



PERMIT
Under the Environmental Conservation Law (ECL)

IDENTIFICATION INFORMATION

Permit Type: Air Title V Facility
Permit ID: 4-0122-00004/00039
Mod 0 Effective Date: 11/05/2010 Expiration Date: 11/04/2015
Mod 1 Effective Date: 05/07/2007 Expiration Date: 11/04/2015
Mod 2 Effective Date: 08/04/2010 Expiration Date: No expiration date.
Mod 3 Effective Date: 11/05/2010 Expiration Date: 11/04/2015
Mod 4 Effective Date: 05/18/2012 Expiration Date: 11/04/2015

Permit Issued To: OWENS CORNING INSULATING SYSTEMS LLC
1 OWENS CORNING PKWY
TOLEDO, OH 43659

Facility: OWENS-CORNING INSULATING SYSTEMS- FEURA BUSH
1277 FEURA BUSH RD
FEURA BUSH, NY 12067

Contact: DAVID A KRENITSKY
OWENS-CORNING DELMAR PLANT
1277 FEURA BUSH RD
FEURA BUSH, NY 12067
(518) 475-3673

Description:

The Owens Corning Insulating Systems, LLC facility in Feura Bush, New York (OCIS Delmar Plant) manufactures wool fiberglass insulation products through the operation of two glass furnaces and associated production lines (DM1 and DM2) along with air pollution control equipment. The facility currently operates under a Title V permit pursuant to Article 19 (Air Pollution Control) of the New York State Environmental Conservation Law and Title V of the federal Clean Air Act.

This modification to the Title V permit establishes emission limits (caps) so that the facility may avoid applicability of Best Available Retrofit Technology (BART) requirements under 6 NYCRR Part 249. By incorporating these emission caps, the combined potential emissions from all BART-eligible units are restricted to less than 250 tons per year of each visibility impairing pollutant; i.e., nitrogen oxides (NO_x), sulfur dioxide (SO₂), and particulate matter less than 10 microns in diameter (PM-10). As a result, the facility is not subject to BART under Part 249. These emission caps apply to emission units U-00002, U-00003, U-00012, U-00013, and U-00014 which pertain to the glass furnaces and associated forming, curing, cooling, and smoke stripper sections of the two wool fiberglass insulation manufacturing lines.

In addition, this permit modification incorporates conditions in order for the facility to comply with the NO_x Reasonably Available Control Technology (RACT) requirements for glass plants

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under 6 NYCRR Subpart 220-2. The existing furnace oxy-fuel firing control technology is already considered to be NO_x RACT for each of the glass melting furnaces at the facility. However, Subpart 220-2 also requires each glass furnace at the facility to meet a facility specific NO_x emission limit in pounds of NO_x per ton of glass pulled and requires the installation of a continuous emissions monitoring system (CEMS) to demonstrate compliance with such emission limit. This permit modification sets forth the NO_x emission limit and CEMS requirements for the glass furnaces.

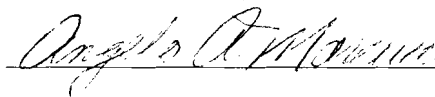
Furthermore, the permit has been modified to remove existing conditions pertaining to 40 CFR Part 63, Subpart NNN which is the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Wool Fiberglass Manufacturing. The most recent renewal and modification to the Title V permit on November 5, 2010 allowed the facility to convert its operations from a phenol-formaldehyde based binder to a non-phenol, non-formaldehyde starch-based binder system. With the completion of this binder system conversion in February 2011 for the DM1 production line and in September 2011 for the DM2 production line, the facility no longer uses phenol and formaldehyde binders. Therefore, consistent with a determination by the United States Environmental Protection Agency (USEPA) that the facility would no longer meet the definition of an affected facility under Subpart NNN upon completion of the starch-based binder system conversion, the facility is no longer subject to the Subpart NNN NESHAP requirements.

Other minor changes have been made to the permit for clarity and consistency purposes.

