ArcelorMittal Minorca
Iron Mining

ArcelorMittal

October 26, 2018

Regional Administrator
Air and Radiation Division
U.S. Environmental Protection Agency, Region 5 (A-18J)
77 West Jackson Boulevard
Chicago, IL 60604

Re: ArcelorMittal Minorca Mine Inc.
3rd Quarter 2018 Excess Emissions and Monitoring System Performance Reports
Federal Implementation Plan for Regional Haze (FIP)

On behalf of ArcelorMittal Minorca Mine Inc. (Minorca), I am submitting the enclosed Excess Emissions and Monitoring System Performance Reports for the 3rd quarter of 2018 as required by 40 CFR 52.1235(e)(7). Minorca has also enclosed the 30-day rolling average NO_X emissions data required by 40 CFR 52.1235(b)(1)(v)(A)(*2*).

It should be noted that while the continuous emissions monitoring requirements of the FIP were in effect, the emission limitation for NO_X is not yet applicable. 40 CFR 52.1235(b)(1)(v)(A) specifies that the NO_X limitation will become enforceable *"...55 months after May 12, 2016 and only after EPA's confirmation or modification of the emission limit..."*, which has not yet occurred.

Minorca submitted a revision of the 38.16 lb SO_2/hr on a 30-day rolling average limit to U.S. EPA in accordance with 40 CFR 52.1235(b)(2)(v) on April 6, 2018. That section of the FIP provides that Minorca "may calculate a revised SO_2 limit based on one year of hourly CEMS emissions data reported in lbs SO_2/hr and submit such limit, calculations, and CEMS data to EPA." This provision to modify the SO_2 limit exists because EPA recognized that the initial SO_2 limit was based on "limited stack test data" (78 Fed. Reg. 8718) and did not reflect the variability of Minorca's operations. The revised emission limit calculation methodology follows the provisions of 40 CFR 52.1235(b)(2)(v) and results in an updated emission limit of 58.64 lbs SO_2/hr based on a 30-day rolling average (prior to adjusting to account for operating levels of the Minorca furnace which were less than capacity during the data collection period). Adjusting to reflect the emissions associated with operation of the furnace at capacity using the above equation results in a limit of 73.79 lbs SO_2/hr based on a 30-day rolling average. The revised limit became effective on the April 6, 2018 date of submittal of the limit revision package.

These reports were developed following the procedures and practices described in the Site Specific Monitoring Plan (SSMP) required by 40 CFR 52.1235(e)(8) and submitted to EPA on December 1, 2016.

Please contact Jaime Johnson, Minorca's Environmental Manager, at (218) 305-3337 should you have any questions or comments regarding this report.

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Sincerely,

Robb Peterson
Operations Manager

Enclosed: 3rd Quarter 2018 Excess Emissions and Monitoring System Performance Reports
3rd Quarter 2018 CGA Summary Reports for SV 014-017, NO_X and SO_2
3rd Quarter 2018 30-Day Rolling Average NO_X Emissions Data

cc: Jaime Johnson (ArcelorMittal Minorca Mine Inc.)
Rich Zavoda (ArcelorMittal USA)

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Quarterly Excess Emissions and Monitoring System Performance Report

EU 026 Combined SO2 Emissions and Analyzer Downtime

From: 07/01/2018 00:00 **To:** 09/30/2018 23:59

Generated: 10/01/2018 12:55

Facility Name: ArcelorMittal Minorca Mine Inc

Location: 5950 Old Hwy 53, Virginia, MN

Description: Indurating Furnace (EU 026)

CMS Data from:	EU26_SO2_30D_LbPerHr_1D
EDS Data from:	EU26_SO2_30D_LbPerHr_1D
Emission Limitation:	58.64 lb SO2/hr / 73.79 lb SO2/hr, 30-day rolling average. See Footnote [1].
No Value Exclusions Allowed	
Monitor Manufacturer, Model No., & Serial:	See downtime reports for individual stacks.
Date of Latest CMS Certification or Audit:	See downtime reports for individual stacks.
Operating time for EDS:	92.00 Day(s)
Operating time for CMS:	92.00 Day(s)

Emission Data Summary	
1. Duration of excess emission in reporting period due to:	
a. Startup/shutdown	0
b. Control equipment problems	0
c. Process Problems	0
d. Other known causes	0
e. Unknown causes	0
2. Upset Conditions	0
3. Total Duration (Subtracts Exclusions and Upset Conditions)	0
4. Time of Excess Emission as a percentage of operating time	0.00
5. Time in compliance as percentage of operating time	100.00

CMS Performance Summary	
1. CMS downtime in reporting period due to:	
a. Monitor equipment malfunctions	0
b. Non-Monitor equipment malfunctions	0
c. Quality assurance calibration	0
d. Other known causes	0
e. Unknown causes	0
2. Total CMS Downtime	0
3. Total Downtime as a percentage of operating time	0.00
4. Total Availability as a percentage of operating time	100.00

[1] Minorca established the 58.64 lb SO2/hr on a 30-day rolling average basis limit via submittal of one year of CEMS data to the EPA on April 6, 2018 (prior to adjusting to account for operating levels of the Minorca furnace which were less than capacity during the data collection period). Adjusting to reflect the emissions associated with operation of the furnace at capacity using the above equation results in a limit of 73.79 lbs SO2/hr based on a 30-day rolling average.

