ILLINOIS POLLUTION CONTROL BOARD
April 5, 2012

IN THE MATTER OF:	)	
	)	
PETITION OF GREIF PACKAGING, LLC,	)	AS 2011-01
FOR AN ADJUSTED STANDARD FROM	)	(Adjusted Standard - Air)
35 ILL. ADM. CODE PART 218	)	
SUBPART TT	)	

THOMAS W. DIMOND AND SUSAN CHARLES OF ICE MILLER LLP APPEARED ON BEHALF OF GREIF PACKAGING, LLC, and

CHARLES E. MATOESIAN APPEARED ON BEHALF OF THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY.

OPINION AND ORDER OF THE BOARD (by J.A. Burke):

On January 24, 2011, Greif Packaging, LLC (Greif) filed a petition for an adjusted standard (Petition) from 35 Ill. Adm. Code 218.986(a) as it applies to emissions of volatile organic material (VOM) at Greif's fiber drum manufacturing facility located at 5 S 220 Frontenac Road in Naperville, Du Page County. VOM in excess of Board standards is emitted by a denatured alcohol product Greif uses as a test fluid in its quality control (QC) process to detect the existence of pinhole leaks in polyethylene liners for certain drums. Such drum liners are used to meet customers' drum specifications, particularly for drums used for storage and transport of food-grade products.

On October 11, 2011, the Illinois Environmental Protection Agency (Agency) filed a recommendation that the Board grant Greif's petition. The Board held a public hearing in Naperville on December 20, 2011, following which the parties briefed the issues raised.

Based on the record before it, the Board finds that Greif has provided sufficient justification for an adjusted standard under Section 28.1 of the Environmental Protection Act (Act), 415 ILCS 5/28.1 (2010), and the Board grants Greif an adjusted standard from 35 Ill. Adm. Code 218.986(a) subject to conditions outlined in this order.

PROCEDURAL BACKGROUND

On January 24, 2011, Greif filed a petition with the Board for an adjusted standard from 35 Ill. Adm. Code 218.986(a), accompanied by a Reasonably Available Control Technology (RACT) Study. On February 10, 2011, Greif filed a "Proof of Petition Notice Requirements" indicating that notice of the petition was published in the *Naperville Sun* on January 27, 2011. *See* 415 ILCS 5/28.1(d)(1) and 35 Ill. Adm. Code 104.408(a) and 104.410.

On March 17, 2011, the Board issued an order accepting the petition for hearing. On March 21, 2011, the Board's hearing officer issued an order directing Greif to address prehearing questions.

On May 31, 2011, Greif filed a First Amended Petition followed by a "Proof of Petition Notice Requirements" on June 17, 2011, indicating that notice of the first amended petition was published in the *Naperville Sun* on June 10, 2011. On August 10, 2011, Greif filed a Second Amended Petition (2nd Am. Pet.) followed by a "Proof of Petition Notice Requirements" on August 30, 2011, indicating that notice of the petition was published in the *Naperville Sun* on August 12, 2011.

The Agency filed motions for extensions of time in which to file the Agency's recommendation on March 9, 2011, April 7, 2011, May 9, 2011, July 12, 2011, and September 22, 2011. The Hearing Officer granted each of the Agency's motions on March 10, 2011, April 7, 2011, May 10, 2011, July 13, 2011, and September 26, 2011, respectively. On October 11, 2011, the Agency filed its recommendation (Rec.) that the Board grant Greif's requested relief, subject to certain terms and conditions contained in the recommendation.

On November 1, 2011, Greif submitted its "Air Quality Impact Analysis of the [Volatile Organic Compound (VOC)] Emissions from the Greif Packaging Facility in Naperville, Illinois Using the Scheffe Tables." On November 8, 2011, the hearing officer directed Greif to address additional prehearing questions based on the second amended petition, the air quality impact analysis, the Agency's recommendation, and responses to the earlier prehearing questions.

On December 8, 2011, Greif filed a "Redacted Submission of Non-Disclosable Information" for the "Response of Greif Packaging LLC to Hearing Questions for Petitioner and [Agency] Served on November 8, 2011" (Response to Hearing Questions) followed by an "Application for Treatment as Non-Disclosable Information" (Application) on December 20, 2011.

On December 20, 2011, the hearing officer conducted a hearing in this matter at the James R. Thompson Center located at 100 West Randolph Street in Chicago, Cook County. The Transcript of the hearing will be cited as "Tr. at __." Two witnesses testified at hearing on behalf of Greif: (1) Thomas C. Ponder, Jr., PE, consulting engineer, and (2) Khaalis Rahman, plant manager at Greif's facility in Naperville. At the hearing, Greif also presented testimony to support its "Application for Treatment as Non-Disclosable Information". *See* Tr. at 22-25.

On January 12, 2012, the Agency filed comments in response to questions from the Board's staff at hearing, clarifying the Agency's recommendation (Agency Answers). On January 26, 2012, Greif filed a post-hearing brief (Pet. Br.).

PRELIMINARY MATTER REGARDING NON-DISCLOSABLE INFORMATION

Greif's Application for Treatment as Non-Disclosable Information

On December 20, 2011, Greif filed an application for treatment as non-disclosable information with the Board. Specifically, Greif requested that the Board grant, pursuant to 35 Ill. Adm. Code 130.406, certain information identified in Exhibit 1 of the application to protection from public disclosure.

In support of its position, Greif states that a thorough response to pre-hearing questions submitted by the Board hearing officer required information that Greif believes constitutes "confidential data" as described in 415 ILCS 5/7(a) and 35 Ill. Adm. Code 101.202. Application at 2. This information relates to the average weight of VOC sprayed into each lined drum as part of Greif's QC test process over different time periods and calculations of the maximum production capacity of Greif's facility based on those averages. *Id.* Greif states that this information as well as subsequent actual production data is confidential business information. *Id.* Greif notes that it has always maintained its annual production data as confidential business information and that the averages referred to above were protected by the Agency from disclosure under its regulations implementing the Illinois Freedom of Information Act. *Id.* Greif attached the Agency determination of same as an exhibit to its application.

Board Discussion on Application

The Illinois General Assembly has made provisions in Sections 7 and 7.1 of the Act to protect from public disclosure trade secrets and other non-disclosable information submitted to the State agencies. The Act also provides that certain submissions are not to be kept confidential, balancing the public's right to know with other policy interests, such as protecting secret processes that have competitive business value. 415 ILCS 5/7, 7.1 (2010). The Board's procedural rules (35 Ill. Adm. Code 130) implement these statutory provisions, and allow a petitioner to claim that all or part of a filing constitutes non-disclosable information.

The Board has reviewed the claimed information in issuing today's order. The Board has received no formal requests for public disclosure of the claimed confidential business information. Therefore, Greif's claimed information will continue to remain protected from public disclosure in accordance with 35 Ill. Adm. Code 130.Subpart D. In *re* Petition of Peoria Disposal Company, AS 8-10, slip op. at 88 (Jan. 8, 2009).

FACTUAL BACKGROUND

The Facility

Greif operates a fiber drum manufacturing facility located at 5 S 220 Frontenac Road in Naperville, DuPage County. 2nd Am. Pet. at 8. DuPage County is part of the Metropolitan Chicago Interstate Air Quality Control Region. *Id.*, citing 40 CFR 81.14. This area is designated as a non-attainment area for ozone for both the 1-hour and 8-hour standards under 40 CFR 81.314. *Id.* at 8,16.

Manufacturing of fiber drums at the Naperville facility began in 1988, and Greif currently employs approximately 90 people there. 2nd Am. Pet. at 8, Exh. A at 2-1, Tr. at 8. The fiber drums are manufactured in sizes ranging from 6 to 75 gallons. *Id.* The drum manufacturing process involves cutting the fiber material, forming it into a cylinder, and attaching a top and bottom to the cylinder. *Id.* Greif adds a polyethylene drum liner to some drums to meet customer specifications, particularly for storage and transport of food-grade products. *Id.*

For drums manufactured with drum liners, Greif tests the liners for QC purposes to identify if pinholes are present. 2nd Am. Pet. at 9, Exh. A at 2-1, Tr. at 8-9. Greif described the QC test process: a drum moves along a conveyor belt toward the QC spray station, the conveyor belt stops, and a mechanical wand drops into the drum and releases a QC test fluid. *Id.* The QC test fluid is a denatured alcohol product, which is a VOM by definition. The wand is calibrated to spray the same amount of the QC test fluid into each drum. *Id.* When the wand is retracted, the conveyor belt moves the drum 45 feet to the QC inspection station. *Id.* Here the interior is visually inspected for pinholes, which if present, appear as a brown spot. *Id.* Next the drum is conveyed 120 feet to a drying oven where most of the remaining test fluid evaporates. *Id.* Any additional test fluid is vacuumed and wiped dry. *Id.*

VOM Emissions

Greif pointed out that, because QC test fluid evaporates slowly, VOM emissions occur throughout the QC test process as well as in the paint drying oven. 2nd Am. Pet. at 1-2, 9, Exh. A at 1-1, Tr. at 11.

Greif stated that it "tracks its VOM emissions on a monthly basis by calculating the mass of VOMs used and assuming that all usage is emitted to the atmosphere." 2nd Am. Pet. at 2. Greif records the volume of denatured alcohol held in inventory on the first day of the month plus the volume purchased within the month. *Id.* Greif then subtracts the inventory remaining on the last day of the month to calculate the volume used. *Id.* The volume is then multiplied by the VOM content (in pounds per gallon) to determine the pounds of VOM emitted during the month. *Id.*

Other VOM emission sources at Greif's Naperville facility include a caulk applicator, paint spray booth, and ink printing. Greif explained that these other emission sources are permitted, with source-specific annual VOM limits in the facility's Federal Enforceable State Operating Permit (FESOP), totaling 1.4 tons per year (tpy). 2nd Am. Pet. at 9, Exh. A at 2-1.

