR ACT PERMIT PROGRAM (CAAPP) PERMIT

PERMITTEE

U. S. Steel Corporation
Granite City Works
Attn: Jill A. Foust
20th and State Streets
Granite City, Illinois 62040

I.D. No.: 119813AAI

Date Received: March 6, 2009

Application No.: 96030056

Date Issued: TO BE DETERMINED

Expiration Date¹: TO BE DETERMINED

Operation of: Integrated Steel Mill

Source Location: 20th and State Streets, Granite City

Responsible Official: Richard E. Veitch, General Manager

This permit is hereby granted to the above-designated Permittee to operate a an Integrated Steel Mill Plant, pursuant to the above referenced permit application. This permit is subject to the conditions contained herein.

Revision Date Received: May 27, 2008

Revision Date Issued:

Purpose of Revision: Significant Modification

This significant modification is to include Section 112(j) of the Clean Air Act case-by-case determination for the Cogeneration Facility, Galvanizing Line process heaters and boilers located at the source. This case-by-case determination covers Hazardous Air Pollutants (HAPs) emitted by these emission units and establishes limits for those HAPs or surrogates. Additional testing, monitoring, recordkeeping and reporting for these emission units has also been added to demonstrate compliance with those limits. Compliance dates associated with these emission units have been identified in the revision. This determination is necessary due to the vactur of 40 CFR Part 63, Subpart DDDDD - MACT standard for Institutional, Commercial and Industrial Boilers and Process Heaters.

This document only contains those portions of the entire CAAPP permit that have been revised as a result of this permitting action.

If you have any questions concerning this permit, please contact Anatoly Belogorsky at 217/782-2113.

Edwin C. Bakowski, P.E.
Manager, Permit Section
Division of Air Pollution Control

ECB:AB:psj

cc: Illinois EPA, FOS Region 3
CES
Lotus Notes

1 Except as provided in Conditions 1.5 and 8.7 of this permit.

5.3.8 Future Emission Standards

c. Case-by-Case MACT Determination for the New Cogeneration Boiler

i. Description

The Permittee is constructing a new boiler that would be used for cogeneration. That is, the new boiler would supply high pressure steam to a steam turbine, which would produce electricity for the source. Low-pressure steam from this turbine would then be used for manufacturing operations at the source.

The new boiler would primarily be fired with blast furnace (BFG), which is produced by the operation of the two blast furnaces at the source. Natural gas would be used for the pilot flame in the boiler, for combustion control and as a back-up fuel. The boiler is not designed to burn other fuels.

This new boiler would replace ten of the existing boilers at the source (Boilers 1 through 10). Only two of the existing boilers at the source (Boilers 11 and 12) would remain after shakedown of the new boiler is completed.

The construction of the new boiler is addressed by Construction Permit 06070023, date issued January 30, 2008. This permit addresses the applicable requirements that apply to the new boiler but does not make a case-by-case determination of MACT for the boiler. Construction on the new boiler was commenced on May 14, 2008 and was ongoing as of the date of issuance of this permit.

Note: This narrative description is for informational purposes only and is not enforceable.

ii. List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Date Constructed	Emission Control Equipment
Cogeneration Boiler (#1 Power Boiler)	Boiler (nominal 505 mmBtu/hour capacity)	Construction Commenced May 14, 2008	BFG Pre-Treatment System

iii. Future Applicable Provisions

A. The "affected boiler" for the purpose of these unit-specific conditions, is the boiler described in Conditions 5.3.8(c)(i) and (ii).

- B. The requirements of Condition 5.3.8(c)(iv) through (vii) become effective for the affected boiler upon initial startup, except for Condition 5.3.8(c)(iv)(B) which will become effective at the end of the first complete calendar year after initial startup of the affected boiler, to address the first complete calendar year in which the boiler operates.

iv. Case-By-Case MACT Determination

A. Fuel Use Requirements:

- 1. Treated blast furnace gas (BFG) and natural gas (NG) shall be the only fuels fired in the affected unit. For this purpose, treated BFG is BFG that has been processed by the BFG Pre-treatment System.
- 2. On a calendar year basis, at least 90 percent of the total heat input to the affected boiler shall be from BFG.

B. 40 CFR Part 63, Subpart A - General Provisions

- 1. The Permittee shall comply with the following:
 - I. Operate and maintain the affected boiler, including air pollution control and monitoring equipment, according to the provisions in 40 CFR 63.6(e)(1)(i).
 - II. Develop and operate in accordance with a written startup, shutdown, and malfunction plan (SSMP) according to the provisions in 40 CFR 63.6(e)(3).
 - III. Other requirements of the General Provisions of 40 CFR Part 63, Subpart A as specified in Attachment 5.

Note: This case-by-case determination is made pursuant to Section 112(j) of the Clean Air Act (CAA) and Section 39.5(19) of the Act, implemented according to 40 CFR Part 63, Subpart B.

v. Instrumentation Requirements

- A. The Permittee shall equip, operate, and maintain the affected boiler with meter(s) to measure the amounts (scf) NG fired in the affected boiler.

