

TITLE V AIR PERMIT APPLICATION REVIEW

APPLICANT: Saint-Gobain Containers, Inc.		SITE LOCATION: Henderson		COUNTY: Vance
TECHNICAL CONTACT: John Mino Manager	PHONE: (765) 741-7116	RESPONSIBLE OFFICIAL: Richard Buzalka	TITLE: Plant	
REVIEW ENGINEER: Rahul P. Thaker		SIGNATURE:		DATE: December 1, 2004
REGIONAL CONTACT: Charles McEachern		REGIONAL OFFICE: RRO		SIC CODE: 3221
APPLICATION NUMBER: 9100069.04A 9100069.04B		EXISTING PERMIT NUMBER: 02834T14	NEW PERMIT NUMBER: 02834T15	

1. Purpose of Application

Saint-Gobain Container, Inc. (SGCI) submitted an "administrative permit amendments" application (9100069.04A) to revise the modeled emission rates for various NC air toxics for two furnaces (GF-1 and GF-2), in Condition 2.2 A.1. of the existing permit, using the provision of 2Q .0514. The application was received by DAQ on 3/29/04.

SGCI submitted a "significant permit modification" application (9100069.04B) to establish a federally-enforceable permit limit for sulfuric acid mist for glass melting furnace No.1 (GF-1), using the provision of "significant permit modification" of 2Q .0516. This application was received by DAQ on 8/17/04. As requested by the permittee, it will be processed using the provisions of 2Q .0501(c)(1) as referred in 2Q .0516(d).

Application 9100069.04A has been consolidated into application 9100069.04B.

2. Facility Description

The facility manufactures glass containers at the Henderson facility since 1970. The permitted equipment include two natural gas/propane-fired with electric boost heating glass melting furnaces, raw material unloading, storage, and transfer operations, batching operations, furnace feed operations, and mold swabbing operations.

3. Application Chronology

The application chronology is detailed on the IBEAM Report.

4. Permit Modification/Changes

Two Glass Melting Furnaces (ID Nos. GF-1 and GF-2)

As indicated above, the permit revision consists of revising the modeled emission limits for arsenic, cadmium, sulfuric acid, and fluoride for two glass melting furnaces GF-1 and GF-2, and establishing the federally-enforceable emission limit for sulfuric acid mist for glass melting furnace GF-1.

There is no physical change or change in method of operation for both furnaces.

Background

Previous air permit 02834T13 required the permittee to limit emissions of above pollutants from each glass melt furnace (ID Nos. GF-1 and GF-2). These emission rates were established through the permit revision, when the furnace GF-1 was approved to increase its capacity from 200 tons per day to 320 tons per day. The emission rates for NC air toxics were based on the stack test results of similar furnace at the Cardinal FG Float Glass Plant located in Mooresville, NC.

Then, through air permit 02834T14, higher (than the T13) emission rates for the same pollutants were approved based on air dispersion modeling analyses conducted by the permittee.

The referred permits (T13 and T14) required the permittee to stack test furnace (GF-1) for these pollutants, initially by April 23, 2003, and then once every year.

The permittee performed the initial testing on April 2 and 3, 2003. The stack tests results indicated that the permittee was in violation of permit limits for arsenic (annual) and sulfuric acid (24-hr), and in compliance with cadmium (annual), sulfuric acid (1-hour), and fluoride (1-hour and 24-hour) limits. The Notice of Violation (NOV) was issued to the permittee for this matter, on September 23, 2003 by Raleigh Region Office (RRO).

In response to this NOV, the company submitted an administrative amendment application (9100069.04A), which includes a proposal of raising the stack heights for both furnaces.

NC Air Toxics

The above-referred application is a request to modify the emission limits for both furnaces for all previously modeled pollutants by proposing an increase in stack height for each furnace to 120 ft above ground level.

