ILLINOIS POLLUTION CONTROL BOARD
January 18, 2001

IN THE MATTER OF:	)	
	)	
PETITION OF FORMEL INDUSTRIES,	)	AS 00-13
INC. FOR AN ADJUSTED STANDARD	)	(Adjusted Standard – Air)
FROM 35 ILL. ADM. CODE 218.401(a),	)	
(b), and (c)	)	

SUSAN W. HORN OF JOHNSON & BELL, LTD. APPEARED ON BEHALF OF THE PETITIONER; and

BONNIE SAWYER APPEARED ON BEHALF OF THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY.

OPINION AND ORDER OF THE BOARD (by M. McFawn):

This matter comes before the Board on a petition for an adjusted standard filed on March 14, 2000, by Formel Industries, Inc. (Formel) for its printing facility located in Franklin Park, Cook County, Illinois (facility). In the petition, Formel requests that the Board grant Formel an adjusted standard for three central-impression flexographic printing presses from 35 Ill. Adm. Code 218.401(a), (b), and (c) (the "flexographic printing rule"). In pertinent part, Section 218.401 requires that (1) the flexographic printer use water-based, compliant inks that either contain no more than 40% volatile organic material (VOM) by volume or contain no more than 25% VOM by volume of the volatile content of the ink, or alternatively, (2) the printer operates a capture system and control device which reduces the captured VOM emissions by 90% and the printing line is equipped to capture and control device which provides an overall reduction in VOM emissions of at least 60%. 35 Ill. Adm. Code 218.401.[1]

Formel seeks an adjusted standard because it has found that it cannot use the water-based compliant inks and because the cost of installing and using an approved control device outweighs the benefit. The Illinois Environmental Protection Agency (Agency) filed its response on October 17, 2000, in which it recommended that the Board grant the adjusted standard subject to certain conditions.

The Board's responsibility in this matter arises from the Illinois Environmental Protection Act (Act) (415 ILCS 5.1 *et seq*. (1998)). The Board is charged to "determine, define and implement the environmental control standards applicable in the State of Illinois" (415 ILCS 5/5(b) (1998)) and to "grant . . . an adjusted standard for persons who can justify

[1] The petition for adjusted standard will be cited as "Pet. at __." The Agency response will be cited as "Resp. at __." The hearing transcript will be cited as "Tr. at __.". The Exhibits will be cited as "Exh. __."

such an adjustment" (415 ILCS 5/28.1 (1998)).

A hearing in this matter was held on November 14, 2000, before Board Hearing Officer John Knittle. The parties waived posthearing briefs and no public comments were received. The Board has expedited its decision in response to Formel's motion for expedited ruling that was filed on November 30, 2000. The Board finds that Formel has satisfied the requirements for an adjusted standard from 35 Ill. Adm. Code 218.401(a), (b), and (c), and accordingly grants the adjusted standard with the conditions advocated by the Agency.

REGULATORY HISTORY

Formel seeks an adjusted standard from the Section 218.401, a rule that applies to sources with the potential to emit (PTE) 25 TPY or more of VOM. The original reasonably available control technology (RACT) regulations applied to major sources with actual VOM emissions in excess of 100 TPY. Subsequent to the Clean Air Act Amendments of 1990 (42 USC 7401 *et seq*.), specifically Section 182(d) requires individual states with severe ozone nonattainment areas to include all sources with the PTE at least 25 TPY as major sources and adopt RACT regulations applicable to those sources. As a result, the Board adopted a rule that reduced the applicability threshold from 100 TPY to sources with a PTE of 25 TPY or more. See Omnibus Cleanup of the Volatile Organic Material RACT Rules Applicable to Ozone Nonattainment Areas: Amendments to 35 Ill. Adm. Code 203, 211, 218 and 219 (September 9, 1993), R93-9. The RACT control requirements remained unchanged. Formel is permitted to emit more than 25 TPY and finds that it cannot comply with those control requirements.