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: ANGELO A MARCUCCIO
NYSDEC
1130 N WESTCOTT RD
SCHENECTADY, NY 12306-2014

Authorized Signature:

 Date: 5/17/12



LIST OF CONDITIONS

FEDERALLY ENFORCEABLE CONDITIONS

Facility Level

- ~~1-6 NYCRR 200.6: Acceptable Ambient Air Quality~~
- ~~2-6 NYCRR 201-6.5 (a) (7): Fees~~
- ~~3-6 NYCRR 201-6.5 (c): Recordkeeping and reporting of compliance monitoring~~
- ~~4-6 NYCRR 201-6.5 (c) (2): Monitoring, Related Recordkeeping, and Reporting Requirements.~~
- ~~5-6 NYCRR 201-6.5 (c) (3) (ii): Compliance Certification~~
- ~~6-6 NYCRR 201-6.5 (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 201-6.5 (a) (4): Standard Requirement - Provide Information~~
- ~~16-6 NYCRR 201-6.5 (a) (8): General Condition - Right to Inspect~~
- ~~17-6 NYCRR 201-6.5 (d) (5): Standard Requirements - Progress Reports~~
- ~~18-6 NYCRR 201-6.5 (f) (6): Off Permit Changes~~
- ~~19-6 NYCRR 202-1.1: Required Emissions Tests~~
- ~~21-40 CFR Part 68: Accidental release provisions.~~
- ~~22-40 CFR 82, Subpart F: Recycling and Emissions Reduction~~
- ~~23-6 NYCRR Subpart 201-6: Emission Unit Definition~~
- ~~24-6 NYCRR 201-6.5 (g): Non Applicable requirements~~
- ~~*4-1-6 NYCRR Subpart 201-7: Capping Monitoring Condition~~
- ~~*4-2-6 NYCRR Subpart 201-7: Capping Monitoring Condition~~
- ~~*4-3-6 NYCRR Subpart 201-7: Capping Monitoring Condition~~
- ~~*4-4-6 NYCRR Subpart 201-7: Capping Monitoring Condition~~
- ~~*4-5-6 NYCRR Subpart 201-7: Capping Monitoring Condition~~
- ~~*4-6-6 NYCRR Subpart 201-7: Capping Monitoring Condition~~
- ~~*4-7-6 NYCRR Subpart 201-7: Capping Monitoring Condition~~
- ~~*26-6 NYCRR Subpart 201-7: Capping Monitoring Condition~~
- ~~27-6 NYCRR 202-1.2: Notification~~
- ~~28-6 NYCRR 202-1.3: Acceptable procedures - Stack test report submittal~~
- ~~4-8-6 NYCRR 211.1: Air pollution prohibited~~
- ~~29-6 NYCRR Part 212: Compliance Certification~~
- ~~4-9-6 NYCRR 212.4 (a): Compliance Certification~~
- ~~31-6 NYCRR 212.4 (e): Compliance Certification~~
- ~~32-6 NYCRR 212.6 (a): Compliance Certification~~
- ~~33-6 NYCRR 228-1.3 (a): Compliance Certification~~
- ~~34-6 NYCRR 228-1.5 (a): Compliance Certification~~
- ~~35-6 NYCRR 228-1.10: Compliance Certification~~
- ~~36-6 NYCRR 234.3 (a) (1) (i): Compliance Certification~~
- ~~37-6 NYCRR 234.5: Compliance Certification~~



~~EU=U-00013,EP=00017,Proc=FC2,ES=DM2DB~~

~~130-40 CFR Part 64: Compliance Certification~~

~~EU=U-00017~~

~~*131-6 NYCRR Subpart 201-7: Capping Monitoring Condition~~

~~STATE ONLY ENFORCEABLE CONDITIONS~~

~~Facility Level~~

~~132-ECL 19-0301: Contaminant List~~

~~133-6 NYCRR 201-1.4: Unavoidable noncompliance and violations~~

~~4-13-6 NYCRR 211.2: Visible Emissions Limited~~

~~4-14-6 NYCRR 220-2.3 (a): Compliance Demonstration~~

~~4-15-6 NYCRR 220-2.4 (a): Compliance Demonstration~~

~~4-16-6 NYCRR 220-2.4 (c): Compliance Demonstration~~

~~4-17-6 NYCRR 220-2.4 (d): Compliance Demonstration~~

~~136-6 NYCRR 231-11.2 (b): Compliance Demonstration~~

~~4-18-6 NYCRR Part 249: BART capping equation - NOx~~

~~4-19-6 NYCRR Part 249: BART capping equation - PM-10~~

~~4-20-6 NYCRR Part 249: BART capping equation - SO2~~

~~Emission Unit Level~~

~~EU=U-00005,Proc=AA1~~

~~4-21-6 NYCRR 211.2: Compliance Demonstration~~

~~EU=U-00010~~

~~138-6 NYCRR 211.2: Compliance Demonstration~~

~~EU=U-00015,Proc=AA2~~

~~4-22-6 NYCRR 211.2: Compliance Demonstration~~

~~NOTE: * preceding the condition number indicates capping.~~

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~~Carrollton, Md. 20785~~

Condition 22: ~~Recycling and Emissions Reduction~~
~~Effective between the dates of 11/05/2010 and 11/04/2015~~