Greif states that, because the Naperville facility's total VOM emissions have historically been less than 25 tpy, the facility was previously not subject to Subpart TT and currently does not employ any equipment to capture or destroy VOM emissions. 2nd Am. Pet. at 9.

In past years, Greif reported emissions from the QC test process as follows:

Year	VOM Emissions (tpy)
2006	35.2

2007	46.7
2008	19.1
2009	7.7
2010	8.95

2nd Am. Pet. at 3.

For 2010, Greif reported plant-wide emissions of 9.95 tons of VOM and 1.87 tons of combined hazardous air pollutant (HAP). 2nd Am. Pet. at 3.

FESOP Permit

Greif's facility operates under Federally Enforceable State Operating Permit (FESOP) No. 9707044. Condition 3 of the FESOP limits VOM emissions from the QC Test Process to 22.8 tpy. Condition 3 also sets out specific limits totaling 1.4 tpy for the other emission units from the remainder of the facility, which include a paint spray booth, a caulk applicator, and ink printing. 2nd Am. Pet. at 3. The FESOP limits HAP emissions to 10 tpy for any single HAP or 25 tpy for any combination of HAPs. 2nd Am. Pet. at 3.

Violation Notice

On July 5, 2007, the Agency issued Violation Notice A-2007-00132 to Greif. The Violation Notice alleged that VOM emissions from Greif's Naperville facility's QC Test Process exceeded the maximum limits of 22.8 tpy in Condition 3 of its FESOP. 2nd Am. Pet. at 3.

When Greif's emissions in 2006 and 2007 exceeded its FESOP limits of 22.8 tpy, the Agency alleged Greif triggered the 25 tpy applicability threshold of Part 218 Subpart TT. *See* 35 Ill. Adm. Code 218.980(b). The IEPA informed Greif that even if its future VOM emissions are reduced below the threshold, the VOM emissions are now always subject to Part 218 Subpart TT, because Subpart TT is a "once in, always in" regulation. 2nd Am. Pet. at 3.

LEGAL FRAMEWORK FOR ADJUSTED STANDARD

The Act and Board rules provide that a petitioner may request, and the Board may grant, an adjusted standard that is different from the generally applicable standard that would otherwise apply to the petitioner. *See* 415 ILCS 5/28.1 (2010) and *generally* 35 Ill. Adm. Code 104.Subpart D.

> After adopting a regulation of general applicability, the Board may grant, in a subsequent adjudicatory determination, an adjusted standard for persons who can justify such an adjustment consistent with subsection (a) of Section 27 of this Act. In granting such adjusted standards ,the Board may impose such conditions as may be necessary to accomplish the purposes of this Act. The rule-making provisions of the Illinois Administrative Procedure Act and Title VII of this Act shall not apply to such subsequent determinations." 415 ILCS 5/28.1(a) (2010).

The general procedures that govern an adjusted standard proceeding are found at Section 28.1 of the Act and Section 104.Subpart D of the Board's procedural rules. 415 ILCS 5/28.1 (2010); 35 Ill. Adm. Code 104.400 *et seq*. The Board's procedural rules specify the required contents for the adjusted standard petition. *See* 35 Ill. Adm. Code 104.406, 104.416. After a petition for an adjusted standard is filed, the Agency must file its recommendation with the Board within 45 days after the filing of the petition or amended petition, or at least 30 days before any scheduled hearing, whichever is earlier. *See* 415 ILCS 5/28.1(d)(3) (2010); 35 Ill. Adm. Code 104.416. The adjusted standard proceeding is adjudicatory in nature and therefore is not subject to the rulemaking provisions of the Act or the Illinois Administrative Procedure Act (5 ILCS 100/1-1 et seq. (2010). *See* 415 ILCS 5/28.1(a) (2010); 35 Ill. Adm. Code 101.202 (defining "adjudicatory proceeding").

Section 28.1(d)(1) of the Act and Section 104.408(a) of the Board's procedural rules require the adjusted standard petitioner to publish notice of the petition's filing by advertisement in a newspaper of general circulation in the area likely to be affected by the proposed adjusted standard. 415 ILCS 5/28.1 (2010); 35 Ill. Adm. Code 104.408(a). Publication must take place within 14 days after the petition is filed. *Id.* The newspaper notice must indicate that any person may cause a public hearing to be held on the proposed adjusted standard by filing a hearing request with the Board within 21 days after publication. 415 ILCS 5/28.1(d)(1) (2010); 35 Ill. Adm. Code 104.408(b).

The burden of proof in an adjusted standard proceeding is on the petitioner. 415 ILCS 5/28.1(b), (c) (2010); 35 Ill. Adm. Code 104.426. Once granted, the adjusted standard, instead of the rule of general applicability, applies to the petitioner. 415 ILCS 5/28.1(a) (2010); 35 Ill. Adm. Code 101.202, 104.400(a). In granting adjusted standards, the Board may impose conditions as may be necessary to accomplish the purposes of the Act. 415 ILCS 5/28.1(a) (2010); 35 Ill. Adm. Code 104.428(a).

CURRENT APPLICABLE STANDARDS

Part 218 "Organic Material Emission Standards and Limitations for the Chicago Area," Subpart TT "Other Emission Units" of the Board's air rules is the generally applicable standard at issue in this adjusted standard proceeding. 35 Ill. Adm. Code 218.986(a). Specifically:

Section 218.986 Control Requirements

Every owner or operator of an emission unit subject to this Subpart shall comply with the requirements of subsection (a), (b), (c), (d), or (e) below.

a) Emission capture and control equipment which achieves an overall reduction in uncontrolled VOM emissions of at least 81 percent from each emission unit, or (Board Note: For the purpose of this provision, an emission unit is any part or activity at a source of a type that by itself is subject to control requirements in other Subparts of this Part or 40 CFR 60, incorporated by reference in Section 218.112, e.g., a coating line, a printing line, a process unit, a wastewater system,

or other equipment, or is otherwise any part or activity at a source.) 35 Ill. Adm. Code 218.986(a).

Subpart TT and Section 218.986 were initially adopted by the Board in RACT Deficiencies in the Chicago Area, R91-7 (July 25, 1991), effective August 16, 1991. Section 218.986 was last amended in RACT for Major Sources Emitting Volatile Organic Materials, in the Chicago Ozone Nonattainment Area: 25 Tons, R93-14 (January 6, 1994), effective January 24, 1994.

Section 182(b)(2) of the Clean Air Act as amended in 1990 required Illinois to adopt reasonably available control technology (RACT) rules for all areas designated nonattainment for ozone and classified as moderate or above. 42 U.S.C. 7511a(b)(2). RACT is not defined in the Clean Air Act but USEPA defines RACT as "the lowest emission limitation that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility." 44 Fed. Reg. 53762 (September 17, 1979). The Section 182(b)(2) RACT requirements apply to three categories: (1) sources covered by a control technique guideline (CTG) issued prior to November 15, 1990; (2) sources covered by a CTG issued between November 15, 1990 and the date of attainment; and (3) all other major stationary sources of VOM (*i.e.*, "non-CTG sources"). 42 U.S.C. 7511a(b)(2)(A)-(C). For a severe nonattainment area, as the Chicago area was designated for ozone,[1] the term "major source" was defined to include any stationary source which emits or has the potential to emit (PTE) at least 25 tons of VOM per year. 42 U.S.C. 7511a(d).

On June 29, 1990, USEPA promulgated a Federal Implementation Plan (Chicago FIP) for six counties in the Chicago metropolitan area: Cook, DuPage, Kane, Lake, McHenry, and Will. 55 Fed. Reg. 26814. USEPA promulgated the Chicago FIP to correct deficiencies in Illinois' RACT rules as to certain VOM sources.[2] *Id.* at 26815. USEPA determined that a "catch-all"

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[1] Pursuant to the 1990 CAA amendments, the Chicago area was classified as severe non-attainment under the 1-hour ozone standard, however, on December 30, 2008, USEPA approved an Agency request that the area had attained the standard. 73 Fed. Reg. 79652 (Dec. 30, 2008). The Board notes that in April, 2004, the Chicago area was classified as moderate nonattainment for the 1997 8-hour ozone National Ambient Air Quality Standard (NAAQS). 40 CFR 81.314, 76 Fed. Reg. 74015 (Nov. 30, 2011). The Chicago nonattainment area includes Cook, DuPage, Kane, Lake, McHenry, and Will Counties, as well as portions of Grundy and Kendall Counties. *Id.*

[2] USEPA was required to promulgate an ozone implementation plan for the Chicago area under a settlement agreement entered in Wisconsin v. Reilly, No. 87-C-0395 (E.D. Wis.). 55 Fed Reg. 26814, 26814 (June 29, 1990). Pursuant to the settlement agreement, the Agency filed proposed rules with the Board on September 29, 1989. RACT Deficiencies: Amendments to 35 Ill. Adm. Code Parts 211 and 215, R89-16. The Board adopted a portion of the proposed RACT rules on May 10, 1990. However, the Board removed the proposed generic rules to a subdocket and later dismissed that subdocket without adopting the generic rules. R89-16 (Board orders dated February 8, 1990 and July 3, 1990). As a result, USEPA determined that it must promulgate

generic rule was needed to cover all major non-CTG sources. *Id.* at 26834. USEPA also determined, "to be consistent with RACT, the control requirement of this [generic] rule should be at least as stringent as 3.5 pounds of VOC per gallon of coating or 81 percent overall control." *Id.* Relevant here, the Chicago FIP included the following provision:

> (x) Other emission sources
>
> ***
>
> (3) Control requirements. Every owner or operator of an emission source subject to paragraph (x) of this section shall comply with the requirements of paragraph (x)(i), (ii) or (iii) of this section.
>
> (i) Emission capture and control equipment which achieve an overall reduction in uncontrolled VOM emissions of at least 81 percent, or . . .