There were no periods of excess emissions during this reporting period.

There were no periods of monitor downtime during this reporting period except for the daily zero and span checks.

CMS downtime reported for EU026 SO2 monitoring includes all downtime from the SO2 concentration and Stack Flow analyzers installed on SV014, SV015, SV016, and SV017 if the minimum data availability required by 52.1235(c)(4)(viii)(C) are not met after the application of secondary data calculations used to determine "emission rates when CEMS data is not available due to downtime associated with QA/QC events" as required by 40 CFR 52.1235(e)(8)(iv). These calculations are described in detail within the site specific monitoring plan (SSMP) which was submitted to the EPA per the requirements of 40 CFR 52.1235(e)(8). Please refer to the downtime reports for the individual stack analyzers for details on their operation during the reporting period.

There were no changes in continuous monitoring systems, processes, or controls that would have invalidated the CEMS certification test or adversely affected its ability to accurately measure the emissions from the indurating furnace during this reporting period.

Quarterly Excess Emissions and Monitoring System Performance Report

EU 026 - Combined NOx Emissions and Monitor Downtime

From: 07/01/2018 00:00 **To:** 09/30/2018 23:59

Generated: 10/01/2018 12:55

Facility Name: ArcelorMittal Minorca Mine Inc

Location: 5950 Old Hwy 53, Virginia, MN

Description: Indurating Furnace (EU 026)

CMS Data from: EU26_NOx_30D_LbPerMBtu_1D

EDS Data from: N/A

Emission Limitation: 1.2 lb NOx/MMBtu, 30-day rolling average. Limit applies 55 months after May 12, 2016.

No Value Exclusions Allowed

Monitor Manufacturer, Model No., & Serial: See downtime reports for individual

Date of Latest CMS Certification or Audit: See downtime reports for individual

Operating time for CMS: 92.00 Day(s)

CMS Performance Summary	
1. CMS downtime in reporting period due to:	
a. Monitor equipment malfunctions	0
b. Non-Monitor equipment malfunctions	0
c. Quality assurance calibration	0
d. Other known causes	0
e. Unknown causes	0
2. Total CMS Downtime	0
3. Total Downtime as a percentage of operating time	0.00
4. Total Availability as a percentage of operating time	100.00

As the emission limitation does not apply until 55 months after May 12, 2016, there were no periods of NOx excess emissions during this reporting period.

There were no periods of monitor downtime during this reporting period except for the daily zero and span checks.

CMS downtime reported for EU026 NOx monitoring includes all downtime from the NOx concentration and Stack Flow analyzers installed on SV014, SV015, SV016, and SV017 if the minimum data availability required by 52.1235(c)(4)(viii)(C) are not met after the application of secondary data calculations used to determine "emission rates when CEMS data is not available due to downtime associated with QA/QC events" as required by 40 CFR 52.1235(e)(8)(iv). These calculations are described in detail within the site specific monitoring plan (SSMP) which was submitted to the EPA per the requirements of 40 CFR 52.1235(e)(8). Please refer to the downtime reports for the individual stack analyzers for details on their operation during the reporting period.

There were no changes in continuous monitoring systems, processes, or controls that would have invalidated the CEMS certification test or adversely affected its ability to accurately measure the emissions from the indurating furnace during this reporting period.

Quarterly Excess Emissions and Monitoring System Performance Report

SV 014 Flow Analyzer Downtime

From: 07/01/2018 00:00 **To:** 09/30/2018 23:59

Generated: 10/01/2018 12:55

Facility Name: ArcelorMittal Minorca Mine Inc

Location: 5950 Old Hwy 53, Virginia, MN

Description: Indurating Furnace (EU 026)

ArcelorMittal

CMS Data from: SV14_StackFlow_scfh_1H

EDS Data from: N/A

Emission Limitation: No limits apply to individual stacks.

No Value Exclusions Allowed

Monitor Manufacturer, Model No., & Serial: Sic Flowsic, 100H, 13088519

Date of Latest CMS Certification or Audit: 7/24/2018 (via NOx RATA)

Operating time for CMS: 2,208.00 Hour(s)

CMS Performance Summary	
1. CMS downtime in reporting period due to:	
a. Monitor equipment malfunctions	0
b. Non-Monitor equipment malfunctions	0
c. Quality assurance calibration	0
d. Other known causes	0
e. Unknown causes	0
2. Total CMS Downtime	0
3. Total Downtime as a percentage of operating time	0.00
4. Total Availability as a percentage of operating time	100.00

There were no periods of monitor downtime during this reporting period except for the daily zero and span checks.

There were no changes in continuous monitoring systems, processes, or controls that would have invalidated the CEMS certification test or adversely affected its ability to accurately measure the emissions from the indurating furnace during this reporting period.