~~Applicable Federal Requirement: 40 CFR 82, Subpart F~~

Item 22.1:

~~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 23: ~~Emission Unit Definition~~
~~Effective between the dates of 11/05/2010 and 11/04/2015~~

~~Applicable Federal Requirement: 6 NYCRR Subpart 201-6~~

Item 23.1(From Mod 4):

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

Emission Unit: U-00002

Emission Unit Description:

THIS UNIT REPRESENTS THE DM-1 OXY-FUEL MELTER, CONTAINS EMISSION POINTS 00100 AND 00101, AND IS LOCATED IN BUILDING 1. EMISSION POINT 00100 FEEDS INTO THE NEW, COMMON STACK, EMISSION POINT 00300. EMISSION POINT 00101 IS USED STRICTLY FOR DEP EMERGENCY SHUTDOWN, MAINTENANCE, OR MALFUNCTION. WHEN A BYPASS SITUATION OCCURS IT IS BEST PRACTICE TO KEEP THE FURNACE IN A CONDITION OF THERMAL STABILITY BY MAINTAINING ITS PULL RATE. SHUTTING IT OFF OR EVEN RESTRICTING THE MOLTEN GLASS OUTPUT FOR THIS TYPE OF FURNACE AS A PERCEIVED MEANS OF REDUCING EMISSIONS CAN THERMALLY SHOCK THE FURNACE REFRACTORY RESULTING IN FAILURE OR REDUCED LIFE OF THE CAPITAL ASSET. BY REDUCING THE SURFACE AREA AND THICKNESS OF THE INSULATING CRUST OF THE UNMELTED BATCH CAN ALSO RESULT IN ACTUALLY INCREASED EMISSIONS.

Building(s): 1

Item 23.2(From Mod 4):

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

Emission Unit: U-00003

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Emission Unit Description:

THIS UNIT REPRESENTS THE DM-1 MIXING CHAMBER, FORMING ZONES, CURING OVEN, COOLING SECTION, STRIPPING SECTION AND THE MIST CONTROL SYSTEM FOR THE FORMING BASEMENT, WHICH CONTAINS EMISSION POINTS 00005, 00006, 00022, 00102, 00103, 00104, AND 00105, LOCATED IN BUILDING 1.

Building(s): 1

~~Item 23.3(From Mod 4):~~

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

~~Emission Unit: U-00005~~

~~Emission Unit Description:~~

~~THIS UNIT REPRESENTS THE DM-1 ASPHALT APPLICATOR AND FLEXOGRAPHIC PRINTING, WHICH CONTAINS EMISSION POINT 00013, AND IS LOCATED IN BUILDING 1.~~

~~Building(s): 1~~

~~Item 23.4(From Mod 4):~~

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

~~Emission Unit: U-00006~~

~~Emission Unit Description:~~

~~THIS UNIT REPRESENTS FACILITY STORAGE TANKS INCLUDING RED DYE, ASPHALT, and PROCESS OIL. THIS UNIT CONTAINS EMISSION POINTS 00007, 00008, 00009, 00010, 00012, 00020, 00024. EMISSION POINTS 00007 AND 00008 ARE LOCATED IN BUILDING 1 AND EMISSION POINTS 00009 THROUGH 00012, 00020 AND 00024 ARE LOCATED IN BUILDING 2. AS PART OF THE CONVERSION TO A STARCH-BASED BINDER SYSTEM, THERE ARE TWO NEW MALTODEXTRIN TANKS (AT 15,227 GALLONS EACH), AND THE EXISTING 13,900 GALLON TANK WILL BE MODIFIED TO STORE SODIUM HYDROXIDE. IN ADDITION, THERE ARE TWO NEW STORAGE TANKS (A SODIUM HYPOPHOSPHITE TANK AT 6,189 GALLONS AND A CITRIC ACID TANK AT 8,225 GALLONS) THAT ARE BELOW THE EXEMPTION LEVELS NOTED IN 6 NYCRR 201-3.2(C)(25) AND, THEREFORE, ARE NOT REQUIRED TO BE INDIVIDUALLY LISTED ELSEWHERE IN THIS PERMIT.~~