Id. at 26885, codified at 40 CFR 52.741(x) (1990). The Chicago FIP, codified at 40 CFR Subpart O, became effective June 30, 1990, and USEPA set a general compliance date of July 1, 1991. 55 Fed. Reg. at 26831.

The Board notes that the "once in, always in" provision comes from the FIP imposing RACT on VOM sources in the Chicago area. *See* 55 Fed. Reg. 26884, June 29, 1990; 40 CFR 52.741(x)(ii). The "once in, always in" provision that applies to Subpart TT is found at Section 218.980(c).

In a policy memo, USEPA explained that without a "once in, always in" policy, facilities could backslide from required control levels. *See* May 16, 1995 memo "Potential to Emit for MACT Standards--Guidance on Timing Issues" from John Seitz, Director of the Office of Air Quality Planning and Standards[3] at 9. USEPA reasoned that facilities could obtain permits, like a FESOP, limiting their emissions below their actual "potential to emit" and, in turn, below the applicability threshold for the MACT (Maximum Achievable Control Technology for Hazardous Air Pollutants) standards. *Id.* This would enable facilities to increase emissions up to the applicability (major source) threshold, without becoming subject to the control requirements. The "once in, always in" policy ensures the emission reductions are permanent. *Id.* Although RACT is not specifically mentioned, the Board believes USEPA's reasoning presumably holds true for the RACT standards.

On January 17, 1991, the Agency filed a proposal requiring implementation of RACT for VOM sources. RACT Deficiencies in the Chicago Area: Amendments to 35 Ill. Adm. Code Part 215 and the Addition of Part 218, R91-7 (July 25, 1991). This rulemaking was necessary to correct deficiencies in Illinois' state implementation plan (SIP) for ozone in the Chicago area.

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rules to correct all the deficiencies within the timeframe set by the settlement agreement. 55 Fed Reg. at 26815.

[3] The memo appeared at http://www.epa.gov/ttncaaa1/t3/memoranda/pteguid.pdf (last visited February 28, 2012).

Id. The Board accepted the Agency's certification that the rulemaking was federally required pursuant to Section 28.2 of the Environmental Protection Act. *Id.* The Board stated "[t]he proposed regulations are intended to be identical in effect to the [Chicago FIP] promulgated by [USEPA]." R91-7 (Order on Second Notice, June 11, 1991). On July 25, 1991, the Board adopted, among other provisions, Part 218, Subpart TT, "Other Emission Sources." The new rules provided nearly identical language as subpart (x) of the Chicago FIP:

> **Section 218.986 Control Requirements**
>
> Every owner or operator of an emission source subject to this Subpart shall comply with the requirements of subsection (a), (b) or (c) below.
>
> (a) Emission capture and control equipment which achieve an overall reduction in uncontrolled VOM emissions of at least 81 percent, or . . .

On August 16, 1991, these rules became effective but were not yet incorporated into the Illinois SIP.

The Board subsequently amended Section 218.986 on September 9, 1993 in Omnibus Cleanup of the Volatile Organic Material RACT Rules Applicable to Ozone Nonattainment Areas: Amendments to 35 Ill. Adm. Code Parts 203, 211, 218 and 219, R93-9 and again on January 6, 1994 in Reasonably Available Control Technology for Major Sources Emitting Volatile Organic Materials in the Chicago Ozone Nonattainment Area: Amendments to 35 Ill. Adm. Code Part 211 and 218, R93-14. As a result of these rulemakings, Subpart TT Section 218.986 provided, and currently provides:

> **Section 218.986 Control Requirements**
>
> Every owner or operator of an emission unit subject to this Subpart shall comply with the requirements of subsection (a), (b), (c), (d), or (e) below.
>
> (a) Emission capture and control equipment which achieves an overall reduction in uncontrolled VOM emissions of at least 81 percent from each emission unit, or (Board Note: For the purpose of this provision, an emission unit is any part or activity at a source of a type that by itself is subject to control requirements in other Subparts of this Part or 40 CFR 60, incorporated by reference in Section 218.112, e.g., a coating line, a printing line, a process unit, a wastewater system, or other equipment, or is otherwise any part or activity at a source.) 35 Ill. Adm. Code § 218.986(a).

The current Section 281.986 version became effective January 24, 1994. The rules promulgated in R93-14, including Section 281.986, were incorporated in the Illinois SIP effective November 20, 1996. 61 Fed. Reg. 54556 (Oct. 21, 1996).

In R93-14, the Board explained that Subparts AA, PP, QQ, RR, and TT affect "non-CTG sources . . . whose annual emissions are between 25 tons PTE and 100 tons MTE." R93-14, slip

op. at 4 (Final Order, January 6, 1994). In that rulemaking, the Agency had identified 88 non-CTG sources in the Chicago nonattainment area with emissions in that range. *Id.* Of those sources, 45 sources had actual emissions of greater than 10 tons per year. RACT was determined based on these 45 sources. *Id.* The Agency concluded that RACT for a 25-ton PTE source is 81 percent control at each emission unit. *Id.*

AGREED PROPOSED ADJUSTED STANDARD

In its petitions, Greif had proposed language for the adjusted standard, but IEPA proposed slightly different language in the Agency Recommendation. At hearing, Greif agreed with the language in the Agency Recommendation for adoption by the Board as follows: Tr. at 16.

1. The adjusted standard applies to the emission of volatile organic material (VOM) into the atmosphere from the automated QC Test Process line at Greif's fiber drum manufacturing facility located at 5 S 220 Frontenac Road in Naperville, DuPage County, Illinois (the Facility). The Facility manufactures fiber drums. Some of the fiber drums are lined with polyethylene to meet customer specifications, particularly for storage and transport of food-grade products. Lined drums must be tested to ensure the integrity of the polyethylene lining. That testing is performed at the QC Test Process, which consists of the following equipment and steps:

    a. An automated, mechanical wand is lowered into each lined drum on a conveyor system. The wand is calibrated so that each spray releases about the same amount of QC test fluid into each drum.

    b. The drums then are conveyed to the QC inspection station where the interior of the drum is visually inspected for pinholes.

    c. The drum next is conveyed to a drying oven where most of the remaining QC test fluid is evaporated. After leaving the drying oven, any remaining QC test fluid is vacuumed from the drum and then the drum is wiped dry. VOM in the QC test fluid is emitted throughout the QC Test Process as well as in the drying oven.

2. The Facility will reduce VOM emissions from its automated QC Test Process by using a test fluid composed of no more than 45 percent denatured alcohol by weight and no less than 55 percent water by weight.

3. The Facility will calibrate the automated QC Test Process equipment to spray an average of no more than 48 grams of QC test fluid per drum with compliance to be measured at least once per calendar quarter by the following procedure.

    a. Weigh a plastic bag on a gram scale to determine the weight of the bag.

b. Place the plastic bag over the spray head of the wand of the QC Test Process and secure it in place with a rubber band or binder clip.

c. Cycle the QC Test Process by passing a drum through the process in the normal manner of operation with the plastic bag capturing the QC test fluid. Remove the plastic bag from the spray head of the wand of the QC Test Process and weigh it on the same gram scale used in step a.

d. Calculate the weight of QC test fluid sprayed as the difference between the weight determined in step c and the weight determined in step a.

e. Repeat steps a. through d. for five cycles of the QC Test Process. Calculate the average weight of QC test fluid sprayed per cycle and compare that average to the standard of an average of no more than 48 grams of QC test fluid per drum.

4. All records and logs required by this adjusted standard shall be retained at a readily accessible location at the source for at least five years from the date of entry and shall be made available for inspection and copying by the Illinois EPA or USEPA upon request. Any records retained in an electronic format (*e.g.*, computer) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to an Illinois EPA or USEPA request for records during the course of a source inspection.

5. The Facility will maintain records of its QC test fluid usage that will allow the monthly calculation of the amount of QC test fluid used during the month and the calculation of VOM emissions on a 12-month rolling total basis for comparison to annual VOM limits in the FESOP. To allow these calculations, the Facility will:

a. Record the volume of QC test fluid held as inventory on the first and last day of each month.

b. Maintain records of the volume of QC test fluid received at the Facility during each month.

c. The volume of QC test fluid used for a month shall equal the inventory volume on the first day of the month plus the volume received at the Facility during the month, less the volume in inventory on the last day of the month.

d. The volume used during a month calculated in step c shall be multiplied by the VOM content of the QC test fluid (in pounds per unit of volume) to compute the weight (in pounds) of VOM emitted during the month.

e. Using the emissions of VOM in pounds calculated for each month in step d, the Facility will compute the 12-month rolling VOM emissions for the QC Test Process and report those results to Facility management.

6. Greif will continue to investigate the availability of alternative QC test fluids with lower VOM content. Greif will incorporate such lower VOM QC test fluids into its automated QC Test Process provided that the lower VOM QC test fluids allow visual detection of pinholes or other tears or imperfections in the drum linings within an acceptable period of time and does not result in any negative product quality impacts.

7. The proposed adjusted standard will not affect the calculation of Greif's potential Emissions Reduction Market System ("ERMS") baseline or its ERMS allotment if Greif's Naperville plant should participate in the ERMS program.

8. Environmental staff of Greif's parent company will conduct a formal training session for Naperville facility personnel on the requirements of the FESOP and the internal procedures for tracking compliance with FESOP conditions.

9. Emissions and operation of the QC Test Process shall not exceed the following limits:

	(Tons/Mo)	(Tons/Yr)
VOM Usage	2.3	22.8
VOM Emissions	2.3	22.8

These limits are based on the maximum material usage and the maximum VOM content. Compliance with the annual limit for the QC Test Process shall be determined from a running total of 12 months of data. Rec. at 9-11.