Specifically, Formel seeks an adjusted standard from 35 Ill. Adm. Code 218.401(a), (b), and (c), which provides in pertinent part:

> a) No owner or operator of a subject flexographic . . . printing line shall apply at any time any coating or ink unless the VOM content does not exceed the limitation specified in either subsection (a)(1) or (a)(2) below. Compliance with this Section must be demonstrated through the applicable coating or ink analysis test methods and procedures specified in Section 218.105(a) of this Part and the recordkeeping and reporting requirements specified in Section 218.404(c) of this Part. As an alternative to compliance with this subsection, a subject printing line may meet the requirements of subsection (b) or (c) below.
>
> 1) Forty percent VOM by volume of the coating and ink (minus water and any compounds which are specifically exempted from the definition of VOM), or
>
> 2) Twenty-five percent VOM by volume of the volatile content in the coating and ink.

b) No owner or operator of a subject flexographic . . . printing line shall apply coating or inks on the subject printing line unless the weighted average, by volume, VOM content of all coatings and inks as applied each day on the subject printing line does not exceed the limitation specified in either subsection (a)(1) or subsection (a)(2) below. Compliance with this subsection must be demonstrated through the applicable coating or ink analysis test methods and procedures specified in Section 218.105(a) of this Part and the recordkeeping and reporting requirements specified in Section 218.404(d) of this Part.

* * *

c) No owner or operator of a subject flexographic *** printing line equipped with a capture system and control device shall operate the subject printing line unless the owner or operator meets the requirements in subsection (c)(1), (c)(2), or (c)(3) and subsections (c)(4), (c)(5) and (c)(6) below.

1) A carbon adsorption system is used which reduces the captured VOM emissions by at least 90 percent by weight, or

2) An incineration system is used which reduces the captured VOM emissions by at least 90 percent by weight, or

3) An alternative VOM emission reduction system is used which is demonstrated to have at least a 90 percent control device efficiency, approved by the Agency and approved by USEPA as a SIP revision, and

4) The printing line is equipped with a capture system and control device that provides an overall reduction in VOM emissions of at least:

* * *

(C) 60 percent where a flexographic printing line is employed, and

* * *

BACKGROUND

Formel operates a flexographic printing facility located in Franklin Park, Cook County, Illinois. Pet. at 4. Formel employs 20-25 people and operates its presses in a 12,500 square foot building. Formel is located in an industrial area, and there are no schools or residential

buildings in the area. Franklin Park is located in the Metropolitan Chicago Interstate Air Quality Control Region (the "Chicago AQCR") as defined by the United States Environmental Protection Agency (USEPA), an area which has been designed as severe ozone nonattainment area. Pet at 6.

Formel uses three central-impression, flexographic printing presses to print images using ink onto high-slip polypropylene, polyester, and cellophane film. Pet. at 5. After an image is printed onto the film, the film is then used as a flexible package or wrapping for food products for human consumption, such as pasta, candy, and snack food items. *Id*. Formel utilizes the high-slip material at the direction and specification of its customers. Pet. at 4. Formel submitted representative samples of its products. Pet. at Exh. A.

Formel's three presses are approximately 30-35 years old. Each press has five separate color drying sections that operate immediately after the application of one of the six colors involved with the image. In addition, each press has a final tunnel dryer. Heated air is currently used to cure the ink (and set the image) at each stage. The three central-impression presses each exhaust 4,700 scfm of air. Pet. at 4. In the flexographic, surface printing process, ink is transferred from the ink pan to an "imaging roller" by an Anolox® roller. The imaging roller then transfers the ink to the outside surface of the polypropylene, polyester or cellophane substrate. Pet at 7.

Formel uses inks formulated with solids, pigments, and solvents, and which contain approximately 60% solvent. Pet. at 4; 8. Solvents that also contain VOM are occasionally added to the inks. Pet. at 4-5. Formel uses ethanol and ethyl acetate as dilution solvents. The solvents also allow Formel to print on the high-slip film. Pet. at 5. The dilution solvents are added to the inks to achieve the proper viscosity for rapid and economical printing, and to produce the sharpest possible printed image. According to Formel, the use of water-based inks would not have the same result. Pet. at 4; 8.

