



PERMIT
Under the Environmental Conservation Law (ECL)

IDENTIFICATION INFORMATION

Permit Type: Air Title V Facility
Permit ID: 9-2911-00078/00009
Mod 0 Effective Date: 04/21/2016 Expiration Date: 04/20/2021
Mod 1 Effective Date: 08/24/2018 Expiration Date: 04/20/2021
Mod 2 Effective Date: 04/04/2018 Expiration Date: No expiration date.

Permit Issued To: GLOBE METALLURGICAL INC
PO BOX 157
BEVERLY, OH 45715-0157

Contact: KEVIN SHOEMAKER
GLOBE METALLURGICAL INC
3807 HIGHLAND AVE
NIAGARA FALLS, NY 14305
(716) 278-6120

Facility: GLOBE METALLURGICAL INC
3807 HIGHLAND AVE
NIAGARA FALLS, NY 14305

Contact: MATT GREENE
GLOBE METALLURGICAL INC
PO BOX 157
BEVERLY, OH 45715
(740) 984-8608

Description:
This major permit modification allows Globe Metallurgical (Globe) to perform an overhaul of its electric arc furnace No. 11 (EAF No. 11), install a multicclone cooler for the EAF No. 11 induced draft fan baghouse system, and use a paste-style electrode. Emissions from the use of the paste-style electrodes, which bake in the furnace as opposed to the currently used pre-baked electrode, are marginally greater.

The multi-clone cooler is part of the air pollution control system designed to allow for heavies (i.e. larger pieces of wood, coal, etc.) to drop out in the gas stream, and to reduce off-gas temperatures. The multi-clone improves the operational life of the induced draft fans, reverse air fans, dust collection filter media, and associated hardware.



The applicant performed an applicability analysis for the proposed project pursuant to 6NYCRR Subpart 231-6 Modifications to Existing Major Facilities in Nonattainment Areas and Attainment Areas of the State within the Ozone Transport Region and 6NYCRR Subpart 231-8 Modifications to Existing Major Facilities in Attainment Areas (Prevention of Significant Deterioration). The analysis showed exceedances of the Significant Project Thresholds (SPT) for four contaminants (PM-2.5, PM-10, CO, and NO_x) when the baseline actual and projected actual emissions for those contaminants were compared. The modified permit contains an emissions capping condition for each of the four contaminants at emission rates (calculated monthly and tracked on a 12-month rolling total basis) set below the sum of the baseline actual emission rate and the significance threshold. The emission limits are for PM-2.5, PM-10, CO, and NO_x are 73.8, 101.0, 563.0, and 257.4 tons per year, respectively, and are the combination of emissions from two processes identified as P02 and TAP, within emission unit E-AFURN.

The analysis did not show an exceedance of the 7 ton per year SPT for sulfuric acid mist, 40 ton per year SPT for sulfur dioxide (SO₂) or the 25 ton per year SPT for total PM when the baseline actual and projected actual emissions were compared. Note that the projected actual SO₂ emissions were based, however, on the sulfur contents of coals, electrodes, and paste, which can vary. Therefore, actual emissions of SO₂ associated with the modification must be tracked and reported on a calendar year basis as required by 6NYCRR Part 231-11.2(c).

Globe performed air dispersion modeling to demonstrate compliance with 6NYCRR Part 212 including associated applicable air quality standards. Facility-wide air dispersion modeling was performed for carbon monoxide, hydrogen chloride, hydrogen fluoride, and formaldehyde to demonstrate compliance with Part 212 using DAR-1: Guidelines for the Evaluation and Control of Ambient Air Contaminants under Part 212. At the Department's request, the modeling analysis also compared projected actual emissions from Furnace No. 11 only (i.e., the modification activities authorized by this permit modification), combined with measured background concentrations, to the National Ambient Air Quality Standards (NAAQS) for the remaining criteria pollutants. When facility-wide emissions of formaldehyde were modeled, the results showed an exceedance of the annual guideline concentration (AGC) and non-compliance with 212-2.2 Table 4. A Toxic – Best Available Control Technology (T-BACT) analysis for formaldehyde must be performed and



submitted within 90 days of permit issuance, or prior to commencement of project construction, whichever comes first.

Globe also performed air dispersion modeling to demonstrate compliance with applicable air quality standards. The modeling analysis compared projected actual emissions from Furnace No. 11 only (i.e., the modification activities authorized by this permit modification), combined with measured background concentrations, to the NAAQS. The facility's Title V permit renewal application, due for submission by October 20, 2020, must contain a procedure for demonstrating that facility-wide emissions of SO₂, NO₂, PM-2.5 and PM-10 comply with the NAAQS. The demonstration should use either air dispersion modeling or ambient air monitoring.

Performance testing of EAF No. 11 and associated baghouse must be conducted within 180 days of the completion of the modification activities authorized by this permit modification. The testing will serve to verify and quantify emission estimates. Testing is required to be repeated every five years.

As a major source for VOC, Globe is subject to the provisions of Part 212-3 for VOC Reasonably Available Control Technology (RACT). To address this requirement, Globe shall submit a case-specific VOC RACT plan. The plan shall be submitted to the Regional Air Pollution Control Engineer within 90 days of the permit issuance, or prior to commencement of project construction, whichever comes first.

Since the equipment and operations associated with formerly permitted emission unit 1-WDCHP have been removed from the facility, this permit modification removed all conditions and references to the wood chipper and associated 1050 HP 783 kw Caterpillar diesel engine.

By acceptance of this permit, the permittee agrees that the permit is contingent upon strict compliance with the ECL, all applicable regulations, the General Conditions specified and any Special Conditions included as part of this permit.

Permit Administrator: DAVID S DENK
 DIVISION OF ENVIRONMENTAL PERMITS
 270 MICHIGAN AVE
 BUFFALO, NY 14203-2915

DEC Permit Conditions
Renewal 3/Mod 1/FINAL



Authorized Signature: _____ Date: ___ / ___ / ____



Notification of Other State Permittee Obligations

Item A: Permittee Accepts Legal Responsibility and Agrees to Indemnification

The permittee expressly agrees to indemnify and hold harmless the Department of Environmental Conservation of the State of New York, its representatives, employees and agents ("DEC") for all claims, suits, actions, and damages, to the extent attributable to the permittee's acts or omissions in connection with the compliance permittee's undertaking of activities in connection with, or operation and maintenance of, the facility or facilities authorized by the permit whether in compliance or not in any compliance with the terms and conditions of the permit. This indemnification does not extend to any claims, suits, actions, or damages to the extent attributable to DEC's own negligent or intentional acts or omissions, or to any claims, suits, or actions naming the DEC and arising under article 78 of the New York Civil Practice Laws and Rules or any citizen suit or civil rights provision under federal or state laws.

Item B: Permittee's Contractors to Comply with Permit

The permittee is responsible for informing its independent contractors, employees, agents and assigns of their responsibility to comply with this permit, including all special conditions while acting as the permittee's agent with respect to the permitted activities, and such persons shall be subject to the same sanctions for violations of the Environmental Conservation Law as those prescribed for the permittee.

Item C: Permittee Responsible for Obtaining Other Required Permits

The permittee is responsible for obtaining any other permits, approvals, lands, easements and rights-of-way that may be required to carry out the activities that are authorized by this permit.

Item D: No Right to Trespass or Interfere with Riparian Rights

This permit does not convey to the permittee any right to trespass upon the lands or interfere with the riparian rights of others in order to perform the permitted work nor does it authorize the impairment of any rights, title, or interest in real or personal property held or vested in a person not a party to the permit.



LIST OF CONDITIONS

DEC GENERAL CONDITIONS

General Provisions

- Facility Inspection by the Department
- Relationship of this Permit to Other Department Orders and Determinations
 - Applications for permit renewals, modifications and transfers
 - Applications for permit renewals, modifications and transfers
 - Permit modifications, suspensions or revocations by the Department

Facility Level

- Submission of application for permit modification or renewal-REGION 9 HEADQUARTERS



DEC GENERAL CONDITIONS

****** General Provisions ******

For the purpose of your Title V permit, the following section contains state-only enforceable terms and conditions.

GENERAL CONDITIONS - Apply to ALL Authorized Permits.

Condition 1: Facility Inspection by the Department

Applicable State Requirement: ECL 19-0305

Item 1.1:

The permitted site or facility, including relevant records, is subject to inspection at reasonable hours and intervals by an authorized representative of the Department of Environmental Conservation (the Department) to determine whether the permittee is complying with this permit and the ECL. Such representative may order the work suspended pursuant to ECL 71-0301 and SAPA 401(3).

Item 1.2:

The permittee shall provide a person to accompany the Department's representative during an inspection to the permit area when requested by the Department.

Item 1.3:

A copy of this permit, including all referenced maps, drawings and special conditions, must be available for inspection by the Department at all times at the project site or facility. Failure to produce a copy of the permit upon request by a Department representative is a violation of this permit.

Condition 2: Relationship of this Permit to Other Department Orders and Determinations

Applicable State Requirement: ECL 3-0301 (2) (m)

Item 2.1:

Unless expressly provided for by the Department, issuance of this permit does not modify, supersede or rescind any order or determination previously issued by the Department or any of the terms, conditions or requirements contained in such order or determination.

Condition 3: Applications for permit renewals, modifications and transfers

Applicable State Requirement: 6 NYCRR 621.11

Item 3.1:

The permittee must submit a renewal application at least 180 days before expiration of permits for both Title V and State Facility Permits.

Item 3.3:

Permits are transferrable with the approval of the department unless specifically prohibited by the statute, regulation or another permit condition. Applications for permit transfer should be submitted prior to actual transfer of ownership.

Condition 1-1: Applications for permit renewals, modifications and transfers

Applicable State Requirement: 6 NYCRR 621.11



Item 1-1.1:

The permittee must submit a separate written application to the Department for renewal, modification or transfer of this permit. Such application must include any forms or supplemental information the Department requires. Any renewal, modification or transfer granted by the Department must be in writing.

Item 1-1.2:

The permittee must submit a renewal application at least 180 days before the expiration of permits for Title V and State Facility Permits.

Item 1-1.3

Permits are transferrable with the approval of the department unless specifically prohibited by the statute, regulation or another permit condition. Applications for permit transfer should be submitted prior to actual transfer of ownership.

Condition 4: Permit modifications, suspensions or revocations by the Department
Applicable State Requirement: 6 NYCRR 621.13

Item 4.1:

The Department reserves the right to exercise all available authority to modify, suspend, or revoke this permit in accordance with 6NYCRR Part 621. The grounds for modification, suspension or revocation include:

- a) materially false or inaccurate statements in the permit application or supporting papers;
- b) failure by the permittee to comply with any terms or conditions of the permit;
- c) exceeding the scope of the project as described in the permit application;
- d) newly discovered material information or a material change in environmental conditions, relevant technology or applicable law or regulations since the issuance of the existing permit;
- e) noncompliance with previously issued permit conditions, orders of the commissioner, any provisions of the Environmental Conservation Law or regulations of the Department related to the permitted activity.

****** Facility Level ******

Condition 5: Submission of application for permit modification or renewal-REGION 9 HEADQUARTERS
Applicable State Requirement: 6 NYCRR 621.6 (a)

Item 5.1:

Submission of applications for permit modification or renewal are to be submitted to:
NYSDEC Regional Permit Administrator
Region 9 Headquarters
Division of Environmental Permits
270 Michigan Avenue
Buffalo, NY 14203-2915
(716) 851-7165

New York State Department of Environmental Conservation

Permit ID: 9-2911-00078/00009

Facility DEC ID: 9291100078



Permit Under the Environmental Conservation Law (ECL)

ARTICLE 19: AIR POLLUTION CONTROL - TITLE V PERMIT

IDENTIFICATION INFORMATION

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PO BOX 157
BEVERLY, OH 45715-0157

Facility: GLOBE METALLURGICAL INC
3807 HIGHLAND AVE
NIAGARA FALLS, NY 14305

Authorized Activity By Standard Industrial Classification Code:
3313 - ELECTROMETALLURGICAL PRODUCTS
3339 - PRIMARY NONFERROUS METALS, NEC

Mod 0 Permit Effective Date: 04/21/2016

Permit Expiration Date: 04/20/2021

Mod 1 Permit Effective Date: 08/24/2018

Permit Expiration Date: 04/20/2021



LIST OF CONDITIONS

FEDERALLY ENFORCEABLE CONDITIONS

Facility Level

- 1 6 NYCRR 200.6: Acceptable Ambient Air Quality
 - 2 6 NYCRR 201-6.4 (a) (7): Fees
 - 3 6 NYCRR 201-6.4 (c): Recordkeeping and Reporting of Compliance Monitoring
 - 4 6 NYCRR 201-6.4 (c) (2): Records of Monitoring, Sampling, and Measurement
 - 5 6 NYCRR 201-6.4 (c) (3) (ii): Compliance Certification
 - 6 6 NYCRR 201-6.4 (e): Compliance Certification
 - 7 6 NYCRR 202-2.1: Compliance Certification
 - 8 6 NYCRR 202-2.5: Recordkeeping requirements
 - 9 6 NYCRR 215.2: Open Fires - Prohibitions
 - 10 6 NYCRR 200.7: Maintenance of Equipment
 - 11 6 NYCRR 201-1.7: Recycling and Salvage
 - 12 6 NYCRR 201-1.8: Prohibition of Reintroduction of Collected Contaminants to the air
 - 13 6 NYCRR 201-3.2 (a): Exempt Sources - Proof of Eligibility
 - 14 6 NYCRR 201-3.3 (a): Trivial Sources - Proof of Eligibility
 - 15 6 NYCRR 201-6.4 (a) (4): Requirement to Provide Information
 - 1-1 6 NYCRR 201-6.4 (a) (8): Right to Inspect
 - 17 6 NYCRR 201-6.4 (f) (6): Off Permit Changes
 - 18 6 NYCRR 202-1.1: Required Emissions Tests
 - 19 40 CFR Part 68: Accidental release provisions.
 - 20 40CFR 82, Subpart F: Recycling and Emissions Reduction
 - 1-2 6 NYCRR 200.6: Compliance Certification
 - 21 6 NYCRR Subpart 201-6: Emission Unit Definition
 - 22 6 NYCRR 201-6.4 (d) (4): Progress Reports Due Semiannually
 - 1-3 6 NYCRR 201-6.4 (f) (2): Compliance Certification
 - *1-4 6 NYCRR Subpart 201-7: Capping Monitoring Condition
 - *1-5 6 NYCRR Subpart 201-7: Capping Monitoring Condition
 - *1-6 6 NYCRR Subpart 201-7: Capping Monitoring Condition
 - *1-7 6 NYCRR Subpart 201-7: Capping Monitoring Condition
 - 23 6 NYCRR 211.1: Air pollution prohibited
 - 1-8 6 NYCRR 212-1.1 (a) (2): Compliance Certification
 - 1-9 6 NYCRR 212-1.5 (d): Compliance Certification
 - 24 6 NYCRR 212-1.5 (g): Maintain all process emission sources, including the associated air pollution control and monitoring equipment
 - 1-10 6 NYCRR 212-1.6 (a): Compliance Certification
 - 1-11 6 NYCRR 212-3.1 (c) (1): Compliance Certification
 - 26 6 NYCRR 225-1.4 (a): Compliance Certification
 - 1-12 6 NYCRR 231-11.2 (b): Compliance Certification
 - 1-13 6 NYCRR 231-11.2 (c): Compliance Certification
- #### Emission Unit Level
- 27 6 NYCRR Subpart 201-6: Emission Point Definition By Emission Unit
 - 28 6 NYCRR Subpart 201-6: Process Definition By Emission Unit
 - 1-14 6 NYCRR Subpart 201-7: Process Permissible Emissions



EU=1-RFMON,Proc=VNT

29 6 NYCRR 212-2.3 (a): Compliance Certification

EU=E-AFURN

1-15 6 NYCRR 201-6.4 (b): Compliance Certification
40 6 NYCRR 212-2.5 (b): Compliance Certification
41 6 NYCRR 212-2.5 (b): Compliance Certification
42 40 CFR Part 64: Compliance Certification

EU=E-AFURN,Proc=P01

43 6 NYCRR Part 211: Compliance Certification

EU=E-AFURN,Proc=P02

44 6 NYCRR 212-3.1 (c) (3): Compliance Certification

EU=E-AFURN,Proc=TAP

1-16 6 NYCRR 212-1.5 (g): Compliance Certification
46 6 NYCRR 212-1.5 (g): Compliance Certification

EU=P-ROFIN

47 6 NYCRR 212-2.4 (b): Compliance Certification
48 6 NYCRR 212-2.4 (b): Compliance Certification

EU=R-DWYPK

49 6 NYCRR Part 211: Compliance Certification

STATE ONLY ENFORCEABLE CONDITIONS

Facility Level

50 ECL 19-0301: Contaminant List
51 6 NYCRR 201-1.4: Malfunctions and start-up/shutdown activities
52 6 NYCRR 211.2: Visible Emissions Limited

Emission Unit Level

EU=1-RFMON,Proc=VNT

53 6 NYCRR 212-2.3 (b): Compliance Demonstration

EU=E-AFURN

54 6 NYCRR 211.2: Compliance Demonstration

NOTE: * preceding the condition number indicates capping.