GREIF'S EFFORTS TO ACHIEVE COMPLIANCE, ALTERNATIVES, AND ANALYSIS

Technological Feasibility

Compliance with the Existing RACT Standard

Greif commissioned a consulting engineer, Thomas C. Ponder, Jr., PE, to conduct "a RACT Study to evaluate whether various emission control options for the QC Test Process satisfy RACT control requirements in [35 Ill. Adm. Code § 218.986(a)]" (RACT Study). 2nd Am. Pet. at 4. In order to meet the 81 percent capture and control requirement of Section 218.986(a), Greif explained that an effective capture system would require a tunnel enclosure over the entire 165-foot conveyor system starting at the QC spray station and extending over the drum paint oven. 2nd Am. Pet. at 10, Exh. A at 1-1, 3-1, Tr. at 13. Ductwork would then connect the enclosure to a control device. *Id.* This type of capture system would capture 90

percent of the VOM emissions and was assumed for each of the add-on air pollution controls discussed below. *Id.*

Add-On Air Pollution Controls

The RACT Study evaluated three options for capture and control systems: (1) capture plus recuperative thermal oxidizers (RTO), (2) capture plus carbon adsorbers, and (3) capture plus biofilters and material substitution. 2nd Am. Pet. at 16. The RACT Study found each option would be capable of achieving at least 81 percent capture and control as required by Section 218.986(a). *Id.* With the high volume of air that would need to be treated from the 165-foot enclosure, Greif noted that the control equipment would also need to be commensurately sized. Exh. A at 1-2, Tr. at 12. Greif also noted that the control options could result in increased emissions of other pollutants as well as increased health and safety risks. 2nd Am. Pet. at 6, Exh. A at 1-2 to 1-3.

For the first option, the RACT Study explained that RTOs heat an exhaust stream to a temperature of 1600°F to oxidize (burn) and destroy VOM in the exhaust. 2nd Am. Pet. at 11. The RTO system evaluated has a heat recovery rate as high as 60 percent and requires less natural gas than traditional incinerators. *Id.* However, the use of natural gas generates emissions of NO_x, CO, and small quantities of VOM and HAPs, which would partially offset VOM reductions that would be achieved. *Id.*, Exh. A at 1-2 to 1-3, 3-1.

For the second option, the RACT Study characterized carbon adsorbers as systems for controlling low to medium VOM concentrations. 2nd Am. Pet. at 12. With two carbon beds, carbon adsorbers use one bed to treat the exhaust emissions while the other is being regenerated with steam. *Id.* Greif explained that carbon adsorbers work best with VOMs that are not soluble in water. *Id.* Greif pointed out that the QC test fluid is water soluble, so the regeneration fluid would likely be sent to the local sewage district. *Id.* During treatment at the sewage district, the VOMs would likely be released into the atmosphere, which Greif contends would not achieve a true reduction in VOM. 2nd Am. Pet. at 12, Exh. A at 3-1 to 3-2. Additionally, Greif expressed concern for the health and safety risks associated with carbon adsorbers. 2nd Am. Pet. at 12. Greif explained that ketones found in the denatured alcohol QC test fluid present a risk of fire caused by reactions between the ketones and carbon in the beds. *Id.* Although water deluge systems are used to control such fires, Greif remained concerned about the increased risk. *Id.*, Exh. A at 1-2 to 1-3, 3-1 to 3-2.

For the third option, the RACT Study evaluated biofilters in combination with material substitution (dilution). 2nd Am. Pet. at 13. Greif explained that biofilters can be used to reduce VOM emissions but would not be able to achieve the 81 percent capture and control requirement alone. *Id.* To meet the 81 percent requirement would require another control technology or dilution of the QC test fluid with water. *Id.* Since biofilters must be heated to maintain performance during the winter, Greif points out that natural gas heat would increase NO_x emissions, partially offsetting the benefit from reductions in VOM emissions. *Id.*, Exh. A at 1-2 to 1-3, 3-2.

Reducing VOM through Material Substitution and Reduction

The RACT Study also looked at two options for reducing VOM emissions through material substitution: (1) mixing the QC test fluid with acetone or (2) mixing the QC test fluid with water. 2nd Am. Pet. at 13-14, Exh. A at 3-3, Tr. at 14-15. The RACT Study found that the first option for mixing the QC test fluid with acetone would not be technically feasible since acetone would dissolve the gasket material that seals the bottom of the drum to the side walls. *Id.*

The second option of mixing the QC test fluid with water was found to satisfy product quality standards as well as a reduction in VOM emissions. 2nd Am. Pet. at 14-15, Exh. A at 3-2 to 3-3, Tr. at 15. Greif experimented with five potential dilution scenarios of denatured alcohol mixed with water: 80%/20%, 70%/30%, 50%/50%, 40%/60%, and 45%/55% by weight. 2nd Am. Pet. at 14. The test with the least amount of denatured alcohol (40%/60%) failed to identify flaws in the liners within an acceptable time period, however, the 45/55 mixture detected all pinholes within 50 seconds of spraying. *Id.* at 14-15. Based on the test runs, Greif determined that the 45%/55% dilution was the highest dilution percentage that would allow the plant to meet the requirements for customer quality assurance. *Id.*, Tr. at 15.

By mixing water with the QC test fluid in a ratio of 45 percent denatured alcohol to 55 percent water, the RACT study concluded that a 55 percent reduction in VOM would result. 2nd Am. Pet. at 4-5. In addition, Greif determined that it could reduce the amount of QC test fluid sprayed on each drum to an amount not to exceed 48 grams. *Id.* at 15. Greif stated that the proposed modifications would reduce VOM emissions from Greif's QC Test Process by 70 percent on a unit basis and achieve annual emissions below the 22.8 tpy limit in Condition 3 of the FESOP. *Id.* The RACT Study concluded that the 45/55 QC test fluid mixture constitutes RACT for Greif's QC Test Process at its Naperville facility. *Id.*, Exh. A at 4-5 to 4-6.

Greif noted that it has already implemented the water-diluted QC Test Process in May 2008, and found it successful in detecting drum defects without product harm. 2nd Am. Pet at 15.

Economic Reasonableness

The RACT Study estimated the following costs for each capture and control option (including enclosure and ductwork) as well as the material substitution option:

Option	Capital Cost	Cost per ton of VOM controlled
RTO	$1,752,000	$17,672
Carbon Adsorber	$1,170,000	$12,594
Biofilter	$1,800,000	$11,667
Water-Diluted Solvent	$0	- $541

2nd Am. Pet. at 4, 12-15, Exh. A at 1-2.

The RACT Study stated that costs for the capture and control options included construction of the enclosure over the 16-foot long conveyor system and associated ductwork. 2nd Am. Pet. Exh. A at 1-2, Tr. at 12. With the high volume of air that would need to be treated from the 165-foot long enclosure, the RACT Study noted that the control equipment would also need to be larger, impacting the cost. *Id.*

Greif stated that the costs for the capture and control technologies exceed what the Board considered economically unreasonable in previous adjusted standards. 2nd Am. Pet. at 4, 23. Greif cited the following cases in support of this argument: In *re* Petition of Formel Industries, Inc., AS 00-13, slip op. at 9 (Jan. 18, 2001) ($10,911 - $18,041 per ton of VOM reduced); In *re* Petition of Ford Motor Company (Chicago Assembly Plant), AS 00-06, slip op. at 5 (April 6, 2000) (citing In *re* Petition of Louis Berkman, AS 97-5 (Dec. 4, 1997) *aff'd sub nom* EPA v. PCB, 308 Ill. App. 3d 741, 746 & 752-53, 721 N.E.2d 723,726-27 & 731 (2d Dist. 1999) ($1,734 in 1996 dollars per ton of reductions)); In *re* Joint Petition of Reynolds Metals Company and the Illinois Environmental Protection Agency, AS 91-8 (Sept. 21,1995) ($40,000 per ton of VOM reduced). 2nd Am. Pet. at 23. The RACT Study notes that $1,734 in 1996 dollars would be approximately $2,249 in 2008 dollars. Exh. A at 4-5.

Accordingly, Greif concluded that add-on controls and achieving a capture and control rate of at least 81 percent of the VOM emissions from its QC Test Process is not economically reasonable for Greif. 2nd Am. Pet. at 26. Rather, the RACT Study found the option of using the 45/55 water-diluted QC test fluid would actually be less expensive than the previously used test fluid of 100 percent denatured alcohol. Exh. A at 3-3. Greif concluded, "[T]he RACT Study demonstrates that dilution of the QC test fluid is the only technically feasible and economically reasonable alternative." 2nd Am. Pet at 9-10.

Impact on the Environment

Petition

Greif explained that DuPage County, where Greif's Naperville facility is located, is part of the Metropolitan Chicago Interstate Air Quality Control Region. *See* 40 CFR 81.14. Greif stated that this area is designated as a non-attainment area for ozone for both the 1-hour and 8-hour standards under 40 CFR 81.314. 2nd Am. Pet. at 8,16.

Greif stated that its VOM emissions from the QC Test Process have a "minimal impact on air quality." 2nd Am. Pet. at 18. Greif compared the maximum permitted emissions limits of 22.8 tpy to the 2009 Metropolitan Chicago area and State-wide VOM point source emissions of 11,884 and 54,668 tons, respectively. *Id.* at 18-19. Greif calculated that VOM emissions from the QC Test Process would account for 0.19 percent of the Metropolitan Chicago VOM point source emissions and 0.04 percent of the State-wide VOM point source emissions. *Id.*

Greif cited the following previous cases where the Board granted adjusted standards for Subpart TT sources with VOM emissions higher than Greif: In *re* Petition of Ford Motor Co. (Chicago Assembly Plant), AS 00-6, slip op. at 5 (April 6, 2000) (VOM emissions were limited

to 390 tpy); and In *re* Petition of Alumax, Inc., AS 92-13, slip op. at 9 (Sept. 1, 1994) (VOM emissions were 94 tpy using the adjusted standard). 2nd Am. Pet. at 19.

