APPENDIX TP

DEMONSTRATION OF COMPLIANCE – PM, SO_2 and NO_x EMISSIONS

TEST PLAN

No. 3 & 4 Glass Melting Furnaces

Ardagh Glass, Inc.

Jacksonville, FL

Permit No. 0310005-017-AC

January 17, 2013

Note: Updated November 22, 2013 with new Compliance Authority.
Updated February 28, 2014 by new Compliance Authority.

1.0 INTRODUCTION

Ardagh Glass Inc. ("Ardagh") operates a glass container manufacturing facility on 2121 Huron St., Duval County, Jacksonville, Florida. The facility is permitted under the Permit No. 0310005-013-AV, issued May 13, 2013, expires April 30, 2018.

The facility includes two glass melting furnaces. The No. 3 Furnace (Emission Unit 003) is an end port regenerative glass melting furnace fired by natural gas or propane. Additional heat may be obtained from an electric boost with a maximum heat input of 8.6 X 10^6 Btu per hour. The maximum process rate is 14.70 tons per hour and 128,772 tons per year of raw materials, cullet, and additives for glass production. The maximum glass pull rate is 312.26 tons per day and 113,976.1 tons per year. The No. 4 Furnace (Emission Unit 004) is an end port regenerative glass melting furnace fired by natural gas or propane. Additional heat may be obtained from an electric boost with a maximum heat input of 7.0 X 10^6Btu per hour. The maximum process rate is 13.73 tons per hour and 120,274.8 tons per year of raw materials, cullet, and additives for glass production. The maximum glass pull rate is 280 tons per day and 102,200 tons per year.

The plant contact for Ardagh Glass is Mr. Carl Czekanski, General Manager. The facility phone number is 904 786 1010, extension 300.

2.0 PROCESS DESCRIPTION

For each test run on each furnace, the following information will be recorded (or calculated, as applicable) and included in the test report required by this Test Plan:

- Fuel firing rate - cubic feet per hour and Btu per hour
- Combustion air flow - cubic feet per minute
- Heat input from the electric boost – Btu per hour
- Calculated process weight rate (to be recorded hourly for the duration of the test)
- Calculated cullet weight percentage (to be recorded hourly for the duration of the test)
- Glass pull rate - tons per hour
- PM [a], sulfur dioxide[b], and oxides of nitrogen[c]

3.0 SAMPLING AND ANALYTICAL PROCEDURES

Stack testing shall be conducted in accordance with the EPA methods set forth below and with Rule 62-297.310, Florida Administrative Code and shall be conducted each calendar year with a target testing anniversary date of March 1st, except that the annual stack tests may be conducted concurrently with the permit renewal stack testing conducted pursuant to Section 3.1.2 of this Plan, notwithstanding the target testing date of March 1st ,

[a] Compliance with the PM limit indicates compliance with the PM_{10} limit for Furnace 3 see Permit Condition III.5. Furnace 4 does not contain an emission limitation for PM_{10}.
[b] See Part 3.2 relative to Furnace 4 SO_2 testing. After 2016, the Furnace 4 test will not include SO_2 data.
[c] See Part 3.2 relative to Furnace 4 NO_x testing. After 2016, the Furnace 4 test will not include NO_x data.

Ardagh shall notify the Compliance Authority fifteen (15) days prior to stack testing.

A test report shall be prepared in accordance with the requirements of Rule 62-297.310(8), Florida Administrative Code, Appendix A to this Test Plan. Copies of the stack test report(s) shall be filed with the Compliance Authority within forty-five (45) days of completion of testing.

3.1. Furnace 3

Testing of emissions shall be conducted in accordance with Rule 62-297.310, Florida Administrative Code, Appendix A of this Test Plan.

Testing of emissions shall be conducted while the furnace is operating within the following range of operating conditions :

- Producing between 90-100 percent of the maximum glass pull rate allowed by the permit;
- Processing between 90-100% of the maximum process weight rate allowed by the permit;
- Processing between 30-35% cullet; and
- Using the heat and electric boost input rates that fall within the normal range of operating conditions under which the furnace is expected to operate in consideration of the cullet percentage range above.

Testing of emissions shall be conducted with the Emissions Unit operating at permitted capacity. Permitted capacity is defined as 90-100 percent of the maximum operating rate allowed by the permit (maximum glass pull rate and maximum process weight rate). If it is impracticable to test at permitted capacity, then Emissions Units may be tested at less capacity; in this case subsequent Emissions Unit operation is limited to 110 percent of the test load (tested glass pull rate and tested process weight rate) until a new test is conducted. Once the Emissions Unit is so limited, then operation at higher capacities is allowed for no more than 15 consecutive days for the purposes of additional compliance testing to regain the permitted capacity in the permit.

If testing of emissions is conducted with the Emissions Unit operating at higher than the cullet weight % range listed above then Ardagh shall notify the Compliance Authority, and the Compliance Authority shall determine whether retesting is warranted. The above operating conditions shall be recorded during the test pursuant to Section 2.0 and submitted along with the compliance test results.