The permittee has essentially modeled the unit emission rate (1 gm/sec) for each furnace and predicted the maximum modeled concentrations. Then, the unit emission rates have been scaled up to the allowable emission rates (maximum emission rates) corresponding to the 100% AAL, by using the ratio of AAL to maximum modeled concentration for each applicable averaging time. This methodology and modeling analysis have been reviewed by AQAB. Per April 26, 2004 memo from AQAB (M. Yoder to R. Thaker), the permittee has demonstrated compliance at these maximum emission limits on a source-by-source basis. The modeled emission rates are as per the following Table:

Sources	Toxic Air Pollutants	Emission Limits
Glass Melt Furnace (ID No. GF-1)	arsenic cadmium sulfuric acid sulfuric acid fluoride fluoride	113.2 pounds per year 2,706.5 pounds per year 80.0 pounds per hour 989.3 pounds per 24 hours 200.0 pounds per hour 1,319.1 pounds per 24 hours
Glass Melt Furnace (ID No. GF-2)	arsenic cadmium sulfuric acid sulfuric acid fluoride fluoride	113.2 pounds per year 2,706.5 pounds per year 80.0 pounds per hour 989.3 pounds per 24 hours 200.0 pounds per hour 1,319.1 pounds per 24 hours

The above changes are considered "state-enforceable" only, and hence can be performed using the administrative amendment provision under NCAC 2Q .0514(a)(8).

PSD Avoidance Limit for Sulfuric Acid Mist

While processing of the above-mentioned application, DAQ also evaluated the April 2003 stack test results for sulfuric acid (mist) and fluorides for any possible implications under the PSD major modification provision for furnace GF-1. On May 11, 2004, DAQ concluded that the major modification review was in fact triggered for sulfuric acid mist emissions from furnace GF-1, when it was permitted to increase its capacity from 200 tons/day to 320 tons/day (i.e., at the time of issuance of T13 permit). Hence, the processing of above referred administrative amendment application was stopped, and DAQ notified the company on this day about this issue and requested to submit a new application using the provision of "significant permit modification" in 2Q .0516.

In response to DAQ request, the company submitted another application (9100069.04B).

This application proposes to establish a federally enforceable permit limit for sulfuric acid mist emissions, associated with furnace GF-1 modification, to avoid triggering review under PSD.

The PSD avoidance emission limit for sulfuric acid mist has been based upon the same two-year look back period (2000-2001), which was used for establishing the PSD avoidance emission limits for criteria pollutants when this furnace permitted to increase its capacity (T13 permit).

In brief, the permittee has requested to restrict the future potential emissions for sulfuric acid mist from furnace GF-1 to past actual emissions (35.2 tons/yr) plus an increment less than the significance threshold of 7 tons/yr (6.9 tons/yr). Based on this methodology, the proposed PSD avoidance limit will be 42.1 tons/yr for sulfuric acid mist. Please see attached for complete calculations.

As part of the compliance demonstration, the permittee proposes to stack test this furnace once every year and then use the latest stack test result to calculate the annual emissions, and report the calculated emissions through the semi-annual reports.

DAQ believes that the proposed emission limit and the compliance assurance strategy for sulfuric acid mist emissions for furnace GF-1 is reasonable, and hence will be approved.

5. Regulatory Review

The existing furnaces (GF-1 and GF-2) are subject to the following regulations:

2D .0515 "Particulates from Miscellaneous Industrial Processes"
2D .0516 "Sulfur Dioxide Emissions from Combustion Sources"
2D .0521 "Control of Visible Emissions"
2D .0524 "New Source Performance Standards (Avoidance)"
2D .0530 "Prevention of Significant Deterioration (Avoidance)"
2D .1100 "Control of Toxic Air Pollutants"

However, no regulatory review is required at this time, since there are no physical or operational changes requested to these furnaces.

6. NSPS, NESHAPS, PSD, Attainment Status, 112(r), CAM

NSPS

New Source Performance Standards (NSPS) do not apply to any permitted equipment.

NESHAP/MACT

This facility is currently not subject to any MACT standard.

PSD

This facility is a "250 tons" classification PSD source. It is a major source for PSD for NO_x, SO₂, and CO.

The permittee has avoided PSD review for the modification of furnace GF-1, by taking federally enforceable permit limits for PM-10, NO_x, SO₂, and CO. This permit revision, as indicated above, will establish a PSD avoidance limit for sulfuric acid mist for furnace GF-1.

Attainment Status

This facility is located in Vance County, which is in attainment for all criteria pollutants.

112(r)

This facility is not subject to Section 112(r) of the Clean Air Act requirements because it does not store any of the regulated substances in quantities above the thresholds in the Rule.

CAM

Compliance Assurance Monitoring (CAM) requirements of 40 CFR Part 64 do not apply.