FEDERALLY ENFORCEABLE CONDITIONS

****** Facility Level ******

NOTIFICATION OF GENERAL PERMITTEE OBLIGATIONS

The items listed below are not subject to the annual compliance certification requirements under Title V. Permittees may also have other obligations under regulations of general applicability.

Item A: Public Access to Recordkeeping for Title V Facilities - 6 NYCRR 201-1.10 (b)

The Department will make available to the public any permit application, compliance plan, permit, and monitoring and compliance certification report pursuant to Section 503(e) of the Act, except for information entitled to confidential treatment pursuant to 6 NYCRR Part 616 - Public Access to records and Section 114(c) of the Act.

Item B: Timely Application for the Renewal of Title V Permits - 6 NYCRR 201-6.2 (a) (4)

Owners and/or operators of facilities having an issued Title V permit shall submit a complete application at least 180 days, but not more than eighteen months, prior to the date of permit expiration for permit renewal purposes.

Item C: Certification by a Responsible Official - 6 NYCRR 201-6.2 (d) (12)

Any application, form, report or compliance certification required to be submitted pursuant to the federally enforceable portions of this permit shall contain a certification of truth, accuracy and completeness by a responsible official. This certification shall state that based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Item D: Requirement to Comply With All Conditions - 6 NYCRR 201-6.4 (a) (2)

The permittee must comply with all conditions of the Title V facility permit. Any permit non-compliance constitutes a violation of the Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

Item E: Permit Revocation, Modification, Reopening, Reissuance or Termination, and Associated Information Submission Requirements - 6 NYCRR 201-6.4 (a) (3)

This permit may be modified, revoked, reopened and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and



reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.

Item F: Cessation or Reduction of Permitted Activity Not a Defense - 6 NYCRR 201-6.4 (a) (5)

It shall not be a defense for a permittee in an enforcement action to claim that a cessation or reduction in the permitted activity would have been necessary in order to maintain compliance with the conditions of this permit.

Item G: Property Rights - 6 NYCRR 201-6.4 (a) (6)

This permit does not convey any property rights of any sort or any exclusive privilege.

Item H: Severability - 6 NYCRR 201-6.4 (a) (9)

If any provisions, parts or conditions of this permit are found to be invalid or are the subject of a challenge, the remainder of this permit shall continue to be valid.

Item I: Permit Shield - 6 NYCRR 201-6.4 (g)

All permittees granted a Title V facility permit shall be covered under the protection of a permit shield, except as provided under 6 NYCRR Subpart 201-6. Compliance with the conditions of the permit shall be deemed compliance with any applicable requirements as of the date of permit issuance, provided that such applicable requirements are included and are specifically identified in the permit, or the Department, in acting on the permit application or revision, determines in writing that other requirements specifically identified are not applicable to the major stationary source, and the permit includes the determination or a concise summary thereof. Nothing herein shall preclude the Department from revising or revoking the permit pursuant to 6 NYCRR Part 621 or from exercising its summary abatement authority. Nothing in this permit shall alter or affect the following:

i. The ability of the Department to seek to bring suit on behalf of the State of New York, or the Administrator to seek to bring suit on behalf of the United States, to immediately restrain any person causing or contributing to pollution presenting an imminent and substantial endangerment to public health, welfare or the environment to stop the emission of air pollutants causing or contributing to such pollution;

ii. The liability of a permittee of the Title V



facility for any violation of applicable requirements prior to or at the time of permit issuance;

iii. The applicable requirements of Title IV of the Act;

iv. The ability of the Department or the Administrator to obtain information from the permittee concerning the ability to enter, inspect and monitor the facility.

Item J: Reopening for Cause - 6 NYCRR 201-6.4 (i)

This Title V permit shall be reopened and revised under any of the following circumstances:

i. When additional applicable requirements under the act become applicable to a title V facility with a remaining permit term of three or more years, a reopening shall be completed not later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended by the department pursuant to the provisions of section 201- 6.6 of this Subpart.

ii. The Department or the Administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.

iii. The Department or the Administrator determines that the Title V permit must be revised or reopened to assure compliance with applicable requirements.

iv. If the permitted facility is an "affected source" subject to the requirements of Title IV of the Act, and additional requirements (including excess emissions requirements) become applicable. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into the permit.

Proceedings to reopen and issue Title V facility permits shall follow the same procedures as apply to initial permit issuance but shall affect only those parts of the permit for which cause to reopen exists.

Reopenings shall not be initiated before a notice of such intent is provided to the facility by the Department at least thirty days in advance of the date that the permit



is to be reopened, except that the Department may provide a shorter time period in the case of an emergency.

Item K: Permit Exclusion - ECL 19-0305

The issuance of this permit by the Department and the receipt thereof by the Applicant does not and shall not be construed as barring, diminishing, adjudicating or in any way affecting any legal, administrative or equitable rights or claims, actions, suits, causes of action or demands whatsoever that the Department may have against the Applicant for violations based on facts and circumstances alleged to have occurred or existed prior to the effective date of this permit, including, but not limited to, any enforcement action authorized pursuant to the provisions of applicable federal law, the Environmental Conservation Law of the State of New York (ECL) and Chapter III of the Official Compilation of the Codes, Rules and Regulations of the State of New York (NYCRR). The issuance of this permit also shall not in any way affect pending or future enforcement actions under the Clean Air Act brought by the United States or any person.

Item L: Federally Enforceable Requirements - 40 CFR 70.6 (b)

All terms and conditions in this permit required by the Act or any applicable requirement, including any provisions designed to limit a facility's potential to emit, are enforceable by the Administrator and citizens under the Act. The Department has, in this permit, specifically designated any terms and conditions that are not required under the Act or under any of its applicable requirements as being enforceable under only state regulations.

**MANDATORY FEDERALLY ENFORCEABLE PERMIT CONDITIONS
SUBJECT TO ANNUAL CERTIFICATIONS AT ALL TIMES**

The following federally enforceable permit conditions are mandatory for all Title V permits and are subject to annual compliance certification requirements at all times.

**Condition 1: Acceptable Ambient Air Quality
Effective between the dates of 04/21/2016 and 04/20/2021**

Applicable Federal Requirement: 6 NYCRR 200.6

Item 1.1:

Notwithstanding the provisions of 6 NYCRR Chapter III, Subchapter A, no person shall allow or permit any air contamination source to emit air contaminants in quantities which alone or in combination with emissions from other air contamination sources would contravene any applicable ambient air quality standard and/or cause air pollution. In such cases where

New York State Department of Environmental Conservation

Permit ID: 9-2911-00078/00009

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contravention occurs or may occur, the Commissioner shall specify the degree and/or method of emission control required.

Condition 2: Fees
Effective between the dates of 04/21/2016 and 04/20/2021

Applicable Federal Requirement:6 NYCRR 201-6.4 (a) (7)

Item 2.1:

The owner and/or operator of a stationary source shall pay fees to the Department consistent with the fee schedule authorized by ECL 72-0303.

Condition 3: Recordkeeping and Reporting of Compliance Monitoring
Effective between the dates of 04/21/2016 and 04/20/2021

Applicable Federal Requirement:6 NYCRR 201-6.4 (c)

Item 3.1:

The following information must be included in any required compliance monitoring records and reports:

- (i) The date, place, and time of sampling or measurements;
- (ii) The date(s) analyses were performed;
- (iii)The company or entity that performed the analyses;
- (iv) The analytical techniques or methods used including quality assurance and quality control procedures if required;
- (v) The results of such analyses including quality assurance data where required; and
- (vi) The operating conditions as existing at the time of sampling or measurement.

Any deviation from permit requirements must be clearly identified in all records and reports. Reports must be certified by a responsible official, consistent with Section 201-6.2 of Part 201.

Condition 4: Records of Monitoring, Sampling, and Measurement
Effective between the dates of 04/21/2016 and 04/20/2021

Applicable Federal Requirement:6 NYCRR 201-6.4 (c) (2)

Item 4.1:

Compliance monitoring and recordkeeping shall be conducted according to the terms and conditions contained in this permit and shall follow all quality assurance requirements found in applicable regulations. Records of all monitoring data and support information must be retained for a period of at least 5 years from the date of the monitoring, sampling, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all



reports required by the permit.

Condition 5: Compliance Certification
Effective between the dates of 04/21/2016 and 04/20/2021

Applicable Federal Requirement: 6 NYCRR 201-6.4 (c) (3) (ii)

Item 5.1:

The Compliance Certification activity will be performed for the Facility.

Item 5.2:

Compliance Certification shall include the following monitoring:

Monitoring Type: RECORD KEEPING/MAINTENANCE PROCEDURES

Monitoring Description:

To meet the requirements of this facility permit with respect to reporting, the permittee must:

Submit reports of any required monitoring at a minimum frequency of every 6 months, based on a calendar year reporting schedule. These reports shall be submitted to the Department within 30 days after the end of a reporting period. All instances of deviations from permit requirements must be clearly identified in such reports. All required reports must be certified by the responsible official for this facility.

Notify the Department and report permit deviations and incidences of noncompliance stating the probable cause of such deviations, and any corrective actions or preventive measures taken. Where the underlying applicable requirement contains a definition of prompt or otherwise specifies a time frame for reporting deviations, that definition or time frame shall govern. Where the underlying applicable requirement fails to address the time frame for reporting deviations, reports of deviations shall be submitted to the permitting authority based on the following schedule:

- (1) For emissions of a hazardous air pollutant (as identified in an applicable regulation) that continue for more than an hour in excess of permit requirements, the report must be made within 24 hours of the occurrence.
- (2) For emissions of any regulated air pollutant, excluding those listed in paragraph (1) of this section, that continue for more than two hours in excess of permit requirements, the report must be made within 48 hours.
- (3) For all other deviations from permit requirements,



the report shall be contained in the 6 month monitoring report required above.

(4) This permit may contain a more stringent reporting requirement than required by paragraphs (1), (2) or (3) above. If more stringent reporting requirements have been placed in this permit or exist in applicable requirements that apply to this facility, the more stringent reporting requirement shall apply.

If above paragraphs (1) or (2) are met, the source must notify the permitting authority by telephone during normal business hours at the Regional Office of jurisdiction for this permit, attention Regional Air Pollution Control Engineer (RAPCE) according to the timetable listed in paragraphs (1) and (2) of this section. For deviations and incidences that must be reported outside of normal business hours, on weekends, or holidays, the DEC Spill Hotline phone number at 1-800-457-7362 shall be used. A written notice, certified by a responsible official consistent with 6 NYCRR Part 201-6.2(d)(12), must be submitted within 10 working days of an occurrence for deviations reported under (1) and (2). All deviations reported under paragraphs (1) and (2) of this section must also be identified in the 6 month monitoring report required above.

The provisions of 6 NYCRR 201-1.4 shall apply if the permittee seeks to have a violation excused unless otherwise limited by regulation. In order to have a violation of a federal regulation (such as a new source performance standard or national emissions standard for hazardous air pollutants) excused, the specific federal regulation must provide for an affirmative defense during start-up, shutdowns, malfunctions or upsets. Notwithstanding any recordkeeping and reporting requirements in 6 NYCRR 201-1.4, reports of any deviations shall not be on a less frequent basis than the reporting periods described in paragraphs (1) and (4) above.

In the case of any condition contained in this permit with a reporting requirement of "Upon request by regulatory agency" the permittee shall include in the semiannual report, a statement for each such condition that the monitoring or recordkeeping was performed as required or requested and a listing of all instances of deviations from these requirements.

In the case of any emission testing performed during the previous six month reporting period, either due to a request by the Department, EPA, or a regulatory requirement, the permittee shall include in the semiannual



report a summary of the testing results and shall indicate whether or not the Department or EPA has approved the results.

All semiannual reports may be submitted electronically or physically. Electronic reports shall be submitted using the Department's Air Compliance and Emissions Electronic-Reporting system (ACE). If the facility owner or operator elects to send physical copies instead, two copies shall be sent to the Department (one copy to the regional air pollution control engineer (RAPCE) in the regional office and one copy to the Bureau of Quality Assurance (BQA) in the DEC central office) and one copy shall be sent to the Administrator (or his or her representative). Mailing addresses for the above referenced persons are contained in the monitoring condition for 6 NYCRR Part 201-6.4(e), contained elsewhere in this permit.

Reporting Requirements: SEMI-ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due 7/30/2016.

Subsequent reports are due every 6 calendar month(s).

Condition 6: Compliance Certification
Effective between the dates of 04/21/2016 and 04/20/2021

Applicable Federal Requirement: 6 NYCRR 201-6.4 (e)

Item 6.1:

The Compliance Certification activity will be performed for the Facility.

Item 6.2:

Compliance Certification shall include the following monitoring:

Monitoring Type: RECORD KEEPING/MAINTENANCE PROCEDURES

Monitoring Description:

Requirements for compliance certifications with terms and conditions contained in this facility permit include the following:

- i. Compliance certifications shall contain:
 - the identification of each term or condition of the permit that is the basis of the certification;
 - the compliance status;
 - whether compliance was continuous or intermittent;
 - the method(s) used for determining the compliance status of the facility, currently and over the reporting period consistent with the monitoring and related recordkeeping and reporting requirements of this permit;
 - such other facts as the Department may require to determine the compliance status of the facility as



specified in any special permit terms or conditions;
and
- such additional requirements as may be specified
elsewhere in this permit related to compliance
certification.

ii. The responsible official must include in the annual certification report all terms and conditions contained in this permit which are identified as being subject to certification, including emission limitations, standards, or work practices. That is, the provisions labeled herein as "Compliance Certification" are not the only provisions of this permit for which an annual certification is required.

iii. Compliance certifications shall be submitted annually. Certification reports are due 30 days after the anniversary date of four consecutive calendar quarters. The first report is due 30 days after the calendar quarter that occurs just prior to the permit anniversary date, unless another quarter has been acceptable by the Department.

iv. All annual compliance certifications may be submitted electronically or physically. Electronic reports shall be submitted using the Department's Air Compliance and Emissions Electronic-Reporting system (ACE). If the facility owner or operator elects to send physical copies instead, two copies shall be sent to the Department (one copy to the regional air pollution control engineer (RAPCE) in the regional office and one copy to the Bureau of Quality Assurance (BQA) in the DEC central office) and one copy shall be sent to the Administrator (or his or her representative). The mailing addresses for the above referenced persons are:

Chief – Stationary Source Compliance Section
USEPA Region 2
Air Compliance Branch
290 Broadway
New York, NY 10007-1866

The address for the RAPCE is as follows:

Regional Air Pollution Control Engineer
NYSDEC Region 9 Headquarters
270 Michigan Avenue
Buffalo, NY 14203-2915

The address for the BQA is as follows:

NYSDEC

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Bureau of Quality Assurance
625 Broadway
Albany, NY 12233-3258

Monitoring Frequency: ANNUALLY
Reporting Requirements: ANNUALLY (CALENDAR)
Reports due 30 days after the reporting period.
The initial report is due 1/30/2017.
Subsequent reports are due on the same day each year

Condition 7: Compliance Certification
Effective between the dates of 04/21/2016 and 04/20/2021

Applicable Federal Requirement:6 NYCRR 202-2.1

Item 7.1:

The Compliance Certification activity will be performed for the Facility.

Item 7.2:

Compliance Certification shall include the following monitoring:

Monitoring Type: RECORD KEEPING/MAINTENANCE PROCEDURES
Monitoring Description:

Emission statements shall be submitted on or before April 15th each year for emissions of the previous calendar year. Statements are to be mailed to: New York State Department of Environmental Conservation, Division of Air Resources, Bureau of Air Quality Planning, 625 Broadway, Albany NY 12233-3251

Monitoring Frequency: ANNUALLY
Reporting Requirements: ANNUALLY (CALENDAR)
Reports due by April 15th for previous calendar year

Condition 8: Recordkeeping requirements
Effective between the dates of 04/21/2016 and 04/20/2021

Applicable Federal Requirement:6 NYCRR 202-2.5

Item 8.1:

(a) The following records shall be maintained for at least five years:

- (1) a copy of each emission statement submitted to the department; and
 - (2) records indicating how the information submitted in the emission statement was determined, including any calculations, data, measurements, and estimates used.
- (b) These records shall be made available at the facility to the representatives of the department upon request during normal business hours.

Condition 9: Open Fires - Prohibitions
Effective between the dates of 04/21/2016 and 04/20/2021



Applicable Federal Requirement:6 NYCRR 215.2

Item 9.1:

Except as allowed by Title 6 NYCRR Section 215.3, no person shall burn, cause, suffer, allow or permit the burning of any materials in an open fire.