Greif explained that the RTO option would result in emissions of NO_x, CO, VOM and HAP, the carbon adsorbers would result in an additional wastewater stream with subsequent VOM release, and the biofilters would result in increased NO_x emissions. 2nd Am. Pet. at 12-13. On the other hand, Greif noted that the proposed adjusted standard relying on a water-diluted QC test fluid is not expected to change the nature or volume of waste or wastewater from the Naperville facility. 2nd Am. Pet. at 20. Greif also cited to previous cases where the Board recognized concerns regarding capture and control technologies whose alternate emissions contribute to ozone formation or hazardous waste generation, offsetting the environmental benefit of VOM reductions. 2nd Am. Pet. at 19, citing In *re* Petition of Alumax, Inc., AS 92-13, slip op. at 7 (Sept. 1, 1994); and In *re* Joint Petition of Quantum Chemical Corporation, USI Division (and the Illinois Environmental Protection Agency), AS 92-14, slip op. at 9 (Oct. 7, 1993). 2nd Am. Pet. at 19.

Air Quality Impact Analysis

On November 1, 2011, Greif submitted their "Air Quality Impact Analysis of the VOC [Volatile Organic Compound] Emissions from the Greif Packaging Facility in Naperville, Illinois Using the Scheffe Tables" (Analysis). Greif commissioned Mr. Ponder to perform the Analysis to quantify the air quality impact associated with the proposed adjusted standard. The Analysis was designed specifically to evaluate the air quality impact associated with the difference in VOM emissions between the proposed adjusted standard and compliance with the 81 percent capture and control requirement of Subpart TT. Analysis at 2.

The Analysis utilized the "VOC/NO_x Point Source Screening Tables" by Richard D. Scheffe, USEPA Office of Air Quality Planning and Standards, dated September 1988. Mr. Ponder explained that the Scheffe method is a screening tool used to quantify an "ozone increment", the approximate increase in ozone caused by a single facility's VOM emissions. Analysis at 1. The Scheffe method requires two facility-specific inputs: VOC or VOM, also referred to as non-methane organic compound (NMOC), emissions and NO_x emissions. Analysis at 2. Based on the ratio of VOM (NMOC) to NO_x, the Scheffe method can be used to determine the impact of the emissions on ambient ozone levels. Tr. at 20.

For the VOM input, the Analysis assumed the adjusted standard would achieve a reduction of 73.1 percent based on actual reductions achieved during 2009 and 2010 using the water-diluted QC test fluid. Analysis at 2, Response to Hearing Questions at 2. The Analysis multiplied the difference in percent reductions (81 percent - 73.1 percent) by the theoretical maximum VOM emissions based on usage of 84.8 tpy as follows: 84.8 tpy x (0.81 – 0.731) = 6.7 tpy VOM. *Id.*, Tr. at 28. Therefore, the analysis used 6.7 tpy as the maximum difference in VOM emissions between the adjusted standard and compliance with the 81 percent requirement. *Id.*, Tr. at 27-30. Mr. Ponder explained that the theoretical maximum emissions of 84.8 was based on the FESOP limit of 22.8 tpy divided by one minus the percent reduction assumed for the adjusted standard of 73.1 percent as follows: 84.8 tpy = 22.8 tpy / (1-0.731). Response to

Hearing Questions at 2, Tr. at 28. Greif indicated the facility has never emitted 84.8 tpy. Tr. at 27-28.

For the NO_x input, the Analysis used 0.1992 tpy based on the facility's 2009 emission inventory. Analysis at 2. Mr. Ponder then calculated the necessary VOM (NMOC) to NO_x ratio by dividing 6.7 tpy by 0.1992 tpy, resulting in 33.63. *Id.*

Using the Scheffe method, the Analysis referred to Table 2 entitled "Urban based ozone increment as a function of NMOC emissions and NMOC/NO_x ratios" because of the facility's location. Analysis at 1. With a VOM (NMOC) to NO_x ratio of 33.63, the Analysis applied the first column in the table for ratios greater than 20.7 VOM (NMOC)/NO_x. *Id.* at 2. According to the table, the ozone increment for emissions with a VOM (NMOC)/NO_x ratio greater than 20.7 and VOM (NMOC) emissions equal to 50 tpy would be 11 parts per billion (ppb). *Id.* Since 50 tpy VOM was the lowest value in the table, the Analysis used linear interpolation to estimate the ozone increment associated with 6.7 tpy VOM as follows: {(6.7-0) x (1.1-0) x 10 / (50-0)} + 0 = 1.47 ppb. *Id.*

The Analysis then proceeded to add the 1.47 ppb ozone increment to the baseline 1-hour ambient ozone measurement for the area. Analysis at 2. The highest baseline 1-hour ozone measurement at the Lisle station for 2007-2009 was 99 ppb, and the highest of the fourth highest measurements was 80 ppb. *Id.* The analysis concluded that the addition of the 1.47 ppb ozone increment would not result in an exceedance of the 120 ppb 1-hour standard at the Lisle monitoring station. *Id.*

Similarly, the Analysis added the 1.47 ppb ozone increment to the baseline 8-hour average ozone concentration for the area. Analysis at 3. The average of the fourth highest 8-hour measurements at the Lisle station for 2007-2009 was 62.7 ppb. *Id.* The Analysis found that adding the 1.47 ppb ozone increment to 62.7 ppb would result in an ozone concentration of 64.17 ppb, which would be less than the 8-hour standard of 75 ppb established in 2008. *Id.*

The Analysis pointed out that the ozone increments calculated using the Scheffe method are conservative, such that estimates are expected to exceed actual ozone formation during episodic events. Analysis at 1-2. The Analysis concluded, "[a]ccordingly, the proposed adjusted standard should not interfere with Illinois' ability to attain the 8-hour average ozone NAAQS." *Id.* at 3. Mr. Ponder added that the 1.47 ppb ozone increment would not cause or contribute to violations of the ozone NAAQS or delay efforts to attain the NAAQS in a timely manner. Response to Hearing Questions at 3.

Substantially Different Factors

Greif argues that "the factors relating to Greif's ability to reduce VOM emissions are substantially and significantly different from any the Board may have relied on in adopting Subpart TT." 2nd Am. Pet. at 20; Greif Brief at 7. Greif makes four points in support of this argument.

First, Greif states that the Board did not rely on any specific industry factors in adopting Subpart TT, and specifically did not consider the drum manufacturing business. 2nd Am. Pet. at 20-21; Greif Brief at 7. Greif states that Subpart TT is a "catch-all" regulation applicable to VOM sources not covered elsewhere in Part 218. 2nd Am. Pet. at 21; Greif Brief at 7. Greif cites to the Board's discussion in Petition of Ford Motor Co., AS 00-06 (April 6, 2000), for the proposition that the Board did not consider factors relating to any specific industry or practice in adopting Subpart TT. *Id.*

Second, Greif asserts that its "unique QC Test Process" is substantially different from factors the Board may have relied on in promulgating Section 218.986(a). 2nd Am. Pet. at 22. Greif states that constructing capture equipment over an extended conveyor line is particularly complex for its facility. *Id.* Further, the conveyor cannot be totally enclosed because personnel need to be able to "maintain physical access to the drums for visual inspection." *Id.* Greif's ability to manage VOM emissions by diluting test fluid and reducing the amount of test fluid sprayed into drums is different from factors the Board may have considered in promulgating the rule. *Id.*

Third, Greif asserts that the physical layout of the Facility and slow evaporation of test fluid are substantially and significantly different from other manufacturing activities that may have been considered by the Board. 2nd Am. Pet. at 21; Greif Brief at 9. These factors limit Greif's ability to capture and control VOM emissions through add-on controls. 2nd Am. Pet. at 21. Greif states that the testing fluid begins to evaporate while being sprayed in the spray station. 2nd Am. Pet. at 22; Greif Brief at 9. Evaporation continues while being conveyed to the inspection area, while awaiting inspection, while being conveyed to the drum paint oven, and possibly afterward. *Id.* The drums must also be available for visual inspection. *Id.* Greif argues that these factors necessitate a complex and large capture system that the Board did not consider when adopting Subpart TT. 2nd Am. Pet. at 23; Greif Brief at 9.

Fourth, Greif asserts that the cost to achieve 81 percent capture and control under Section 218.986(a) for the QC Test Process "would exceed the threshold cost level the Board previously has found to be economically reasonable." 2nd Am. Pet. at 21. Greif's RACT Study considered three capture and control systems: (1) capture plus recuperative thermal oxidizers, (2) capture plus carbon adsorbers, and (3) capture plus biofilters. 2nd Am. Pet. at 23; Greif Brief at 3. Each of these technologies could achieve at least 81 percent capture and control of VOM emissions. *Id.* Greif estimates that these technologies range in cost from $11,667 to $17,672 per ton of annual VOM removed. *Id.* Greif cites to the following Board opinions to conclude that the costs estimated in Greif's RACT Study "exceed the threshold cost level the Board previously has found to be economically unreasonable": In *re* Petition of Formel Industries, Inc., AS 00-13 (January 18, 2001) ($10,911-$18,041 per ton of VOM reduced); In *re* Petition of the Louis Berkman Co., AS 97-5 (December 4, 1997), affirmed by Illinois Environmental Protection Agency v. Pollution Control Board and The Louis Berkman Co., 308 Ill. App. 3d 741, 746, 721 N.E.2d 723, 726-27 (1999) ($1734 average per ton reduced); In *re* Joint Petition of Reynolds Metals Company and Illinois Environmental Protection Agency, AS 91-8 (September 21, 1995) ($40,000 per ton of VOM reduced). 2nd Am. Pet. at 23.