- B. The Permittee shall also equip, operate, and maintain the affected boiler with the necessary instrumentation to determine the percent fuels being fired in the boiler.

vi. Recordkeeping Requirements

- A. The Permittee shall maintain records of the following items for the affected boiler to demonstrate compliance with Condition 5.3.8(c)(iv) or (v), pursuant to Section 39.5(7)(b) of the Act:
 - 1. The heat content of BFG and NG burned in the boiler (BTU/scf), with supporting documentation.
 - 2. The amounts of each fuel burned (scf/month and scf/year), with supporting calculations.
 - 3. The calendar year ratio of heat input to the affected boiler from BFG and the total heat input to the affected boiler.
 - 4. Any periods during which BFG that was not treated was burned in the affected boiler, with description and explanation.
 - 5. Any periods during which a fuel meter was not operational, with description and explanation.

vii. Reporting

- A. The Permittee shall promptly notify the Illinois EPA, of deviations of the affected boiler from the requirements of this Condition 5.3.8(c) as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. These notifications or reports shall describe the deviation, the probable cause of the deviation, the corrective actions that were taken and any preventative measures that were taken.
 - 1. Any deviations from the requirements in Condition 5.3.8(c)(iv)(A)(1) or (2) shall be reported within 30 days of occurrence.
 - 2. Any periods when the affected boiler burned BFG that was not treated for 4 hours or more shall be reported within 30 days of occurrence.
 - 3. Other deviations shall be reported in a semi-annual report.

7.8.5 Applicable Provisions and Regulations

b. Case-by-Case MACT Determination for the Galvanizing Line Furnaces #7A and #8(the affected Galvanizing Line Furnaces).

A. Emission Limitations:

- i. The emission of carbon monoxide (CO) from each affected Galvanizing Line Furnace shall not exceed the following limit: 200 ppm, corrected to 50 percent excess air, 1 hour average, except during periods of startup, shutdown, and malfunction of an each affected Galvanizing Line Furnace, which is addressed below in Condition 7.8.5(b)(B)(ii).
- ii. For each affected Galvanizing Line Furnace, during a calendar day in which a startup, shutdown, or malfunction of each affected Galvanizing Line Furnace occurs, the emission of carbon monoxide (CO) shall not exceed 400 ppm, corrected to 3 percent oxygen, daily average.
- iii. For each affected Galvanizing Line Furnace, these emission limits and the associated requirements in Conditions 7.8.5(b)(B)through(F)shall take effect two months after the date that each affected Galvanizing Line Furnace first resumes operation.

Note: This case-by-case MACT determination is made pursuant to Section 112(j) of the CAA, Section 39.5(19) of the Act, and implemented according to 40 CFR Part 63, Subpart B.

B. Operational Limitations:

- i. For each affected Galvanizing Line Furnace, natural gas shall be the only fuel fired.
- ii. 40 CFR Part 63, Subpart A - General Provisions
The Permittee shall comply with the following:
 1. Operate and maintain each affected furnace according to the provisions in 40 CFR 63.6(e)(1)(i).
 2. Develop and operate in accordance with a written startup, shutdown, and malfunction plan (SSMP) according to the provisions in 40 CFR 63.6(e)(3).

3. Other requirements of the General Provisions of 40 CFR Part 63, Subpart A as specified in Attachment 5.

C. Testing Requirements

- i. Upon written request by the Illinois EPA, the Permittee shall conduct performance test(s) for a specified affected Galvanizing Line Furnace and furnish the Illinois EPA with a written report of the results of such test(s). Such testing shall be conducted within 75 calendar days of the request, or on the date agreed upon by the Illinois EPA, whichever is later.
- ii. These tests shall be designed to measure the CO emissions under conditions which are representative of maximum emissions.
- iii. The following USEPA test methods shall be used for testing of emissions, unless another method is approved by the Illinois EPA. Refer to 40 CFR 60, Appendix A, for test methods.

Location of Sample Points	Method 1
Gas Flow and Velocity	Method 2
Flue Gas Weight	Method 3
Moisture	Method 4
CO	Method 10

D. Combustion Evaluations

- i. The Permittee shall perform a formal "combustion evaluation" for each affected Galvanizing Line Furnace, pursuant to Section 39.5(7)(d) of the Act. These evaluations shall consist of diagnostic measurements of the concentration of CO in the flue gas of each affected Galvanizing Line Furnace, with adjustments and preventative and corrective measures for each Galvanizing Line Furnace combustion systems to maintain efficient combustion. The combustion evaluations shall be completed according to the following frequencies:
 - a. The first evaluation shall be conducted within 2 months of first resumption of operation, and
 - b. Annually thereafter.

E. Recordkeeping Requirements

- i. A copy of the Final Report(s) for emission testing conducted pursuant to Condition 7.8.5(b)(C).
- ii. The Permittee shall maintain the following records related to annual combustion evaluations for each affected Galvanizing Line Furnace:
 - A. A copy of the Report(s) for the combustion evaluation conducted pursuant to Condition 7.8.5(b)(D), which shall at a minimum contain:
 - I. The date of the annual combustion evaluation.
 - II. The measured concentration of CO in the flue gas at the start and the conclusion of the evaluation, with description of the measurement procedure.
 - III. Identity and employer of the individual(s) supervising the combustion evaluation.
 - IV. Recommendations, if any, for additional tuning or maintenance/repair to be performed.
 - V. Recommendations, if any, for corrective measures for each affected Galvanizing Line Furnace #7A and #8 combustion systems to maintain efficient combustion.
- iii. A maintenance and repair log for each affected Galvanizing Line Furnace, listing each activity performed with date.

F. Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, of deviations of each affected Galvanizing Line Furnaces #7A and #8 with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

- i. Emissions of CO from each affected Galvanizing Line Furnace in excess of the limits specified in Condition 7.8.5(b)(A) within 30 days of such occurrence.

- ii. Operation of each affected Galvanizing Line Furnace in excess of the limits specified in Condition 7.8.5(b)(B)(i) within 30 days of such occurrence.
- iii. Other deviations shall be reported in the semi-annual reports.

G. Compliance Procedures

- i. Compliance with the CO emission limitation of Condition 7.8.5(b)(A) is addressed by the testing requirements of Condition 7.8.5(b)(C), the combustion evaluation requirements in Condition 7.8.5(b)(D), the recordkeeping requirements in Condition 7.8.5(b)(E), and the reporting requirements in Condition 7.8.5(b)(F).

c. Case-by-Case MACT Determination for the Galvanizing Line #8 Process Heaters.