Item 9.2

Per Section 215.3, burning in an open fire, provided it is not contrary to other law or regulation, will be allowed as follows:

- (a) On-site burning in any town with a total population less than 20,000 of downed limbs and branches (including branches with attached leaves or needles) less than six inches in diameter and eight feet in length between May 15th and the following March 15th. For the purposes of this subdivision, the total population of a town shall include the population of any village or portion thereof located within the town. However, this subdivision shall not be construed to allow burning within any village.
- (b) Barbecue grills, maple sugar arches and similar outdoor cooking devices when actually used for cooking or processing food.
- (c) Small fires used for cooking and camp fires provided that only charcoal or untreated wood is used as fuel and the fire is not left unattended until extinguished.
- (d) On-site burning of agricultural wastes as part of a valid agricultural operation on contiguous agricultural lands larger than five acres actively devoted to agricultural or horticultural use, provided such waste is actually grown or generated on those lands and such waste is capable of being fully burned within a 24-hour period.
- (e) The use of liquid petroleum fueled smudge pots to prevent frost damage to crops.
- (f) Ceremonial or celebratory bonfires where not otherwise prohibited by law, provided that only untreated wood or other agricultural products are used as fuel and the fire is not left unattended until extinguished.
- (g) Small fires that are used to dispose of a flag or religious item, and small fires or other smoke producing process where not otherwise prohibited by law that are used in connection with a religious ceremony.
- (h) Burning on an emergency basis of explosive or other dangerous or contraband materials by police or other public safety organization.
- (i) Prescribed burns performed according to Part 194 of this Title.
- (j) Fire training, including firefighting, fire rescue, and fire/arson investigation training, performed under applicable rules and guidelines of the New York State Department of State's Office of Fire Prevention and Control. For fire training performed on acquired structures, the structures must be emptied and stripped of any material that is toxic, hazardous or likely to emit toxic smoke (such as asbestos, asphalt shingles and vinyl siding or other vinyl products) prior to burning and must be at least 300 feet from other occupied structures. No more than one structure per lot or within a 300 foot radius (whichever is bigger) may be burned in a training exercise.
- (k) Individual open fires as approved by the Director of the Division of Air Resources as may be required in response to an outbreak of a plant or animal disease upon request by the commissioner of the Department of Agriculture and Markets, or for the destruction of invasive plant and insect species.
- (l) Individual open fires that are otherwise authorized under the environmental conservation law, or by rule or regulation of the Department.

MANDATORY FEDERALLY ENFORCEABLE PERMIT CONDITIONS



SUBJECT TO ANNUAL CERTIFICATIONS ONLY IF APPLICABLE

The following federally enforceable permit conditions are mandatory for all Title V permits and are subject to annual compliance certification requirements only if effectuated during the reporting period.

[NOTE: The corresponding annual compliance certification for those conditions not effectuated during the reporting period shall be specified as "not applicable".]

Condition 10: Maintenance of Equipment
Effective between the dates of 04/21/2016 and 04/20/2021

Applicable Federal Requirement:6 NYCRR 200.7

Item 10.1:

Any person who owns or operates an air contamination source which is equipped with an emission control device shall operate such device and keep it in a satisfactory state of maintenance and repair in accordance with ordinary and necessary practices, standards and procedures, inclusive of manufacturer's specifications, required to operate such device effectively.

Condition 11: Recycling and Salvage
Effective between the dates of 04/21/2016 and 04/20/2021

Applicable Federal Requirement:6 NYCRR 201-1.7

Item 11.1:

Where practical, the owner or operator of an air contamination source shall recycle or salvage air contaminants collected in an air cleaning device according to the requirements of the ECL.

Condition 12: Prohibition of Reintroduction of Collected Contaminants to the air
Effective between the dates of 04/21/2016 and 04/20/2021

Applicable Federal Requirement:6 NYCRR 201-1.8

Item 12.1:

No person shall unnecessarily remove, handle or cause to be handled, collected air contaminants from an air cleaning device for recycling, salvage or disposal in a manner that would reintroduce them to the outdoor atmosphere.

Condition 13: Exempt Sources - Proof of Eligibility
Effective between the dates of 04/21/2016 and 04/20/2021

Applicable Federal Requirement:6 NYCRR 201-3.2 (a)

Item 13.1:

The owner or operator of an emission source or activity that is listed as being exempt may be required to certify that it is operated within the specific criteria described in this Subpart. The owner or operator of any such emission source or activity must maintain all records necessary for demonstrating compliance with this Subpart on-site for a period of five years, and make them available to representatives of the department upon request.



Condition 14: Trivial Sources - Proof of Eligibility
Effective between the dates of 04/21/2016 and 04/20/2021

Applicable Federal Requirement:6 NYCRR 201-3.3 (a)

Item 14.1:

The owner or operator of an emission source or activity that is listed as being trivial in this Section may be required to certify that it is operated within the specific criteria described in this Subpart. The owner or operator of any such emission source or activity must maintain all required records on-site for a period of five years and make them available to representatives of the department upon request.

Condition 15: Requirement to Provide Information
Effective between the dates of 04/21/2016 and 04/20/2021

Applicable Federal Requirement:6 NYCRR 201-6.4 (a) (4)

Item 15.1:

The owner and/or operator shall furnish to the department, within a reasonable time, any information that the department may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the department copies of records required to be kept by the permit or, for information claimed to be confidential, the permittee may furnish such records directly to the administrator along with a claim of confidentiality, if the administrator initiated the request for information or otherwise has need of it.

Condition 1-1: Right to Inspect
Effective between the dates of 08/24/2018 and 04/20/2021

Applicable Federal Requirement:6 NYCRR 201-6.4 (a) (8)

Replaces Condition(s) 16

Item 1-1.1:

The department or an authorized representative shall be allowed upon presentation of credentials and other documents as may be required by law to:

(i) enter upon the permittee's premises where a facility subject to the permitting requirements of this Subpart is located or emissions-related activity is conducted, or where records must be kept under the conditions of the permit;

(ii) have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;

(iii) inspect at reasonable times any emission sources, equipment (including monitoring and air pollution control equipment), practices, and operations regulated or required under the permit; and

(iv) sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit or applicable requirements.

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Condition 17: Off Permit Changes

Effective between the dates of 04/21/2016 and 04/20/2021

Applicable Federal Requirement:6 NYCRR 201-6.4 (f) (6)

Item 17.1:

No permit revision will be required for operating changes that contravene an express permit term, provided that such changes would not violate applicable requirements as defined under this Part or contravene federally enforceable monitoring (including test methods), recordkeeping, reporting, or compliance certification permit terms and conditions. Such changes may be made without requiring a permit revision, if the changes are not modifications under any provision of title I of the act and the changes do not exceed the emissions allowable under the permit (whether expressed therein as a rate of emissions or in terms of total emissions) provided that the facility provides the administrator and the department with written notification as required below in advance of the proposed changes within a minimum of seven days. The facility owner or operator, and the department shall attach each such notice to their copy of the relevant permit.

(i) For each such change, the written notification required above shall include a brief description of the change within the permitted facility, the date on which the change will occur, any change in emissions, and any permit term or condition that is no longer applicable as a result of the change.

(ii) The permit shield described in section 6 NYCRR 201-6.4 shall not apply to any change made pursuant to this paragraph.

Condition 18: Required Emissions Tests

Effective between the dates of 04/21/2016 and 04/20/2021

Applicable Federal Requirement:6 NYCRR 202-1.1

Item 18.1:

For the purpose of ascertaining compliance or non-compliance with any air pollution control code, rule or regulation, the commissioner may require the person who owns such air contamination source to submit an acceptable report of measured emissions within a stated time.

Condition 19: Accidental release provisions.

Effective between the dates of 04/21/2016 and 04/20/2021

Applicable Federal Requirement:40 CFR Part 68

Item 19.1:

If a chemical is listed in Tables 1,2,3 or 4 of 40 CFR §68.130 is present in a process in quantities greater than the threshold quantity listed in Tables 1,2,3 or 4, the following requirements will apply:

a) The owner or operator shall comply with the provisions of 40 CFR Part 68 and;

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b) The owner or operator shall submit at the time of permit issuance (if not previously submitted) one of the following, if such quantities are present:

1) A compliance schedule for meeting the requirements of 40 CFR Part 68 by the date provided in 40 CFR §68.10(a) or,

2) A certification statement that the source is in compliance with all requirements of 40 CFR Part 68, including the registration and submission of the Risk Management Plan. Information should be submitted to:

Risk Management Plan Reporting Center
C/O CSC
8400 Corporate Dr
Carrollton, Md. 20785

Condition 20: Recycling and Emissions Reduction
Effective between the dates of 04/21/2016 and 04/20/2021

Applicable Federal Requirement:40CFR 82, Subpart F

Item 20.1:

The permittee shall comply with all applicable provisions of 40 CFR Part 82.

The following conditions are subject to annual compliance certification requirements for Title V permits only.

Condition 1-2: Compliance Certification
Effective between the dates of 08/24/2018 and 04/20/2021

Applicable Federal Requirement:6 NYCRR 200.6

Item 1-2.1:

The Compliance Certification activity will be performed for the Facility.

Item 1-2.2:

Compliance Certification shall include the following monitoring:

Monitoring Type: RECORD KEEPING/MAINTENANCE PROCEDURES

Monitoring Description:

As part of the major modification application, Globe performed air dispersion modeling to demonstrate compliance with applicable air quality standards. The modeling analysis compared projected actual emissions from Furnace No. 11 only (i.e., the modification activities authorized by this permit modification), combined with measured background concentrations, to the National Ambient Air Quality Standards (NAAQS).



The facility's Title V permit renewal application, due for submission by October 20, 2020, must contain a process for demonstrating that facility-wide emissions of SO₂, NO₂, PM-2.5 and PM-10 comply with the NAAQS. The demonstration should use either (A) air dispersion modeling or (B) ambient air monitoring.

(A) AIR DISPERSION MODELING OPTION:

1. By April 20, 2020, submit an acceptable protocol for modeling emissions of SO₂, NO₂, PM-2.5, and PM-10 from the facility to assess whether predicted ambient impacts are compliant with the associated NAAQS.
2. Conduct modeling upon Departmental approval of the protocol. Submit the modeling results with the permit renewal application.

(B) AMBIENT AIR MONITORING OPTION:

1. By April 20, 2019, submit an acceptable ambient air monitoring Quality Assurance Project Plan (QAPP) and protocol for monitoring emissions of SO₂, NO₂, PM-2.5, and PM-10 from the facility to assess whether ambient concentrations are compliant with the associated NAAQS.
2. Upon Departmental approval of the plan and protocol, perform the monitoring and submit interim status reports every two months.
3. Globe shall follow the Quality Assurance/Quality Control (QA/QC) procedures as specified under 40 CFR Part 58.
4. Submit a report detailing one year of monitoring results with comparison to the associated NAAQS with the permit renewal application.

Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING DESCRIPTION

Reporting Requirements: AS REQUIRED - SEE MONITORING DESCRIPTION

Condition 21: Emission Unit Definition
Effective between the dates of 04/21/2016 and 04/20/2021

Applicable Federal Requirement:6 NYCRR Subpart 201-6

Item 21.1(From Mod 1):

The facility is authorized to perform regulated processes under this permit for:

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Emission Unit: 1-RFMON

Emission Unit Description:

This emission unit represents the proposed installation of a gravity roof ventilator system on the north side of the furnace building roof.

Building(s): 00FURNBLDG

Item 21.2(From Mod 1):

The facility is authorized to perform regulated processes under this permit for:

Emission Unit: E-AFURN

Emission Unit Description:

The No. 9 and No. 11 submerged three-phase electric arc furnaces convert gravel, woodchips, coke, charcoal and coal into silicon metal or ferrosilicon. The furnaces are each rated at 22 megawatts per hour of input. The processes which comprise this emission unit include raw material handling, ferrosilicon or silicon metal melting and tapping/pouring of molten metal. Each furnace is equipped with a baghouse to control particulate emissions.

A main furnace hood is installed on each furnace and ducted to the baghouses. Emissions from the No. 9 furnace are directed to emission point EP002 and from the No. 11 furnace to emission point EP003.

Building(s): 00FURNBLDG

Item 21.3(From Mod 1):

The facility is authorized to perform regulated processes under this permit for:

Emission Unit: P-ROFIN

Emission Unit Description:

Silicon metal is processed at No. 3 sizing plant. The sizing plant crushes and screens the silicon metal preparing it for distribution. Silicon metal sizing and product handling are the two processes in this unit. Emissions are controlled with baghouses and through the use of covered conveyors and enclosed storage sheds.

Building(s): 00FURNBLDG

Item 21.4(From Mod 1):

The facility is authorized to perform regulated processes under this permit for:

Emission Unit: R-DWYPK

Emission Unit Description:

Plant roadways and parking lots are located throughout the facility with fugitive emissions. While some areas are unpaved, the majority of higher traffic areas are paved.

Building(s): OUTSIDE

Condition 22: Progress Reports Due Semiannually



Effective between the dates of 04/21/2016 and 04/20/2021

Applicable Federal Requirement:6 NYCRR 201-6.4 (d) (4)

Item 22.1:

Progress reports consistent with an applicable schedule of compliance are to be submitted at least semiannually, or at a more frequent period if specified in the applicable requirement or by the department. Such progress reports shall contain the following:

(i) dates for achieving the activities, milestones, or compliance required in the schedule of compliance, and dates when such activities, milestones or compliance were achieved; and

(ii) an explanation of why any dates in the schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.

Condition 1-3: Compliance Certification
Effective between the dates of 08/24/2018 and 04/20/2021

Applicable Federal Requirement:6 NYCRR 201-6.4 (f) (2)

Item 1-3.1:

The Compliance Certification activity will be performed for the Facility.

Item 1-3.2:

Compliance Certification shall include the following monitoring:

Monitoring Type: RECORD KEEPING/MAINTENANCE PROCEDURES

Monitoring Description:

Operational Flexibility Plan

I. Protocol Objective

The objective of this condition is to maximize operational flexibility at the facility by building into the Title V permit the capability to make certain changes using a protocol. As provided under 6 NYCRR Part 201-6.4(f)(2), changes made under an approved protocol are not subject to the Title V permit modification provisions under 6 NYCRR Part 201-6.6.

II. Protocol

A. Criteria

1. Changes reviewed under this protocol shall be evaluated in accordance with the following criteria:

a. All underlying federal and state requirements with which the new or changed emission source must comply must exist in the Title V permit. Existing permit conditions may be amended to reference or include the new or changed



emission source and any related information, and/or subject to DEC approval, new conditions proposed, to provide the appropriate monitoring parameters.

b. Any new or changed emission source shall not be part of a source project that results in a significant net emissions increase that exceeds the New Source Review (NSR) thresholds identified in 6 NYCRR Part 231.

c. The facility shall not use the protocol to make physical changes or changes in the method of operation of existing emissions sources that would require a new or modified federally enforceable cap either to avoid major NSR requirements or to address and comply with other Clean Air Act requirements, such as RACT. Such changes must be addressed via the significant permit modification provisions.

B. Notification Requirements for Changes Reviewed under the Protocol

1. The facility shall notify the Department in writing of the proposed change.

2. Notifications made in accordance with this protocol will include the following documentation:

a. Identification of the Title V permit emission unit, process(es), emission sources and emission points affected by the proposed change with applicable revisions to the Emission Unit structure;

b. Description of the proposed change, including operating parameters;

c. Identification and description of emissions control technology;

d. Documentation of the project's, or emission source's, compliance with respect to all state and/or federally applicable requirements, including the following steps:

i. Calculate the emission rate potential and maximum projected actual annual emission rates for all contaminants affected by the change.

ii. Submit documentation of major NSR program non-applicability for NYSDEC review and approval.

iii. Identify and evaluate the applicability of all



regulations likely to be triggered by the new or changed emission source.

iv. Propose any operating and record keeping procedures necessary to ensure compliance.

e. Any other relevant information used for the evaluation of the proposed project or emission source under the Protocol.

C. Review and Approval of Changes

1. The Department shall respond to the permittee in writing with a determination within 15 days of receipt of the notification of the permittee.

2. The Department may require a permit modification, in order to impose new applicable requirements or additional permit conditions if it determines that changes proposed pursuant to notification do not meet the criteria under II. A above or that the changes may have a significant air quality impact or be otherwise potentially significant under SEQRA (6 NYCRR Part 617).

3. The Department may require that the permittee not undertake the proposed change until it completes a more detailed review of the proposed change, which may include potential air quality impacts and/or applicable requirements. The Department's determination shall include a listing of information required for further review, if necessary.

D. Additional Compliance Obligations for Changes Made Under this Protocol

1. Upon commencement of the change, the facility shall comply with all applicable requirements and permit conditions, including any amended or proposed in accordance with II.A.1.a above.