Quarterly Excess Emissions and Monitoring System Performance Report

SV014 NOx Analyzer Downtime

From: 07/01/2018 00:00 **To:** 09/30/2018 23:59

Generated: 10/01/2018 12:55

Facility Name: ArcelorMittal Minorca Mine Inc

Location: 5950 Old Hwy 53, Virginia, MN

Description: Indurating Furnace (EU 026)

CMS Data from: SV14_NOx_Ppm_1H

EDS Data from: N/A

Emission Limitation: No limits apply to individual stacks.

No Value Exclusions Allowed

Monitor Manufacturer, Model No., & Serial: TAPI, T200H, 252

Date of Latest CMS Certification or Audit: 7/24/2018

Operating time for CMS: 2,208.00 Hour(s)

CMS Performance Summary	
1. CMS downtime in reporting period due to:	
a. Monitor equipment malfunctions	0
b. Non-Monitor equipment malfunctions	0
c. Quality assurance calibration	0
d. Other known causes	0
e. Unknown causes	0
2. Total CMS Downtime	0
3. Total Downtime as a percentage of operating time	0.00
4. Total Availability as a percentage of operating time	100.00

There were no periods of monitor downtime during this reporting period except for the daily zero and span checks.

There were no changes in continuous monitoring systems, processes, or controls that would have invalidated the CEMS certification test or adversely affected its ability to accurately measure the emissions from the indurating furnace during this reporting period.

Quarterly Excess Emissions and Monitoring System Performance Report

SV014 SO2 Analyzer Downtime

From: 07/01/2018 00:00 **To:** 09/30/2018 23:59

Generated: 10/01/2018 12:55

Facility Name: ArcelorMittal Minorca Mine Inc

Location: 5950 Old Hwy 53, Virginia, MN

Description: Indurating Furnace (EU 026)

ArcelorMittal

CMS Data from: SV14_SO2_Ppm_1H

EDS Data from: N/A

Emission Limitation: No limits apply to individual stacks.

No Value Exclusions Allowed

Monitor Manufacturer, Model No., & Serial: TAPI, T100H, 143

Date of Latest CMS Certification or Audit: 7/24/2018

Operating time for CMS: 2,208.00 Hour(s)

CMS Performance Summary	
1. CMS downtime in reporting period due to:	
a. Monitor equipment malfunctions	0
b. Non-Monitor equipment malfunctions	0
c. Quality assurance calibration	0
d. Other known causes	0
e. Unknown causes	0
2. Total CMS Downtime	0
3. Total Downtime as a percentage of operating time	0.00
4. Total Availability as a percentage of operating time	100.00

There were no periods of monitor downtime during this reporting period except for the daily zero and span checks.

There were no changes in continuous monitoring systems, processes, or controls that would have invalidated the CEMS certification test or adversely affected its ability to accurately measure the emissions from the indurating furnace during this reporting period.

Quarterly Excess Emissions and Monitoring System Performance Report
SV15 Flow Analyzer Downtime

From: 07/01/2018 00:00 **To:** 09/30/2018 23:59

Generated: 10/01/2018 12:55

Facility Name: ArcelorMittal Minorca Mine Inc

Location: 5950 Old Hwy 53, Virginia, MN

Description: Indurating Furnace (EU 026)

ArcelorMittal

CMS Data from: SV15_StackFlow_scfh_1H
EDS Data from: N/A
Emission Limitation: No limits apply to individual stacks.
No Value Exclusions Allowed
Monitor Manufacturer, Model No., & Serial: Sic Flowsic, 100H, 13178539
Date of Latest CMS Certification or Audit: 7/25/2018 (via NOx RATA)
Operating time for CMS: 2,208.00 Hour(s)

CMS Performance Summary	
1. CMS downtime in reporting period due to:	
a. Monitor equipment malfunctions	0
b. Non-Monitor equipment malfunctions	0
c. Quality assurance calibration	0
d. Other known causes	0
e. Unknown causes	0
2. Total CMS Downtime	0
3. Total Downtime as a percentage of operating time	0.00
4. Total Availability as a percentage of operating time	100.00

There were no periods of monitor downtime during this reporting period except for the daily zero and span checks.

There were no changes in continuous monitoring systems, processes, or controls that would have invalidated the CEMS certification test or adversely affected its ability to accurately measure the emissions from the indurating furnace during this reporting period.

Quarterly Excess Emissions and Monitoring System Performance Report

SV015 NOx Analyzer Downtime

From: 07/01/2018 00:00 **To:** 09/30/2018 23:59

Generated: 10/01/2018 12:55

Facility Name: ArcelorMittal Minorca Mine Inc

Location: 5950 Old Hwy 53, Virginia, MN

Description: Indurating Furnace (EU 026)

ArcelorMittal

CMS Data from: SV15_NOx_Ppm_1H

EDS Data from: N/A

Emission Limitation: No limits apply to individual stacks.

No Value Exclusions Allowed

Monitor Manufacturer, Model No., & Serial: TAPI, T200H, 250

Date of Latest CMS Certification or Audit: 7/25/2018

Operating time for CMS: 2,208.00 Hour(s)

CMS Performance Summary	
1. CMS downtime in reporting period due to:	
a. Monitor equipment malfunctions	0
b. Non-Monitor equipment malfunctions	0
c. Quality assurance calibration	0
d. Other known causes	0
e. Unknown causes	0
2. Total CMS Downtime	0
3. Total Downtime as a percentage of operating time	0.00
4. Total Availability as a percentage of operating time	100.00

There were no periods of monitor downtime during this reporting period except for the daily zero and span checks.