A. Emission Limitations:

- i. The emission of carbon monoxide (CO) from each affected Galvanizing Line #8 Process Heater shall not exceed the following limit: 400 ppm, corrected to 3 percent oxygen, daily average.
- ii. For each affected Galvanizing Line #8 Process Heater, these emission limits and the associated requirements in Conditions 7.8.5(c)(B) through (F) shall take effect two months after the date that the affected Galvanizing Line #8 first resumes operation.

Note: This case-by-case MACT determination is made pursuant to Section 112(j) of the CAA, Section 39.5(19) of the Act, and implemented according to 40 CFR Part 63, Subpart B.

B. Operational Limitations:

- i. For each affected Galvanizing Line #8 Process Heater, natural gas shall be the only fuel fired.
- ii. 40 CFR Part 63, Subpart A - General Provisions

The Permittee shall comply with the following:

- 1. Operate and maintain each affected process heater according to the provisions in 40 CFR 63.6(e)(1)(i).
- 2. Other requirements of the General

Provisions of 40 CFR Part 63, Subpart A
as specified in Attachment 5.

C. Testing Requirements

- i. Upon written request by the Illinois EPA, the Permittee shall conduct performance test(s) for a specified affected Galvanizing Line #8 Process Heater and furnish the Illinois EPA with a written report of the results of such test(s). Such testing shall be conducted within 75 calendar days of the request, or on the date agreed upon by the Illinois EPA, whichever is later.
- ii. These tests shall be designed to measure the CO emissions under conditions which are representative of maximum emissions.
- iii. The following USEPA test methods shall be used for testing of emissions, unless another method is approved by the Illinois EPA. Refer to 40 CFR 51, Appendix M, and 40 CFR 60, Appendix A, for test methods.

Location of Sample Points	Method 1
Gas Flow and Velocity	Method 2
Flue Gas Weight	Method 3
Moisture	Method 4
CO	Method 10

D. Combustion Evaluations

- i. The Permittee shall perform a formal "combustion evaluation" for each affected Galvanizing Line #8 Process Heater, pursuant to Section 39.5(7)(d) of the Act. These evaluations shall consist of diagnostic measurements of the concentration of CO in the flue gas of each affected Galvanizing Line #8 Process Heater, with adjustments and preventative and corrective measures for each Galvanizing Line #8 Process Heater combustion systems to maintain efficient combustion. The combustion evaluations shall be completed according to the following frequencies:
 - a. The first evaluation shall be conducted within 2 months of first resumption of operation, and
 - b. Within 90 days of a written request by the Illinois EPA.

E. Recordkeeping Requirements

- i. The Permittee shall maintain the following records related to the combustion evaluation for each affected Galvanizing Line #8 Process Heater:
 - I. A copy of the Report(s) for the combustion evaluation conducted pursuant to Condition 7.8.5(c)(C), which shall at a minimum contain:
 - A. The date of the combustion evaluation.
 - B. The measured concentration of CO in the flue gas at the start and the conclusion of the evaluation, with description of the measurement procedure.
 - C. Identity and employer of the individual(s) supervising the combustion evaluation.
 - D. Recommendations, if any, for additional tuning or maintenance/repair to be performed.
 - E. Recommendations, if any, for corrective measures for each affected Galvanizing Line #8 Process Heater combustion systems to maintain efficient combustion.

F. Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, of deviations of each affected Galvanizing Line #8 Process Heater with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

- i. Emissions of CO from each affected Galvanizing Line #8 Process Heater in excess of the limits specified in Condition 7.8.5(c)(A) within 30 days of such occurrence.
- ii. Operation of each affected Galvanizing Line #8 Process Heater in excess of the limits specified in Condition 7.8.5(c)(B)(i) within 30 days of such occurrence.

G. Compliance Procedures

- i. Compliance with the CO emission limitation of Condition 7.8.5(c)(A) is addressed by the testing requirements in Condition 7.8.5(c)(C). The combustion evaluation requirements in Conditions 7.8.5(c)(D), the records required in Condition 7.8.5(c)(E), and the reports required in Condition 7.8.10(c)(F).

7.10.5 Emission Standards for Hazardous Air Pollutants

- a. Case by Case MACT Determination - Boilers #1-10 (the affected Boilers).

1. Emission Limitations:

- i. The emission of carbon monoxide (CO) from each affected Boiler shall not exceed the following limit: 200 ppm, corrected to 50 percent excess air, 1 hour average, except during periods of startup, shutdown, and malfunction of an affected Boiler, which is addressed below in Condition 7.10.5(a)(2)(iii).
- ii. For each affected Boiler, during a calendar day in which a startup, shutdown, or malfunction of the affected Boiler occurs, the emission of carbon monoxide (CO) from the each affected Boiler shall not exceed 400 ppm, corrected to 3 percent oxygen, daily average.
- iii. The applicable provisions, work practices, monitoring, testing, recordkeeping, and reporting established as part of the case by case MACT determination shall not apply to each affected Boiler after it has been permanently shutdown.
- iv. If an affected Boiler has not been permanently shutdown, these emission limits and the associated requirements in Conditions 7.10.5(a)(B)through(F)shall take effect six months after the first hour that the combined heat input for all affected Boilers #1-10 achieve 250 mmBtu/hr or greater.

Note: This case-by-case determination is made pursuant to Section 112(j) of the Clean Air Act (CAA) and Section 39.5(19) of the Act, implemented according to 40 CFR Part 63, Subpart B.

2. Operating Limitations:

- i. Treated coke oven gas (COG), treated BFG, and natural gas shall be the only fuels fired.