During the printing and curing processes, the solvents, by their volatile nature, quickly flash off the film, thereby permanently setting the image without smearing or distortion. After the flash off, the solvent gases are directed out of the plant through the roof. None of Formel's emissions are identified as Hazardous Air Pollutants (HAPs) under Title III of the Clean Air Act Amendments of 1990. Pet. at 8-9. Thereafter, the ink waste and solvent waste are collected from the presses, placed in drums, and properly disposed of off-site by a licensed disposal firm. Pet. at 9.

Formel describes its business as a small job-shop, meaning that it contracts for short-term, smaller printing jobs. This requires Formel to set up and tear down its presses for each job. Formel notes that it often switches between several, different jobs during the course of a single day. Pet. at 4; Tr. at 18-20.

As previously explained, Formel's printing process involves printing images on high-slip film. Pet. at 6. Formel's customers request the high-slip film because it is easier for them

to manipulate in their own processes. Pet. at 7. Formel's customers also require the printed images appear on the outside surface of the "high-slip" film. Pet. at 6. This method is distinguishable from (1) reverse-image printing, where the printed image is on the inside of the substrate, and (2) lamination, where the image is trapped between two surfaces. According to Formel, printing on the outside of the substrate must be sturdier than with the other methods because of friction, contact and other environmental conditions that may scratch, smear, or otherwise adversely affect the image. Pet. at 7. Formel adds that the printed lines must be crisp and sharp especially when printing images of food or images of the customers' consumer products, or when printing the operating or warning instructions for use of the product. Pet. at 7.

Reverse printing is not a viable alternative because many of Formel's customers use the packaging material for food and other consumer goods, and they do not want the packaged good to come into contact with the inks. *Id*. Lamination is not a viable alternative since it involves the use of two substrates (films), and the associated, additional costs make the use of this technique cost prohibitive to Formel's customers. Pet. at 8.

Formel currently has a Clean Air Act Permit Program (CAAPP) Permit that allows it to emit a maximum of 80 tons per year (TPY) of VOM. Resp. at 2.[2] Formel's actual emissions for 1996, 1997, and 1998, were 44.3 TPY, 61.276 TPY, and 67.299 TPY, respectively. *Id*. For 1994 and 1995, Formel averaged VOM emissions of 56.7 TPY. Pet. at 5.

According to the Agency, after filing its petition, Formel proposed to modify its request. Formel proposed to the Agency that the adjusted standard limit it to applying inks that contain 82% VOM content by weight, as determined based on a monthly average. Resp. at 8. The Board's printing regulations require compliance with ink content limitations be demonstrated continuously or as a daily-weighted average, daily recordkeeping and describe the VOM content limitation for inks as a percentage of VOM per volume of ink applied rather than weight of ink applied. In its response, the Agency proposed several conditions that would modify these requirements to address Formel's circumstances. Resp. at 19-20.

ADJUSTED STANDARD PROCEDURE

In a general rulemaking and a site-specific rulemaking, the Board must take the factors found at Section 27(a) of the Act into consideration. Those factors are the existing physical conditions, the character of the area involved, including the character of the surrounding lad uses, zoning classifications, and the technical reasonability and economic reasonableness of measuring or reducing a particular type of pollution. 415 ILCS 5/27(a) (1998).

Pursuant to Section 28.1(a) of the Act, the Board may grant an adjusted standard to persons who can justify the adjustment consistent with Section 27(a). The more specific

[2] Prior to receiving its CAAPP Permit, Formel had a permitted, upper limit for its VOM emission of 78 TPY. Pet. at 5.

procedures that govern an adjusted standard proceeding are found at Section 28.1(c) of the Act (415 ILCS 5/28.1 (1998)) and the Board's procedural rules at 35 Ill. Adm. Code 106. The Board may grant an adjusted standard from a rule of general applicability, whenever the Board determines that the petitioner, in this case Formel, has presented adequate proof 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) (1998).

