

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:	)	
	)	
PETITION OF GREIF, INC. AND	)	AS 2011-001
GREIF PACKAGING, LLC	)	
FOR AN ADJUSTED STANDARD FROM	)	(Adjusted Standard – Air)
35 ILL ADM. CODE PART 218	)	
SUBPART TT	)	

**NOTICE OF FILING**

TO:

John Therriault, Clerk  
 Illinois Pollution Control Board  
 James R. Thompson Center  
 100 West Randolph Street, Suite 11-500  
 Chicago, IL 60601

Charles Matoesian  
 Division of Legal Counsel  
 Illinois Environmental Protection Agency  
 1021 North Grand Avenue East  
 P.O. Box 19276  
 Springfield, IL 62794-9276

PLEASE TAKE NOTICE that I have today filed electronically with the Office of the Clerk of the Illinois Pollution Control Board, Petitioners' **NOTICE OF ELECTRONIC FILING, REDACTED SUBMISSION OF NON-DISCLOSABLE INFORMATION** and **CERTIFICATE OF SERVICE**, copies of which are attached herewith and served upon you.

Respectfully submitted,

GREIF, INC. and GREIF PACKAGING, LLC

By: /s/ Susan Charles  
 One of its Attorneys

Date: December 8, 2011

Thomas W. Dimond  
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 ICE MILLER LLP  
 200 West Madison Street  
 Suite 3500  
 Chicago, Illinois 60606

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**REDACTED SUBMISSION OF NON-DISCLOSABLE INFORMATION**

Pursuant to 35 Ill. Adm. Code Section 130.404(c)(4), petitioners Greif, Inc. and Greif Packaging, LLC ("Greif") are filing a redacted copy of a document, portions of which Greif is seeking to protect from public disclosure. In connection with this submission Greif states the following:

1. On December 8, 2011 Greif filed an Application for Treatment as Non-Disclosable Information ("Application") with the Illinois Pollution Control Board.
2. The Application seeks to protect only portions of a document from disclosure.
3. Pursuant to 35 Ill. Adm. Code Section 130.404(c)(4), when a party seeks to protect less than an entire document from disclosure, the applicant must, among other things, "[f]ile with the Clerk a second copy of the article that is marked pursuant to subsections (c)(1) and (c)(2) of this Section and from which the page or portion sought to be protected from disclosure is deleted."
4. A redacted copy of the relevant document is attached hereto as Exhibit 1.

Respectfully submitted,

GREIF, INC. and GREIF PACKAGING, LLC

By: /s/ Susan Charles  
One of its Attorneys

Date: December 8, 2011

Thomas W. Dimond  
Susan Charles  
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NON-DISCLOSABLE INFORMATION – AT PAGE 2 OF 3.

**Response of Greif Packaging LLC to  
Hearing Questions for Petitioner and IEPA Served on November 8, 2011**

Prepared by Thomas C. Ponder, Jr., PE

On November 8, 2011, the Hearing Officer served on Greif and the Illinois Environmental Protection Agency three pre-hearing questions on the Final Air Quality Impact Analysis of the VOC Emissions from the Greif Packaging Facility in Naperville, Illinois, Using the Scheffe Tables (AQIA Analysis). I prepared the AQIA Analysis, and following are my responses to those questions.

Question A: Calculation of VOC Emissions for the Air Quality Impact

The first question essentially asked whether the AQIA Analysis had overestimated the projected difference in VOC emissions between compliance with Subpart TT and compliance with the proposed adjusted standard. It also suggested an alternate formula for calculating the difference. The AQIA Analysis was prepared in response to a Hearing Officer order requesting that Greif prepare an ambient air quality impact analysis considering the "worst case scenario, using the maximum permitted VOM emissions" to "quantify the difference in emissions that would occur if Greif complied with" the proposed adjusted standard rather than Subpart TT.