There were no changes in continuous monitoring systems, processes, or controls that would have invalidated the CEMS certification test or adversely affected its ability to accurately measure the emissions from the indurating furnace during this reporting period.

Quarterly Excess Emissions and Monitoring System Performance Report
SV015 SO2 Analyzer Downtime

From: 07/01/2018 00:00 **To:** 09/30/2018 23:59

Generated: 10/01/2018 12:55

Facility Name: ArcelorMittal Minorca Mine Inc

Location: 5950 Old Hwy 53, Virginia, MN

Description: Indurating Furnace (EU 026)

ArcelorMittal

CMS Data from: SV15_SO2_Ppm_1H
EDS Data from: N/A
Emission Limitation: No limits apply to individual stacks.
No Value Exclusions Allowed
Monitor Manufacturer, Model No., & Serial: TAPI, T100H, 142
Date of Latest CMS Certification or Audit: 7/25/2018
Operating time for CMS: 2,208.00 Hour(s)

CMS Performance Summary	
1. CMS downtime in reporting period due to:	
a. Monitor equipment malfunctions	0
b. Non-Monitor equipment malfunctions	0
c. Quality assurance calibration	0
d. Other known causes	0
e. Unknown causes	0
2. Total CMS Downtime	0
3. Total Downtime as a percentage of operating time	0.00
4. Total Availability as a percentage of operating time	100.00

There were no periods of monitor downtime during this reporting period except for the daily zero and span checks.

There were no changes in continuous monitoring systems, processes, or controls that would have invalidated the CEMS certification test or adversely affected its ability to accurately measure the emissions from the indurating furnace during this reporting period.

Quarterly Excess Emissions and Monitoring System Performance Report

SV016 Flow Analyzer Downtime

From: 07/01/2018 00:00 **To:** 09/30/2018 23:59

Generated: 10/01/2018 12:55

Facility Name: ArcelorMittal Minorca Mine Inc

Location: 5950 Old Hwy 53, Virginia, MN

Description: Indurating Furnace (EU 026)

ArcelorMittal

CMS Data from: SV16_StackFlow_scfh_1H
EDS Data from: N/A
Emission Limitation: No limits apply to individual stacks.
No Value Exclusions Allowed
Monitor Manufacturer, Model No., & Serial: Sic Flowsic, 100H, 13088520
Date of Latest CMS Certification or Audit: 7/24/2014 (via NOx RATA)
Operating time for CMS: 2,208.00 Hour(s)

CMS Performance Summary	
1. CMS downtime in reporting period due to:	
a. Monitor equipment malfunctions	0
b. Non-Monitor equipment malfunctions	0
c. Quality assurance calibration	0
d. Other known causes	0
e. Unknown causes	0
2. Total CMS Downtime	0
3. Total Downtime as a percentage of operating time	0.00
4. Total Availability as a percentage of operating time	100.00

There were no periods of monitor downtime during this reporting period except for the daily zero and span checks.

There were no changes in continuous monitoring systems, processes, or controls that would have invalidated the CEMS certification test or adversely affected its ability to accurately measure the emissions from the indurating furnace during this reporting period.

Quarterly Excess Emissions and Monitoring System Performance Report

SV016 NOx Analyzer Downtime

From: 07/01/2018 00:00 **To:** 09/30/2018 23:59

Generated: 10/01/2018 12:55

Facility Name: ArcelorMittal Minorca Mine Inc

Location: 5950 Old Hwy 53, Virginia, MN

Description: Indurating Furnace (EU 026)

ArcelorMittal

CMS Data from: SV16_NOx_Ppm_1H
EDS Data from: N/A
Emission Limitation: No limits apply to individual stacks.
No Value Exclusions Allowed
Monitor Manufacturer, Model No., & Serial: TAPI, T200H, 249
Date of Latest CMS Certification or Audit: 7/24/2018
Operating time for CMS: 2,208.00 Hour(s)

CMS Performance Summary	
1. CMS downtime in reporting period due to:	
a. Monitor equipment malfunctions	0
b. Non-Monitor equipment malfunctions	0
c. Quality assurance calibration	0
d. Other known causes	0
e. Unknown causes	0
2. Total CMS Downtime	0
3. Total Downtime as a percentage of operating time	0.00
4. Total Availability as a percentage of operating time	100.00

There were no periods of monitor downtime during this reporting period except for the daily zero and span checks.

There were no changes in continuous monitoring systems, processes, or controls that would have invalidated the CEMS certification test or adversely affected its ability to accurately measure the emissions from the indurating furnace during this reporting period.