In granting an adjusted standard, the Board may impose conditions that may be necessary to accomplish the purposes of the Act. 415 ILCS 5/28.1(a) (1998).

DISCUSSION

Formel presented information and evidence in its petition and at hearing in support of each of the factors found at Section 28.1(c) of the Act. The Agency concurred with Formel's information and supported granting it the adjusted standard it seeks, but subject to several conditions. Formel agreed to those conditions at hearing. Tr. at 14. The Board has examined and considered the facts and arguments made by Formel and the Agency in support of this petition, most specifically in the context of the criteria contained in Section 28.1 of the Act (415 ILCS 5/28.1 (1998)). As discussed below, the Board finds that Formel has satisfactorily demonstrated the factors in Section 28.1(c). Accordingly, the Board will grant the adjusted standard with those conditions requested by the Agency and agreed to by Formel.

Factors Relating to Formel are Substantially and Significantly Different

The first criteria which Formel must address is whether the factors relating to Formel are substantially and significantly different from the factors relied upon by the Board when it adopted the RACT regulations for the flexographic printing industry. (415 ILCS 5/28.1(c)) Formel maintains that the existing flexographic printing rule does not represent RACT for Formel. Formel argues that factors relating to it are substantially and significantly different than those factors considered by the Board in adopting the rule of general applicability. Pet. at 22. Formel contends that when the flexographic printing rule was adopted the record considered emissions from large flexographic printing operations that have a greater impact on air quality than the smaller job-shop printers like Formel. *Id*. Formel argues that strict compliance with the flexographic rule would mean that it would have to either shutdown

because it could not meet the demands of its customers, or incur an unreasonable compliance cost with the installation and operation of add-on control equipment. Pet. at 6. Formel argues that the costs of compliance with the flexographic printing rule are too high for a small job-shop such as itself, whereas the compliance costs are more easily absorbed by the large printing operations that were considered when the rule was adopted. *Id*. In sum, due to its size and the type of jobs performed, Formel argues that compliance with the flexographic printing rule is neither economically reasonable nor technically feasible. Pet. at 23.

The Agency agrees that the factors applicable to Formel are substantially and significantly different from those considered by the Board when it adopted these rules. Most specifically, the Agency acknowledges that the cost of add-on control equipment such as an afterburner system is beyond the costs contemplated by the Board in adopting the flexographic printing rule, and using other add-on control equipment is infeasible at this operation. Resp. at 15. The Agency also agrees that compliant water-based inks are not RACT for this small job-shop that prints on plastic substrates. Resp. at 13-14. The Agency's position and that of Formel is discussed in greater detail below in the context of the second factor.

The Board concludes that the factors relating to Formel are substantially and significantly different than those considered by the Board when it adopted the flexographic rules. When those rules were adopted the Board was primarily presented evidence concerning methods that larger printing operations could use to achieve compliance with the rules adopted. The discussions below under the second and third factors further support this finding. The facts recited there support Formel's contention and the Agency's agreement that compliant inks are not available for the products it prints, and the costs for add-on controls are economically unreasonable and in some cases also not technically feasible at Formel's Franklin Park facility.

Existence of Different Factors Justifies an Adjusted Standard for Formel

Formel asserts that it has investigated a number of compliance options. Formel provides various, different reasons why the compliant water-based inks will not work for its operations: water-based inks clog the printer's rollers and dry to the consistency of concrete; water-based inks do not adhere well to the preferred substrate; humidity, temperature, and weather conditions influence cure time; color of inks is inconsistent between batches of ink; the colors are not acceptable to its customers; water-based inks are not heat resistant and do not run fast enough; disposal costs for water-based inks are nearly three times the cost of disposal for solvent-based inks; and water-based inks cannot be color-adjusted on the press. Pet. at 10-12. Because of these problems, Formel is unable to utilize the water-based inks and satisfy its customers. Pet. at 12; Tr.at 25-29; 30-33.