Note: Treated COG is that which has been processed by the coke by-product's recovery plant. *Coke by-product recovery plant* is defined pursuant to 40 CFR 61.131, which means any plant designed and operated for the separation and recovery of coal tar derivatives (by-products) evolved from coal during the coking process of a coke oven battery.

- ii. No. 6 residual fuel oil and waste oils shall not be fired as fuels without first obtaining a revised permit to address these fuels.

iii. 40 CFR Part 63, Subpart A - General Provisions

The Permittee shall comply with the following:

1. Operate and maintain each affected boiler according to the provisions in 40 CFR 63.6(e)(1)(i).
2. Develop and operate in accordance with a written startup, shutdown, and malfunction plan (SSMP) according to the provisions in 40 CFR 63.6(e)(3).
3. Other requirements of the General Provisions of 40 CFR Part 63, Subpart A as specified in Attachment 5.

Note: This case-by-case determination is made pursuant to Section 112(j) of the Clean Air Act (CAA) and Section 39.5(19) of the Act, implemented according to 40 CFR Part 63, Subpart B.

3. Testing Requirements:

- ii. Upon written request by the Illinois EPA, the Permittee shall conduct performance test(s) for a specified affected Boiler and furnish the Illinois EPA with a written report of the results of such test(s). Such testing shall be conducted within 75 calendar days of the request, or on the date agreed upon by the Illinois EPA, whichever is later.
- iii. These tests shall be designed to measure the CO emissions under conditions which are representative of maximum emissions.
- iv. The following USEPA test methods shall be used for testing of emissions, unless another method is approved by the Illinois EPA. Refer to 40 CFR 60, Appendix A, for test methods.

Location of Sample Points	Method 1
Gas Flow and Velocity	Method 2
Flue Gas Weight	Method 3
Moisture	Method 4
CO	Method 10

4. Combustion Evaluations:

- i. The Permittee shall perform formal "combustion evaluation" on each affected Boiler, pursuant to Section 39.5(7)(d) of the Act. These evaluations shall consist of diagnostic measurements of the concentration of CO in the flue gas of each affected Boiler, with adjustments and preventative and corrective measures for each Boilers combustion systems to maintain efficient combustion. The

combustion evaluations shall be completed according to the following frequencies:

- a. The first evaluation shall be conducted within 6 months after The first hour that the combined heat input for all affected Boilers #1 -10 achieve 250 mmBtu/hr or greater, and
- b. Semi-annually thereafter until permanent shutdown of the affected Boiler.

5. Recordkeeping Requirements:

- i. The Permittee shall maintain a copy of the Final Report(s) for emission testing conducted pursuant to Condition 7.10.5(a)(3).
- ii. The Permittee shall maintain the following records related to the combustion evaluations for each affected Boiler:
 - A. A copy of the report(s) for the combustion evaluation conducted pursuant to Condition 7.10.5(a)(4), which shall at a minimum contain:
 - I. The date of the semi-annual combustion evaluation.
 - II. The measured concentration of CO in the flue gas at the start and the conclusion of the evaluation, with description of the measurement procedure.
 - III. Identity and employer of the individual(s) supervising the semi-annual combustion evaluation.
 - IV. Recommendations, if any, for additional tuning or maintenance/repair to be performed.
 - V. Recommendations, if any, for corrective measures for each affected Boilers combustion systems to maintain efficient combustion.
- iii. For a malfunction event, a requirement to record a detailed explanation of the malfunction, along with the CO emissions for the event.
 - A. A requirement to record whether exceedance of Condition 7.10.5(a)(1)(ii) may have occurred during the startup, shutdown, and malfunction event for each affected Boiler #1 - 10.

- iv. Any periods during which COG or BFG that was not treated was burned in each affected boiler, with description and explanation.

6. Reporting of Deviations

- i. The Permittee shall promptly notify the Illinois EPA of deviations of each affected Boiler with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:
 - A. Emissions of CO from each affected Boiler in excess of the limits specified in Condition 7.10.5(a)(1) within 30 days of such occurrence.
 - B. Operation of each affected Boiler in excess of the limits specified in Condition 7.10.5(a)(2)(i) or (ii) within 30 days of such occurrence.
 - C. The Permittee shall promptly notify the Illinois EPA within 5 days of a permanent shutdown for an affected Boiler #1 - 10.
 - D. The Permittee shall promptly notify the Illinois EPA within 5 days of resumption of operation of each affected Boiler.
 - E. Other deviations shall be reported in the semi-annual reports.

7. Compliance Procedures

- i. Compliance with the CO emission limitation of Condition 7.10.5(a)(1) is addressed by the requirements of Condition 7.10.5(a)(2), the testing requirements in Condition 7.10.5(a)(3), the combustion evaluations required in Condition 7.10.5(a)(4), the records required in Condition 7.10.5(a)(5), and the reports required in Condition 7.10.5(a)(6).

b. Case by Case MACT Determination - Boilers 11-12(the affected Boilers).

1. Emission Limitations

- i. The emission of carbon monoxide (CO) from each affected Boiler shall not exceed the following limit: 200 ppm, corrected to 50 percent excess air, 1 hour average, except during periods of startup, shutdown, and malfunction of an affected Boiler, which is addressed below in Condition 7.10.5(b)(2)(iii).
- ii. For each affected Boiler, during a calendar day in which a startup, shutdown, or malfunction of each affected Boiler occurs, the emission of carbon monoxide (CO) from each affected Boiler shall not exceed 400 ppm, corrected to 3 percent oxygen, daily average.
- iii. These emission limits and the associated requirements in Conditions 7.10.5(b)(2)through(6) shall take effect one year after the date that each affected Boiler first resumes operation.