~~Building(s): 1~~

~~Item 23.5(From Mod 4):~~

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



~~Emission Unit: U-00014~~

~~Emission Unit Description:~~

~~THIS UNIT REPRESENTS THE DM2 MIXED BATCH BIN, WHICH CONTAINS EMISSION POINT 00014, AND IS LOCATED IN BUILDING 1.~~

~~Building(s): 1~~

Item 23.6(From Mod 4):

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

Emission Unit: U-00012

Emission Unit Description:

THIS EMISSION UNIT REPRESENTS THE DM2 OXY FUEL MELTER, CONTAINS EMISSION POINTS 00200, 000201 AND IS LOCATED IN BUILDING 1. EMISSION POINT 00200 FEEDS INTO THE COMMON STACK, EMISSION POINT 00300. EMISSION POINT 00201 IS USED STRICTLY FOR DEP EMERGENCY SHUTDOWN, MAINTENANCE, OR MALFUNCTION. WHEN A BYPASS SITUATION OCCURS IT IS BEST PRACTICE TO KEEP THE FURNACE IN A CONDITION OF THERMAL STABILITY BY MAINTAINING ITS PULL RATE. SHUTTING IT OFF OR EVEN RESTRICTING THE MOLTEN GLASS OUTPUT FOR THIS TYPE OF FURNACE AS A PERCEIVED MEANS OF REDUCING EMISSIONS CAN THERMALLY SHOCK THE FURNACE REFRACTORY RESULTING IN FAILURE OR REDUCED LIFE OF THE CAPITAL ASSET. BY REDUCING THE SURFACE AREA AND THICKNESS OF THE INSULATING CRUST OF UNMELTED BATCH SUCH ACTIONS CAN ALSO ACTUALLY INCREASE EMISSIONS.

Building(s): 1

Item 23.7(From Mod 4):

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

Emission Unit: U-00013

Emission Unit Description:

THIS UNIT REPRESENTS THE DM2 MIXING CHAMBER, WHICH CONTAINS EMISSION POINT 00017, AND IS LOCATED IN BUILDING 1.

Building(s): 1

Item 23.8(From Mod 4):

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

Emission Unit: U-00014

Emission Unit Description:

THIS UNIT REPRESENTS THE DM2 COOLING AREA, COMPRISED OF DM2 SMOKE STRIPPER AND DM2 COOLING SECTION. THIS UNIT CONTAINS

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EMISSION POINT 00018 AND 00021, AND IS
LOCATED IN BUILDING 1.

Building(s): 1

Item 23.9(From Mod 4):

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

~~Emission Unit: U-00015~~

~~Emission Unit Description:~~

~~THIS UNIT REPRESENTS THE DM2 ASPHALT
APPLICATOR AND FLEXOGRAPHIC PRINTING, WHICH
CONTAINS EMISSION POINT 00019, AND IS
LOCATED IN BUILDING 1.~~

~~Building(s): 1~~

Item 23.10(From Mod 0):

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

~~Emission Unit: U-00001~~

~~Emission Unit Description:~~

~~THIS EMISSION UNIT REPRESENTS THE DM-1
MIXED BATCH BIN, CONTAINS EMISSION POINT
00002 AND IS LOCATED IN BUILDING 1.~~

~~Building(s): 1~~

Item 23.11(From Mod 0):

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

~~Emission Unit: U-00007~~

~~Emission Unit Description:~~

~~THIS UNIT REPRESENTS THE BINDER ROOM,
WHICH CONTAINS EMISSION POINT 00027, AND IS
LOCATED IN BUILDING 1. FOUR NEW STORAGE
TANKS (ONE BINDER MIX TANK AT 917 GALLONS
AND THREE BINDER CIRCULATION TANKS AT 1,202
GALLONS EACH) ARE BEING ADDED AS PART OF
THE CONVERSION TO A STARCH-BASED BINDER
SYSTEM. ALL OF THESE TANKS HAVE CAPACITIES
BELOW THE EXEMPTION LEVELS NOTED IN 6 NYCRR
201-3.2(C)(25) AND, THEREFORE, ARE NOT
REQUIRED TO BE INDIVIDUALLY LISTED
ELSEWHERE IN THIS PERMIT.~~

~~Building(s): 1~~

Item 23.12(From Mod 0):

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

~~Emission Unit: U-00008~~

~~Emission Unit Description:~~

~~THIS UNIT REPRESENTS DM-1 BAGGING
EQUIPMENT, WHICH CONTAINS EMISSION POINTS
00030 AND 00031, AND IS LOCATED IN BUILDING~~



~~before and after a physical or operational change is evaluated at each unit by comparing the hourly potential emissions under current maximum capacity to hourly emissions at maximum capacity after the change.~~