The Agency agrees with Formel that water-based inks do not represent RACT for this small segment of the industry. Since 1994, the Agency has been working with Formel and other flexographic printers on compliance issues. Donald O'Malley of Formel served on the Governor's Small Business Environmental Task Force at that time and began discussing with the Agency the problems the flexographic printing on plastic substrates. Over the last six years, the Agency worked with many companies that have compliance problems. Through

those efforts, the Agency reports that all but Formel and two competitors have found solutions. Those two competitors are Bema Film Systems, Inc. and Vonco Products, Inc., both of which have pending before the Board similar adjusted standard petitions. See *In re* Petition of Bema Film Systems, Inc., AS 00-11 and *In re* Petition of Vonco Products, Inc., AS 00-12.

Over the last six years, the Agency personnel has attended trade shows, spoken with industry representatives, investigated control devices and special inks (such as water-based, ultraviolet, etc.), and spoken with environmental agencies across the country. Resp. at 9. Some of these contacts were in conjunction with Formel's efforts to find viable compliance methods. Tr. at 22.

The Agency states that over the course of its investigation, its personnel was repeatedly told that improvements in water-based inks were just around the corner. However, the Agency reports that the industry is going backwards. Former users of water-based inks, especially those using them on plastic substrates, are abandoning water-based ink and returning to solvent based inks. Resp. at 9-10. The Agency reports that the USEPA and the industry acknowledge that small job-shops, where each new order mandates a specific substrate and colors, do not have the time or means to experiment with all possible inks or the ability to control all conditions necessary to make water-based inks work. Resp. at 11.

The Agency learned that Illinois now has more small flexographic printers than California due to the stringent compliance problems, and that New York flexographic printers facing problems similar to Formel have obtained that state's version of an adjusted standard. When talking with these other state agencies, the Agency learned that larger facilities generally add control devices, but that smaller job-shop facilities have greater difficulty complying. The Agency learned that those state agencies were also aware of the problems encountered with water-based inks on plastic substrates. Resp. at 9-14.

Formel also investigated the possibility of installing add-on technologies and found that three technologies were available to its flexographic printing presses: (1) carbon adsorption technology; (2) wet scrubber technology; and (3) catalytic or thermal oxidation (afterburner) technology. Pet. at 12. After examining each of these three options, Formel determined that none of them could reasonable be utilized at its facility for the reduction of VOM emissions. Tr. at 33-35. The Agency agreed with Formel's findings. Resp. at 15.

Carbon adsorption is not feasible because, due to the high vapor pressure of the flexographic ink solvents, efficient adsorption into the carbon beds is precluded. Pet. at 12. Additionally, the carbon adsorption process cannot efficiently remove some of the chemicals in the ink solvent, such as alcohol and acetates. *Id*. The wet scrubbers, likewise, do not effectively remove VOM emissions due to the high vapor pressures of the solvent-based inks. Pet. at 13.

While the catalytic or thermal oxidation technology is adaptable to a process such as Formel's, this technology is prohibitively expensive, and is therefore not economically reasonable for this type of operation. Pet. at 13. Formel also explained that the structure

required to capture VOM emissions to be sent to afterburners presents technical problems, and unreasonable costs. Also the costs for altering the existing dryers is in excess of $100,000 and cannot be guaranteed to achieve compliance. The cost for testing such a system is estimated at $40,000 per test/per press. The combined costs could easily exceed $200,000 per press. Pet. at 14.

There are also significant safety and insurance considerations involved with the type of permanent total enclosures Formel would have to use since local (or hood) capture systems are not adequate. Pet. at 14. Due to fire and explosion concerns involved with confining VOM in an enclosed space, such constructions would mean the addition of fire-safe, masonry walls and additional exits. Due to size constraints and access problems, Formel explains that a permanent total enclosure is not a viable option at its Franklin Park facility. Pet. at 15.

Formel submitted evidence in support of its claim that add-on controls are economically unreasonable. Pet. at Exh. B. Formel summarized all the costs associated with control in Exhibit B. It concludes that the annual minimal control costs would be $10,911 per ton of VOM. The maximum cost is estimated at $18,041. Formel claims that this is greater than the standard cost for RACT under the Clean Air Act. Pet. at 16.