Note: This case-by-case determination is made pursuant to Section 112(j) of the Clean Air Act (CAA) and Section 39.5(19) of the Act, implemented according to 40 CFR Part 63, Subpart B.

2. Operating Limitations:

For each affected Boiler:

- i. Treated coke oven gas (COG), treated BFG, and natural gas shall be the only fuels fired.

Note: Treated COG is that which has been processed by the coke by-product's recovery plant. *Coke by-product recovery plant* is defined pursuant to 40 CFR 61.131, which means any plant designed and operated for the separation and recovery of coal tar derivatives (by-products) evolved from coal during the coking process of a coke oven battery.

- ii. No. 6 residual fuel oil and waste oils shall not be fired as fuels without first obtaining a revised permit to address these fuels.
- iii. 40 CFR Part 63, Subpart A - General Provisions

The Permittee shall comply with the following:

1. Operate and maintain the affected boiler and monitoring equipment, according to the provisions in 40 CFR 63.6(e)(1)(i).
2. Develop and operate in accordance with a written startup, shutdown, and malfunction plan (SSMP) according to the provisions in 40 CFR 63.6(e)(3).
3. Other requirements of the General Provisions of 40 CFR Part 63, Subpart A as specified in Attachment 5.

Note: This case-by-case determination is made pursuant to Section 112(j) of the Clean Air Act (CAA) and Section 39.5(19) of the Act, implemented according to 40 CFR Part 63, Subpart B.

3. Testing Requirements

- i. II. Upon written request by the Illinois EPA, the Permittee shall conduct performance test(s) for a specified affected Boiler and furnish the Illinois EPA with a written report of the results of such test(s). Such testing shall be conducted within 75 calendar days of the request, or on the date agreed upon by the Illinois EPA, whichever is later.
- ii. These tests shall be designed to measure the CO emissions under conditions which are representative of maximum emissions.
- iii. The following USEPA test methods shall be used for testing of emissions, unless another method is approved by the Illinois EPA. Refer to 40 CFR 51, Appendix M, and 40 CFR 60, Appendix A, for test methods.

Location of Sample Points	Method 1
Gas Flow and Velocity	Method 2
Flue Gas Weight	Method 3
Moisture	Method 4
CO	Method 10

4. Monitoring Requirements

- i. The Permittee shall install, calibrate, operate, and maintain a CO continuous emission monitoring system(s) on each affected Boiler.
- ii. These monitoring systems shall be operated during all periods of operation of each affected Boiler, except for continuous

monitoring system maintenance, breakdowns and repairs.

- iii. The Permittee shall follow the Specifications and Test Procedures of 40 CFR 60 Appendix B, specifically, Performance Specification 4—Specifications and Test Procedures for Carbon Monoxide Continuous Emission Monitoring Systems in Stationary Sources.

5. Recordkeeping Requirements

- i. The Permittee shall maintain a copy of the Final Report(s) for emission testing conducted pursuant to Condition 7.10.5(b)(3).
- iii. A. For a malfunction event, a requirement to record a detailed explanation of the malfunction, along with the CO emissions for the event.

B. A requirement to record whether exceedance of Condition 7.10.5(b)(1)(ii) may have occurred during the startup, shutdown, and malfunction event for each affected Boiler.
- iv. The Permittee shall maintain the following records related to the continuous monitoring system for each affected Boiler:
 - A. Any periods during which a continuous monitoring system was not operational, with explanation.
 - B. The Permittee shall maintain records for the continuous monitoring system, including recorded emission concentrations and records of maintenance, calibration, and operational activity associated with the system.
- iii. Any periods during which COG or BFG that was not treated was burned in the affected boiler, with description and explanation.

6. Reporting Requirements

Reporting of Deviations

The Permittee shall promptly notify the Illinois EPA of deviations of each affected Boiler with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

- i. Emissions of CO from each affected Boiler in excess of the limits specified in Condition 7.10.39(b)(1) within 30 days of such occurrence.
- ii. Operation of each affected Boilers in excess of the limits specified in Condition 7.10.5(b)(2)(i) or (ii) within 30 days of such occurrence.
- iii. Any periods during which a continuous monitoring system was not operational:
 - A. A report providing a brief explanation of the nature of the event (e.g., malfunction or breakdown), corrective actions accomplished, and the expected date on which repairs will be completed if necessary.
- iv. The Permittee shall submit quarterly monitoring reports to the Illinois EPA for the CO continuous emission monitoring system(s).
- v. The Permittee shall promptly notify the Illinois EPA within 5 days of resumption of operation of each affected Boiler.
- vi. Other deviations shall be reported in the semi-annual reports.

7. Compliance Procedures

- ii. Compliance with the CO emission limitation of Condition 7.10.5(b)(1) is addressed by the requirements of Condition 7.10.5(b)(2), the CO testing requirements in Condition 7.10.5(b)(3), the continuous CO monitoring requirements in Condition 7.10.5(b)(4), the records required in Condition 7.10.5(b)(5), and the reports required in Condition 7.10.10(b)(6).