~~The binder change project will not increase the hourly bare glass production rate of any of the affected manufacturing lines. A comparison by the facility of the standardized emission factor data applicable prior to the binder change with emission factor data obtained from stack tests performed during starch-based binder trials at the OCIS facility in Eloy, AZ demonstrates that the maximum hourly particulate matter emissions will not increase as a result of the binder change project. Therefore, both the DM-1 and DM-2 manufacturing lines will remain not subject to NSPS PPP.~~

~~40 CFR 63.820~~

~~Emission Unit: U00015 Process: FG2~~

~~Reason: This standard covers wide web flexographic printing. Although the facility does use flexographic printing, it does not qualify as wide web. In all cases, the printing face is less than 18 inches wide.~~

Condition 4-1: Capping Monitoring Condition

Effective between the dates of 05/18/2012 and 11/04/2015

Applicable Federal Requirement: 6 NYCRR Subpart 201-7

Item 4-1.1:

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 Part 249

Item 4-1.2:

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

Item 4-1.3:

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 4-1.4:

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

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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 4-1.5:

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 4-1.6:

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

Emission Unit: U-00002

Emission Unit: U-00003

Emission Unit: U-00012

Emission Unit: U-00013

Emission Unit: U-00014

Regulated Contaminant(s):

CAS No: 007446-09-5 SULFUR DIOXIDE

Item 4-1.7:

Compliance Certification shall include the following monitoring:

Capping: Yes

Monitoring Type: WORK PRACTICE INVOLVING SPECIFIC OPERATIONS

Monitoring Description:

To avoid applicability of Part 249, Best Available Retrofit Technology (BART), the total annual SO₂ emissions from the BART-eligible sources EU2 (DM1 Oxy Fuel Furnace), EU3 (DM1 Forming/Curing/Cooling/Smoke Stripper), EU12 (DM2 Oxy Fuel Furnace), EU13 (DM2 Mixing Chamber), and EU14 (DM2 Cooling Area and Smoke Stripper) shall not exceed 249 tons per year (tpy) calculated as a rolling, 12-month summation of emissions, and calculated on a monthly basis using the procedure outlined in the special condition covering the BART capping equations for SO₂ located elsewhere in this permit.

Work Practice Type: PARAMETER OF PROCESS MATERIAL

Process Material: GLASS

Parameter Monitored: SULFUR DIOXIDE

Upper Permit Limit: 249 tons per year

Monitoring Frequency: WHEN THE SOURCE IS OPERATING

Averaging Method: 12-month rolling average

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Reporting Requirements: SEMI-ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due 10/30/2012.

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

Condition 4-2: Capping Monitoring Condition
Effective between the dates of 05/18/2012 and 11/04/2015

Applicable Federal Requirement:6 NYCRR Subpart 201-7

Item 4-2.1:

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 Part 249

Item 4-2.2:

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

Item 4-2.3:

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 4-2.4:

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 4-2.5:

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 4-2.6:

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

Emission Unit: U-00002

Emission Unit: U-00003

Emission Unit: U-00012



Emission Unit: U-00013

Emission Unit: U-00014

Regulated Contaminant(s):
CAS No: 0NY075-00-5 PM-10

Item 4-2.7:

Compliance Certification shall include the following monitoring:

Capping: Yes

Monitoring Type: WORK PRACTICE INVOLVING SPECIFIC OPERATIONS

Monitoring Description:

To avoid applicability of Part 249, Best Available Retrofit Technology (BART), the total annual PM-10 emissions from the BART-eligible sources EU2 (DM1 Oxy Fuel Furnace), EU3 (DM1 Forming/Curing/Cooling/Smoke Stripper), EU12 (DM2 Oxy Fuel Furnace), EU13 (DM2 Mixing Chamber), and EU14 (DM2 Cooling Area and Smoke Stripper) shall not exceed 249 tons per year (tpy) calculated as a rolling, 12-month summation of emissions, and calculated on a monthly basis using the procedure outlined in the special condition covering the BART capping equations for PM-10 located elsewhere in this permit.

Work Practice Type: PARAMETER OF PROCESS MATERIAL

Process Material: GLASS

Parameter Monitored: PM-10

Upper Permit Limit: 249 tons per year

Monitoring Frequency: WHEN THE SOURCE IS OPERATING

Averaging Method: 12-month rolling average

Reporting Requirements: SEMI-ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due 10/30/2012.