3.11 Particulate Matter Emissions

The particulate matter emission measurements will be conducted annually in accordance with EPA Reference Method 5 (as described in 40 CFR 60, Appendix A), for the determination of the PM emissions rate.

The particulate matter testing minimum sampling volume shall be 25 dry standard cubic feet per run.

3.1.2 SO_2 and NO_x

Testing for demonstration of compliance shall be performed at least 270 days prior to the expiration date of the Title V permit in accordance with EPA RM 6 or 6C (as described in 40 CFR 60, Appendix A) for the determination of sulfur dioxide emissions.

Testing for demonstration of compliance shall be performed at least 270 days prior to the expiration date of the Title V permit in accordance with EPA RM 7, 7A, or 7E (as described in 40 CFR 60, Appendix A) for the determination of the oxides of nitrogen emissions.

CEMS data may be substituted for the required stack testing data provided the CEMS have been appropriately certified including but not limited to satisfactory completion of the Performance Specification Test and the initial RATA test. These tests shall be submitted to the Compliance Authority prior to the required stack testing date.

3.1.3. Visible Emissions

Testing for demonstration of compliance shall be performed annually in accordance with EPA Reference Method 9 (as described in 40 CFR 60, Appendix A) for the visual determination of opacity.

Visual emissions testing shall be conducted for a minimum period of 30 minutes and conducted concurrently with the particulate matter testing.

3.2. Furnace 4

Testing of emissions shall be conducted while the furnace is operating within the following range of operating conditions:

- Producing between 90-100 percent of the maximum glass pull rate allowed by the permit;
- Processing between 90-100% of the maximum process weight rate allowed by the permit;
- Processing between 45-50% cullet; and
- Using the heat and electric boost input rates that fall within the normal range of operating conditions under which the furnace is expected to operate in consideration of the cullet percentage range above.

Testing of emissions shall be conducted with the Emissions Unit operating at permitted capacity. Permitted capacity is defined as 90-100 percent of the maximum operating rate allowed by the permit (maximum glass pull rate and maximum process weight rate). If it is impracticable to test at permitted capacity, then Emissions Units may be tested at less capacity; in this case subsequent Emissions Unit operation is limited to 110 percent of the test load (tested glass pull rate and tested process weight rate) until a new test is conducted. Once the Emissions Unit is so limited, then operation at higher capacities is

allowed for no more than 15 consecutive days for the purposes of additional compliance testing to regain the permitted capacity in the permit.

If testing of emissions is conducted with the Emissions Unit operating at higher than the cullet weight % range listed above then Ardagh shall notify the Compliance Authority, and the Compliance Authority shall determine whether retesting is warranted. The above operating conditions shall be recorded during the test pursuant to Section 2.0 and submitted along with the compliance test results.

3.2.1 Particulate Matter Emissions

The particulate matter emission measurements will be conducted annually in accordance with EPA Reference Method 5 (as described in 40 CFR 60, Appendix A), for the determination of the PM emissions rate.

The particulate matter testing minimum sampling volume shall be 25 dry standard cubic feet per run.

3.2.2 SO_2 and NO_x

~~Testing shall be conducted annually during 2012 – 2016 in accordance with Final Air Construction Permit No. 0310005-012-AC.~~

SO_2 and NO_x compliance testing on the furnace shall be conducted each calendar year for 5 years from CY 2012 until CY 2016. Compliance testing for this emissions unit shall be

conducted in accordance with the approved Test Plan on file with the Permitting Authority, Appendix TP. CEMS data may be substituted for the required stack testing data for Calendar Year 2014 provided the CEMS have been appropriately certified including but not limited to satisfactory completion of the Performance Specification Test (PST) and the initial RATA test. These tests (PST and RATA) shall be submitted to the Compliance Authority prior to October 1, 2014. ***{Permitting Note: The test conducted in March 2012 for demonstration of compliance for the air construction permit counts as the first test.}*** CEMS data shall be substituted for the required stack testing data for Calendar Years 2015 and 2016.

Testing for demonstration of compliance shall be performed in accordance with EPA RM 6 or 6C (as described in 40 CFR 60, Appendix A) for the determination of sulfur dioxide emissions.

Testing for demonstration of compliance shall be performed in accordance with EPA RM 7, 7A, or 7E (as described in 40 CFR 60, Appendix A) for the determination of the oxides of nitrogen emissions.

3.3.2 Visible Emissions

Testing for demonstration of compliance shall be performed annually in accordance with EPA Reference Method 9 (as described in 40 CFR 60, Appendix A) for the visual determination of opacity.

Visual emissions testing shall be conducted for a minimum period of 30 minutes and conducted concurrently with the particulate matter testing.

4.0 SAMPLING FACILITIES

Sampling facilities shall conform to the requirements of Rule 62-297.310(6), Florida Administrative Code, Appendix A to this Test Plan.

APPENDIX A

Rule 62-297.310
Florida Administrative Code
Effective March 2, 1999