Quarterly Excess Emissions and Monitoring System Performance Report

SV016 SO2 Analyzer Downtime

From: 07/01/2018 00:00 **To:** 09/30/2018 23:59

Generated: 10/01/2018 12:55

Facility Name: ArcelorMittal Minorca Mine Inc

Location: 5950 Old Hwy 53, Virginia, MN

Description: Indurating Furnace (EU 026)

ArcelorMittal

CMS Data from: SV16_SO2_Ppm_1H
EDS Data from: N/A
Emission Limitation: No limits apply to individual stacks.
No Value Exclusions Allowed
Monitor Manufacturer, Model No., & Serial: TAPI, T100H, 144
Date of Latest CMS Certification or Audit: 7/24/2018
Operating time for CMS: 2,208.00 Hour(s)

CMS Performance Summary	
1. CMS downtime in reporting period due to:	
a. Monitor equipment malfunctions	0
b. Non-Monitor equipment malfunctions	0
c. Quality assurance calibration	0
d. Other known causes	0
e. Unknown causes	0
2. Total CMS Downtime	0
3. Total Downtime as a percentage of operating time	0.00
4. Total Availability as a percentage of operating time	100.00

There were no periods of monitor downtime during this reporting period except for the daily zero and span checks.

There were no changes in continuous monitoring systems, processes, or controls that would have invalidated the CEMS certification test or adversely affected its ability to accurately measure the emissions from the indurating furnace during this reporting period.

Quarterly Excess Emissions and Monitoring System Performance Report

SV017 Flow Analyzer Downtime

From: 07/01/2018 00:00 **To:** 09/30/2018 23:59

Generated: 10/01/2018 12:55

Facility Name: ArcelorMittal Minorca Mine Inc

Location: 5950 Old Hwy 53, Virginia, MN

Description: Indurating Furnace (EU 026)

ArcelorMittal

CMS Data from: SV17_StackFlow_scfh_1H
EDS Data from: N/A
Emission Limitation: No limits apply to individual stacks.
No Value Exclusions Allowed
Monitor Manufacturer, Model No., & Serial: Sic Flowsic, 100H, 13078504
Date of Latest CMS Certification or Audit: 7/25/2018 (via NOx RATA)
Operating time for CMS: 2,208.00 Hour(s)

CMS Performance Summary	
1. CMS downtime in reporting period due to:	
a. Monitor equipment malfunctions	0
b. Non-Monitor equipment malfunctions	0
c. Quality assurance calibration	0
d. Other known causes	0
e. Unknown causes	0
2. Total CMS Downtime	0
3. Total Downtime as a percentage of operating time	0.00
4. Total Availability as a percentage of operating time	100.00

There were no periods of monitor downtime during this reporting period except for the daily zero and span checks.

There were no changes in continuous monitoring systems, processes, or controls that would have invalidated the CEMS certification test or adversely affected its ability to accurately measure the emissions from the indurating furnace during this reporting period.

Quarterly Excess Emissions and Monitoring System Performance Report

SV017 NOx Analyzer Downtime

From: 07/01/2018 00:00 **To:** 09/30/2018 23:59

Generated: 10/01/2018 12:55

Facility Name: ArcelorMittal Minorca Mine Inc

Location: 5950 Old Hwy 53, Virginia, MN

Description: Indurating Furnace (EU 026)

ArcelorMittal

CMS Data from: SV17_NOx_Ppm_1H
EDS Data from: N/A
Emission Limitation: No limits apply to individual stacks.
No Value Exclusions Allowed
Monitor Manufacturer, Model No., & Serial: TAPI, T200H, 251
Date of Latest CMS Certification or Audit: 7/25/2018
Operating time for CMS: 2,208.00 Hour(s)

CMS Performance Summary	
1. CMS downtime in reporting period due to:	
a. Monitor equipment malfunctions	0
b. Non-Monitor equipment malfunctions	0
c. Quality assurance calibration	0
d. Other known causes	0
e. Unknown causes	0
2. Total CMS Downtime	0
3. Total Downtime as a percentage of operating time	0.00
4. Total Availability as a percentage of operating time	100.00

There were no periods of monitor downtime during this reporting period except for the daily zero and span checks.

There were no changes in continuous monitoring systems, processes, or controls that would have invalidated the CEMS certification test or adversely affected its ability to accurately measure the emissions from the indurating furnace during this reporting period.

Quarterly Excess Emissions and Monitoring System Performance Report

SV017 SO2 Analyzer Downtime

From: 07/01/2018 00:00 **To:** 09/30/2018 23:59

Generated: 10/01/2018 12:55

Facility Name: ArcelorMittal Minorca Mine Inc

Location: 5950 Old Hwy 53, Virginia, MN

Description: Indurating Furnace (EU 026)

ArcelorMittal

CMS Data from: SV17_SO2_Ppm_1H
EDS Data from: N/A
Emission Limitation: No limits apply to individual stacks.
No Value Exclusions Allowed
Monitor Manufacturer, Model No., & Serial: TAPI, T100H, 145
Date of Latest CMS Certification or Audit: 7/25/2018
Operating time for CMS: 2,208.00 Hour(s)

CMS Performance Summary	
1. CMS downtime in reporting period due to:	
a. Monitor equipment malfunctions	0
b. Non-Monitor equipment malfunctions	0
c. Quality assurance calibration	0
d. Other known causes	0
e. Unknown causes	0
2. Total CMS Downtime	0
3. Total Downtime as a percentage of operating time	0.00
4. Total Availability as a percentage of operating time	100.00

There were no periods of monitor downtime during this reporting period except for the daily zero and span checks.