In addition to investigating the availability of compliant inks, the Agency also examined the add-on controls compliance methods which may be available to Formel. Resp. at 7. The Agency cites to amendments to Formel's Petition at Exhibit B, and submitted it as Attachment A to the Agency's response. The Agency considered those costs unique to Formel, most specifically the installation costs for add-on controls. The Agency acknowledges that Formel would need to install this equipment on its roof due to lack of sufficient ground space. This would require strengthening roof supports, constructing additional ductwork, rental of construction equipment, and cost incurred from halting production. The annual costs were estimated as $662,062 for a recuperative thermal oxidizer; $398,001 for a regenerative thermal oxidizer; and $220,932 for a gas adsorber. These costs do not include basic ductwork that is estimated as $20,162, $12,441, and $7,264 respectively. The last is not a viable alternative due to safety and space concerns. Resp. at 7.

The Agency agrees with Formel's assertion that compliance with the rule of general applicability for Formel is not economically reasonable or technically feasible. Resp. at 15. The Agency therefore agrees that the existence of different factors involving Formel's particular business justifies the requested adjusted standard.

The Board has considered the evidence submitted by Formel and the Agency's response and summary of its own investigations. The Board finds persuasive the search that the Agency and Formel have diligently engaged in for the past six years to find compliance methods for Formel. That search demonstrates that in the case of Formel, "no control" represents RACT for Formel. The Agency informed the Board that this segment of the printing industry is going backwards in terms of using water-based inks, and that add-on technology is not technically or economically available to Formel. Based on this evidence and information, the Board finds that Formel has demonstrated that its facility has factors that distinguish it from other

flexographic printers.

The Adjusted Standard Will Not Result in Environmental or Health Effects Substantially and Significantly More Adverse

Formel operates a small job-shop. Currently, Formel is operating under a CAAAP permit that allows it to emit up to 80 TPY. Although no information was submitted with regard to emissions from 1999 or 2000, the annual emissions from 1994 through 1998 were below the 80 TPY permitted maximum. There are no schools or residential areas located in close proximity to the facility. Pet. at 5. Formel contends that the overall effect of its proposed adjusted standard on the air shed would be insignificant. Formel analyzed its potential impacts. It calculated that its annual emissions account for roughly 0.008006141 percent of the total VOM emissions in the Chicago ozone nonattainment area air shed. Formel based this percentage on USEPA's estimated annual VOM emissions of 849,348 tons in the Chicago ozone nonattainment area and an annual estimated VOM emissions total of 68 tons per year attributable to Formel. Pet. at 19; Resp. at 18.

Formel then refined these figures to examine its emissions during the ozone season. In its petition, Formel advocated that the Board consider the difference between the volume of uncontrolled VOM under the proposed adjusted standard and the volume of uncontrolled VOM with an approved oxidizer during the ozone season. Pet. at 18. First, Formel assumed that it roughly emits 68 TPY of VOM. Next it assumed that it would control 60% of the VOM for 5/12th of the year, *i.e.*, the ozone season from May until October. In other words, without controls, Formel would emit 50 TPY of VOM, and with add–on controls it would emit 18 TPY. Formel calculated that this represents 0.005086254% of the VOM emissions emitted in the Chicago ozone nonattainment area during the ozone season. Formel contends that in the context of only three exceedances of the ozone NAAQS since 1998, its contribution of 50 additional tons is not significant. Formel also calculated its contribution of VOM during the ozone season using 99 TPY as its annual emissions because when it originally petitioned for the adjusted standard that is the amount it sought to emit annually. Using that assumption, Formel calculated that if add-on controls were added, it would control 41.25 tons; without controls, Formel would contribute an additional 16.5 tons during the ozone season. Pet. at 20.