Developing a "worst case" analysis requires hypothesizing alternate operating scenarios and implicitly what the emissions could be under either alternate scenario. In some sense, the difference could be zero. Subpart TT does not cap annual emissions and the proposed adjusted standard caps annual emissions at the same level as the facility's FESOP. Because the FESOP limit would also apply if the facility complied with Subpart TT, under either scenario, the maximum annual emissions are 22.8 tpy and the difference is zero. The weakness of this approach is that for any particular production level that yields emissions below 22.8 tpy, there would be an actual difference in projected emissions greater than zero.

Question A suggested calculating the emission differential using the following formula:

$$[22.8 \text{ tpy} * (1 - .731)] - [22.8 \text{ tpy} * (1 - .81)] = 1.8 \text{ tpy}$$

Where 22.8 tpy is the maximum permitted VOC emissions;  
.731 is the projected emissions reductions from the adjusted standard; and  
.81 is the emissions reductions required by Subpart TT.

This approach has some basis in the FESOP because the FESOP not only limits VOC emissions to 22.8 tpy but also limits VOC usage to 22.8 tpy. But, the VOC usage limitation in the FESOP was tied to the fact that the Naperville facility had no emissions control devices. If the facility installed an oxidizer or other technology to comply with Subpart TT, then the FESOP would probably be amended to eliminate the VOC usage limitation and simply rely upon the VOC emission limitation to maintain the facility's minor source status. This approach also misapplies the 73.1% reduction in VOC usage from the adjusted standard because that is a per unit

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reduction – not a reduction that applies after VOC usage. The formula proposed in Question A also leads to odd results. The first bracket of the formula computes the post-adjusted standard emissions as 6.13 tpy, and the second bracket computes the hypothetical emissions from complying with Subpart TT as 4.33 tpy. The difference between these is 1.8 tpy, but calculating an ozone increment based on these estimates does not make sense. As reflected in the amended petition for the adjusted standard, Greif's emissions from the QC Test Station for 2009 and 2010 are 7.7 and 8.95 tpy, respectively. The emission estimates resulting from the formula in Question A are below these actual emissions and should logically result in a decrease in ozone formation – not an increase. For these reasons, the approach suggested in Question A does not seem to truly be a "worst case" analysis.

The AQIA Analysis calculated the emission differential using the following formula:

$$[22.8 \text{ tpy}/(1-.731)]*(.81-.731) = 6.7 \text{ tpy}$$

I selected this approach for the AQIA Analysis for the following reasons. First, I assumed that a worst case analysis would involve a revision to the FESOP eliminating the VOC usage limitation. In that event, compliance with the annual emission limit of 22.8 tpy could still be achieved by complying with the adjusted standard, which has achieved a 73.1% reduction in usage of VOC per lined drum manufactured. Thus, the maximum tons of VOC usage that would need to be controlled if the facility complied with Subpart TT would be approximately 84.8 tpy  $[22.8 \text{ tpy}/(1-.731)]$ . The emissions differential can then be calculated by multiplying the 84.8 tpy by the differential in the emissions reduction percentages, as reflected in the formula above.

That this method of calculating the worst case emission differential reaches the correct result can be proven in another way. By analyzing the facility's VOC usage per lined drum manufactured, we determined that the average VOC usage before the changes included in the adjusted standard was about [REDACTED] lbs/lined drum (based on data for 2006-2007) and that the average VOC usage after implementing the adjusted standard changes was about [REDACTED] lbs/lined drum (based on data for 2009-2010). Using the average usage after implementing the adjusted standard changes, we can estimate the implicit limit on lined drum production as [REDACTED] per year  $(22.8 \text{ tpy} * 2000 \text{ lbs/ton} / [REDACTED] \text{ lbs/lined drum})$ . For this estimated maximum lined drum production, the emission differential can then be easily computed as follows:

$$[ [REDACTED] * [REDACTED] / 2000 ] - [ [REDACTED] * [REDACTED] * (1-.81) / 2000 ] = 6.7 \text{ tpy}$$

Based on this alternative calculation, I believe the AQIA Analysis correctly estimated the maximum differential in emissions for a worst case scenario.

