

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 ELECTRONIC 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 electronically filed with the Office of the Clerk of the Illinois Pollution Control Board, Petitioners' **NOTICE OF ELECTRONIC FILING, SUBMISSION OF AIR QUALITY IMPACT ANALYSIS 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: November 1, 2011

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

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PETITION OF GREIF, INC. AND ) AS 2011-001  
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**SUBMISSION OF AIR QUALITY IMPACT ANALYSIS**

Pursuant to the March 21, 2011 Hearing Officer Order ("Order"), petitioners Greif, Inc. and Greif Packaging, LLC ("Greif") hereby submit the attached "Final Air Quality Impact Analysis of the VOC Emissions from the Greif Packaging Facility in Naperville, Illinois, Using the Scheffe Tables." In support of this filing Greif states the following:

1. The Order directed Greif to provide an Ambient Air Quality Impact Analysis ("Air Quality Analysis") for ozone as part of its Petition for Adjusted Standard. The Order provides that Air Quality Analysis would be used by the Illinois Pollution Control Board in evaluating whether the proposed adjusted standard will "cause or contribute to violations of the [National Ambient Air Quality Standards ("NAAQS")] for ozone or delay efforts to attain the NAAQS in a timely manner." The Order further directed Greif to "consult with the [Illinois Pollution Control Agency ("Agency")] as to the necessary elements Greif should provide in the analysis" to insure that the Agency has "sufficient supporting documentation" for the Agency's request to revise the State Implementation Plan.

2. Greif has presented the Air Quality Analysis to the Agency for review and comment.

3. Counsel for the Agency represented to counsel for Greif that the Agency has no comments to the Air Quality Analysis.

4. Greif's Air Quality Analysis is attached to this filing as Exhibit 1.

WHEREFORE, for the reasons stated above, Greif has satisfied the requirement of the March 21, 2011 Hearing Officer Order to file its Air Quality Analysis with the Illinois Pollution Control Board.

Respectfully submitted,

GREIF, INC. and GREIF PACKAGING, LLC

By: /s/ Susan Charles  
One of its Attorneys

Date: November 1, 2011

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

**CERTIFICATE OF SERVICE**

I, the undersigned, certify that on this 1st day of November, 2011, I have served electronically the attached NOTICE OF ELECTRONIC FILING and SUBMISSION OF AIR QUALITY IMPACT ANALYSIS 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 persons:

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

/s/ Susan Charles  
Susan Charles

**Thomas C. Ponder, Jr. PE  
Consulting Engineer  
56 Bay Drive  
Itasca, IL 60143**

August 11, 2011

Mr. Scott S. Mounts P.E.  
EHS Manager – North America  
Greif Inc.  
366 Greif Parkway  
Delaware, OH 43015

**Subject: Final Air Quality Impact Analyses**

Dear Scott:

The final air quality analyses report entitled “Air Quality Impact Analysis of the VOC Emissions from the Greif Packaging Facility in Naperville, Illinois Using the Scheffe Tables” is attached.

If you have any questions concerning this report, please call me at (630) 699-7665.

Sincerely,



Thomas C. Ponder, Jr. PE

**EXHIBIT 1**

Air Quality Impact Analysis of the VOC  
Emissions from the Greif Packaging Facility in Naperville, Illinois  
Using the Scheffe Tables

Prepared by  
Thomas C. Ponder, Jr. PE

The most recent three years of highest values for 1-hour ambient ozone data and 8-hour average ambient ozone data (in parts per billion or ppb) for the monitoring station located in Lisle in Du Page County is shown below. The Lisle station data was chosen for this analysis because it is the monitoring station closest to the Greif Packaging Naperville facility. These data were obtained from Table B-2 in the Illinois Annual Air Quality Reports for each of 2007, 2008 and 2009. These are the three most recent years for which Illinois has published the information in an Annual Air Quality Report.

Highest 1-hour Ambient Ozone Measurements

<u>Year</u>	<u>1<sup>st</sup></u>	<u>2<sup>nd</sup></u>	<u>3<sup>rd</sup></u>	<u>4<sup>th</sup></u>
2009	70	67	66	66
2008	77	70	66	66
2007	99	86	81	80

Highest 8-hour Average Ambient Ozone Measurements

<u>Year</u>	<u>1<sup>st</sup></u>	<u>2<sup>nd</sup></u>	<u>3<sup>rd</sup></u>	<u>4<sup>th</sup></u>
2009	61	60	60	59
2008	65	62	58	57
2007	84	75	72	72

1-hour Ozone NAAQS Analysis

The 1-hour ozone NAAQS is 0.12 parts per million (120 ppb) and the standard is considered attained when the expected number of exceedances is equal to or less than 1 per calendar year, as determined in accordance with Appendix H to 40 CFR Part 50. 40 CFR 50.9(a). Appendix H indicates that in its simplest form, attainment of the standard would be demonstrated by computing the number of exceedances at a monitoring site for each calendar year and then averaging the number of exceedances over the past three calendar years. 40 CFR 50, Appendix H, 1.