There were no changes in continuous monitoring systems, processes, or controls that would have invalidated the CEMS certification test or adversely affected its ability to accurately measure the emissions from the indurating furnace during this reporting period.

30 Day Rolling Average Report

EU026 - NOx Emission Rates

From: 07/01/2018 00:00 **To:** 09/30/2018 23:59
Generated: 10/01/2018 12:51
Facility ArcelorMittal Minorca Mine Inc
Location: 5950 Old Hwy 53, Virginia, MN 55792

The NOx emissions data below has been submitted per the requirements of 40 CFR 52.1235(b)(1)(v)(A)(2).

Date/Time	Furnace NOx, LbPerMBtu 30-Day Rolling Avg	Date/Time	Furnace NOx, LbPerMBtu 30-Day Rolling Avg	Date/Time	Furnace NOx, LbPerMBtu 30-Day Rolling Avg
07/01/2018	4.1	08/01/2018	4.0	09/01/2018	3.9
07/02/2018	4.1	08/02/2018	4.0	09/02/2018	3.9
07/03/2018	4.1	08/03/2018	4.0	09/03/2018	3.9
07/04/2018	4.1	08/04/2018	3.9	09/04/2018	3.9
07/05/2018	4.1	08/05/2018	3.9	09/05/2018	3.9
07/06/2018	4.1	08/06/2018	3.9	09/06/2018	3.9
07/07/2018	4.1	08/07/2018	3.9	09/07/2018	3.9
07/08/2018	4.1	08/08/2018	3.9	09/08/2018	3.9
07/09/2018	4.1	08/09/2018	3.9	09/09/2018	3.9
07/10/2018	4.1	08/10/2018	3.9	09/10/2018	3.9
07/11/2018	4.1	08/11/2018	3.9	09/11/2018	3.9
07/12/2018	4.1	08/12/2018	3.9	09/12/2018	3.9
07/13/2018	4.1	08/13/2018	3.9	09/13/2018	3.9
07/14/2018	4.0	08/14/2018	3.9	09/14/2018	3.9
07/15/2018	4.0	08/15/2018	3.9	09/15/2018	3.9
07/16/2018	4.0	08/16/2018	3.9	09/16/2018	3.9
07/17/2018	4.0	08/17/2018	3.9	09/17/2018	3.9
07/18/2018	4.0	08/18/2018	3.9	09/18/2018	3.9
07/19/2018	4.0	08/19/2018	3.9	09/19/2018	3.9
07/20/2018	4.0	08/20/2018	3.9	09/20/2018	3.9
07/21/2018	4.0	08/21/2018	4.0	09/21/2018	3.9
07/22/2018	4.0	08/22/2018	4.0	09/22/2018	3.9
07/23/2018	4.0	08/23/2018	3.9	09/23/2018	3.9
07/24/2018	4.0	08/24/2018	3.9	09/24/2018	3.9
07/25/2018	4.0	08/25/2018	3.9	09/25/2018	3.9
07/26/2018	4.0	08/26/2018	3.9	09/26/2018	3.9
07/27/2018	4.0	08/27/2018	3.9	09/27/2018	3.9
07/28/2018	4.0	08/28/2018	3.9	09/28/2018	3.9
07/29/2018	4.0	08/29/2018	3.9	09/29/2018	3.9
07/30/2018	4.0	08/30/2018	3.9	09/30/2018	3.9
07/31/2018	4.0	08/31/2018	3.9		

Part 60 Rata Report

Facility Name:	ArcelorMittal	Test Date/Number:	07/24/2018, Test 1
Unit/Stack:	Stack A (SV14)	Reason for Test:	Periodic Quality Assurance
Parameter:	NOx	Primary Spec:	20 % of Reference Mean
Units:	LbPerHr	Alternate Spec:	10 % of 1088 LbPerHr
Relative Accuracy:	6.5 %	Std Deviation:	2.0
Performance Spec:	20 % of Reference Mean (Primary Spec)	Conf Coeff:	1.5
Test Result:	**Pass**	T Value:	2.306

Run	Start Date/Time	Duration	Use Run	Load	CEM Value	Reference Value	Difference
1	07/24/18 9:07	21	Yes	0	121.4	131.1	9.7
2	07/24/18 9:28	21	Yes	0	125.1	133.2	8.1
3	07/24/18 9:49	21	Yes	0	123.7	134.2	10.5
4	07/24/18 11:01	21	Yes	0	122.7	127.5	4.8
5	07/24/18 11:22	21	Yes	0	123.4	129.8	6.4
6	07/24/18 11:43	21	Yes	0	121.3	126.7	5.4
7	07/24/18 12:21	21	Yes	0	128.8	134.2	5.4
8	07/24/18 12:42	21	Yes	0	130.9	137.2	6.3
9	07/24/18 13:03	21	Yes	0	128.5	134.8	6.3
		Mean Values		0	125.1	132.1	7.0