2. The facility shall provide with the semi-annual monitoring report, a summary of the changes made in accordance with this protocol and a statement of the compliance status of each. Changes reported should include all those made during the corresponding period and any earlier changes that have not yet been incorporated into the permit.

Reporting Requirements: SEMI-ANNUALLY (CALENDAR)
Reports due 30 days after the reporting period.



Item 1-4.7:

Compliance Certification shall include the following monitoring:

Capping: Yes

Monitoring Type: MONITORING OF PROCESS OR CONTROL
DEVICE PARAMETERS AS SURROGATE

Monitoring Description:

This major permit modification allows Globe Metallurgical to perform an overhaul of its electric arc furnace No. 11 (EAF No. 11), install a multiclone cooler for the EAF No. 11 induced draft fan baghouse system, and use a paste-style electrode within EAF No. 11. Emissions from the use of the paste-style electrodes, which bake in the furnace as opposed to the currently used pre-baked electrode, are marginally greater.

The applicant performed an applicability analysis for the proposed project pursuant to 6NYCRR Subpart 231-6 Modifications to Existing Major Facilities in Nonattainment Areas and Attainment Areas of the State within the Ozone Transport Region and 6NYCRR Subpart 231-8 Modifications to Existing Major Facilities in Attainment Areas (Prevention of Significant Deterioration). The analysis showed exceedances of the Significant Project Thresholds for four contaminants (PM-2.5, PM-10, CO, and NO_x) when the baseline actual and projected actual emissions for those contaminants were compared. The modified permit contains an emissions capping condition for each of the four contaminants.

To stay below the applicability threshold of Part 231-8, carbon monoxide (CO) emissions from the production of silicon metal in Electric Arc Furnace No. 11 (EAF No. 11, Processes P02 and TAP, Emission Source S0004) shall not exceed 563.0 tons per year. This will keep the CO emission increase from this project below the 100 ton per year threshold.

To demonstrate compliance with this CO emission limit, Globe Metallurgical, Inc. will track emissions on a 12-month rolling total basis from the EAF No. 11 stack and EAF No. 11 roof monitor:

(1) Compliance calculations for EAF No. 11 stack emissions will be based on the most recent representative CO stack emission test. The most recent emission test was conducted on January 25, 2018 and the CO emissions were 110.73 pounds per hour with a furnace load of 18.65 MW and an estimated 98% overall capture efficiency. The emissions will be scaled to the average monthly MW load during normal stable operations (i.e., periods of



operation during which load is equal to at least 16 MW) and multiplied by the total hours of operation (at any load) during the month. This will account for all operating hours, including times of start-up and shutdown, but will eliminate misrepresentative low load during times of start-up and shutdown. Furnace load (MW) is electronically recorded every three minutes. The average furnace load will be calculated monthly using all recorded data points greater than 16 MW.

(2) Compliance calculations for EAF No. 11 roof monitor emissions will be based on the most recent representative CO stack emission test. The most recent emission test was conducted on January 25, 2018 and the CO emissions were 110.73 pounds per hour with a furnace load of 18.65 MW and an estimated 98% overall capture efficiency (meaning 2% of the emissions, or 2.21 pounds per hour, are emitted via the roof monitor). The emissions will be scaled to the average monthly MW load during normal stable operations (i.e., periods of operation during which load is equal to at least 16 MW) and multiplied by the total hours of operation (at any load) during the month. This will account for all operating hours, including times of start-up and shutdown, but will eliminate misrepresentative low load during times of start-up and shutdown. Furnace load (MW) is electronically recorded every three minutes. The average furnace load will be calculated monthly using all recorded data points greater than 16 MW.

((3) Furnace Capture Efficiency - Within 90 days of permit issuance or prior to commencement of project construction, whichever comes first, submit a report summarizing the engineering analysis used to determine/assume that the capture efficiency of the furnace fume collection hood is 98%. The 98% collection efficiency was used in the emission calculations for the permit modification (REN 3, MOD 1). The submission must include all information pertinent to operational, monitoring, and inspection activities which Globe employs to assure that the capture efficiency remains at or above the assumed value of 98%.

(4) Once the modification activities authorized by this permit modification have been completed and the operation is fully functional, performance tests must be performed, in accordance with the applicable test methods of 40CFR60, Appendix A, within 180 days. EAF No. 11 must be tested for the following contaminants: NO_x, carbon monoxide, volatile organic compounds, hydrogen chloride, and hydrogen fluoride. The baghouse dedicated to EAF No. 11 must be tested for particulate matter (with PM-2.5 and PM-10



speciated; the method of speciation will be proposed in the associated emission test protocol, and may include the use of AP-42 particle size distribution factors). The capture efficiency of the pollution control equipment must be determined during stack tests. Performance testing must be completed once every five years, based on the date of the previous test. Test protocol(s) shall be submitted to the Regional Air Pollution Control Engineer (RAPCE) at least 60 days prior to the proposed test date(s). Department staff will be afforded the opportunity to witness the performance test by notifying the RAPCE of the actual test date. A test report shall be submitted to the RAPCE within 60 days of test completion. The purpose of the performance testing is emissions verification and cap compliance.

(5) The facility shall submit to the Department an annual emission cap report for the previous calendar year by January 30th of each year. The report must include the monthly CO emissions and compare the total CO emissions for each rolling 12-month period throughout the calendar year to the above emission cap.

Parameter Monitored: CARBON MONOXIDE
Upper Permit Limit: 563.0 tons per year
Monitoring Frequency: MONTHLY
Averaging Method: 12-MONTH TOTAL, ROLLED MONTHLY
Reporting Requirements: SEMI-ANNUALLY (CALENDAR)
Reports due 30 days after the reporting period.
The initial report is due 1/30/2019.
Subsequent reports are due every 6 calendar month(s).

Condition 1-5: Capping Monitoring Condition
Effective between the dates of 08/24/2018 and 04/20/2021

Applicable Federal Requirement:6 NYCRR Subpart 201-7

Item 1-5.1:

Under the authority of 6 NYCRR Part 201-7, this condition contains an emission cap for the purpose of limiting emissions from the facility, emission unit or process to avoid being subject to the following applicable requirement(s) that the facility, emission unit or process would otherwise be subject to:

6 NYCRR 231-8.2

Item 1-5.2:

Operation of this facility shall take place in accordance with the approved criteria, emission limits, terms, conditions and standards in this permit.

Item 1-5.3:

The owner or operator of the permitted facility must maintain all required records on-site for a period of five years and make them available to representatives of the Department upon request.



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Department representatives must be granted access to any facility regulated by this Subpart, during normal operating hours, for the purpose of determining compliance with this and any other state and federal air pollution control requirements, regulations or law.

Item 1-5.4:

On an annual basis, unless otherwise specified below, beginning one year after the granting of an emissions cap, the responsible official shall provide a certification to the Department that the facility has operated all emission units within the limits imposed by the emission cap. This certification shall include a brief summary of the emissions subject to the cap for that time period and a comparison to the threshold levels that would require compliance with an applicable requirement.

Item 1-5.5:

The emission of pollutants that exceed the applicability thresholds for an applicable requirement, for which the facility has obtained an emissions cap, constitutes a violation of Part 201 and of the Act.

Item 1-5.6:

The Compliance Certification activity will be performed for the facility:
The Compliance Certification applies to:

Emission Unit: E-AFURN	
Process: P02	Emission Source: S0004
Emission Unit: E-AFURN	
Process: TAP	Emission Source: S0004
Regulated Contaminant(s):	
CAS No: 0NY075-02-5	PM 2.5

Item 1-5.7:

Compliance Certification shall include the following monitoring:

Capping: Yes

Monitoring Type: MONITORING OF PROCESS OR CONTROL
DEVICE PARAMETERS AS SURROGATE

Monitoring Description:

This major permit modification allows Globe Metallurgical to perform an overhaul of its electric arc furnace No. 11 (EAF No. 11), install a multiclone cooler for the EAF No. 11 induced draft fan baghouse system, and use a paste-style electrode within EAF No. 11. Emissions from the use of the paste-style electrodes, which bake in the furnace as opposed to the currently used pre-baked electrode, are marginally greater.

The applicant performed an applicability analysis for the proposed project pursuant to 6NYCRR Subpart 231-6 Modifications to Existing Major Facilities in Nonattainment Areas and Attainment Areas of the State within the Ozone Transport Region and 6NYCRR Subpart 231-8 Modifications to Existing Major Facilities in Attainment



Areas (Prevention of Significant Deterioration). The analysis showed exceedances of the Significant Project Thresholds for four contaminants (PM-2.5, PM-10, CO, and NO_x) when the baseline actual and projected actual emissions for those contaminants were compared. The modified permit contains an emissions capping condition for each of the four contaminants.

To stay below the applicability threshold of Part 231-8, total particulate matter (filterable and condensable) 2.5 micrometers or less in diameter (PM-2.5) emissions from the production of silicon metal in Electric Arc Furnace No. 11 (EAF No. 11, Processes P02 and TAP, Emission Source S0004) shall not exceed 73.8 tons per year. This will keep the PM-2.5 emission increase from this project below the 10 ton per year threshold.

Since the permit modification application did not account for emissions of condensable PM-2.5, Globe must conduct a performance test for filterable and condensable PM on Furnace #11 after permit issuance but prior to project implementation. Based on the results of the test, Globe must update the project calculation for PM-2.5, and submit a significant modification application to adjust the PM-2.5 emission cap, as necessary. A revised cap will be calculated to account for both filterable and condensable PM-2.5, and will be the total baseline actual PM-2.5 (condensable and filterable), plus the respective pollutant-specific significance threshold minus 0.5 tons per year.

To demonstrate compliance with this PM-2.5 emission limit, Globe Metallurgical, Inc. will track emissions on a 12-month rolling total basis from the EAF No. 11 stack and EAF No. 11 roof monitor:

(1) Compliance calculations for EAF No. 11 stack emissions will be based on the most recent representative particulate stack emission test, adjusted using AP-42 Chapter 12.4, Table 12.4-4 silicon metal open furnace, controlled PM-2.5 to PM ratio of 64%. The most recent emission test was conducted on August 10, 2010 and the total PM emissions were 16.5 pounds per hour with a furnace load of 19.41 MW, therefore the PM-2.5 emission factor from the stack is 10.6 pounds per hour at 19.41 MW. Compliance calculations will be made based on the results of the performance test for filterable and condensable PM conducted on Furnace #11 after permit issuance but prior to project implementation upon completion of the performance test. The emissions will be scaled to the average monthly MW load during normal stable operations (i.e., periods of operation during which load is equal to at least 16 MW) and multiplied by the total hours of



operation (at any load) during the month. This will account for all operating hours, including times of start-up and shutdown, but will eliminate misrepresentative low load during times of start-up and shutdown. Furnace load (MW) is electronically recorded every three minutes. The average furnace load will be calculated monthly using all recorded data points greater than 16 MW.

(2) Compliance calculations for EAF No. 11 roof monitor emissions will be based on Globe Metallurgical, Inc.'s Fugitive Emission Rate Study conducted at a sister facility located in Becancour, Quebec in May 2012, EAF No. 11 hours of operation, and AP-42 Chapter 12.4, Table 12.4-4 silicon metal open furnace, uncontrolled PM-2.5 to PM ratio of 75%. The study concluded that fugitive PM emissions were 6.61 pound per hour, therefore the PM-2.5 emission factor from the monitor is 4.96 pounds per hour.

(3) Furnace Capture Efficiency - Within 90 days of permit issuance or prior to commencement of project construction, whichever comes first, submit a report summarizing the engineering analysis used to determine/assume that the capture efficiency of the furnace fume collection hood is 98%. The 98% collection efficiency was used in the emission calculations for the permit modification (REN 3, MOD 1). The submission must include all information pertinent to operational, monitoring, and inspection activities which Globe employs to assure that the capture efficiency remains at or above the assumed value of 98%.

(4) Once the modification activities authorized by this permit modification have been completed and the operation is fully functional, performance tests must be performed, in accordance with the applicable test methods of 40CFR60, Appendix A, within 180 days. EAF No. 11 must be tested for the following contaminants: NO_x, carbon monoxide, volatile organic compounds, hydrogen chloride, and hydrogen fluoride. The baghouse dedicated to EAF No. 11 must be tested for filterable and condensable particulate matter (with PM-2.5 and PM-10 speciated; the method of speciation will be proposed in the associated emission test protocol, and may include the use of AP-42 particle size distribution factors). Performance testing must be completed once every five years, based on the date of the previous test. Test protocol(s) shall be submitted to the Regional Air Pollution Control Engineer (RAPCE) at least 60 days prior to the proposed test date(s). Department staff will be afforded the opportunity to witness the performance test by notifying the RAPCE of the actual test



date. A test report shall be submitted to the RAPCE within 60 days of test completion. The purpose of the performance testing is emissions verification and cap compliance.

(5) The facility shall submit to the Department an annual emission cap report for the previous calendar year by January 30th of each year. The report must include the monthly PM-2.5 emissions and compare the total PM-2.5 emissions for each rolling 12-month period throughout the calendar year to the above emission cap.

Parameter Monitored: PM 2.5

Upper Permit Limit: 73.8 tons per year

Monitoring Frequency: MONTHLY

Averaging Method: 12-MONTH TOTAL, ROLLED MONTHLY

Reporting Requirements: SEMI-ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due 1/30/2019.

Subsequent reports are due every 6 calendar month(s).

Condition 1-6: Capping Monitoring Condition
Effective between the dates of 08/24/2018 and 04/20/2021

Applicable Federal Requirement:6 NYCRR Subpart 201-7

Item 1-6.1:

Under the authority of 6 NYCRR Part 201-7, this condition contains an emission cap for the purpose of limiting emissions from the facility, emission unit or process to avoid being subject to the following applicable requirement(s) that the facility, emission unit or process would otherwise be subject to:

6 NYCRR 231-6.2

Item 1-6.2:

Operation of this facility shall take place in accordance with the approved criteria, emission limits, terms, conditions and standards in this permit.

Item 1-6.3:

The owner or operator of the permitted facility must maintain all required records on-site for a period of five years and make them available to representatives of the Department upon request. Department representatives must be granted access to any facility regulated by this Subpart, during normal operating hours, for the purpose of determining compliance with this and any other state and federal air pollution control requirements, regulations or law.

Item 1-6.4:

On an annual basis, unless otherwise specified below, beginning one year after the granting of an emissions cap, the responsible official shall provide a certification to the Department that the facility has operated all emission units within the limits imposed by the emission cap. This certification shall include a brief summary of the emissions subject to the cap for that time period and a comparison to the threshold levels that would require compliance with an applicable requirement.



Processes P02 and TAP, Emission Source S0004) shall not exceed 257.4 tons per year. This will keep the NO_x emission increase from this project below the 40 ton per year threshold.

To demonstrate compliance with this NO_x emission limit, Globe Metallurgical, Inc. will track emissions on a 12-month rolling total basis from the EAF No. 11 stack and EAF No. 11 roof monitor:

(1) Compliance calculations for EAF No. 11 stack emissions will be based on the most recent representative NO_x stack emission test. The most recent emission test was conducted on January 25, 2018 and the NO_x emissions were 51.88 pounds per hour with a furnace load of 18.65 MW and an estimated 98% overall capture efficiency. The emissions will be scaled to the average monthly MW load during normal stable operations (i.e., periods of operation during which load is equal to at least 16 MW) and multiplied by the total hours of operation (at any load) during the month. This will account for all operating hours, including times of start-up and shutdown, but will eliminate misrepresentative low load during times of start-up and shutdown. Furnace load (MW) is electronically recorded every three minutes. The average furnace load will be calculated monthly using all recorded data points greater than 16 MW.

(2) Compliance calculations for EAF No. 11 roof monitor emissions will be based on the most recent representative NO_x stack emission test. The most recent emission test was conducted on January 25, 2018 and the NO_x emissions were 51.88 pounds per hour with a furnace load of 18.65 MW and an estimated 98% overall capture efficiency (meaning 2% of the emissions, or 1.04 pounds per hour, are emitted via the roof monitor). The emissions will be scaled to the average monthly MW load during normal stable operations (i.e., periods of operation during which load is equal to at least 16 MW) and multiplied by the total hours of operation (at any load) during the month. This will account for all operating hours, including times of start-up and shutdown, but will eliminate misrepresentative low load during times of start-up and shutdown. Furnace load (MW) is electronically recorded every three minutes. The average furnace load will be calculated monthly using all recorded data points greater than 16 MW.

(3) Furnace Capture Efficiency - Within 90 days of permit issuance or prior to commencement of project construction, whichever comes first, submit a report summarizing the engineering analysis used to



determine/assume that the capture efficiency of the furnace fume collection hood is 98%. The 98% collection efficiency was used in the emission calculations for the permit modification (REN 3, MOD 1). The submission must include all information pertinent to operational, monitoring, and inspection activities which Globe employs to assure that the capture efficiency remains at or above the assumed value of 98%.