Attachment 5

**Applicability of the General Provisions of the National Emission Standards
for Hazardous Air Pollutants 40 CFR 63, Subpart A as
Effective on July 1, 2009, to Emission Units Subject to a Case-By-Case MACT Determination**

Note: Unless otherwise specified the term "Administrator" shall mean either the USEPA of the Illinois EPA

Citation	Subject	Brief Description	Unit(s)				
			Cogen Boiler	Galvanizing Furnaces	Boilers #1-10	Boilers #11-12	Process Heaters
§63.1	Applicability	Initial Applicability Determination; Applicability After Standard Established; Permit Requirements; Extensions, Notifications	NO	NO	NO	NO	NO
§63.2	Definitions	Definitions	Yes	Yes	Yes	Yes	Yes
§63.3	Units and Abbreviations	Units and abbreviations	Yes	Yes	Yes	Yes	Yes
§63.4	Prohibited Activities	Prohibited Activities; Compliance date; Circumvention, Severability	NO	NO	NO	NO	NO
§63.5	Construction/Reconstruction	Applicability; applications; approvals	NO	NO	NO	NO	NO

Citation	Subject	Brief Description	Unit(s)				
			Cogen Boiler	Galvanizing Furnaces	Boilers #1-10	Boilers #11-12	Process Heaters
§63.6(a)	Applicability	General provision apply unless compliance extension	NO	NO	NO	NO	NO
§63.6(b)	Compliance Dates for New and Reconstructed sources	Standards generally apply at effective date	NO	NO	NO	NO	NO
§63.6(c)	Compliance Dates for Existing Sources	Comply according to date in subpart, which generally must be no later than 3 years after effective date	NO	NO	NO	NO	NO
§63.6(e)(1)-(2)	Operation & Maintenance	Operate to minimize emissions at all times; and Correct malfunctions as soon as practicable; and Operation and maintenance requirements independently enforceable	Yes	Yes	Yes	Yes	Yes
§63.6(e)(3)	Startup, Shutdown, and Malfunction Plan (SSMP)	Requirement for SSM and startup, shutdown, malfunction plan; and content of SSMP	Yes	Yes	Yes	Yes	NO
§63.6(f)	Compliance with non-opacity standards	Comply with emission standards at all times except during SSM	NO	NO	NO	NO	NO

Citation	Subject	Brief Description	Unit(s)				
			Cogen Boiler	Galvanizing Furnaces	Boilers #1-10	Boilers #11-12	Process Heaters
§63.6(g)	Alternative Standard	Procedures for getting an alternative standard	NO	NO	NO	NO	NO
§63.6(h)	Compliance with Opacity/VE Standards	Comply with opacity/VE emission limitations at all times except during SSM	NO	NO	NO	NO	NO
§63.6(i)	Compliance Extension	Procedures and criteria for Administrator to grant compliance extension	NO	NO	NO	NO	NO
§63.6(j)	Presidential Compliance Exemption	President may exempt source category from requirement to comply with rule	NO	NO	NO	NO	NO
§63.7(a)	Performance Test Dates	Dates for Conducting Initial Performance Testing and Other Compliance Demonstrations	NO	NO	NO	NO	NO
§63.7(b)(1)	Notification of Performance Test	Must notify Administrator 60 days before the test	NO	NO	NO	NO	NO

Citation	Subject	Brief Description	Unit(s)				
			Cogen Boiler	Galvanizing Furnaces	Boilers #1-10	Boilers #11-12	Process Heaters
§63.7(b)(2)	Notification of Rescheduling	If rescheduling a performance test is necessary, must notify Administrator 5 days before scheduled date of rescheduled date	NO	YES	YES	YES	YES
§63.7(c)	Quality Assurance/Test Plan	Requirement to submit site-specific test plan 60 days before the test or on date Administrator agrees with: test plan approval procedures; and performance audit requirements; and internal and external QA procedures for testing	NO	YES	YES	YES	YES
§63.7(d)	Testing Facilities	Requirements for testing facilities	NO	YES	YES	YES	YES
§63.7(e)(1)	Conditions for Conducting Performance Tests	1. Performance tests must be conducted under representative conditions; and	NO	NO	NO	NO	NO

Citation	Subject	Brief Description	Unit(s)				
			Cogen Boiler	Galvanizing Furnaces	Boilers #1-10	Boilers #11-12	Process Heaters
		2. Cannot conduct performance tests during SSM; and	NO	NO	NO	NO	NO
		3. Not a deviation to exceed standard during SSM; and	NO	NO	NO	NO	NO
		4. Upon request of Administrator, make available records necessary to determine conditions of performance tests	NO	YES	YES	YES	YES
§63.7(e)(2)	Conditions for Conducting Performance Tests	Must conduct according to rule and EPA test methods unless Administrator * approves alternative	NO	YES	YES	YES	YES
§63.7(e)(3)	Test Run Duration	Must have three separate test runs; and Compliance is based on arithmetic mean of three runs; and conditions when data from an additional test run can be used	NO	YES	YES	YES	YES

Citation	Subject	Brief Description	Unit(s)				
			Cogen Boiler	Galvanizing Furnaces	Boilers #1-10	Boilers #11-12	Process Heaters
§63.7(e)(4)	Interaction with other sections of the Act	Nothing in §63.7(e) abrogates the Administrator's authority to require testing under Section 114 of the CAA	NO	NO	NO	NO	NO
§63.7(f)	Alternative Test Method	Procedures by which Administrator can grant approval to use an alternative test method	NO	NO	NO	NO	NO
§63.7(g)	Performance Test Data Analysis	Must include raw data in performance test report; and must submit performance test data 60 days after end of test with the Notification of Compliance Status; and keep data for 5 years	NO	YES	YES	YES	YES
§63.7(h)	Waiver of Tests	Procedures for Administrator* to waive performance test	NO	YES	YES	YES	YES
§63.8(a)(1)	Applicability of Monitoring Requirements	Subject to all monitoring requirements in standard	NO	NO	NO	YES	NO

Citation	Subject	Brief Description	Unit(s)				
			Cogen Boiler	Galvanizing Furnaces	Boilers #1-10	Boilers #11-12	Process Heaters
§63.8(a)(2)	Performance Specifications	Performance Specifications in appendix B of part 60 apply	NO	NO	NO	YES	NO
§63.8(a)(4)	Monitoring with Flares	Applicability of requirements for flares in §63.11	NO	NO	NO	NO	NO
§63.8(b)(1)(i)-(ii)	Monitoring	Must conduct monitoring according to standard unless Administrator approves alternative	NO	NO	NO	YES	NO
§63.8(b)(1)(iii)	Monitoring	Flares not subject to §63.8 unless otherwise specified in relevant standard	NO	NO	NO	NO	NO