Part 60 Rata Report

10/01/2018

Facility Name:	ArcelorMittal	Test Date/Number:	07/24/2018, Test 1
Unit/Stack:	Stack A (SV14)	Reason for Test:	Periodic Quality Assurance
Parameter:	SO2	Primary Spec:	20 % of Reference Mean
Units:	LbPerHr	Alternate Spec:	10 % of LbPerHr
Relative Accuracy:	6.8 %	Std Deviation:	0.12
Performance Spec:	20 % of Reference Mean (Primary Spec)	Conf Coeff:	0.10
Test Result:	**Pass**	T Value:	2.306

Run	Start Date/Time	Duration	Use Run	Load	CEM Value	Reference Value	Difference
1	07/24/18 9:07	21	Yes	0	13.79	13.10	-0.69
2	07/24/18 9:28	21	Yes	0	13.56	12.60	-0.96
3	07/24/18 9:48	21	Yes	0	14.45	13.90	-0.55
4	07/24/18 11:00	21	Yes	0	14.22	13.50	-0.72
5	07/24/18 11:21	21	Yes	0	14.95	14.10	-0.85
6	07/24/18 11:42	21	Yes	0	14.26	13.40	-0.86
7	07/24/18 12:20	21	Yes	0	12.99	12.10	-0.89
8	07/24/18 12:41	21	Yes	0	12.52	11.70	-0.82
9	07/24/18 13:02	21	Yes	0	13.15	12.40	-0.75
		Mean Values		0	13.77	12.98	-0.79

Part 60 Rata Report

Facility Name:	ArcelorMittal	Test Date/Number:	07/25/2018, Test 1
Unit/Stack:	Stack B (SV15)	Reason for Test:	Periodic Quality Assurance
Parameter:	NOx	Primary Spec:	20 % of Reference Mean
Units:	LbPerHr	Alternate Spec:	10 % of LbPerHr
Relative Accuracy:	2.7 %	Std Deviation:	2.4
Performance Spec:	20 % of Reference Mean (Primary Spec)	Conf Coeff:	1.8
Test Result:	**Pass**	T Value:	2.306

Run	Start Date/Time	Duration	Use Run	Load	CEM Value	Reference Value	Difference
1	07/25/18 8:09	21	Yes	0	156.1	160.4	4.3
2	07/25/18 8:30	21	Yes	0	156.7	162.4	5.7
3	07/25/18 8:51	21	Yes	0	154.0	158.9	4.9
4	07/25/18 9:40	21	Yes	0	147.7	151.9	4.2
5	07/25/18 10:01	21	Yes	0	146.8	148.2	1.4
6	07/25/18 10:22	21	Yes	0	149.3	150.6	1.3
7	07/25/18 11:02	21	Yes	0	158.4	157.5	-0.9
8	07/25/18 11:23	21	Yes	0	159.1	159.2	0.1
9	07/25/18 11:44	21	Yes	0	160.6	161.3	0.7
		Mean Values		0	154.3	156.7	2.4

Part 60 Rata Report

Facility Name:	ArcelorMittal	Test Date/Number:	07/25/2018, Test 1
Unit/Stack:	Stack B (SV15)	Reason for Test:	Periodic Quality Assurance
Parameter:	SO2	Primary Spec:	20 % of Reference Mean
Units:	LbPerHr	Alternate Spec:	10 % of LbPerHr
Relative Accuracy:	2.73 %	Std Deviation:	0.19
Performance Spec:	20 % of Reference Mean (Primary Spec)	Conf Coeff:	0.14
Test Result:	**Pass**	T Value:	2.306

Run	Start Date/Time	Duration	Use Run	Load	CEM Value	Reference Value	Difference
1	07/25/18 8:09	21	Yes	0	14.90	14.80	-0.10
2	07/25/18 8:30	21	Yes	0	15.10	15.00	-0.10
3	07/25/18 8:51	21	Yes	0	15.10	15.00	-0.10
4	07/25/18 9:40	21	Yes	0	16.70	16.70	0.00
5	07/25/18 10:01	21	Yes	0	15.10	14.80	-0.30
6	07/25/18 10:22	21	Yes	0	14.70	14.40	-0.30
7	07/25/18 11:02	21	Yes	0	14.20	13.60	-0.60
8	07/25/18 11:23	21	Yes	0	13.20	12.80	-0.40
9	07/25/18 11:44	21	Yes	0	11.30	11.00	-0.30
		Mean Values		0	14.48	14.23	-0.24

Part 60 Rata Report

10/01/2018

Facility Name:	ArcelorMittal	Test Date/Number:	07/24/2018, Test 1
Unit/Stack:	Stack C (SV16)	Reason for Test:	Periodic Quality Assurance
Parameter:	NOx	Primary Spec:	20 % of Reference Mean
Units:	LbPerHr	Alternate Spec:	10 % of LbPerHr
Relative Accuracy:	5.8 %	Std Deviation:	2.8
Performance Spec:	20 % of Reference Mean (Primary Spec)	Conf Coeff:	2.2
Test Result:	**Pass**	T Value:	2.306