(4) Once the modification activities authorized by this permit modification have been completed and the operation is fully functional, performance tests must be performed, in accordance with the applicable test methods of 40CFR60, Appendix A, within 180 days. EAF No. 11 must be tested for the following contaminants: NO_x, carbon monoxide, volatile organic compounds, hydrogen chloride, and hydrogen fluoride. The baghouse dedicated to EAF No. 11 must be tested for particulate matter (with PM-2.5 and PM-10 speciated; the method of speciation will be proposed in the associated emission test protocol, and may include the use of AP-42 particle size distribution factors). The capture efficiency of the pollution control equipment must be determined during stack tests. Performance testing must be completed once every five years, based on the date of the previous test. Test protocol(s) shall be submitted to the Regional Air Pollution Control Engineer (RAPCE) at least 60 days prior to the proposed test date(s). Department staff will be afforded the opportunity to witness the performance test by notifying the RAPCE of the actual test date. A test report shall be submitted to the RAPCE within 60 days of test completion. The purpose of the performance testing is emissions verification and cap compliance.

(5) The facility shall submit to the Department an annual emission cap report for the previous calendar year by January 30th of each year. The report must include the monthly NO_x emissions and compare the total NO_x emissions for each rolling 12-month period throughout the calendar year to the above emission cap.

Parameter Monitored: OXIDES OF NITROGEN

Upper Permit Limit: 257.4 tons per year

Monitoring Frequency: MONTHLY

Averaging Method: 12-MONTH TOTAL, ROLLED MONTHLY

Reporting Requirements: SEMI-ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due 1/30/2019.

Subsequent reports are due every 6 calendar month(s).

Condition 1-7: Capping Monitoring Condition
Effective between the dates of 08/24/2018 and 04/20/2021

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Permit ID: 9-2911-00078/00009

Facility DEC ID: 9291100078



Monitoring Type: MONITORING OF PROCESS OR CONTROL
DEVICE PARAMETERS AS SURROGATE

Monitoring Description:

This major permit modification allows Globe Metallurgical to perform an overhaul of its electric arc furnace No. 11 (EAF No. 11), install a multiclone cooler for the EAF No. 11 induced draft fan baghouse system, and use a paste-style electrode within EAF No. 11. Emissions from the use of the paste-style electrodes, which bake in the furnace as opposed to the currently used pre-baked electrode, are marginally greater.

The applicant performed an applicability analysis for the proposed project pursuant to 6NYCRR Subpart 231-6 Modifications to Existing Major Facilities in Nonattainment Areas and Attainment Areas of the State within the Ozone Transport Region and 6NYCRR Subpart 231-8 Modifications to Existing Major Facilities in Attainment Areas (Prevention of Significant Deterioration). The analysis showed exceedances of the Significant Project Thresholds for four contaminants (PM-2.5, PM-10, CO, and NO_x) when the baseline actual and projected actual emissions for those contaminants were compared. The modified permit contains an emissions capping condition for each of the four contaminants.

To stay below the applicability threshold of Part 231-8, total particulate matter (filterable and condensable) 10 micrometers or less in diameter (PM-10) emissions from the production of silicon metal in Electric Arc Furnace No. 11 (EAF No. 11, Processes P02 and TAP, Emission Source S0004) shall not exceed 101.0 tons per year. This will keep the PM-10 emission increase from this project below the 15 ton per year threshold.

Since the permit modification application did not account for emissions of condensable PM-10, Globe must conduct a performance test for filterable and condensable PM on Furnace #11 after permit issuance but prior to project implementation. Based on the results of the test, Globe must update the project calculation for PM-10, and submit a significant modification application to adjust the PM-10 emission cap, as necessary. A revised cap will be calculated to account for both filterable and condensable PM-10, and will be the total baseline actual PM-10 (condensable and filterable), plus the respective pollutant-specific significance threshold minus 0.5 tons per year.

To demonstrate compliance with this PM-10 emission limit, Globe Metallurgical, Inc. will track emissions on a 12-month rolling total basis from the EAF No. 11 stack and EAF No. 11 roof monitor:



(1) Compliance calculations for EAF No. 11 stack emissions will be based on the most recent representative particulate stack emission test, adjusted using AP-42 Chapter 12.4, Table 12.4-4 silicon metal open furnace, controlled PM-10 to PM ratio of 87%. The most recent emission test was conducted on August 10, 2010 and the total PM emissions were 16.5 pounds per hour with a furnace load of 19.41 MW, therefore the PM-10 emission factor from the stack is 14.4 pounds per hour at 19.41 MW. Compliance calculations will be made based on the results of the performance test for filterable and condensable PM conducted on Furnace #11 after permit issuance but prior to project implementation upon completion of the performance test. The emissions will be scaled to the average monthly MW load during normal stable operations (i.e., periods of operation during which load is equal to at least 16 MW) and multiplied by the total hours of operation (at any load) during the month. This will account for all operating hours, including times of start-up and shutdown, but will eliminate misrepresentative low load during times of start-up and shutdown. Furnace load (MW) is electronically recorded every three minutes. The average furnace load will be calculated monthly using all recorded data points greater than 16 MW.

(2) Compliance calculations for EAF No. 11 roof monitor emissions will be based on Globe Metallurgical, Inc.'s Fugitive Emission Rate Study conducted at a sister facility located in Becancour, Quebec in May 2012, EAF No. 11 hours of operation, and AP-42 Chapter 12.4, Table 12.4-4 silicon metal open furnace, uncontrolled PM-10 to PM ratio of 86%. The study concluded that fugitive PM emissions were 6.61 pound per hour, therefore the PM-10 emission factor from the monitor is 5.68 pounds per hour.

(3) Furnace Capture Efficiency - Within 90 days of permit issuance or prior to commencement of project construction, whichever comes first, submit a report summarizing the engineering analysis used to determine/assume that the capture efficiency of the furnace fume collection hood is 98%. The 98% collection efficiency was used in the emission calculations for the permit modification (REN 3, MOD 1). The submission must include all information pertinent to operational, monitoring, and inspection activities which Globe employs to assure that the capture efficiency remains at or above the assumed value of 98%.

(4) Once the modification activities authorized by this



permit modification have been completed and the operation is fully functional, performance tests must be performed, in accordance with the applicable test methods of 40CFR60, Appendix A, within 180 days. EAF No. 11 must be tested for the following contaminants: NO_x, carbon monoxide, volatile organic compounds, hydrogen chloride, and hydrogen fluoride. The baghouse dedicated to EAF No. 11 must be tested for filterable and condensable particulate matter (with PM-2.5 and PM-10 speciated; the method of speciation will be proposed in the associated emission test protocol, and may include the use of AP-42 particle size distribution factors). Performance testing must be completed once every five years, based on the date of the previous test. Test protocol(s) shall be submitted to the Regional Air Pollution Control Engineer (RAPCE) at least 60 days prior to the proposed test date(s). Department staff will be afforded the opportunity to witness the performance test by notifying the RAPCE of the actual test date. A test report shall be submitted to the RAPCE within 60 days of test completion. The purpose of the performance testing is emissions verification and cap compliance.

(5) The facility shall submit to the Department an annual emission cap report for the previous calendar year by January 30th of each year. The report must include the monthly PM-10 emissions and compare the total PM-10 emissions for each rolling 12-month period throughout the calendar year to the above emission cap.

Parameter Monitored: PM-10

Upper Permit Limit: 101.0 tons per year

Monitoring Frequency: MONTHLY

Averaging Method: 12-MONTH TOTAL, ROLLED MONTHLY

Reporting Requirements: SEMI-ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due 1/30/2019.

Subsequent reports are due every 6 calendar month(s).

Condition 23: Air pollution prohibited
Effective between the dates of 04/21/2016 and 04/20/2021

Applicable Federal Requirement:6 NYCRR 211.1

Item 23.1:

No person shall cause or allow emissions of air contaminants to the outdoor atmosphere of such quantity, characteristic or duration which are injurious to human, plant or animal life or to property, or which unreasonably interfere with the comfortable enjoyment of life or property. Notwithstanding the existence of specific air quality standards or emission limits, this prohibition applies, but is not limited to, any particulate, fume, gas, mist, odor, smoke, vapor, pollen, toxic or deleterious emission, either alone or in combination with others.



Condition 1-8: Compliance Certification
Effective between the dates of 08/24/2018 and 04/20/2021

Applicable Federal Requirement:6 NYCRR 212-1.1 (a) (2)

Item 1-8.1:

The Compliance Certification activity will be performed for the Facility.

Item 1-8.2:

Compliance Certification shall include the following monitoring:

Monitoring Type: RECORD KEEPING/MAINTENANCE PROCEDURES

Monitoring Description:

As part of the major modification application, Globe performed air dispersion modeling to demonstrate compliance with 6NYCRR Part 212 including associated applicable air quality standards.

Facility-wide air dispersion modeling was performed for carbon monoxide, hydrogen chloride, hydrogen fluoride, and formaldehyde to demonstrate compliance with Part 212 using DAR-1: Guidelines for the Evaluation and Control of Ambient Air Contaminants under Part 212. At the Department's request, the modeling analysis also compared projected actual emissions from Furnace No. 11 only (i.e., the modification activities authorized by this permit modification), combined with measured background concentrations, to the National Ambient Air Quality Standards (NAAQS) for the remaining criteria pollutants.

When facility-wide emissions of formaldehyde were modeled, the results showed an exceedance of the annual guideline concentration (AGC) and non-compliance with 212-2.2 Table 4. A Toxic – Best Available Control Technology (T-BACT) analysis for formaldehyde is required in a separate permit condition.

Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING DESCRIPTION

Reporting Requirements: AS REQUIRED - SEE MONITORING DESCRIPTION

Condition 1-9: Compliance Certification
Effective between the dates of 08/24/2018 and 04/20/2021

Applicable Federal Requirement:6 NYCRR 212-1.5 (d)

Item 1-9.1:

The Compliance Certification activity will be performed for the Facility.

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Regulated Contaminant(s):

CAS No: 000050-00-0 FORMALDEHYDE

Item 1-9.2:

Compliance Certification shall include the following monitoring:

Monitoring Type: RECORD KEEPING/MAINTENANCE PROCEDURES

Monitoring Description:

As part of the major modification application, Globe performed air dispersion modeling to demonstrate compliance with applicable air quality standards. When facility-wide emissions of formaldehyde were modeled, the results showed an exceedance of the annual guideline concentration (AGC).

Globe must perform a Toxic – Best Available Control Technology (T-BACT) analysis for the formaldehyde to assure compliance with 6NYCRR Part 212 and the risk management policy for off-site ambient concentrations as described in DAR-1 Section F.1(c). Meeting the risk management policy can be addressed with a refined air dispersion analysis using AERMOD. Formaldehyde is a high toxicity air contaminant (HTAC).

Globe must submit the T-BACT analysis to the Regional Air Pollution Control Engineer within 90 days of permit issuance, or prior to commencement of project construction, whichever comes first.

Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING DESCRIPTION

Reporting Requirements: SEMI-ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due 1/30/2019.

Subsequent reports are due every 6 calendar month(s).

Condition 24: Maintain all process emission sources, including the associated air pollution control and monitoring equipment Effective between the dates of 04/21/2016 and 04/20/2021

Applicable Federal Requirement:6 NYCRR 212-1.5 (g)

Item 24.1:

At all times, the facility owner or operator must operate and maintain all process emission sources, including the associated air pollution control and monitoring equipment, in a manner consistent with safety, good air pollution control practices, good engineering practices and manufacturers' recommendations for minimizing emissions.

Condition 1-10: Compliance Certification Effective between the dates of 08/24/2018 and 04/20/2021



Applicable Federal Requirement:6 NYCRR 212-1.6 (a)

Replaces Condition(s) 25

Item 1-10.1:

The Compliance Certification activity will be performed for the facility:
The Compliance Certification applies to:

Emission Unit: 1-RFMON	Emission Point: 00008
Emission Unit: E-AFURN	Emission Point: EP002
Emission Unit: E-AFURN	Emission Point: EP003
Emission Unit: P-ROFIN	Emission Point: EP007
Emission Unit: P-ROFIN	Emission Point: EP06A

Item 1-10.2:

Compliance Certification shall include the following monitoring:

Monitoring Type: INTERMITTENT EMISSION TESTING

Monitoring Description:

Visible emissions from all process emission source or emission points shall not equal or exceed an average 20% opacity during any six consecutive minutes except for the emissions of uncombined water. Opacity observations shall be conducted daily at the baghouse discharge points and the roof monitor.

Daily, the permittee shall conduct a visible emissions survey of all emissions sources, and if visible emissions are observed, corrective action shall be implemented as required by the facility maintenance program and the terms and conditions of this permit.

This Department at any time can request Method 9 evaluations.

Records of these observations shall be kept on-site for a period of 5 years and made available to Department representatives as required.

Parameter Monitored: OPACITY

Upper Permit Limit: 20 percent

Reference Test Method: Method 9/Method 22

Monitoring Frequency: DAILY

Averaging Method: 6 MINUTE AVERAGE

Reporting Requirements: SEMI-ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due 1/30/2019.

Subsequent reports are due every 6 calendar month(s).

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Condition 1-11: Compliance Certification
Effective between the dates of 08/24/2018 and 04/20/2021

Applicable Federal Requirement:6 NYCRR 212-3.1 (c) (1)

Item 1-11.1:

The Compliance Certification activity will be performed for the Facility.

Regulated Contaminant(s):
CAS No: 0NY998-00-0 VOC

Item 1-11.2:

Compliance Certification shall include the following monitoring:

Monitoring Type: RECORD KEEPING/MAINTENANCE PROCEDURES

Monitoring Description:

As a major source for VOC, Globe is subject to the provisions of Part 212-3 for VOC Reasonably Available Control Technology (RACT). To address this requirement, Globe shall submit a case-specific VOC RACT plan. The plan shall be submitted to the Regional Air Pollution Control Engineer within 90 days of permit issuance, or prior to commencement of project construction, whichever comes first.

Any facility that is subject to 6NYCRR Part 212-3, Reasonably Available Control Technology for Major Facilities, after May 31, 1995 will remain subject to the RACT provisions even if the annual potential to emit VOCs later fall below the applicability threshold.

Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING DESCRIPTION

Reporting Requirements: AS REQUIRED - SEE MONITORING DESCRIPTION

Condition 26: Compliance Certification
Effective between the dates of 04/21/2016 and 04/20/2021

Applicable Federal Requirement:6 NYCRR 225-1.4 (a)

Item 26.1:

The Compliance Certification activity will be performed for the Facility.

Regulated Contaminant(s):
CAS No: 007446-09-5 SULFUR DIOXIDE

Item 26.2:

Compliance Certification shall include the following monitoring:

Monitoring Type: MONITORING OF PROCESS OR CONTROL DEVICE PARAMETERS AS SURROGATE

Monitoring Description:



Coke which exceeds the 1.7 lb/million Btu maximum and 1.4 lb/million Btu consecutive three month average, sulfur in fuel limits of 6NYCRR, Part 225-1.2 (c) for solid fuel, may be used in combination with coal in the furnace charge on a 4:1 coal/coke ratio.

The permittee is required to demonstrate that when using coke with a sulfur content greater than the allowable limit in combination with coal, the sulfur dioxide emissions will not exceed a maximum 3.4 pounds of sulfur dioxide per million Btu heat input and an average 2.8 pounds of sulfur dioxide per million Btu heat input as determined by:

$$S = (1.1AM + 2BT)/(M + T)$$

where:

S = Allowable sulfur dioxide emission (in pounds per million Btu)

A = Sulfur in oil allowed by Section 225-1.2 of this Subpart (in percent by weight)

B = Average sulfur in solid fuel allowed by Section 225-1.2 of this Subpart (in pounds of sulfur per million Btu gross heat content)

M = Percent of total heat input from liquid fuel

T = Percent of total heat input from solid fuel (including coal, coke, wood, wood waste, and refuse-derived fuel)

Averages are computed for each emission source by dividing the total sulfur content by the total gross heat content of all solid fuel received during any consecutive three-month period.

Records will be maintained on-site as follows:

1. Calculations to demonstrate compliance with the sulfur dioxide limit for each shipment of coke received.
2. The sulfur, ash and Btu content of each shipment of coke received.
3. The total amount of coal and coke charged per batch for each furnace.
4. Sampling, compositing and analysis of fuel samples must be done in accordance with methods acceptable to the Department as required by Part 225-1.6.
5. Records of fuel analyses shall be kept for a period of 5 years and made available to Department representatives on request.

The permittee must submit a written report of the fuel sulfur content exceeding the applicable sulfur-in-fuel limitation, measured emissions exceeding the applicable

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sulfur-in-fuel limitation, measured emissions exceeding the applicable equivalent emission rate, and the nature and cause of such exceedances if known, for each calendar quarter, within 30 days after the end of any quarterly period in which an exceedance takes place.

The permittee shall submit a written report of any exceedance of the equivalent emission rate within 30 days of determining the exceedance.