The procedure in the September 1988 report entitled "VOC/NOx Point Source Screening Tables" by Richard D. Scheffe of the USEPA Office of Air Quality Planning and Standards (hereafter, "Scheffe 1988") was used to evaluate the air quality impact associated with the proposed adjusted standard for the Naperville facility. Scheffe 1988 is a screening tool that is intended to allow a simplified calculation of estimated ozone increments caused by emissions from facilities where VOC emissions exceed NOx emissions and to avoid the need for more resource-intensive modeling. The estimated

ozone increments calculated using Scheffe 1988 are conservative. That is, the estimates are expected to exceed ozone formation that would actually be produced by episodic events. Scheffe 1988 requires only two facility-specific inputs to calculate the conservative estimated impact on ozone air quality: the level of volatile organic compound (VOC or sometimes referred to as non-methane organic compounds, NMOC) emissions and the level of NO<sub>x</sub> emissions.

Because this analysis is intended to compute the air quality impact associated with the differential between the adjusted standard proposed for the Naperville facility and compliance with subpart TT, it is appropriate to calculate the VOC input for Scheffe 1988 based on the differential. The maximum difference in VOC emissions from compliance with the proposed adjusted standard versus compliance with subpart TT is 6.7 TPY. This was computed based on the Naperville facility's maximum permitted VOC emissions from the QC Test Process (22.8 TPY) and the different emission reduction rates (73.1% actually achieved during 2009 and 2010 for the adjusted standard and 81% for subpart TT).  $[22.8/(1-73.1%)*(81\%-73.1\%)=6.7 \text{ TPY}]$  The other input into the analysis is the Naperville facility's NO<sub>x</sub> emissions, which are 0.1992 TPY based on the facility's 2009 emission inventory.

Applying Scheffe 1988 to these inputs, the annual VOC to NO<sub>x</sub> ratio is 6.7/0.1992 or 33.63. According to Scheffe 1988 Table 2 "Urban based ozone increment as a function of NMOC emissions and NMOC/NO<sub>x</sub> ratios", the increment for the Naperville facility would be 11 ppb (1.1 pphm x 0.01 pphm/ppb) if the facility had 50 TPY of NMOC emissions. This is based on the Table 2 value of 50 TPY NMOC under the column labeled >20.7 NMOC/NO<sub>x</sub> ratio. Using linear interpolation per Scheffe 1988, the conservative ozone increment estimate associated with an increase of 6.7 TPY in VOC emissions is 1.47 ppb  $[11 \text{ ppb}*(6.7 \text{ TPY}/50 \text{ TPY}) = 1.47 \text{ ppb}]$ .

The baseline 1-hour ambient ozone measurement to which this estimated ozone increment should be added to demonstrate compliance is unclear. Some EPA guidance suggests that the baseline should be based on the highest of the fourth highest ambient 1-hour measurements observed over a continuous 3-year period. Guidance for the 1-hour Ozone Non-attainment Areas that Rely on Weight-of-Evidence for Attainment Demonstrations, page 12, fn.10 (EPA 2002) (available at [www.epa.gov/ttn/scram/guidance\\_sip.htm](http://www.epa.gov/ttn/scram/guidance_sip.htm)). In this case, selection of the baseline measurement does not matter. Whether one uses the highest of the fourth highest measurements at the Lisle station over the last 3 years (80 ppb) or simply the highest ozone concentration measured over those same 3 years (99 ppb), adding the conservative increment estimate for the Naperville facility would not result in any exceedances of the 120 ppb 1-hour standard at that monitoring station.

Accordingly, the proposed adjusted standard should not interfere with Illinois' ability to attain the 1-hour ozone NAAQS.

#### 8-hour Average Ozone NAAQS Analysis

The 8-hour average ozone NAAQS is 0.75 parts per million (75 ppb). 40 CFR 50.15(a). This standard is considered to be met when the average of the annual fourth-highest

daily maximum 8-hour average ozone concentrations for the three most recent, consecutive years is less than or equal to 75 ppb. 40 CFR 50.15(b) and Appendix P, 2.2. This approach is also consistent with "Guidance on the Use of Models and Other Analyses for Demonstrating Attainment of Air Quality Goals for Ozone, PM<sub>2.5</sub> and Regional Haze (EPA April 2007).

The baseline 8-hour average ozone concentration is the average of the fourth highest values for 2007-2009 for the Lisle station or 62.7 ppb  $[(72+57+59)/3=62.7]$ . Adding this baseline to the conservative estimated ozone increment for the Naperville facility (1.47 ppb, see above calculations based on Scheffe 1988) yields a conservative estimated ozone concentration of 64.17 ppb. This conservative estimate for the proposed difference between the adjusted standard and the Subpart TT is less than the 8-hour average ozone standard of 75 ppb established in 2008.

Accordingly, the proposed adjusted standard should not interfere with Illinois' ability to attain the 8-hour average ozone NAAQS.