In order to be subject to the Part 64 requirement, the following three criteria must be satisfied:

- (i) pollutant specific emission unit (e.g. furnace) shall be subject to an emission limitation or a standard other than the exempt limitations or standards (e.g. post-1990 federal standards such as MACT, NSPS etc.),
- (ii) the pollutant specific emission unit uses an active control device to achieve compliance with the applicable requirement, and
- (iii) potential precontrol device emission rate for the pollutant specific emission unit for any regulated pollutant shall be greater than major source threshold.

Also, per Section 64.5, the permittee must analyze whether any proposed emission unit undergoing a "significant permit revision", be deemed as a large "pollutant-specific emission unit (PSEU)" and therefore a CAM plan needs to be submitted. Large PSEU are those emission units, which have after control potential to emit (PTE) equal or more of either 100 tons (for criteria pollutants) or 10/25 tons (for HAPs).

Because neither of two furnaces use control device to reduce emissions, the requirement of CAM do not apply.

7. Facility Wide Air Toxics

Please refer to Section 4 above for complete details.

8. Facility Compliance Status

The facility was inspected on 4/27/04 by Steve Hall of RRO. The facility was found to be in compliance with all permit requirements at that time.

9. Statement of Compliance

The permittee has certified through a submittal of E5 form that the facility is in compliance with all applicable requirements.

10. Facility Emissions Review

The following is an emission summary, which is copied from the application.

Pollutant	Potential Emissions tons per year
PM-10	162.2
SO ₂	334.2
NO _x	1,437.8
CO	415.9
VOC	23.7
Single HAP (Cadmium)	2.7
Total HAP	unknown

11. Stipulation Review

The existing permit 02834T14 will be revised for the following:

- Revise Section 2.1 A. Table to include emission limit for sulfuric acid mist.
- Correct applicable regulation for both NSPS avoidance and PSD avoidance in Section 2.1 Table, and Section 2.1 A. 3. and 4., to 2Q .0317.
- Update Section 2.1 A.2.c., Section 2.1 B.3.c., and Section 2.1 C.2.c. for visible emission monitoring requirements.
- Update Section 2.1 A.4. for sulfuric acid mist emission requirement.
- Revise emission limits for all pollutants in Section 2.2 A.1.a. Table as per approved modeling analysis. Include Section 2.2. A.1.b. for stack extensions and revise Section 2.2 A.1.c. for testing requirement.
- Include the latest version of General Conditions.
- Remove Part II of the permit.

12. Public Notice / EPA and Affected State Review

Pursuant to 2Q .0521, a notice of the draft Title V Permit will be placed in a newspaper of general circulation in the area where the facility is located. The notice will provide for a 30-day comment period, with an opportunity for a public hearing. Copies of the public notice will also be sent to persons on the Title V mailing list. Also pursuant to 2Q .0522, a notice of the draft Title V Permit will be provided to each affected State at or before the time notice provided to the public under 2Q .0521 above. The Affected states as

specified by 15A NCAC 2Q .0503(1) and 40 CFR 70.8(b) are Virginia and North Carolina local air pollution control program for Forsyth County.

13. Conclusions, Comments, and Recommendations

A professional engineer's seal was provided for this modification.

A consistency determination was not required for this modification, because it does not include physical changes or expansion to any permitted equipment.

RRO recommends issuance of the permit. Please see the attached e-mail, from Charles McEachern. RRO also reviewed the draft permit and requested through an e-mail dated 11/19/04, that the permit be revised to include the completion date for stack extensions for furnace GF-1 and GF-2 for the NC air toxics requirement. This matter was communicated to the company. The company will respond to this item.

The draft permit was e-mailed to the company 11/19/04. The company responded with one comment on the permit. The company also responded with very minor comments on the wordings of the permit review. The company comment on the draft permit and the DAQ response are as follows:

Company Comment 1:

Include detailed regulatory requirement for 2D .0515 for furnace GF-1 in Section 2.1 A.

Response:

DAQ agrees with the company. This is an oversight on our part. The regulatory applicability has been included in the summary of the applicable regulations (Table) but was not included in the permit as a detailed regulatory requirement. DAQ will modify this section of the permit.

Finally, RCO recommends issuance of the permit after the completion of 30-day public comment period and 45-day EPA review period.