### Question B: Application of the Scheffe Tables

The second question raised two sub-issues. First, based on the estimated emission differential set forth in Question A, the ratio of NMOC/NOx emissions for the facility would be 9.036, which would indicate use of column 2 of Scheffe Table 2, which applies to ratios of 5.2 to 20.7. The AQIA Analysis had computed a ratio of 33.63, which indicated use of column 1 of Scheffe Table 2, which applies to ratios greater than 20.7. For the reasons explained in the

response to Question A, I believe the value in column 1 applies. But, in this particular instance, which column is used does not make a difference because the values in columns 1 and 2 are the same when NMOC emissions are 50 tpy or less, as they are for the Naperville facility.

The second issue under Question B related to the interpolation step required by the Scheffe approach presented in the AQIA Analysis. The AQIA Analysis did that interpolation assuming a linear relationship in the ozone increment value when emissions are between 0 and 50. Question B analyzed the curves implicit in Scheffe Table 2, noted that the curves were not linear and proposed an alternate formula for the interpolation. But, Question B also recognized that the curves implicit in Scheffe Table 2 did not yield an ozone increment equal to 0 when the emissions differential was 0, which was a condition that obviously should be correct. While the formula suggested in Question B for calculating the interpolation contains more variables, because the values selected for some of those variables is zero, it produces the same result as the interpolation method used in the AQIA Analysis. For example, for the emission differential of 6.7 tpy presented in the AQIA Analysis and confirmed above, both formulas result in an ozone increment of 1.47 ppb [ $1.1 \text{ pphm} * 10 \text{ ppb/pphm} * 6.7 \text{ tpy} / 50 \text{ tpy}$ , using the AQIA approach, or  $((6.7-0) * (1.1-0) * 10 / (50-0) + 0)$ , using the formula in Question B.]

I agree with both fundamental points made in Question B: the relationship between NMOC emissions and the ratio of NMOC/NOx emissions implicit in Scheffe Table 2 is not linear and the ozone increment should obviously be 0 if the emissions differential is 0. The second point essentially recognizes that the ozone increments in Scheffe Table 2 are not well defined below 50 tpy of NMOC emissions. A linear interpolation may overestimate or underestimate the actual increment, but it seems a fair middle point to assume in the absence of real data. Given that the formula for calculating the interpolation in Question B computes the same result as the formula used in the AQIA Analysis, it does not matter which approach is used.

#### Question C: Impact on Illinois' Ability to Attain the 1-Hour and 8-Hour Ozone NAAQS

Finally Question C asked whether any recalculations of the projected ozone increment would impact the conclusion of the AQIA Analysis. For the reasons explained above, I believe the AQIA Analysis correctly computed a worst case emission differential and ozone increment using the Scheffe method. Accordingly, the simple answer is no. In the AQIA Analysis, I had concluded that the ozone increment calculated there of 1.47 ppb would not cause or contribute to violations of the NAAQS for ozone or delay efforts to attain the NAAQS in a timely manner. If the ozone increment is 0.396 ppb, as suggested by the analysis in Questions A and B, the same conclusions would be reached with an even greater margin.

**CERTIFICATE OF SERVICE**

I, the undersigned, certify that on this 8th day of December, 2011, I have electronically served the attached NOTICE OF FILING and REDACTED SUBMISSION OF NON-DISCLOSABLE INFORMATION upon the following person:

John Therriault, Clerk  
Illinois Pollution Control Board  
James R. Thompson Center  
100 West Randolph Street, Suite 11-500  
Chicago, IL 60601

and by U.S. Mail, first class postage prepaid, and electronic mail to the following person:

Charles Matoesian  
Division of Legal Counsel  
Illinois Environmental Protection Agency  
1021 North Grand Avenue East  
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/s/ Susan Charles  
Susan Charles