Run	Start Date/Time	Duration	Use Run	Load	CEM Value	Reference Value	Difference
1	07/24/18 9:06	21	Yes	0	229.0	245.5	16.5
2	07/24/18 9:27	21	Yes	0	230.7	244.2	13.5
3	07/24/18 9:48	21	Yes	0	230.9	244.5	13.6
4	07/24/18 11:00	21	Yes	0	228.3	241.8	13.5
5	07/24/18 11:21	21	Yes	0	232.1	242.0	9.9
6	07/24/18 11:42	21	Yes	0	229.0	242.2	13.2
7	07/24/18 12:20	21	Yes	0	236.9	248.9	12.0
8	07/24/18 12:41	21	Yes	0	240.8	251.5	10.7
9	07/24/18 13:02	21	Yes	0	242.6	249.3	6.7
		Mean Values		0	233.4	245.5	12.2

Part 60 Rata Report

Facility Name:	ArcelorMittal	Test Date/Number:	07/24/2018, Test 1
Unit/Stack:	Stack C (SV16)	Reason for Test:	Periodic Quality Assurance
Parameter:	SO2	Primary Spec:	20 % of Reference Mean
Units:	LbPerHr	Alternate Spec:	10 % of LbPerHr
Relative Accuracy:	5.26 %	Std Deviation:	0.20
Performance Spec:	20 % of Reference Mean (Primary Spec)	Conf Coeff:	0.15
Test Result:	**Pass**	T Value:	2.306

Run	Start Date/Time	Duration	Use Run	Load	CEM Value	Reference Value	Difference
1	07/24/18 9:06	21	Yes	0	12.60	12.20	-0.40
2	07/24/18 9:27	21	Yes	0	12.10	11.60	-0.50
3	07/24/18 9:48	21	Yes	0	13.20	12.80	-0.40
4	07/24/18 11:00	21	Yes	0	12.70	12.50	-0.20
5	07/24/18 11:21	21	Yes	0	13.60	13.30	-0.30
6	07/24/18 11:42	21	Yes	0	13.00	12.70	-0.30
7	07/24/18 12:20	21	Yes	0	11.20	10.60	-0.60
8	07/24/18 12:41	21	Yes	0	10.60	9.80	-0.80
9	07/24/18 13:02	21	Yes	0	11.40	10.70	-0.70
		Mean Values		0	12.27	11.80	-0.47

Part 60 Rata Report

10/01/2018

Facility Name:	ArcelorMittal	Test Date/Number:	07/25/2018, Test 1
Unit/Stack:	Stack D (SV17)	Reason for Test:	Periodic Quality Assurance
Parameter:	NOx	Primary Spec:	20 % of Reference Mean
Units:	LbPerHr	Alternate Spec:	10 % of LbPerHr
Relative Accuracy:	9.3 %	Std Deviation:	3.8
Performance Spec:	20 % of Reference Mean (Primary Spec)	Conf Coeff:	2.9
Test Result:	**Pass**	T Value:	2.306

Run	Start Date/Time	Duration	Use Run	Load	CEM Value	Reference Value	Difference
1	07/25/18 8:09	21	Yes	0	276.7	308.0	31.3
2	07/25/18 8:30	21	Yes	0	281.4	309.8	28.4
3	07/25/18 8:51	21	Yes	0	277.7	305.2	27.5
4	07/25/18 9:40	21	Yes	0	272.4	295.7	23.3
5	07/25/18 10:01	21	Yes	0	264.2	286.6	22.4
6	07/25/18 10:22	21	Yes	0	259.0	279.7	20.7
7	07/25/18 11:02	21	Yes	0	265.3	286.6	21.3
8	07/25/18 11:23	21	Yes	0	267.4	288.4	21.0
9	07/25/18 11:44	21	Yes	0	265.3	289.5	24.2
		Mean Values		0	269.9	294.4	24.5

Part 60 Rata Report

Facility Name:	ArcelorMittal	Test Date/Number:	07/25/2018, Test 1
Unit/Stack:	Stack D (SV17)	Reason for Test:	Periodic Quality Assurance
Parameter:	SO2	Primary Spec:	20 % of Reference Mean
Units:	LbPerHr	Alternate Spec:	10 % of LbPerHr
Relative Accuracy:	5.85 %	Std Deviation:	0.38
Performance Spec:	20 % of Reference Mean (Primary Spec)	Conf Coeff:	0.29
Test Result:	**Pass**	T Value:	2.306

Run	Start Date/Time	Duration	Use Run	Load	CEM Value	Reference Value	Difference
1	07/25/18 8:09	21	Yes	0	13.30	13.70	0.40
2	07/25/18 8:30	21	Yes	0	13.80	14.40	0.60
3	07/25/18 8:51	21	Yes	0	14.00	14.70	0.70
4	07/25/18 9:40	21	Yes	0	16.10	17.20	1.10
5	07/25/18 10:01	21	Yes	0	13.90	14.70	0.80
6	07/25/18 10:22	21	Yes	0	12.70	13.30	0.60
7	07/25/18 11:02	21	Yes	0	11.70	11.90	0.20
8	07/25/18 11:23	21	Yes	0	10.90	11.00	0.10
9	07/25/18 11:44	21	Yes	0	8.90	8.80	-0.10
		Mean Values		0	12.81	13.30	0.49