Parameter Monitored: SULFUR CONTENT

Upper Permit Limit: 1.7 pounds per million Btus

Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING DESCRIPTION

Averaging Method: MAXIMUM - NOT TO EXCEED STATED VALUE - SEE MONITORING DESCRIPTION

Reporting Requirements: SEMI-ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due 7/30/2016.

Subsequent reports are due every 6 calendar month(s).

Condition 1-12: Compliance Certification
Effective between the dates of 08/24/2018 and 04/20/2021

Applicable Federal Requirement: 6 NYCRR 231-11.2 (b)

Item 1-12.1:

The Compliance Certification activity will be performed for the Facility.

Item 1-12.2:

Compliance Certification shall include the following monitoring:

Monitoring Type: RECORD KEEPING/MAINTENANCE PROCEDURES

Monitoring Description:

For a modification with a project emission potential that does not utilize the emissions exclusion allowed under section 231-4.1(b)(41)(i)(c) of this Part and which is less than 50 percent of the applicable significant project threshold in Table 3, Table 4 or Table 6 of Subpart 231-13 of this Part, or for a modification with a project emission potential which when added to emissions excluded in accordance with clause 231-4.1(b)(41)(i)(c) of this Part is less than 50 percent of the applicable significant project threshold in Table 3, Table 4 or Table 6 of Subpart 231-13 of this Part, the facility owner or operator, in addition to complying with any requirements under Part 201 of this Title, must maintain the following information for a minimum of five years:

(1) A description of the modification.

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(2) An identification of each new or modified emission source(s) including the associated processes and emission unit.

(3) The calculation of the project emission potential for each modified emission source(s) including supporting documentation.

(4) The date the modification commenced operation.

These recordkeeping requirements apply to exempt and trivial activities but do not affect their exempt or trivial permitting status under Subpart 201-3 of this Title. The facility must submit these records to the Department, upon the Department's request.

Reporting Requirements: AS REQUIRED - SEE MONITORING DESCRIPTION

Condition 1-13: Compliance Certification
Effective between the dates of 08/24/2018 and 04/20/2021

Applicable Federal Requirement:6 NYCRR 231-11.2 (c)

Item 1-13.1:

The Compliance Certification activity will be performed for the facility:
The Compliance Certification applies to:

Emission Unit: 1-RFMON Process: VNT	Emission Source: 0ROOF
Emission Unit: E-AFURN Process: P01	Emission Source: S0001
Emission Unit: E-AFURN Process: P01	Emission Source: S0002
Emission Unit: E-AFURN Process: P02	Emission Source: S0003
Emission Unit: E-AFURN Process: TAP	Emission Source: S0003
Emission Unit: P-ROFIN Process: P03	Emission Source: S0009
Emission Unit: P-ROFIN Process: P04	Emission Source: S0010
Emission Unit: R-DWYPK Process: P05	Emission Source: S0013



Item 1-13.2:

Compliance Certification shall include the following monitoring:

Monitoring Type: RECORD KEEPING/MAINTENANCE PROCEDURES

Monitoring Description:

This major permit modification allows Globe Metallurgical to perform an overhaul of its electric arc furnace No. 11 (EAF No. 11), install a multiclone cooler for the EAF No. 11 induced draft fan baghouse system, and use a paste-style electrode within EAF No. 11. Emissions from the use of the paste-style electrodes, which bake in the furnace as opposed to the currently used pre-baked electrode, are marginally greater.

The applicant performed an applicability analysis for the proposed project pursuant to 6NYCRR Subpart 231-6 Modifications to Existing Major Facilities in Nonattainment Areas and Attainment Areas of the State within the Ozone Transport Region and 6NYCRR Subpart 231-8 Modifications to Existing Major Facilities in Attainment Areas (Prevention of Significant Deterioration).

The analysis did not show an exceedance of the 40 ton per year Significant Project Threshold (SPT) for sulfur dioxide (SO₂), the 25 ton per year SPT for total PM, or the 7 ton per year SPT for sulfuric acid mist when the baseline actual and projected actual emissions were compared. Note that the projected actual SO₂ emissions were based, however, on the sulfur contents of coals, electrodes, and paste. Therefore, the facility must comply with the following provisions of 6 NYCRR 231-11.2(c) for this major modification:

(1) Maintain the following information for a minimum of five years:

- (i) a description of the modification,
- (ii) an identification of each new or modified emission source(s) including the associated processes and emission unit,
- (iii) the calculation of the project emission potential for each modified emission source(s) including supporting documentation, and
- (iv) the date the modification commenced operation.

(2) Monitor the SO₂ and PM emissions from the emission source(s) that will increase as a result of the modification, and calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of five years following resumption of regular operations after the modification.

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(3) Submit a report to the Regional Air Pollution Control Engineer within 30 days after the end of each year during which records must be generated in accordance with Part 231-11.2(c)(2). The report must contain:

- (i) the name, address, and telephone number of the major facility,
- (ii) the annual emissions as calculated pursuant to Part 231-11.2(c)(2), and
- (iii) a comparison of actual annual emissions to the projected actual emissions and, if applicable, an explanation as to why the actual annual emissions exceeded the projected actual emissions.

Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING DESCRIPTION

Reporting Requirements: ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due 1/30/2019.

Subsequent reports are due every 12 calendar month(s).

****** Emission Unit Level ******

**Condition 27: Emission Point Definition By Emission Unit
Effective between the dates of 04/21/2016 and 04/20/2021**

Applicable Federal Requirement:6 NYCRR Subpart 201-6

Item 27.1(From Mod 1):

The following emission points are included in this permit for the cited Emission Unit:

Emission Unit: 1-RFMON

Emission Point: 00008

Height (ft.): 95	Length (in.): 2304	Width (in.): 180
NYTMN (km.): 4782.4	NYTME (km.): 171.2	Building: 00FURNBLDG

Item 27.2(From Mod 1):

The following emission points are included in this permit for the cited Emission Unit:

Emission Unit: E-AFURN

Emission Point: EP002

Height (ft.): 86	Length (in.): 960	Width (in.): 168
NYTMN (km.): 4782.4	NYTME (km.): 171.2	Building: 00FURNBLDG

Emission Point: EP003

Height (ft.): 92	Length (in.): 960	Width (in.): 168
NYTMN (km.): 4782.4	NYTME (km.): 171.2	Building: 00FURNBLDG



Item 27.3(From Mod 1):

The following emission points are included in this permit for the cited Emission Unit:

Emission Unit: P-ROFIN

Emission Point: EP007

Height (ft.): 16 Diameter (in.): 25
NYTMN (km.): 4782.4 NYTME (km.): 171.2 Building: 00FURNBLDG

Emission Point: EP06A

Height (ft.): 10 Diameter (in.): 48
NYTMN (km.): 4782.4 NYTME (km.): 171.2 Building: 00FURNBLDG

**Condition 28: Process Definition By Emission Unit
Effective between the dates of 04/21/2016 and 04/20/2021**

Applicable Federal Requirement:6 NYCRR Subpart 201-6

Item 28.1(From Mod 1):

This permit authorizes the following regulated processes for the cited Emission Unit:

Emission Unit: 1-RFMON

Process: VNT Source Classification Code: 3-03-007-02

Process Description:

Labyrinth gravity roof ventilators on the north side of the furnace building through which heat and fume are emitted. There are 15 motorized damper panels, total dimensions 200' x 18', which can be opened and closed as needed. These will provide 29.5 building air exchanges per hour.

Emission Source/Control: 0ROOF - Process

Item 28.2(From Mod 1):

This permit authorizes the following regulated processes for the cited Emission Unit:

Emission Unit: E-AFURN

Process: P01 Source Classification Code: 3-99-999-94

Process Description:

Raw Material Handling - Raw Material Transfer and Storage operations begin with the receipt of raw materials via truck or rail. Coal, coke, charcoal, gravel, woodchips, and turnings are unloaded via crane to piles or directly to a below grade conveyor or pit. Coal is transferred to the pit, from which it is conveyed up to enclosed raw material storage bins or unloaded to outdoor storage piles. Gravel is unloaded to piles, transported by crane to a conveyor, screened, and conveyed up to enclosed storage bins. Wood chips are dumped from a trailer to the pit and transported up to enclosed storage bins. From indoor bins, the raw materials are weighed and dropped to



a skip bucket from which they are transferred to the top of the furnace.

Emission Source/Control: S0001 - Process

Emission Source/Control: S0002 - Process

Item 28.3(From Mod 1):

This permit authorizes the following regulated processes for the cited Emission Unit:

Emission Unit: E-AFURN

Process: P02

Source Classification Code: 3-03-007-02

Process Description:

Melting - Silicon or ferrosilicon metal is produced in two three-phase submerged semi-enclosed-type electric arc furnaces identified as emission sources S0003 (furnace No. 9) and S0004 (furnace No. 11) . The submerged arc process is a reduction smelting operation. In the production of silicon metal, quartz is the raw material from which silicon is derived. Carbon is necessary as a reducing agent and is supplied by coal, charcoal, woodchips and to a lesser extent, electrodes. In the production of ferrosilicon, iron is added to the raw materials. Smelting in the electric arc furnace is accomplished by conversion of electric energy to heat. An alternating current applied to the electrodes causes a current to flow through the charge from the electrode tips to the furnace hearth. This provides a reaction zone of temperature up to 6000 deg. F. To maintain a uniform electric load, electrode depth is continuously varied automatically, as required. At high temperatures in the reaction zone, the carbon sources react chemically with silicon dioxide gas to form carbon monoxide and silicon metal.

Fume and dust generated and captured throughout the production process including tapping are controlled by the baghouses which vent to emission points EP002 and EP003 and then collected and reused or sold.

Emission Source/Control: S0006 - Control
Control Type: FABRIC FILTER

Emission Source/Control: S0007 - Control
Control Type: FABRIC FILTER

Emission Source/Control: S0003 - Process

Emission Source/Control: S0004 - Process

Item 28.4(From Mod 1):

This permit authorizes the following regulated processes for the cited Emission Unit:



Emission Unit: E-AFURN

Process: TAP

Source Classification Code: 3-03-007-02

Process Description:

Molten product is tapped from the furnace through a taphole located at the bottom of the furnace at hearth level. The molten metal and dross flow from the tap hole into a ladle. The ladle is moved by a hoist to the casting process. The metal is poured into low, flat chill pans that provide rapid cooling of the molten metal.

Fume and dust generated from the tapping process is pulled by the tap hole fan to the main furnace hood and into the furnace baghouses which vent to emission points EP002 and EP003.

Fumes from the hot metal ladle pour are fugitive inside the building and to the gravity roof ventilators.

Emission Source/Control: S0006 - Control
Control Type: FABRIC FILTER

Emission Source/Control: S0007 - Control
Control Type: FABRIC FILTER

Emission Source/Control: S0003 - Process

Emission Source/Control: S0004 - Process

Item 28.5(From Mod 1):

This permit authorizes the following regulated processes for the cited Emission Unit:

Emission Unit: P-ROFIN

Process: P03

Source Classification Code: 3-99-999-94

Process Description:

Silicon Metal Sizing - Sizing operations begin with transport of silicon metal lump from storage or directly to the jaw crusher. From the jaw crusher, product is conveyed to a shaker/screen and transported to sizing or to the cone crusher, depending on size. From the cone crusher, the product is transported to a shaker/screen via a covered conveyor and then to sizing. Emissions from this operation are controlled by two baghouses which vent to emission point EP06A. The main baghouse collects emissions generated from crushing and sizing, while a smaller secondary baghouse collects particulate generated from finished product dropping to the floor from a conveyor.

Emission Source/Control: S0010 - Control
Control Type: FABRIC FILTER

Emission Source/Control: S0014 - Control

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Control Type: FABRIC FILTER

Emission Source/Control: S0009 - Process

Item 28.6(From Mod 1):

This permit authorizes the following regulated processes for the cited Emission Unit:

Emission Unit: P-ROFIN

Process: P04

Source Classification Code: 3-99-999-94

Process Description:

Product Handling - From sizing, product is loaded to boxes, super sacks, or railcars. Hopper and Loading Conveyor involves transfer of sized silicon metal via front end loader to a bin then to a hopper for loadout to railcar. The operation is located indoors next to Sizing Plant No. 3. Conveyors, hopper and loadout point are controlled via cartridge filter venting to emission point EP007.

Emission Source/Control: S0010 - Control

Control Type: FABRIC FILTER

Emission Source/Control: S0012 - Control

Control Type: FABRIC FILTER

Emission Source/Control: S0011 - Process

Item 28.7(From Mod 1):

This permit authorizes the following regulated processes for the cited Emission Unit:

Emission Unit: R-DWYPK

Process: P05

Source Classification Code: 3-99-999-94

Process Description:

Roadways & Parking - Transportation on roadways and parking areas cause fugitive emissions.

Emission Source/Control: S0013 - Process

Condition 1-14: Process Permissible Emissions

Effective between the dates of 08/24/2018 and 04/20/2021

Applicable Federal Requirement:6 NYCRR Subpart 201-7

Item 1-14.1:

The sum of emissions from the regulated process cited shall not exceed the following Potential to Emit (PTE) rates for each regulated contaminant:

Emission Unit:

E-AFURN

Process:

P02

CAS No: 000630-08-0 (From Mod 1)

Name: CARBON MONOXIDE



PTE(s): 563 tons per year

CAS No: 0NY075-00-5 (From Mod 1)

Name: PM-10

PTE(s): 101 tons per year

CAS No: 0NY210-00-0 (From Mod 1)

Name: OXIDES OF NITROGEN

PTE(s): 257.4 tons per year

CAS No: 0NY075-02-5 (From Mod 1)

Name: PM 2.5

PTE(s): 73.8 tons per year

Condition 29: Compliance Certification
Effective between the dates of 04/21/2016 and 04/20/2021

Applicable Federal Requirement: 6 NYCRR 212-2.3 (a)

Item 29.1:

The Compliance Certification activity will be performed for:

Emission Unit: 1-RFMON

Process: VNT

Regulated Contaminant(s):

CAS No: 0NY075-02-5 PM 2.5

Item 29.2:

Compliance Certification shall include the following monitoring:

Monitoring Type: RECORD KEEPING/MAINTENANCE PROCEDURES

Monitoring Description:

Fugitive emissions from the furnace, ladle pour and tapping operations are emitted from the furnace building through the roof gravity ventilator. Particulate emissions, specifically PM-2.5, were calculated using the AP-42 particle sizing chart and emission factors developed from a fugitive emissions study on a similar silicon production facility employing open electric arc furnaces and positive-pressure baghouses. These fugitive emissions were evaluated using AERSCREEN to determine maximum annual and 1-hour impacts for PM 2.5.

PM 2.5 emissions from the roof monitor were estimated at 7.5-10.8 pounds per hour. The AGC for PM-2.5 is 12 ug/m³.

The modeled maximum annual impact at 10.8 pounds per hour is 3.122 ug/m³.

The SGC is 88 ug/m³. The modeled short-term impact concentration is 31.22 ug/m³.

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Monitoring Frequency: ANNUALLY
Reporting Requirements: SEMI-ANNUALLY (CALENDAR)
Reports due 30 days after the reporting period.
The initial report is due 7/30/2016.
Subsequent reports are due every 6 calendar month(s).

Condition 1-15: Compliance Certification
Effective between the dates of 08/24/2018 and 04/20/2021

Applicable Federal Requirement:6 NYCRR 201-6.4 (b)

Item 1-15.1:
The Compliance Certification activity will be performed for:

Emission Unit: E-AFURN

Item 1-15.2:
Compliance Certification shall include the following monitoring:

Monitoring Type: RECORD KEEPING/MAINTENANCE PROCEDURES
Monitoring Description:

The hours of operation of electric arc furnace #11 (EAF No. 11), emission source S0004, must be continuously monitored and recorded. All records must be made available to Department representatives upon request, and be retained for a minimum of five years.

Monitoring Frequency: CONTINUOUS
Reporting Requirements: SEMI-ANNUALLY (CALENDAR)
Reports due 30 days after the reporting period.
The initial report is due 1/30/2019.
Subsequent reports are due every 6 calendar month(s).

Condition 40: Compliance Certification
Effective between the dates of 04/21/2016 and 04/20/2021

Applicable Federal Requirement:6 NYCRR 212-2.5 (b)

Item 40.1:
The Compliance Certification activity will be performed for:

Emission Unit: E-AFURN

Regulated Contaminant(s):
CAS No: 0NY075-00-0 PARTICULATES

Item 40.2:



Compliance Certification shall include the following monitoring:

Monitoring Type: MONITORING OF PROCESS OR CONTROL
DEVICE PARAMETERS AS SURROGATE

Monitoring Description:

The permittee shall at all times that the submerged electric arc furnaces are in operation, monitor the pressure drop across the plenum and operate within the levels established either during a compliance test or established by the fabric filter manufacturer. The differential pressure across the plenum is indicative of the air flow to the baghouse. A pressure drop of 1 to 15 inches is an ideal operating range. If the pressure drop range changes as a result of filter bag change, the permittee will note the new range and date of bag replacement, and operate within that range. The pressure drop range (s) shall be confirmed in each semi-annual certification report submitted to this Department.