Finally, Formel acknowledges that the State's Emissions Reduction Market System (ERMS) Rules at 35 Ill. Adm. Code 205 apply to Formel. Therefore, Formel will be required to provide control or purchase emissions credits from the ERMS market during the ozone season even if it is granted the adjusted standard. Under its current CAAPP permit, Formel will be considered a participating source in the ERMS program and agrees to file a formal application for emission credits. Pet at 20-21. Formel asks that its baseline be based upon the adjusted standard and not the flexographic printing rule. The Agency agrees with this concept. Resp. at 18.

Adjusted Standard is Consistent with Federal Law

Formel maintains that granting this adjusted standard would not violate any federal

laws. Pet. at 21. The Clean Air Act and Illinois regulations require that Formel comply with RACT. *Id*. The Board is empowered to determine what is RACT. *Id*. Accordingly, Formel argues that the Board has the authority to grant the adjusted standard by finding that the terms of the adjusted standard are RACT for Formel, thereby satisfying the federal requirements. *Id*. If granted, the adjusted standard would be included by the Agency as a rule specific to Formel in the State Implementation Plan for Illinois. Resp. at 8.

AGREED CONDITIONS

In its response to the petition for adjusted standard, the Agency recommends the Board grant the requested adjusted standard with specific conditions. Resp. at 19. Formel has agreed to each of the conditions recommended by the Agency. Tr. at 14. The conditions fall into two basic categories: recordkeeping and ERMS baseline. The exact conditions are specified more fully in the Board's order.

Recordkeeping. Formel requested two items concerning recordkeeping. First it requested that it be required to maintain and submit monthly records instead of the daily recordkeeping required under the flexographic rules. Formel prepared a videotape of its operations to demonstrate the difficulties involved in daily recordkeeping. Exh. 1; Tr. at 35-37. Despite those difficulties, Formel agreed to daily recordkeeping. Tr. at 36-37. The Agency believes that daily recordkeeping is not unduly burdensome for Formel. The Agency explained that daily recordkeeping is preferred because ozone has an hourly standard measured on a daily basis. The Agency did inquire with USEPA about its position, and USEPA agreed that Formel had not justified a change for the rule's daily recordkeeping requirement. The Agency did not recommend monthly recordkeeping in its response. Resp. at 16-17.

Secondly, Formel requested a change in the method for measuring VOM content for recordkeeping and emissions calculation. Formel wants to use the weight percent of VOM rather than the volume percent as required by the existing flexographic printing rule. Formel explained that the volume percentages are difficult because its ink formulations are based on weight. The Agency agreed that weight percentages represent an appropriate method for this facility. It also explained that weight percentages are preferred for permitting purposes because that is the type of calculation that must be used for annual reporting. In addition, this measurement method is preferred for calculating emissions for the ERMS program. Therefore, the Agency recommended this change as a component of the adjusted standard. Resp. at 17.

ERMS Baseline Under the Adjusted Standard. As previously mentioned, Formel asks that its ERMS baseline be based upon the adjusted standard versus the flexographic printing rule. The Agency supports this principle, but recommends an approach somewhat different from Formel's so that the baseline will minimize excess emissions during the ozone season.

The Agency recommends that a separate method for calculating Formel's baseline be included in the terms of the adjusted standard. Specifically, the Agency recommends that the

baseline be adjusted to reflect compliance with a VOM content limitation of 72% by weight of the ink applied. This condition would prompt Formel to minimize seasonal VOM emissions at its facility, or in the alternative, obtain allotment trading units in the ERMS market. The Agency notes that the allotment Formel will actually receive will reflect a 12% reduction from this baseline emissions level to achieve the post-RACT emission reductions sought under ERMS. This is keeping with the Agency's conclusion that under the proposed adjusted standard, RACT for this facility will represent almost uncontrolled emissions. Resp. at 18-19.

As previously stated, Formel agreed to these conditions as well as other conditions recommended by the Agency to minimize emissions and address any potential impact. Tr. at 14. The Board agrees that the conditions to which Formel and the Agency agreed are appropriate conditions to the requested adjusted standard and are necessary to minimize the impact the relief granted may have on air quality during the ozone season in the Chicago AQCR.