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

Condition 4-3: Capping Monitoring Condition
Effective between the dates of 05/18/2012 and 11/04/2015

Applicable Federal Requirement:6 NYCRR Subpart 201-7

Item 4-3.1:

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 Part 249

Item 4-3.2:

Operation of this facility shall take place in accordance with the approved criteria, emission



limits, terms, conditions and standards in this permit.

Item 4-3.3:

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 4-3.4:

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 4-3.5:

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 4-3.6:

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

Emission Unit: U-00002

Emission Unit: U-00003

Emission Unit: U-00012

Emission Unit: U-00013

Emission Unit: U-00014

Regulated Contaminant(s):

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

Item 4-3.7:

Compliance Certification shall include the following monitoring:

Capping: Yes

Monitoring Type: WORK PRACTICE INVOLVING SPECIFIC OPERATIONS

Monitoring Description:

To avoid applicability of Part 249, Best Available Retrofit Technology (BART), the total annual NOx emissions from the BART-eligible sources EU2 (DM1 Oxy Fuel Furnace), EU3 (DM1 Forming/Curing/Cooling/Smoke Stripper), EU12 (DM2 Oxy Fuel Furnace), EU13 (DM2 Mixing Chamber), and EU14 (DM2 Cooling Area and Smoke Stripper) shall not exceed 249



tons per year (tpy) calculated as a rolling, 12-month summation of emissions, and calculated on a monthly basis using the procedure outlined in the special condition covering the BART capping equations for NOx located elsewhere in this permit.

Work Practice Type: PARAMETER OF PROCESS MATERIAL

Process Material: GLASS

Parameter Monitored: OXIDES OF NITROGEN

Upper Permit Limit: 249 tons per year

Monitoring Frequency: WHEN THE SOURCE IS OPERATING

Averaging Method: 12-month rolling average

Reporting Requirements: SEMI-ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

The initial report is due 10/30/2012.

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

~~Condition 4-4: Capping Monitoring Condition
Effective between the dates of 05/18/2012 and 11/04/2015~~

~~Applicable Federal Requirement: 6 NYCRR Subpart 201-7~~

~~Replaces Condition(s) 25~~

~~Item 4-4.1:~~

~~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 Subpart 231-6~~

~~Item 4-4.2:~~

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

~~Item 4-4.3:~~

~~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 4-4.4:~~

~~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 4-4.5:~~

~~The emission of pollutants that exceed the applicability thresholds for an applicable requirement,~~

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~~The calculation of the project emission potential for each modified emission source(s) including supporting documentation; and~~

~~The date the modification commenced operation.~~

~~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 4/30/2011.~~

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

Condition 4-18: BART capping equation - NOx
Effective between the dates of 05/18/2012 and 11/04/2015

Applicable State Requirement: 6 NYCRR Part 249

Item 4-18.1:

This Condition applies to:

Emission Unit: U00002

Emission Unit: U00003

Emission Unit: U00012

Emission Unit: U00013

Emission Unit: U00014

Item 4-18.2:

Total annual NOx emissions from the BART-eligible sources: EU2 (DM1 Oxy Fuel Furnace), EU3 (DM1 Forming, Curing, Cooling and Smoke Stripper), EU12 (DM2 Oxy Fuel Furnace), EU13 (DM2 Mixing Chamber), and EU14 (DM2 Cooling Area to include Smoke Stripper) shall not exceed 249 tons per year (tpy) NOx, calculated as a rolling, 12-month summation of emissions, and calculated on a monthly basis using the following equations:

Equation 1 – Total NOx Emissions Cap Monitoring Method

$$249 \text{ tpy} > \text{EU2NOx} + \text{EU3NOx} + \text{EU12NOx} + \text{EU13NOx} + \text{EU14NOx}$$

Where:

$\text{EU2NOx} = \text{DM1 Oxy Fuel Furnace NOx Emissions (Tons/rolling 12-month period)}$

$\text{EU3NOx} = \text{DM1 Forming, Curing, Cooling, Smoke Stripper NOx Emissions (Tons/rolling 12-month period)}$

$\text{EU12NOx} = \text{DM2 Oxy Fuel Furnace NOx Emissions (Tons/rolling 12-month period)}$

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EU13NO_x = DM2 Mixing Chamber which comprises DM2 Forming and Curing NO_x Emissions (Tons/rolling 12-month period)

EU14NO_x = DM2 Cooling and Smoke Stripper NO_x Emissions (Tons/rolling 12-month period)

The NO_x emissions from the glass furnaces (EU2 and EU12) are calculated based on the following equation:

Equation 2 – Furnace NO_x (EU2NO_x and EU12NO_x) Emissions Monitoring Method

$$= (\text{Niterusage} \times \text{NiterEF}) + (\text{Glasspull rate} \times \text{FurnaceNO}_x)$$

Where:

Niterusage = Niter usage of each furnace (Tons/rolling 12-month period)

NiterEF = Niter NO_x emission factor (tons NO_x/ton niter usage), developed based on the assertion that all of the nitrogen in the niter becomes NO₂

Glasspull rate = Glass pull rate of each furnace (Tons/12-month rolling period)

FurnaceNO_x = NO_x emission factor for each furnace (lb NO_x/ton glass), developed based on most recent stack test results and credible readings from an operational NO_x CEMS

The NO_x emissions from the forming, curing, cooling and smoke stripper sections associated with each source (EU3, EU13, and EU14) on the wool fiberglass insulation manufacturing lines are calculated based on the following equation:

Equation 3 – Forming, Curing, Cooling and Smoke Stripper section NO_x (EU3NO_x, EU13NO_x and EU14NO_x) Emissions Monitoring Method

$$= (\text{Natural Gasrate} \times \text{Forming,Curing,Cooling,SmokeStripperNO}_x)$$

Where:

Natural Gasrate = natural gas that is used by the fiberizer burners (applicable to Forming sections' NO_x) or the total used by the oven zone burners, stack burners and incinerator burners (applicable to Curing, Smoke Stripping and Cooling NO_x) (millions of cubic feet of natural gas per rolling 12-month period)

Forming,Curing,Cooling,SmokeStripperNO_x = NO_x emission factor for the forming, curing, cooling and smoke stripper section of each source (lb NO_x per million cubic feet of natural gas used by the source applicable burner system), developed based on most recent stack test results

Condition 4-19: BART capping equation - PM-10
Effective between the dates of 05/18/2012 and 11/04/2015

Applicable State Requirement:6 NYCRR Part 249

Item 4-19.1:

This Condition applies to:



Emission Unit: U00002

Emission Unit: U00003

Emission Unit: U00012

Emission Unit: U00013

Emission Unit: U00014

Item 4-19.2:

Total annual PM10 emissions from the BART-eligible sources: EU2 (DM1 Oxy Fuel Furnace), EU3 (DM1 Forming, Curing, Cooling and Smoke Stripper), EU12 (DM2 Oxy Fuel Furnace), EU13 (DM2 Mixing Chamber), and EU14 (DM2 Cooling Area to include Smoke Stripper) shall not exceed 249 tons per year (tpy) PM10, calculated as a rolling, 12-month summation of emissions, and calculated on a monthly basis using the following equations:

Equation 1 – Total PM10 Emissions Cap Monitoring Method

$$249 \text{ tpy} > \text{EU2PM10} + \text{EU3PM10} + \text{EU12PM10} + \text{EU13PM10} + \text{EU14PM10}$$

Where:

EU2PM10 = DM1 Oxy Fuel Furnace PM10 Emissions (Tons/rolling 12-month period)

EU3PM10 = DM1 Forming,Curing,Cooling,SmokeStripper PM10 Emissions (Tons/rolling 12-month period)

EU12PM10 = DM2 Oxy Fuel Furnace PM10 Emissions (Tons/rolling 12-month period)

EU13PM10 = DM2 Mixing Chamber which comprises Forming and Curing PM10 Emissions (Tons/rolling 12-month period)

EU14PM10 = DM2 Cooling and Smoke Stripper PM10 Emissions (Tons/rolling 12-month period)

The PM10 emissions from the glass furnaces (EU2 and EU12) are calculated based on the following equation:

Equation 2 – Furnace PM10 (EU2PM10 and EU12PM10) Emissions Monitoring Method

$$= [(\text{HoursFurnace} \cdot \text{DEP} \times \text{Furnace} \cdot \text{DEPEF}) + [(\text{HoursFurnace} \times \text{FurnaceEF})]$$

Where:

HoursFurnace.DEP = Operational hours that each respective furnace discharged its emissions for control into its associated DEP (Hours/rolling 12-month period)

Furnace.DEPEF = PM10 emission factor (lb PM10/hr) equation, developed based on most recent stack test results for the combined operation of the respective furnace and associated Dry Electrostatic Precipitator (DEP)

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HoursFurnace = Hours that each respective furnace operated on by-pass and its DEP not in service (Hours/rolling 12-month period)

FurnaceEF = PM10 emission factor (lb PM10/hr), developed based on most recent stack test results for the operation of the respective furnace with DEP by-passed