The permittee shall maintain the pressure monitoring device in accordance with the manufacturer's specifications. A spare sensor shall be kept on-site.

At all times that submerged electric arc Furnace 9 is operated, the permittee shall maintain the fan motor power consumption of the fan serving the baghouses at a target amperage range of 100-170.

At all times that submerged electric arc Furnace 11 is operated, the permittee shall maintain the fan motor power consumption of the fan serving the baghouses at a target amperage range of 80-185.

The main plenum temperature for both furnaces shall be < 550 degrees F.

These parameters are diagnostic indicators of baghouse performance and identified as deviations which must be summarized and explained in the semi-annual compliance certifications. Values outside these parameters will require a visual observation of the baghouse outlets. If visible emissions are observed, the permittee will initiate an investigation as to the cause and initiate corrective action as necessary.

In the event that a baghouse compartment is down for maintenance, observations shall be made of the baghouse monovent and the furnace building and the respective furnace load shall be reduced if visible emissions are detected.



In the event of I.D. and/or Reverse Air Fan maintenance, furnace load shall be reduced as well as fan capacity until such time that fans/baghouses are restored to operation condition and furnace load shall than be increased to normal operating level.

Inspection of the #9 and #11 furnace baghouses will be conducted on a daily basis. Each furnace collector has a dedicated computer system which allows personnel to continuously evaluate baghouse and dust handling operating parameters and initiate preventative maintenance, diagnostic, and corrective maintenance programs. In the event, that the computer system malfunctions, the permittee shall manually record the parameters required by this condition.

The permittee shall record in an inspection log the date, time, name of staff person performing inspection, and inspection results for each inspection; and, whenever a problem is discovered, a description of the problem, cause and corrective action taken.

The permittee will conduct compliance verifications including but not limited to production rate, process material, air flow rate, control equipment parameters, visible emissions, etc as appropriate for the circumstances. The permittee will confirm that during source operation all pertinent parameters are within ranges that ensure compliance with the particulate emission rate.

Additionally, the permittee will investigate, in a timely manner, any instance where there is cause to believe that particulate emissions in excess of the particulate limit are occurring or have occurred. These instances include but are not limited to process upsets, control device malfunctions or problems, abnormal visible emissions, complaints, etc. The permittee shall determine the cause of any exceedance, make the necessary correction, and verify that the excess emissions problem has been corrected.

Records of these verifications, investigations and corrective actions will be kept on-site for a period of 5 years and made available to Department representatives on request. Should the Department determine that permittee's record keeping format is inadequate to demonstrate compliance with this condition, it shall provide written notice to the permittee stating the inadequacies, and permittee shall have 90 days to revise its prospective record keeping format in a manner acceptable to the Department.

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Parameter Monitored: PRESSURE CHANGE
Lower Permit Limit: 1 inches of water
Upper Permit Limit: 15 inches of water
Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING DESCRIPTION
Averaging Method: RANGE-NOT TO FALL OUTSIDE OF STATED RANGE EXCEPT DURING STARTUP/SHUTDOWN
Reporting Requirements: ANNUALLY (CALENDAR)
Reports due 30 days after the reporting period.
The initial report is due 1/30/2017.
Subsequent reports are due every 12 calendar month(s).

Condition 41: Compliance Certification
Effective between the dates of 04/21/2016 and 04/20/2021

Applicable Federal Requirement:6 NYCRR 212-2.5 (b)

Item 41.1:
The Compliance Certification activity will be performed for:

Emission Unit: E-AFURN

Regulated Contaminant(s):
CAS No: 0NY075-00-0 PARTICULATES

Item 41.2:
Compliance Certification shall include the following monitoring:

Monitoring Type: MONITORING OF PROCESS OR CONTROL DEVICE PARAMETERS AS SURROGATE

Monitoring Description:

The permissible particulate emission rate for each silicon metal production furnace identified as furnaces No. 9 and No. 11 shall be determined using process weight as established by 6NYCRR, Part 212-2.5 (a) and calculated using the formula set forth in 212-2.5(b) Table 6. The average input of raw materials for each furnace is 25,098 pounds per hour as demonstrated by the tracking of raw material additions averaged annually. Allowable particulate emissions from each furnace based on the average input have been calculated to be 21.3 pounds per hour.

The Department reserves the right to request the performance of a Method 5D emissions evaluation at any time to determine compliance with this limit.

Parameter Monitored: PARTICULATES

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Upper Permit Limit: 21.3 pounds per hour
Reference Test Method: Method 5D
Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING DESCRIPTION
Averaging Method: AVERAGING METHOD AS PER REFERENCE TEST METHOD INDICATED
Reporting Requirements: SEMI-ANNUALLY (CALENDAR)
Reports due 30 days after the reporting period.
The initial report is due 7/30/2016.
Subsequent reports are due every 6 calendar month(s).

Condition 42: Compliance Certification
Effective between the dates of 04/21/2016 and 04/20/2021

Applicable Federal Requirement:40 CFR Part 64

Item 42.1:
The Compliance Certification activity will be performed for:

Emission Unit: E-AFURN

Item 42.2:
Compliance Certification shall include the following monitoring:

Monitoring Type: MONITORING OF PROCESS OR CONTROL
DEVICE PARAMETERS AS SURROGATE

Monitoring Description:

The permittee operates two submerged electric arc furnaces in the production of silicon metal. The particulate emissions from each furnaces is directed to a dedicated positive-pressure baghouse and then to atmosphere.

Emission point EP0002, located in emission unit E-AFURN, process P02, is the exhaust for the furnace No. 9 baghouse collector having 11 compartments. Emission point EP0003, located in emission unit E-AFURN, process P02, is the exhaust for the furnace No. 11 baghouse collector, having 8 compartments. The main furnace hoods located at the top of each submerged arc semi-enclosed electric furnace directs fume to the respective baghouse. Potential pre-control emissions of particulates from each emission point exceed the major source threshold of 100 tons per year and therefore each source is subject to the Compliance Assurance Monitoring (CAM) provisions of 40 CFR Part 64.

The permittee has submitted a plan for monitoring to demonstrate that the baghouses are operated and maintained so that they continue to achieve the level of control required by the applicable requirements. The particulate emissions from the furnaces are subject to the process



weight limitations set forth in 6NYCRR, Part 212-2.5 (a) and (b) Tables 5 and 6 and the visible emissions limitations of 6NYCRR, 212-1.6.

Indicators & Monitoring Frequency:

Visible emissions has been selected as the performance indicator because it is indicative of good operation and maintenance of the baghouse. When the baghouse is operating properly, there will not be any visible emissions from the emission point. Any increase in visible emissions indicates reduced performance of the particulate control device. Normal furnace smelting operations do not produce gas flow or other conditions that adversely affect the baghouse efficiency, so no process operational parameters will be monitored. Visible emissions from the baghouse exhaust are to be monitored twice per shift during a facility survey. In addition to visible emission observations, daily baghouse inspection, maintenance, and recordkeeping will be performed according to the procedures incorporated into this Title V permit.

Measurement Approach:

Visible emissions from each baghouse exhaust will be monitored daily, twice per shift during daylight hours, using procedures similar to EPA Reference Method 22. At least one 6-minute observation will be performed daily and recorded in a log book VE's will be performed daily when at least one furnace is operating and hot metal tapping is occurring. Observations will be done during daylight hours unless prohibited by inclement weather; e.g., rain, snow, fog, etc.

Indicator Range:

A deviation is defined as the presence of visible emissions. When a deviation occurs, corrective action will be initiated, beginning with an evaluation of the occurrence to determine the action required to correct the situation. All deviations will be documented and reported in accordance with the permit requirements. An indicator range of no visible emissions was selected because an increase in visible emissions is indicative of an increase in particulate emissions.

Performance Criteria:

Opacity observations are made at the emission point during source operation. Visible emissions will result in the implementation of inspection and maintenance procedures.

QA/QC:

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Measurements will be made at the baghouse exhaust. The observer will be familiar with normal furnace operation and EPA Reference Methods 9 and 22.

Deviation Response:

Upon noting visible emissions, the observer will immediately notify maintenance to inspect the baghouse, and operations to reduce furnace operations as feasible. Maintenance personnel will inspect the baghouse within 4 hours of receiving notification and make needed repairs as soon as practicable. Operations will return to normal upon completed corrective action.

QIP Threshold:

The selected Quality Improvement Plan (QIP) threshold for observed visible emissions from each baghouse is 5 excursions in a 6-month reporting period. This level represents approximately 5 percent of the total number of daily visible emissions observations when the furnaces are operating in full production. If the QIP threshold is exceeded in a semi-annual reporting period, a QIP will be developed and submitted if requested by this Department.

Parameter Monitored: VISIBLE EMISSIONS

Upper Permit Limit: 1 presence of cond: yes=1; no=0

Reference Test Method: Method 9/Method 22

Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING DESCRIPTION

Averaging Method: AVERAGING METHOD - SEE MONITORING DESCRIPTION

Reporting Requirements: SEMI-ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due 7/30/2016.

Subsequent reports are due every 6 calendar month(s).

Condition 43: Compliance Certification
Effective between the dates of 04/21/2016 and 04/20/2021

Applicable Federal Requirement:6 NYCRR Part 211

Item 43.1:

The Compliance Certification activity will be performed for:

Emission Unit: E-AFURN

Process: P01

Regulated Contaminant(s):

CAS No: 0NY075-00-0 PARTICULATES

Item 43.2:

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Compliance Certification shall include the following monitoring:

Monitoring Type: MONITORING OF PROCESS OR CONTROL
DEVICE PARAMETERS AS SURROGATE

Monitoring Description:

The permittee shall employ reasonably available control measures to reduce fugitive emissions from raw material unloading stations for railcars and/or trucks, raw material conveyors, raw material handling operations, and raw material transfer points.

Loading or unloading of raw material trucks, baghouse fines, etc., shall be conducted in a manner or in an enclosed area to prevent re-entrainment of air pollutants.

For each raw material loading/unloading station for railcars or trucks, raw material conveyor, raw material handling operation, and raw material transfer point that is not enclosed, the drop heights for unloading shall be minimized and loading/unloading shall occur at a rate to minimize fugitive emissions.

The permittee shall employ good operating practices to minimize wind erosion from storage piles.

If fugitive emissions are observed during normal operation, the application of water and/or wet suppressants at sufficient treatment frequencies will be required as soon as possible.

Open-bodied vehicles transporting materials likely to become airborne shall have such materials covered at all times.

Daily, the permittee shall inspect these areas and record in an inspection log, which shall be made available for Department review upon request, the following information: Date, time, name of staff person performing inspection, and inspection results for each inspection; and, whenever a problem is discovered, a description of the problem, cause and corrective action taken.

Records of these verifications, investigations and corrective actions will be kept on-site for a period of five years.

Should the Department determine that permittee's record keeping format is inadequate to demonstrate compliance with this condition, it shall provide written notice to the permittee stating the inadequacies, and permittee shall have 90 days to revise its prospective record

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keeping format in a manner acceptable to the Department.

Parameter Monitored: VISIBLE EMISSIONS
Upper Permit Limit: 1 presence of cond: yes=1; no=0
Monitoring Frequency: DAILY
Averaging Method: AVERAGING METHOD - SEE MONITORING DESCRIPTION
Reporting Requirements: SEMI-ANNUALLY (CALENDAR)
Reports due 30 days after the reporting period.
The initial report is due 7/30/2016.
Subsequent reports are due every 6 calendar month(s).

Condition 44: Compliance Certification
Effective between the dates of 04/21/2016 and 04/20/2021

Applicable Federal Requirement: 6 NYCRR 212-3.1 (c) (3)

Item 44.1:
The Compliance Certification activity will be performed for:

Emission Unit: E-AFURN
Process: P02

Regulated Contaminant(s):
CAS No: 0NY210-00-0 OXIDES OF NITROGEN

Item 44.2:
Compliance Certification shall include the following monitoring:

Monitoring Type: MONITORING OF PROCESS OR CONTROL DEVICE PARAMETERS AS SURROGATE

Monitoring Description:

The two submerged electric arc furnaces, each having actual nitrogen oxide (NO_x) emissions of 87.6 pounds per hour and a combined total of 767.3 tons per year are subject to the Reasonably Available Control requirements (RACT) set forth in 6NYCRR, Part 212-3 for major sources of nitrogen oxides. As part of the initial 1999 Title V application Globe submitted as a compliance plan a RACT analysis which evaluated the technical and economic feasibility of available control technologies for electric arc furnaces. The analysis determined that there is no control technology available for these process sources to comply with the RACT requirements for nitrogen oxides and requested a variance from the RACT control strategy requirements. This Department and the USEPA in the 11/25/98 correspondence from R.Ruvo(EPA) to J. DiPronio(DEC) concurred with this determination. Therefore, the RACT demonstration was submitted to the USEPA for approval as a revision to the New York State Implementation Plan(SIP). The special conditions to

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establish RACT are incorporated into this Title V permit as follow:

- 1.) Nitrogen Oxide emissions from both furnaces are limited to 175.2 pounds per hour and 767.3 tons per year. These emissions correspond to an average raw material input rate of 25,098 pounds per hour as demonstrated by the tracking of raw material inputs averaged annually. The appropriate production recordkeeping will be maintained to demonstrate compliance with these limits and made available to Department representatives upon request.
- 2.) The permittee is to maintain the refractory on each unit as per the established facility maintenance protocol.
- 3.) The permittee must continue to evaluate control technologies and other compliance strategies and provide documentation of such evaluation to this Department with each permit renewal. RACT was re-evaluated as part of this permit action and determined that there are no new control technologies or operational methods to reduce NOx which can be implemented.

Parameter Monitored: RAW MATERIAL

Upper Permit Limit: 25098 pounds per hour

Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING DESCRIPTION

Averaging Method: AVERAGING METHOD - SEE MONITORING DESCRIPTION

Reporting Requirements: SEMI-ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due 7/30/2016.

Subsequent reports are due every 6 calendar month(s).

Condition 1-16: Compliance Certification
Effective between the dates of 08/24/2018 and 04/20/2021

Applicable Federal Requirement:6 NYCRR 212-1.5 (g)

Replaces Condition(s) 45

Item 1-16.1:

The Compliance Certification activity will be performed for:

Emission Unit: E-AFURN

Process: TAP

Item 1-16.2:

Compliance Certification shall include the following monitoring:



Monitoring Type: RECORD KEEPING/MAINTENANCE PROCEDURES

Monitoring Description:

The permittee shall minimize fugitive emissions from casting, molten slag handling and ladle operations. Emissions which occur at the pouring section of the floor are vented into the building, and then through roof-mounted gravity ventilators, which have a lateral discharge to the north. The total discharge rate from the roof monitor was calculated at approximately 682,000 cfm and provides building ventilation and discharge fugitive emissions from pouring and cooling of molds. The following work practices are to be implemented as follows:

For casting operations:

1. Removal of non-process material in chills prior to pouring to chills.
2. Keep ladle lip close to chills during pouring to chills.
3. Reduce refining gas flow during pouring to chills.
4. Reduce molten metal temperature prior to pouring to chills.

For molten slag handling operations:

1. After the pouring has been completed, the ladle is brought to a full upright position and moved to the rakeout station.
2. The bottom blowing system remains on low-flow mode through the entire rakeout and repositioning process.
3. The ladle is lowered as close to the bottom of the pit as possible and slowly turned completely over to dump any loose slag.
4. The ladle then is raised parallel to the ground and the harder-to-remove slag is "raked" out by the operator using a rakeout machine.
5. The ladle is once again lowered close to the ground and turned completely over to dump any slag remaining in the ladle.
6. The ladle is righted and moved back into the pit.

The tapping and poling hoods and gates shall be positioned and all tapping operation fans and hoods will be operated to assure maximum feasible capture of emissions during all tapping operations including during ladle additions, blowing tapholes, poling, oxygen lancing operations, plugging, burning, and switching ladles.

An engineering feasibility study dated October 20, 2017 was submitted by the permittee as required by permit condition 45 of the renewal permit issued on April 21, 2016. The study evaluated the design and implementation of a fugitive emission capture system consisting of local



ventilation to capture and control fume emissions during ladle treatment and casting. The study concluded that two potentially feasible options exist for improving the capture of emissions from the Furnace #9 ladle treatment operation, that the current treating hood reliably captures emissions from the Furnace #11 ladle treatment operation, and that capture of casting emissions (beyond the use of best operational practices) is infeasible and cost prohibitive.

An annual progress report on the status of the permittee's continuing study of the two potentially feasible options must be included in the Annual Compliance Certification due each January 30th.

Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING DESCRIPTION

Reporting Requirements: SEMI-ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due 1/30/2019.