Consistency with Federal Law

Greif states that its proposed adjusted standard constitutes RACT for the Facility and therefore is consistent with the federal CAA. 2nd Am. Pet. at 25. Greif notes that Section 110 of the federal CAA grants individual states the authority to promulgate a plan for implementation, maintenance, and enforcement of air quality standards subject to approval by USEPA. *Id.*

Greif explained that if the Board grants the adjusted standard, the Agency will need to request USEPA approval in the form of a SIP revision. However, Greif noted that the adjusted standard would become effective at the State level immediately upon granting by the Board. 2nd Am. Pet. at 7 citing to In *re* Petition of Alumax, AS 92-13, slip op. at 4 (September 1, 1994); Reasonably Available Control Technology for Major Sources Emitting Volatile Organic Materials in the Chicago Ozone Nonattainment Area: 25 Tons, R93-14, slip op. (Second Notice) at 5-6 (November 18, 1993).

AGENCY RECOMMENDATION

On October 11, 2011, the Agency filed its recommendation that the Board grant the relief requested in Greif's second amended adjusted standard petition, subject to listed conditions. Rec. at 9-11. At hearing, Greif agreed with the language in the recommendation for adoption by the Board. Tr. at 16.

The Agency alleged that Greif became subject to the 81 percent capture and control requirements because Subpart TT is a "once in-always in" regulation. Rec. at 4. Therefore, the Agency states Greif is still subject to the requirements of Section 218.986(a) even if plant-wide emissions are reduced below the applicability threshold. *Id.*

The Agency did not accept Greif's assertion that granting the petition will have "minimal impact on air quality." Rec. at 7, quoting 2nd Am. Pet. at 18. The Agency states,

> the Agency does not accept this argument on its face, as almost any individual source could make the same claim, and it is the aggregate of sources in the area that causes ozone nonattainment. However, the technical factors in this instance and the emission reductions Greif has already made offset the Agency's concern in this regard. Rec. at 7-8.

On January 12, 2012, the Agency filed answers to questions from the Board's technical staff at hearing, clarifying its recommendation. Tr. at 31-32. As to whether the Agency considered the increment of 1.47 ppb "potentially significant," the Agency stated:

> [USEPA] has not defined a level of significance for ozone. However, the Agency reviewed the impact of an increment of 1.47 [ppb] on the current air quality in the area. For 2007 – 2009, the one-hour design value at Lisle, the closest monitoring site to the facility, is 70.7 [ppb]. The Agency believes that an increase of 1.47 [ppb] to the design value will not cause the violation of 120 [ppb] one-hour [NAAQS] for ozone. Also, the Agency believes that adding 1.47 [ppb] to the

> design value of 62.7 [ppb] for 8-hour ozone standard (2007-2009) at Lisle monitoring site will not cause or contribute to a violation of the 8-hour ozone [NAAQS] of 75 [ppb]. Agency Answers at 1.

The Agency further stated:

> The Agency believes that granting of this proposed adjusted standard will not cause or contribute to violations of the National Ambient Air Quality Standards for ozone or delay the Agency's efforts to attain or maintain the National Ambient Air Quality Standards for ozone in a timely manner. Agency Answers at 2.

In its recommendation, the Agency strongly disputed Greif's assertion that other Board decisions set a RACT cost threshold applicable here. Rec. at 11-12. Specifically, the Agency questioned the relevance of an average cost of control in Petition of Ford to Greif. The Agency pointed out that the $1,734 figure cited in Petition of Ford was discussed in context with cases concerning metal coating facilities in attainment areas. *Id.* As to costs, the Agency explained that the $1,734 figure in Petition of Ford actually represented an average figure, noting that the Board stated, "costs cannot be deemed unreasonable simply because they exceed the average." *Id.* at 11, quoting In *re* Petition of Ford, AS 97-5, slip op. at 10 (Dec. 4, 1997). Additionally, the Agency argued that the basis of the $1,734 figure (in 1996 dollars) was derived from a 1980 figure of $1,032 per ton and does not represent the cost of RACT today which has continued to increase as tighter control requirements have been put in place. Rec. at 11-12.

The Agency went on to explain, "RACT is not a cost issue alone." Rec. at 12. The Agency stated that RACT might be different even for facilities producing the same product in the same quantity because each facility might have unique factors. *Id.* The Agency further stated that the unique factors guide the Board in determining RACT for a particular facility. *Id.* In this case, the Agency stressed that Greif's definition of RACT should be considered specific to the Naperville facility, and not be considered RACT for all other sources which have the same costs. *Id.* In this regard, the Agency explained a specific dollar figure for RACT is not warranted, stating, "[a]ny dollar figure would only obscure the site-specific nature of each RACT decision." Rec. at 12. The Agency concluded by saying, "The [Agency] believes that Greif qualifies for an adjusted standard based upon its calculation of RACT, but it is the RACT for this facility, not RACT for all sources which have the same costs." *Id.*

The Agency explained that if the adjusted standard is adopted by the Board, the Agency will submit it to USEPA as a revision to the SIP to comply with federal law. Rec. at 8. The Agency indicated that both the Agency and Greif have discussed the petition with USEPA, and USEPA provided comments. *Id.* At hearing, Greif elaborated that during discussions between the Agency, USEPA, and Greif itself, USEPA raised concerns regarding consistency of the proposed adjusted standard with Section 110 of the CAA, which addresses the anti-backsliding provision related to SIP revisions. Tr. at 33. Greif stated that USEPA was ultimately satisfied in that regard when Condition 9 was added to the proposed adjusted standard language. *Id.* at 33-34. Condition 9 sets the monthly and annual VOM limits in tons per month or tpy. *Id.* at 34. Greif noted that those limits are identical to limits in its current FESOP. *Id.*

STANDARD OF REVIEW

The Board agrees with Greif and the Agency that the regulation of general applicability at 35 Ill. Adm. Code 218.986(a) does not specify a level of justification for an adjusted standard. 2nd Am. Pet. at 8; Rec. at 5. Therefore, pursuant to Section 28.1(c) of the Act, the burden of proof is on the petitioner to demonstrate that:

1. Factors relating to that petitioner are substantially and significantly different from the factors relied upon by the Board in adopting the general regulation applicable to that petitioner;
2. The existence of those factors justifies an adjusted standard;
3. The requested standard will not result in environmental or health effects substantially and significantly more adverse than the effects considered by the Board in adopting the rule of general applicability; and
4. The adjusted standard is consistent with any applicable federal law. 415 ILCS 5/28.1(c) (2010); 35 Ill. Adm. Code § 104.426(a).

DISCUSSION

Greif seeks relief from the Board's 81 percent control and capture RACT requirement under Section 218.986(a) in the form of an adjusted standard. Greif argued that achieving a capture and control rate of at least 81 percent of the VOM emissions from its QC Test Process is not economically reasonable for Greif due to the large enclosure that would need to be constructed over its entire 165-foot conveyor system and the high volume of air that would need to be treated. 2nd Am. Pet. at 10. Accordingly, Greif requested to apply a specific definition of RACT to its facility in lieu of the 81 percent capture and control requirement. *Id.* at 26.

Substantially and Significantly Different Factors

Section 182(b)(2) of the CAA requires states to adopt RACT for all major sources of VOM in ozone nonattainment areas with the intention of achieving compliance with the ozone NAAQS. USEPA stated, "[t]he primary purpose of [35 Ill. Adm. Code § 218] is to satisfy the requirements in section 182(b) of the [CAA] that VOC RACT rules be adopted for nonattainment areas for the source categories covered by the CTG documents issued by EPA in 2006, 2007, and 2008." 76 Fed. Reg. 74015, November 30, 2011.

USEPA defined RACT as "the lowest emissions limitation that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility." 76 Fed. Reg. 74015 (Nov. 30, 2011), referring to 44 Fed. Reg. 53762 (Sept. 17, 1979). The definition of RACT at 40 CFR 51.100(o) provides:

> Reasonably available control technology (RACT) means devices, systems, process modifications, or other apparatus or techniques that are reasonably available taking into account:

(1) The necessity of imposing such controls in order to attain and maintain a national ambient air quality standard;

(2) The social, environmental, and economic impact of such controls; and

(3) Alternative means of providing for attainment and maintenance of such standard. (This provision defines RACT for the purposes of §51.341(b) only.) 40 CFR 51.100(o)

For many source categories, USEPA has written CTG documents describing information about air pollution control techniques for VOM in accordance with Subsection 108 of the CAA that are used to determine RACT. 85 U.S.C. 7408. However, USEPA recognized that the category-specific CTGs would not cover all major sources. 55 Fed. Reg. 26814, 26834 (June 29, 1990). USEPA stated, "[i]n order to obtain the required [VOM] emission reductions, [air pollution control] agencies are required to establish RACT for source categories not already covered by [US]EPA's Control Technique Guidelines (CTGs) in addition to tightening RACT for source categories for which RACT has already been defined." "Beyond VOC RACT CTG Requirements," USEPA Office of Air Quality Planning and Standards (April 1995), EPA-453/R-95-010[4] at 1-1.