The PM10 emissions from the forming, curing, cooling and smoke stripper sections associated with each source (EU3, EU13, and EU14) are calculated based on the following equation:

Equation 3 – Forming, Curing, Cooling and Smoke Stripper section PM10 (EU3PM10, EU13PM10 and EU14PM10) Emissions Monitoring Method

= (HoursForming,Curing,Cooling,SmokeStripper) x
(Forming,Curing,Cooling,SmokeStripperPM10)

Where:

HoursForming,Curing,Cooling,SmokeStripper = Each respective Forming, Curing, Cooling section and Smoke Stripper operational hours (Hours/rolling 12-month period)

Forming,Curing,Cooling,SmokeStripperPM10 = PM10 emission factor (lb PM10/hr) for each respective forming, curing, cooling and smoke stripper section, developed based on most recent stack test results

Condition 4-20: BART capping equation - SO2
Effective between the dates of 05/18/2012 and 11/04/2015

Applicable State Requirement:6 NYCRR Part 249

Item 4-20.1:

This Condition applies to:

Emission Unit: U00002

Emission Unit: U00003

Emission Unit: U00012

Emission Unit: U00013

Emission Unit: U00014

Item 4-20.2:

Total annual SO2 emissions from the BART-eligible sources: EU2 (DM1 Oxy Fuel Furnace), EU3 (DM1 Forming, Curing, Cooling and Smoke Stripper), EU12 (DM2 Oxy Fuel Furnace), EU13 (DM2 Mixing Chamber), and EU14 (DM2 Cooling Area to include Smoke Stripper) shall not exceed 249 tons per year (tpy) SO2, calculated as a rolling, 12-month summation of emissions, and calculated on a monthly basis using the following equations:

Equation 1 – Total SO2 Emissions Cap Monitoring Method



$$249 \text{ tpy} > \text{EU2SO}_2 + \text{EU3SO}_2 + \text{EU12SO}_2 + \text{EU13SO}_2 + \text{EU14SO}_2$$

Where:

EU2SO_2 = DM1 Oxy Fuel Furnace SO₂ Emissions (Tons/rolling 12-month period)

EU3SO_2 = DM1 Forming,Curing,Cooling,SmokeStripper SO₂ Emissions (Tons/rolling 12-month period)

EU12SO_2 = DM2 Oxy Fuel Furnace SO₂ Emissions (Tons/rolling 12-month period)

EU13SO_2 = DM2 Mixing Chamber which comprises Forming and Curing SO₂ Emissions (Tons/rolling 12-month period)

EU14SO_2 = DM2 Cooling and Smoke Stripper SO₂ Emissions (Tons/rolling 12-month period)

The SO₂ emissions from the glass furnaces (EU2 and EU12) are calculated based on the following equation:

Equation 2 – Furnace SO₂ (EU2SO_2 and EU12SO_2) Emissions Monitoring Method

$$= (\text{NGusage} \times \text{NGEF}) + (\text{Glasspull rate} \times \text{FurnaceSO}_2)$$

Where:

NGusage = Natural gas usage of each furnace (MMscf/rolling 12-month period)

NGEF = AP-42 Natural gas emission factor for external combustion sources (lb SO₂/MMscf natural gas usage)

Glasspull rate = Glass pull rate of each furnace (Tons/rolling 12-month period)

FurnaceSO_2 = SO₂ emission factor (lb SO₂/ton glass) for SO₂ released from glass batch materials for each furnace, developed based on most recent stack test results

The SO₂ emissions from the forming, curing, cooling and smoke stripper sections associated with each source (EU3, EU13, and EU14) are calculated based on the following equation:

Equation 3 – Forming, Curing, Cooling and Smoke Stripper section SO₂ (EU3SO_2 , EU13SO_2 and EU14SO_2) Emissions Monitoring Method

$$= (\text{NGrate} \times \text{Forming,Curing,Cooling,SmokeStripperSO}_2)$$

Where:

NGrate = natural gas that is used by the fiberizer burners (applicable to Forming sections' SO₂) or the total used by the oven zone burners, stack burners and incinerator burners (applicable to Curing, Cooling and Smoke Stripper SO₂) (millions of cubic feet of natural gas per rolling 12-month period)

$\text{Forming,Curing,Cooling,SmokeStripperSO}_2$ = SO₂ emission factor for the forming, curing, cooling and smoke stripper section of each source (lb SO₂ per million cubic feet of natural gas used by the source applicable burner system), developed based on most recent stack test results