Citation	Subject	Brief Description	Unit(s)				
			Cogen Boiler	Galvanizing Furnaces	Boilers #1-10	Boilers #11-12	Process Heaters
§63.8(b)(2)-(3)	Multiple Effluents and Multiple Monitoring Systems	Specific requirements for installing monitoring systems; and must install on each effluent before it is combined and before it is released to the atmosphere unless Administrator* approves otherwise; and if more than one monitoring system on an emission point, must report all monitoring system results, unless one monitoring system is a backup	NO	NO	NO	YES	NO
§63.8(c)(1)	Monitoring System Operation and Maintenance	Maintain monitoring system in a manner consistent with good air pollution control practices	NO	NO	NO	YES	NO
§63.8(c)(1)(i)	Routine and Predictable SSM	Maintain and operate CMS according to §63.6(e)(1)	NO	NO	NO	YES	NO
§63.8(c)(1)(ii)	SSM not in SSMP	Must keep necessary parts available for routine repairs of CMSS	NO	NO	NO	YES	NO

Citation	Subject	Brief Description	Unit(s)				
			Cogen Boiler	Galvanizing Furnaces	Boilers #1-10	Boilers #11-12	Process Heaters
§63.8(c)(1)(iii)	Compliance with Operation and Maintenance	Must develop an SSMP for CMS	NO	NO	NO	YES	NO
§63.8(c)(2)-(3)	Monitoring System Installation	Must install to get representative emission and parameter measurements; and must verify operational status before or at performance test	NO	NO	NO	YES	NO
§63.8(c)(4)	Continuous Monitoring System (CMS) Requirements	CMSs must be operating except during breakdown, out-of-control, repair, maintenance, and high-level calibration drifts	NO	NO	NO	YES	NO
§63.8(c)(4)(i)	Continuous Monitoring System (CMS) Requirements	Continuous opacity monitoring system must have a minimum of one cycle of sampling and analysis for each successive 10-second period and one cycle of data recording for each successive 6-minute period	NO	NO	NO	NO	NO

Citation	Subject	Brief Description	Unit(s)				
			Cogen Boiler	Galvanizing Furnaces	Boilers #1-10	Boilers #11-12	Process Heaters
§63.8(c)(4)(ii)	Continuous Monitoring System (CMS) Requirements	Continuous emissions monitoring system must have a minimum of one cycle of operation for each successive 15-minute period	NO	NO	NO	YES	NO
§63.8(c)(5)	Continuous Opacity Monitoring system (COMS) Requirements	Must do daily zero and high level calibrations	NO	NO	NO	NO	NO
§63.8(c)(6)	Continuous Monitoring System (CMS) Requirements	Must do daily zero and high level calibrations	NO	NO	NO	NO	NO
§63.8(c)(7)-(8)	Continuous Monitoring Systems Requirements	Out-of-control periods, including reporting	NO	NO	NO	YES	NO
§63.8(d)	Continuous Monitoring Systems Quality Control	Requirements for continuous monitoring systems quality control, including calibration, etc.; and must keep quality control plan on record for the life of the affected source. Keep old versions for 5 years after revisions	NO	NO	NO	YES	NO

Citation	Subject	Brief Description	Unit(s)				
			Cogen Boiler	Galvanizing Furnaces	Boilers #1-10	Boilers #11-12	Process Heaters
§63.8(e)	Continuous monitoring systems Performance Evaluation	Notification, performance evaluation test plan, reports	NO	NO	NO	YES	NO
§63.8(f)(1)-(5)	Alternative Monitoring Method	Procedures for Administrator to approve alternative monitoring	NO	NO	NO	NO	NO
§63.8(f)(6)	Alternative to Relative Accuracy Test	Procedures for Administrator* to approve alternative relative accuracy tests for continuous emissions monitoring system	NO	NO	NO	YES	NO
§63.8(g)(1)-(4)	Data Reduction	Continuous opacity monitoring system 6-minute averages calculated over at least 36 evenly spaced data points; and continuous emissions monitoring system 1-hour averages computed over at least 4 equally spaced data points	NO	NO	NO	YES	NO
§63.9(a)	Notification Requirements	Applicability and State Delegation	NO	NO	NO	NO	NO

Citation	Subject	Brief Description	Unit(s)				
			Cogen Boiler	Galvanizing Furnaces	Boilers #1-10	Boilers #11-12	Process Heaters
§63.9(b)	Initial Notifications	Submit notification 120 days after effective date; and Notification of intent to construct/reconstruct; and Notification of commencement of construct/reconstruct; Notification of startup; and Contents of each	NO	NO	NO	NO	NO
§63.9(c)	Request for Compliance Extension	Can request if cannot comply by date or if installed BACT/LAER	YES	YES	YES	YES	YES
§63.9(d)	Notification of Special Compliance Requirements for New Source	For sources that commence construction between proposal and promulgation and want to comply 3 years after effective date	NO	NO	NO	NO	NO
§63.9(e)	Notification of Performance Test	Notify Administrator 60 days prior	NO	YES	YES	YES	YES
§63.9(f)	Notification of VE/Opacity Test	Notify Administrator 30 days prior	NO	NO	NO	NO	NO