For major sources in the Chicago area not covered by the CTGs, USEPA promulgated a "catch-all" generic rule as 40 CFR 52.741(x), Other Emission Sources. 55 Fed. Reg. 26834 (June 29, 1990). The Board later promulgated Part 218, Subpart TT: Other Emission Units and it was identical to 40 CFR 52.741(x). Greif also noted this, stating, "Subpart TT of Part 218 is essentially a 'catch-all' applicable to VOM sources that are not governed by other subparts of Part 218." 2nd Am. Pet. at 21. In adopting the Chicago FIP, USEPA explained the need for subsection (x) to cover sources not already covered by USEPA's CTGs:

> USEPA wishes to point out that a "catch-all" generic rule is needed for the regulatory approach chosen by the State. This is because the Illinois category-specific approach may not cover all major non-CTG sources for the following reasons. First, the existing emission inventories may not be accurate with respect to actual emissions or maximum theoretical emissions, before add-on controls. Second, USEPA guidance clarifying existing policy on major non-CTG applicability was not established until May 25, 1988, when the Blue Book[5] was released. This date is after the date when non-CTG rules were developed for many areas. Third, there is no compelling incentive for states to ensure that they

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[4] "Beyond VOC RACT CTG Requirements" USEPA Office of Air Quality Planning and Standards (April 1995), EPA-453/R-95-010 appeared at http://www.epa.gov/ttncatc1/dir1/byndract.pdf (last visited February 28, 2012).

[5] Reference to the "Blue Book" refers to the May 25, 1988, USEPA document entitled "Issues Relating to VOC Regulation Cutpoints, Deficiencies, and Deviations". 55 Fed. Reg. 26815 (June 29,1990).

> have identified and developed RACT regulations for all major non-CTG sources. Consequently, a backstop generic major non-CTG rule is needed for Illinois. This rule would apply to all sources that should be subject to a major non-CTG rule, based upon Blue Book applicability criteria, only if the source is not already covered by a non-CTG source category rule. To be consistent with RACT, the control requirement of this rule should be at least as stringent as 3.5 pounds of VOC per gallon of coating or 81 percent overall control. Adoption of such a rule presents virtually no administrative drawbacks (sources covered by an existing non-CTG rule will not be affected) and produces potentially significant environmental benefits. 55 Fed. Reg. 26814, 26834 (June 29, 1990)

The Board notes that the 81 percent requirement in Part 218.986(a) is consistent with RACT rules for three other miscellaneous categories in Part 218: 218.926 (a) [miscellaneous fabricated product manufacturing processes]; 218.946(a) [miscellaneous formulation manufacturing processes]; and 218.966(a) [miscellaneous organic chemical manufacturing processes]; as well as industry specific categories, *e.g.* 218.686(a)(1) and (b)(1) [aerosol can filling]. Based on USEPA's statement above, the 81 percent capture and control requirement of 218.986(a) is intended to be at least as stringent as the control requirements for these other categories.

The Board finds that the issues concerning the control of emissions at Greif's plant were not anticipated when the Board promulgated the generic 81 percent rule in Section 218.986(a). Therefore, the Board finds that factors relating to Greif's plant are substantially and significantly different from the factors relied upon by the Board in adopting the general regulation applicable to Greif.

Justification of Adjusted Standard

As summarized above, Greif presented a RACT Study which evaluated options to achieve compliance with the 81 percent requirement as well as alternatives. The RACT Study evaluated three options for capture and control systems: (1) capture plus recuperative thermal oxidizers (RTO), (2) capture plus carbon adsorbers, and (3) capture plus biofilters and material substitution. The RACT Study found each option would be capable of achieving at least 81 percent capture and control as required by Section 218.986(a). However, Greif argued that the costs would not be economically reasonable. 2nd Am. Pet. at 16, 26. With the high volume of air that would need to be treated from the 165-foot enclosure, Greif noted that the control equipment would also need to be commensurately sized. Exh. A at 1-2, Tr. at 12. As such, estimated costs ranged from $17,672 per ton of VOM controlled for an RTO to $12,594 per ton for a carbon adsorber, to $11,667 per ton for a biofilter. 2nd Am. Pet. at 4, 12-15, Exh. A at 1-2.

In addition to the economic drawbacks, Greif noted that the capture and control options could result in increased emissions of other pollutants as well as increased health and safety risks. 2nd Am. Pet. at 6, Exh. A at 1-2 to 1-3.

The Board notes that for VOM emission sources under Subpart TT that cannot achieve the 81 percent requirement, USEPA indicated that the source "would have to develop a

reasonable control plan and submit it for approval as a SIP or FIP revision." 55 Fed. Reg. 26814, 26835 (June 29, 1990). In this regard, Greif has proposed an alternative to capture and control that would reduce VOM emissions through material substitution and use reduction. By mixing water with the QC test fluid in a ratio of 45 percent denatured alcohol to 55 percent water and reducing the amount of QC test fluid sprayed on each drum, Greif stated that the proposed modifications would reduce VOM emissions from Greif's QC Test Process by 70 percent on a unit basis. 2nd Am. Pet. at 6. This option would achieve annual emissions below the 25 tons-per-year applicability threshold of Subpart TT and below the 22.8 tpy limit in Condition 3 of the FESOP. *Id.* The RACT Study concluded that the 45%/55% denatured alcohol to water QC test fluid constitutes RACT for Greif's Naperville facility. 2nd Am. Pet at 4-6, 14-15, Exh. A at 4-5 to 4-6.

In its recommendation, the Agency strongly disputed Greif's cost valuation of what constitutes RACT and the relevance of cases cited by Greif to demonstrate costs. However, the Agency stated, "RACT is not a cost issue alone." Rec. at 12. The Agency contended that the unique factors of a facility should guide the Board in determining RACT for a particular facility and that a specific dollar figure for RACT is not warranted. *Id.* The Agency recommended granting the adjusted standard with the narrow conclusion that Greif's definition of RACT should be for Greif's Naperville facility only, and not for other sources which have the same costs. *Id.*

The Board notes that USEPA defined RACT as "the lowest emissions limitation that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility." 76 Fed. Reg. 74015 (Nov. 30, 2011). The Board finds Greif evaluated what is "reasonably available" and has found a technologically feasible control technology using material substitution and reduction. Greif's proposal would result in the greatest emissions reduction possible using technologically feasible and economically reasonable controls.

The Board finds that what makes Greif's facility unique is the capture cost of the 165-foot long enclosure and high volume of air that would need to be treated. Greif distinguishes itself from RACT backstop in the Subpart TT "catch-all" rule. Based on the determination of RACT developed specifically for Greif's Naperville facility in its second amended petition and the substantially and significantly different factors described above, the Board finds the adjusted standard is justified.

Impact on Public Health and the Environment

The primary concern of the impact of VOM emissions from Greif's Naperville facility is whether such emissions would cause or contribute to violations of the 1-hour or 8-hour ozone NAAQS. The current 8-hour ozone NAAQS is 0.075 ppm, which was adopted on March 12, 2008, replacing the previous 1997 8-hour ozone NAAQS of 0.08 ppm. In 1997, USEPA revoked the 1-hour ozone standard of 0.12 ppm in all areas. However, USEPA indicated that some areas have continued obligations under the 1-hour ozone standard to address "anti-backsliding". 73 Fed. Reg. 16436 (March 27, 2008). The Chicago and Metro-East St. Louis areas are currently

classified as moderate nonattainment for the 8-hour ozone NAAQS.[6] *See* 40 CFR 81.314, 76 Fed. Reg. 74015 (Nov. 30, 2011).

Greif stated that the adjusted standard would have "minimal impact on air quality." 2nd Am. Pet. at 18. Greif relied on the RACT Study and Air Quality Impact Analysis, both prepared by Mr. Ponder. The Analysis evaluated the difference between compliance with the 81 percent capture and control requirement and the 73.1 percent reduction with the proposed adjusted standard. Using the Scheffe method, the analysis predicted the incremental increase in ambient ozone from the 6.7 tpy VOM emissions attributable to the proposed adjusted standard beyond those that would occur with the 81 percent requirement. The analysis noted that the Scheffe-predicted ozone increment is a conservative value, exceeding actual ozone formation. Analysis at 1-2. The analysis estimated the ozone increment to be 1.47 ppb. The environmental impact was then assessed by adding the ozone increment to the fourth highest measured 1-hour and 8-hour ozone concentrations of 80 ppb and 62.7 ppb for the years 2007-2009 at the Lisle air monitoring station. The analysis found that the results would be less than their respective standards of 120 ppb for the 1-hour standard and 75 ppb for the 8-hour standard.

Through the conditions of the adjusted standard, Greif has committed to continue investigating the availability of alternative QC test fluids with lower VOM content. Greif has also committed to incorporating such alternatives into its QC Test Process as long as there is no negative impact on product quality. 2nd Am. Pet. at 17.

The Agency has determined that the proposed adjusted standard will not cause or contribute to violations of the NAAQS for ozone or delay the Agency's efforts to attain or maintain the NAAQS. Agency Answers at 2. However, the Agency stated that it did not accept Greif's assertion that granting of the petition will have "minimal impact on air quality." Rec. at 7, quoting 2nd Am. Pet at 18. The Agency argued that almost "any individual source could make the same claim, and it is the aggregate of sources in the area that causes ozone nonattainment." Rec. at 7-8. In its assessment of the environmental impact, the Agency added the 1.47 ppb to the 1-hour ozone design value of 70.7 ppb at Lisle for the years 2007-2009 and the 8-hour ozone design value of 62.7 ppb for the years 2007-2009. Agency Answers at 1. Based on the result, the Agency concluded that adding 1.47 ppb will not cause or contribute to a violation of the 1-hour or 8-hour ozone NAAQS. Agency Answers at 1.

The Board notes that although USEPA revoked the 1-hour average ozone standard of 120 ppb in 1997, some areas have continued obligations under the 1-hour standard to address "anti-backsliding." 73 Fed. Reg. 16436 (March 27, 2008). In this case, USEPA is concerned with the consistency of the proposed adjusted standard with Section 110 of the CAA, which addresses the anti-backsliding provision related to SIP revisions. Tr. at 33. Greif indicated that USEPA was ultimately satisfied in that regard when Condition 9 was added to the proposed adjusted standard language. *Id.* at 34. Condition 9 sets the monthly and annual VOM limits in tons per month or

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[6] In a July 29, 2010 letter to USEPA, IEPA indicated that ozone air quality data for 2007-2009 "demonstrate that the 1997 8-hour ozone NAAQS has been attained in the Chicago-Gary-Lake County, IL-IN and St. Louis, MO-IL areas without NO_x RACT in the Illinois portions of those areas." 75 Fed. Reg. 76332 (December. 8, 2010).

tpy, which are identical to those in its current FESOP. *Id.* In addition, the proposed adjusted standard would achieve emissions below the 22.8 tpy limit in Condition 3 of the FESOP. 2nd Am. Pet. at 6.