Subsequent reports are due every 6 calendar month(s).

Condition 46: Compliance Certification
Effective between the dates of 04/21/2016 and 04/20/2021

Applicable Federal Requirement: 6 NYCRR 212-1.5 (g)

Item 46.1:

The Compliance Certification activity will be performed for:

Emission Unit: E-AFURN
Process: TAP

Regulated Contaminant(s):
CAS No: 0NY075-00-0 PARTICULATES

Item 46.2:

Compliance Certification shall include the following monitoring:

Monitoring Type: MONITORING OF PROCESS OR CONTROL DEVICE PARAMETERS AS SURROGATE

Monitoring Description:

Each silicon furnace is equipped with a single tap hole fan that draws fume from the tap hole to the main furnace hood on the charging floor where it combines with furnace fume and drawn into the main baghouse. Each fan has an identical rating.

The permittee shall measure and continuously record the tapping fan(s) power consumption. The device shall be maintained and calibrated annually to demonstrate an accuracy of ± 5 percent over its operating range.

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During tapping of each furnace, the power to the variable speed tap fan(s) will operate at the maximum frequency of 50 hertz.

All tapping operation fans and hoods will be operated and maintained to assure maximum feasible capture of emissions during all tapping operations including during ladle additions, blowing tapholes, poling, oxygen lancing operations, plugging, and switching ladles.

Records are to be kept on-site, including date and time, of the fan speed, amperage, and all fan maintenance and fan replacement including the length of the outage to conduct fan repairs. During periods of tap fan outage, tapping is not to occur. Records are to be maintained either electronically or in a bound book for a period of five years and made accessible to Department representatives on request. In the event that there is a computer malfunction, readings shall be manually documented.

Parameter Monitored: POWER

Lower Permit Limit: 50 Hertz

Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING DESCRIPTION

Averaging Method: MINIMUM - NOT TO FALL BELOW STATED VALUE - SEE MONITORING DESCRIPTION

Reporting Requirements: SEMI-ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due 7/30/2016.

Subsequent reports are due every 6 calendar month(s).

Condition 47: Compliance Certification
Effective between the dates of 04/21/2016 and 04/20/2021

Applicable Federal Requirement: 6 NYCRR 212-2.4 (b)

Item 47.1:

The Compliance Certification activity will be performed for:

Emission Unit: P-ROFIN

Regulated Contaminant(s):

CAS No: 0NY075-00-0 PARTICULATES

Item 47.2:

Compliance Certification shall include the following monitoring:

Monitoring Type: MONITORING OF PROCESS OR CONTROL
DEVICE PARAMETERS AS SURROGATE

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Monitoring Description:

Emissions of solid particulate from emission point EP007, associated with product handling operations, and emission point EP06A, associated with silicon metal sizing operations, shall not exceed 0.05 gr/dscf. The Department reserves the right to require the performance of a Method 5 emissions evaluation at any time to determine compliance with this limit.

The permittee will investigate, in a timely manner, any instance where there is cause to believe that particulate emissions above 0.050 gr/dscf are occurring or have occurred. These instances include but are not limited to process upsets, control device malfunctions or problems, abnormal visible emissions, complaints, etc. The permittee shall determine the cause of any exceedance, make the necessary correction, and verify that the excess emissions problem has been corrected.

Records of these verifications, investigations and corrective actions shall be kept in a log book and in a format easily accessible to Department representatives. These records shall be kept on-site for a period of 5 years and made available on request.

Should the Department determine that permittee's record keeping format is inadequate to demonstrate compliance with this condition, it shall provide written notice to the permittee stating the inadequacies, and permittee shall have 90 days to revise its prospective recordkeeping format in a manner acceptable to the Department.

Parameter Monitored: PARTICULATES

Upper Permit Limit: 0.05 grains per dscf

Reference Test Method: Method 5

Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING DESCRIPTION

Averaging Method: MAXIMUM - NOT TO EXCEED STATED VALUE - SEE MONITORING DESCRIPTION

Reporting Requirements: SEMI-ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due 7/30/2016.

Subsequent reports are due every 6 calendar month(s).

Condition 48: Compliance Certification
Effective between the dates of 04/21/2016 and 04/20/2021

Applicable Federal Requirement: 6 NYCRR 212-2.4 (b)

Item 48.1:

The Compliance Certification activity will be performed for:



Emission Unit: P-ROFIN

Regulated Contaminant(s):

CAS No: 0NY075-00-0 PARTICULATES

Item 48.2:

Compliance Certification shall include the following monitoring:

Monitoring Type: MONITORING OF PROCESS OR CONTROL
DEVICE PARAMETERS AS SURROGATE

Monitoring Description:

A main baghouse collects particulate emissions generated from crushing and sizing of silicon metal, while a smaller secondary baghouse collects particulate generated from finished product dropping to the floor from a conveyor. A third baghouse collects emissions from railcar loading operations.

The pressure drop across the baghouse will be monitored and recorded daily for the crushing and sizing baghouse, emission source S0010 and emission source S0014 which exhaust to emission point EP06A and the railcar loadout/conveyor baghouse, emission source S0012 (emission point EP007).

These parameters are diagnostic indicators of baghouse performance and deviations which must be summarized and explained in the semi-annual compliance certifications. Values outside these parameters will require a visual observation of the baghouse outlets. If visible emissions are observed, the permittee will initiate an investigation as to the cause and initiate corrective action as necessary.

Each excursion outside the operational ranges except during startup and shut down periods, including date and time, cause, and corrective action taken, shall be recorded in a logbook and kept on site. Exceedance of operational range (s) shall not be considered a violation of an emission limit of this permit, unless the exceedance is also accompanied by other information demonstrating that a violation of an emission limit has taken place. Reports of these excursions shall be submitted semi-annually.

If the pressure drop range changes as a result of filter bag change, the permittee will note the new range and date of bag replacement in a log book, and operate within that range. The new range shall be noted in the semi-annual certification reports submitted to this Department.

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The permittee will perform daily checks, when the emission source(s) are in operation and weather permits, for the presence of visible emissions from the stacks and for visible fugitive emissions from any egress point such as the building, doors associated with this emissions unit. If visible emissions are noted, they shall be documented (including date and time), the cause determined, and corrective action implemented.

Records of minor corrective actions including maintenance, electrical and operational changes will be recorded in baghouse logbooks. All other corrective actions will be filed with the visible emissions observations and maintenance inspection logs. These records shall be kept on-site for a period of 5 years and made available to Department representatives on request.

Parameter Monitored: PRESSURE DROP

Lower Permit Limit: 1 inches of water

Upper Permit Limit: 10 inches of water

Monitoring Frequency: DAILY

Averaging Method: RANGE-NOT TO FALL OUTSIDE OF STATED

RANGE EXCEPT DURING STARTUP/SHUTDOWN

Reporting Requirements: SEMI-ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due 7/30/2016.

Subsequent reports are due every 6 calendar month(s).

Condition 49: Compliance Certification

Effective between the dates of 04/21/2016 and 04/20/2021

Applicable Federal Requirement:6 NYCRR Part 211

Item 49.1:

The Compliance Certification activity will be performed for:

Emission Unit: R-DWYPK

Regulated Contaminant(s):

CAS No: 0NY075-00-0 PARTICULATES

Item 49.2:

Compliance Certification shall include the following monitoring:

Monitoring Type: MONITORING OF PROCESS OR CONTROL
DEVICE PARAMETERS AS SURROGATE

Monitoring Description:

The permittee shall employ techniques to reduce fugitive emissions from paved and unpaved roadways and material transfer, storage and handling as described in the facility fugitive dust control plan. The failure to

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implement the control strategies described in the plan and below will be considered a violation of 6NYCRR, Part 211 which prohibits air pollution.

Daily, except when covered with snow, the permittee shall inspect roadways and initiate corrective action to comply with the facility dust control program when required as follows:

The permittee shall employ reasonably available control measures to reduce fugitive emissions from all paved and unpaved roadways and parking areas by speed reduction, sweeping, the application of water and/or any other suitable dust suppression chemicals at sufficient treatment frequencies to ensure compliance. The implementation of control measures shall be determined by weather conditions and the severity of dry and/or windy conditions.

The permittee shall promptly remove, in such a manner as to minimize or prevent resuspension, material from paved areas onto which has been deposited by trucking or earth moving equipment or erosion by water or other means.

Open-bodied vehicles transporting materials likely to become airborne shall have such materials covered at all times if the control measure is necessary for the materials being transported.

Parameter Monitored: VISIBLE EMISSIONS

Upper Permit Limit: 1 presence of cond: yes=1; no=0

Reference Test Method: Method 22

Monitoring Frequency: DAILY

Averaging Method: AVERAGING METHOD - SEE MONITORING DESCRIPTION

Reporting Requirements: SEMI-ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due 7/30/2016.

Subsequent reports are due every 6 calendar month(s).



STATE ONLY ENFORCEABLE CONDITIONS
****** Facility Level ******

NOTIFICATION OF GENERAL PERMITTEE OBLIGATIONS
This section contains terms and conditions which are not federally enforceable. Permittees may also have other obligations under regulations of general applicability

Item A: Emergency Defense - 6 NYCRR 201-1.5

An emergency, as defined by subpart 201-2, constitutes an affirmative defense to penalties sought in an enforcement action brought by the Department for noncompliance with emissions limitations or permit conditions for all facilities in New York State.

(a) The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:

(1) An emergency occurred and that the facility owner or operator can identify the cause(s) of the emergency;

(2) The equipment at the permitted facility causing the emergency was at the time being properly operated and maintained;

(3) During the period of the emergency the facility owner or operator took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and

(4) The facility owner or operator notified the Department within two working days after the event occurred. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

(b) In any enforcement proceeding, the facility owner or operator seeking to establish the occurrence of an emergency has the burden of proof.

(c) This provision is in addition to any emergency or upset provision contained in any applicable requirement.

Item B: General Provisions for State Enforceable Permit Terms and Condition - 6 NYCRR Part 201-5

Any person who owns and/or operates stationary sources shall operate and maintain all emission units and any required emission control devices in compliance with all applicable Parts of this Chapter and existing laws, and shall operate the facility in accordance with all criteria, emission limits, terms, conditions, and



standards in this permit. Failure of such person to properly operate and maintain the effectiveness of such emission units and emission control devices may be sufficient reason for the Department to revoke or deny a permit.

The owner or operator of the permitted facility must maintain all required records on-site for a period of five years and make them available to representatives of the Department upon request. Department representatives must be granted access to any facility regulated by this Subpart, during normal operating hours, for the purpose of determining compliance with this and any other state and federal air pollution control requirements, regulations or law.

STATE ONLY APPLICABLE REQUIREMENTS

The following conditions are state applicable requirements and are not subject to compliance certification requirements unless otherwise noted or required under 6 NYCRR Part 201.

Condition 50: Contaminant List
Effective between the dates of 04/21/2016 and 04/20/2021

Applicable State Requirement:ECL 19-0301

Item 50.1:

Emissions of the following contaminants are subject to contaminant specific requirements in this permit(emission limits, control requirements or compliance monitoring conditions).

CAS No: 000050-00-0
Name: FORMALDEHYDE

CAS No: 000630-08-0
Name: CARBON MONOXIDE

CAS No: 007446-09-5
Name: SULFUR DIOXIDE

CAS No: 065996-93-2
Name: PITCH, COAL TAR, HIGH-TEMP.

CAS No: 0NY075-00-0
Name: PARTICULATES

CAS No: 0NY075-00-5
Name: PM-10

CAS No: 0NY075-02-5
Name: PM 2.5

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CAS No: 0NY210-00-0
Name: OXIDES OF NITROGEN

CAS No: 0NY998-00-0
Name: VOC

Condition 51: Malfunctions and start-up/shutdown activities
Effective between the dates of 04/21/2016 and 04/20/2021

Applicable State Requirement:6 NYCRR 201-1.4

Item 51.1:

(a) The facility owner or operator shall take all necessary and appropriate actions to prevent the emission of air pollutants that result in contravention of any applicable emission standard during periods of start-up, shutdown, or malfunction.

(b) The facility owner or operator shall compile and maintain records of all equipment malfunctions, maintenance, or start-up/shutdown activities when they can be expected to result in an exceedance of any applicable emission standard, and shall submit a report of such activities to the department when requested to do so, or when so required by a condition of a permit issued for the corresponding air contamination source. Such reports shall state whether any violations occurred and, if so, whether they were unavoidable, include the time, frequency and duration of the maintenance and/or start-up/shutdown activities, and an estimate of the emission rates of any air contaminants released. Such records shall be maintained for a period of at least five years and made available for review to department representatives upon request. Facility owners or operators subject to continuous stack monitoring and quarterly reporting requirements need not submit additional reports for equipment maintenance or start-up/shutdown activities for the facility to the department.

(c) In the event that emissions of air contaminants in excess of any emission standard in this Subchapter occur due to a malfunction, the facility owner or operator shall compile and maintain records of the malfunction and notify the department as soon as possible during normal working hours, but not later than two working days after becoming aware that the malfunction occurred. When requested by the department, the facility owner or operator shall submit a written report to the department describing the malfunction, the corrective action taken, identification of air contaminants, and an estimate of the emission rates.

(d) The department may also require the owner or operator to include, in reports described under Subdivisions (b) and (c) of this Section, an estimate of the maximum ground level concentration of each air contaminant emitted and the effect of such emissions.

(e) A violation of any applicable emission standard resulting from start-up, shutdown, or malfunction conditions at a permitted or registered facility may not be subject to an enforcement action by the department and/or penalty if the department determines, in its sole discretion, that such a violation was unavoidable. The actions and recordkeeping and reporting requirements listed above must be adhered to in such circumstances.

Condition 52: Visible Emissions Limited
Effective between the dates of 04/21/2016 and 04/20/2021



Applicable State Requirement:6 NYCRR 211.2

Item 52.1:

Except as permitted by a specific part of this Subchapter and for open fires for which a restricted burning permit has been issued, no person shall cause or allow any air contamination source to emit any material having an opacity equal to or greater than 20 percent (six minute average) except for one continuous six-minute period per hour of not more than 57 percent opacity.

****** Emission Unit Level ******

Condition 53: Compliance Demonstration
Effective between the dates of 04/21/2016 and 04/20/2021

Applicable State Requirement:6 NYCRR 212-2.3 (b)

Item 53.1:

The Compliance Demonstration activity will be performed for:

Emission Unit: 1-RFMON
Process: VNT

Regulated Contaminant(s):
CAS No: 065996-93-2 PITCH, COAL TAR, HIGH-TEMP.

Item 53.2:

Compliance Demonstration shall include the following monitoring:

Monitoring Type: RECORD KEEPING/MAINTENANCE PROCEDURES

Monitoring Description:

Polycyclic aromatic hydrocarbon (PAH) as coal tar volatile emissions were estimated based on samples collected from employee industrial hygiene monitoring. Results demonstrated that the maximum impacts for all contaminants of concern were less than their respective annual (AGC) and short-term guideline (SGC) concentrations. Coal tar volatiles annual impact for 0.332 pounds per hour was 0.09487 compared to an AGC of 0.48 ug/m³.

The permittee shall calculate the emission rate of PAH from all sources, the roof vent and baghouse stacks, and report this information in subsequent emission statements. Emission factors from similar source tests or published emission factors may be used.

Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING DESCRIPTION

Reporting Requirements: SEMI-ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.



The initial report is due 7/30/2016.
Subsequent reports are due every 6 calendar month(s).

Condition 54: Compliance Demonstration
Effective between the dates of 04/21/2016 and 04/20/2021

Applicable State Requirement:6 NYCRR 211.2

Item 54.1:

The Compliance Demonstration activity will be performed for:

Emission Unit: E-AFURN

Item 54.2:

Compliance Demonstration shall include the following monitoring:

Monitoring Type: MONITORING OF PROCESS OR CONTROL
DEVICE PARAMETERS AS SURROGATE

Monitoring Description:

The permittee shall perform daily checks, when the furnaces are in operation and when the weather conditions allow, for any visible fugitive particulate emissions from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible fugitive 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 location 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 minimize or eliminate the visible emissions.

If visible emissions are present, a visible emission incident has occurred. The observer may indicate that the visible emission incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

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The permittee shall maintain a record of each time a control measure for this emissions unit is not implemented in accordance with the fugitive dust control plan for the facility.

The permittee shall submit semi-annual written reports that (a) identify all days during which any visible fugitive particulate emissions were observed from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit and (b) describe any corrective actions taken to minimize or eliminate the visible fugitive particulate emissions.

Parameter Monitored: VISIBLE EMISSIONS

Lower Permit Limit: 0 presence of cond: yes=1; no=0

Upper Permit Limit: 1 presence of cond: yes=1; no=0

Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING DESCRIPTION

Averaging Method: AVERAGING METHOD - SEE MONITORING DESCRIPTION

Reporting Requirements: SEMI-ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due 7/30/2016.

Subsequent reports are due every 6 calendar month(s).