Citation	Subject	Brief Description	Unit(s)				
			Cogen Boiler	Galvanizing Furnaces	Boilers #1-10	Boilers #11-12	Process Heaters
§63.9(g)	Additional Notifications When Using Continuous Monitoring Systems	Notification of performance evaluation; and notification using continuous opacity monitoring system data; and notification that exceeded criterion for relative accuracy	NO	NO	NO	YES	NO
§63.9(h)	Notification of Compliance Status	Contents; and due 60 days after end of performance test or other compliance demonstration, and when to submit to Federal vs. State authority	NO	NO	NO	NO	NO
§63.9(i)	Adjustment of Submittal Deadlines	Procedures for Administrator* to approve change in when notifications must be submitted	YES	YES	YES	YES	YES
§63.9(j)	Change in Previous Information	Must submit to Administrator* within 15 days after the change	YES	YES	YES	YES	YES

Citation	Subject	Brief Description	Unit(s)				
			Cogen Boiler	Galvanizing Furnaces	Boilers #1-10	Boilers #11-12	Process Heaters
§63.10(a)	Recordkeeping/Reporting	Applies to all, unless compliance extension; and when to submit to Federal vs. State authority; and procedures for owners of more than 1 source	YES	YES	YES	YES	YES
§63.10(b)(1)	Recordkeeping/Reporting	General Requirements; and keep all records readily available and keep for 5 years	YES	YES	YES	YES	YES
§63.10(b)(2)(i)-(v)	Records related to Startup, Shutdown, and Malfunction	Occurrence of each of operation (process, equipment); and occurrence of each malfunction of air pollution equipment; and maintenance of air pollution control equipment; and actions during startup, shutdown, and malfunction	YES	YES	YES	YES	NO
§63.10(b)(2)(vi) and (x-xi)	Continuous monitoring systems Records	Malfunctions, inoperative, out-of-control; and calibration checks; and adjustments, maintenance	NO	NO	NO	YES	NO

Citation	Subject	Brief Description	Unit(s)				
			Cogen Boiler	Galvanizing Furnaces	Boilers #1-10	Boilers #11-12	Process Heaters
§63.10(b)(2)(vii)-(viii)	Records	Measurements to demonstrate compliance with emission limitations; and performance test, performance evaluation, and visible emission observation results; and measurements to determine conditions of performance tests and performance evaluations.	NO	NO	NO	YES	NO
§63.10(b)(2)(ix)	Records		NO	YES	YES	YES	YES
§63.10(b)(2)(xii)	Records	Records when under waiver	YES	YES	YES	YES	YES
§63.10(b)(2)(xiii)	Records	Records when using alternative to relative accuracy test	NO	NO	NO	YES	NO
§63.10(b)(2)(xiv)	Records	All documentation supporting Initial Notification and Notification of Compliance Status	NO	NO	NO	NO	NO
§63.10(b)(3)	Records	Applicability Determinations	NO	NO	NO	NO	NO

Citation	Subject	Brief Description	Unit(s)				
			Cogen Boiler	Galvanizing Furnaces	Boilers #1-10	Boilers #11-12	Process Heaters
§63.10(c)(1),(5)-(8),(10)-(15)	Records	Additional Records for continuous monitoring systems. Records of excess emissions and parameter monitoring exceedances for continuous monitoring systems	NO	NO	NO	YES	NO
§63.10(d)(1)	General Reporting Requirements	Requirement to report	YES	YES	YES	YES	YES
§63.10(d)(2)	Report of Performance Test Results	When to submit to Federal or State authority	NO	YES	YES	YES	YES
§63.10(d)(3)	Reporting Opacity or VE Observations	What to report and when	NO	NO	NO	NO	NO
§63.10(d)(4)	Progress Reports	Must submit progress reports on schedule if under compliance extension	NO	NO	NO	NO	NO
§63.10(d)(5)	Startup, Shutdown, and Malfunction Reports	Contents and submission	YES	YES	YES	YES	NO

Citation	Subject	Brief Description	Unit(s)				
			Cogen Boiler	Galvanizing Furnaces	Boilers #1-10	Boilers #11-12	Process Heaters
§63.10(e)(1)(2)	Additional continuous monitoring systems Reports	Must report results for each CEM on a unit; and written copy of performance evaluation; and 3 copies of continuous opacity monitoring system performance evaluation	NO	NO	NO	YES	NO
§63.10(e)(3)(i-iv)	Excess Emission and CMS Reports	Schedule for reporting excess emissions and parameter monitor exceedance (now defined as deviations)	NO	NO	NO	NO	NO
§63.10(e)(3)(iv-v)	Excess Emissions Reports	Must submit report containing all of the information in §63.10(c)(5-13), §63.8(c)(7-8)	NO	NO	NO	NO	NO
§63.10(e)(3)(vi-viii)	Excess Emissions Report and Summary Report	Requirements for reporting excess emissions for continuous monitoring systems (now called deviations); Requires all of the information in §63.10(c)(5-13), §63.8(c)(7-8)	NO	NO	NO	NO	NO

Citation	Subject	Brief Description	Unit(s)				
			Cogen Boiler	Galvanizing Furnaces	Boilers #1-10	Boilers #11-12	Process Heaters
§63.10(e)(4)	Reporting continuous opacity monitoring system data	Must submit continuous opacity monitoring system data with performance test data	NO	NO	NO	NO	NO
§63.10(f)	Waiver for Recordkeeping/Reporting	Procedures for Administrator* to waive	YES	YES	YES	YES	YES
§63.11	Flares	Requirements for flares	NO	NO	NO	NO	NO
§63.12	Delegation	State authority to enforce standards	NO	NO	NO	NO	NO
§63.13	Addresses	Addresses where reports, notifications, and requests are sent	NO	NO	NO	NO	NO
§63.14	Incorporation by Reference	Test methods incorporated by reference	NO	YES	YES	YES	YES
§63.15	Availability of Information	Public and confidential Information	NO	NO	NO	NO	NO

* Provision to be administered by the Illinois EPA as a potential revision to the Case-By-Case MACT Determination