The Board finds, based on the record, that granting the adjusted standard would not result in adverse impact on air quality in terms of causing or contributing to violations of the ozone NAAQS or delaying the State's efforts to attain or maintain the ozone NAAQS in a timely manner. The Board also finds that the requested adjusted standard will not cause substantially or significantly mor adverse environmental or health effects than the effects considered by the Boad in adopting the rule or general applicability.

Consistency with Federal Law

The Board has authority under Section 110 of the Clean Air Act to adopt regulations that are part of the State's plan for implementation, maintenance, and enforcement of air quality standards. The adjusted standard procedure to revise a Board regulation on a site-specific basis is consistent with the authority granted to the states under Section 110 of the CAA. If the Board adopts the proposed adjusted standard, the Agency will submit the adjusted standard as a SIP revision to USEPA. Rec. at 8. The Board, therefore, finds that granting Greif the requested relief from the rule is consistent with federal law.

Section 27(a) of the Act

Section 28.1 of the Act addresses adjusted standards and refers to Section 27(a) of the Act, which states in part:

> In promulgating regulations under this Act, the *Board shall take into account* the existing physical conditions, the character of the area involved, including the character of surrounding land uses, zoning classifications, the nature of the existing air quality, or receiving body of water, as the case may be, and the technical feasibility and economic reasonableness of measuring or reducing the particular type of pollution. 415 ILCS 5/27(a) (2010) (emphasis added).

By its terms, Section 27(a) does not state a burden of proof or an evidentiary standard that must be met. Rather, Section 27(a) sets forth factors for the Board to "take into account." 415 ILCS 5/27(a) (2010). The Board therefore must consider the record of the adjusted standard proceeding in light of the Section 27(a) factors, but there is no threshold of evidence that the adjusted standard petitioner must meet with respect to those factors. *See* Krohe v. City of Bloomington, 204 Ill. 2d 392, 395, 789 N.E.2d 1211, 1212 (2003) ("The best indication of legislative intent is the statutory language, given its plain and ordinary meaning.").

The Board has carefully considered the information in this record in view of the Section 27(a) factors, as required by Section 28.1(a), and finds that the adjusted standard may be granted consistent with those factors. *See* Shell Oil Co. v. IPCB, 37 Ill. App. 3d 264, 274, 346 N.E.2d 212, 221 (5th Dist. 1976) ("The requirement of section 27 is a flexible one and of necessity requires that a great deal of discretion be exercised by the Board.").

Conditions

Greif had proposed language for the adjusted standard, but the Agency proposed slightly different language in its recommendation. At hearing, Greif agreed with the language in the Agency recommendation for adoption by the Board. Tr. at 16.

In granting this adjusted standard, the Board is adopting conditions, pursuant to Section 28.1(a) of the Act, which are identical in wording to those suggested by the parties. 415 ILCS 5/28.1(a), 35 Ill. Admin. Code § 104.438(a).

CONCLUSION

The Board finds that Greif has provided sufficient proof and justification under Section 28.1(c) of the Act for an adjusted standard from Section 218.986(a) as it applies to the emissions of VOM into the atmosphere from the QC Test Process of Greif's fiber drum manufacturing facility located at 5 S 220 Frontenac Road in Naperville, DuPage County. The Board therefore grants Greif the requested adjusted standard, subject to conditions. The relief is effective as of the date of this order.

This opinion constitutes the Board's findings of fact and conclusions of law.

ORDER

Pursuant to Section 28.1 of the Environmental Protection Act (Act) (415 ILCS 5/28.1 (2010), the Board grants Greif Packaging, LLC (Greif), an adjusted standard from 35 Ill. Adm. Code 218.986(a).

1. The adjusted standard applies to the emission of volatile organic material (VOM) into the atmosphere from the automated Quality Control (QC) Test Process line at Greif's fiber drum manufacturing facility located at 5 S 220 Frontenac Road in Naperville, DuPage County, Illinois (the Facility). The Facility manufactures fiber drums. Some of the fiber drums are lined with polyethylene to meet customer specifications, particularly for storage and transport of food-grade products. Lined drums must be tested to ensure the integrity of the polyethylene lining. That testing is performed at the QC Test Process, which consists of the following equipment and steps:

    a. An automated, mechanical wand is lowered into each lined drum on a conveyor system. The wand is calibrated so that each spray releases about the same amount of QC test fluid into each drum.

    b. The drums then are conveyed to the QC inspection station where the interior of the drum is visually inspected for pinholes.

c. The drum next is conveyed to a drying oven where most of the remaining QC test fluid is evaporated. After leaving the drying oven, any remaining QC test fluid is vacuumed from the drum and then the drum is wiped dry. VOM in the QC test fluid is emitted throughout the QC Test Process as well as in the drying oven.

2. The Facility will reduce VOM emissions from its automated QC Test Process by using a test fluid composed of no more than 45 percent denatured alcohol by weight and no less than 55 percent water by weight.

3. The Facility will calibrate the automated QC Test Process equipment to spray an average of no more than 48 grams of QC test fluid per drum with compliance to be measured at least once per calendar quarter by the following procedure.

   a. Weigh a plastic bag on a gram scale to determine the weight of the bag.

   b. Place the plastic bag over the spray head of the wand of the QC Test Process and secure it in place with a rubber band or binder clip.

   c. Cycle the QC Test Process by passing a drum through the process in the normal manner of operation with the plastic bag capturing the QC test fluid. Remove the plastic bag from the spray head of the wand of the QC Test Process and weigh it on the same gram scale used in step a.

   d. Calculate the weight of QC test fluid sprayed as the difference between the weight determined in step c and the weight determined in step a.

   e. Repeat steps a. through d. for five cycles of the QC Test Process. Calculate the average weight of QC test fluid sprayed per cycle and compare that average to the standard of an average of no more than 48 grams of QC test fluid per drum.

4. All records and logs required by this adjusted standard shall be retained at a readily accessible location at the source for at least five years from the date of entry and shall be made available for inspection and copying by the Illinois EPA or USEPA upon request. Any records retained in an electronic format (*e.g.*, computer) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to an Illinois EPA or USEPA request for records during the course of a source inspection.

5. The Facility will maintain records of its QC test fluid usage that will allow the monthly calculation of the amount of QC test fluid used during the month and the calculation of VOM emissions on a 12-month rolling total basis for comparison to annual VOM limits in the FESOP. To allow these calculations, the Facility will:

a. Record the volume of QC test fluid held as inventory on the first and last day of each month.

b. Maintain records of the volume of QC test fluid received at the Facility during each month.

c. The volume of QC test fluid used for a month shall equal the inventory volume on the first day of the month plus the volume received at the Facility during the month, less the volume in inventory on the last day of the month.

d. The volume used during a month calculated in step c shall be multiplied by the VOM content of the QC test fluid (in pounds per unit of volume) to compute the weight (in pounds) of VOM emitted during the month.

e. Using the emissions of VOM in pounds calculated for each month in step d, the Facility will compute the 12-month rolling VOM emissions for the QC Test Process and report those results to Facility management.

6. Greif will continue to investigate the availability of alternative QC test fluids with lower VOM content. Greif will incorporate such lower VOM QC test fluids into its automated QC Test Process provided that the lower VOM QC test fluids allow visual detection of pinholes or other tears or imperfections in the drum linings within an acceptable period of time and does not result in any negative product quality impacts.

7. The proposed adjusted standard will not affect the calculation of Greif's potential Emissions Reduction Market System (ERMS) baseline or its ERMS allotment if Greif's Naperville plant should participate in the ERMS program.

8. Environmental staff of Greif's parent company will conduct a formal training session for Naperville facility personnel on the requirements of the FESOP and the internal procedures for tracking compliance with FESOP conditions.

9. Emissions and operation of the QC Test Process shall not exceed the following limits:

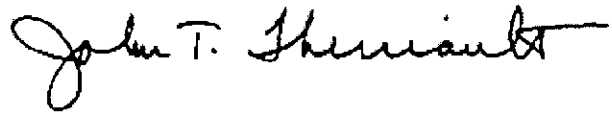
	(Tons/Mo)	(Tons/Yr)
VOM Usage	2.3	22.8
VOM Emissions	2.3	22.8

These limits are based on the maximum material usage and the maximum VOM content. Compliance with the annual limit for the QC Test Process shall be determined from a running total of 12 months of data.

IT IS SO ORDERED.

Section 41(a) of the Environmental Protection Act provides that final Board orders may be appealed directly to the Illinois Appellate Court within 35 days after the Board serves the order. 415 ILCS 5/41(a) (2010); *see also* 35 Ill. Adm. Code 101.300(d)(2), 101.906, 102.706. Illinois Supreme Court Rule 335 establishes filing requirements that apply when the Illinois Appellate Court, by statute, directly reviews administrative orders. 172 Ill. S.C.R. 335. The Board's procedural rules provide that motions for the Board to reconsider or modify its final orders may be filed with the Board within 35 days after the order is received. 35 Ill. Adm. Code 101.520; *see also* 35 Ill. Adm. Code 101.902, 102.700, 102.702.

I, John Therriault, Assistant Clerk of the Illinois Pollution Control Board, certify that the Board adopted the above opinion and order on April 5, 2012, by a vote of 5-0.



John Therriault, Assistant Clerk
Illinois Pollution Control Board