CONCLUSION

The Board finds that Formel has provided sufficient justification for the proposed adjusted standard. Accordingly, the Board grants Formel the requested adjusted standard with the conditions recommended by the Agency and agreed to by Formel.

ORDER

The Board hereby adopts the following adjusted standard, pursuant to the authority of Section 28.1 of the Environmental Protection Act (415 ILCS 5/28.1 (1998)).

1. This adjusted standard applies to Formel Industries, Inc.'s (Formel), three existing central-impression flexographic printing presses (press) at its Franklin Park, Illinois facility only to the extent that the press is being used for printing on plastic, such as polypropylene, polyester, cellophane and polyethylene (high-slip), and does not apply to any printing operations on other substrates.

2. Formel may apply any coating or ink with volatile organic material (VOM) content less than or equal to eighty-two percent (82%) by weight of the coating and ink (minus water and any compounds that are specifically exempted from the definition of VOM) on a monthly-weighted average basis. Compliance with this limitation must be demonstrated through the applicable coating and ink analysis test methods and procedures specified in 35 Ill. Adm. Code 218.105(a) and the recordkeeping requirements specified in condition (4) below.

3. For purposes of establishing an Emissions Reduction Market System (ERMS) baseline for Formel, its actual emissions from the appropriate baseline seasonal allotment period will be adjusted downward to reflect usage of coatings and inks containing no more than seventy-two percent (72%) VOM by weight of the coatings and inks (minus water and any compounds that are specifically

exempted from the definition of VOM) applied.

4. Formel shall collect and record the following information each day for each printing press subject to this adjusted standard and maintain the information at the Franklin Park facility for a period of five years:

   A) The name and identification number of each coating and ink as applied;

   B) The VOM content and the weight of each coating and ink as applied each day;

   C) The monthly-weighted average VOM content of all coating and inks as applied.

   Any record showing violation of this adjusted standard shall be reported by sending a copy of such record to the Illinois Environmental Protection Agency (Agency) within 30 days following the occurrence of this violation.

5. Formel must perform (alone or in conjunction with others) three experiments each year, including any experiments requested by the Agency, of alternative inks to determine if these inks are compliant with the Flexographic Printing Rule and technically feasible for Formel's printing operations. In addition, Formel will experiment with substrates as suggested by the Agency. Forty-five days following each experiment conducted pursuant to this provision, Formel must report its findings and supporting documentation to the Agency;

6. Formel shall continue to investigate alternative control technologies, including any technologies suggested by the Agency.

7. Each year, in conjunction with submittal of its annual Clean Air Act Permit Program (CAAPP) compliance certification or its annual emissions report if a CAAPP compliance certification is not required, Formel shall submit a report to the Agency describing the investigations of compliant inks and coatings, different substrates, and add-on control technologies it has undertaken in the previous calendar year and the results of these investigations;

8. Formel must operate any other flexographic printing press at its Franklin Park, facility in full compliance with the requirements of 35 Ill. Adm. Code 218.401.

9. This adjusted standard must be revised or withdrawn if Formel no longer prints the majority of its images on high-slip substrates, or on the outside surface of the high-slip substrate;

10. This adjusted standard must be revised or withdrawn if Formel determines that any add-on control system is economically reasonable and technically feasible or

if Formel uses any add-on control system that controls VOM emissions;

11. This adjusted standard must be revised if it becomes feasible for Formel to use compliant inks and coatings for the majority of its printing operations;

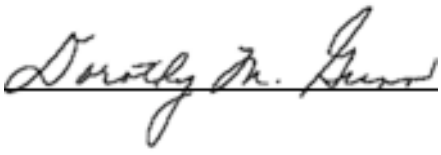
12. This adjusted standard must be withdrawn if it becomes feasible for Formel to use compliant inks and coatings for all three presses subject to this adjusted standard; and

13. If this adjusted standard is revised or withdrawn and Formel is a participating source in the ERMS program, Formel's ERMS baseline will be adjusted downward to the extent that the new or revised requirements for the three presses subject to this adjusted standard would result in lower baseline emissions. If such an adjustment to Formel's ERMS baseline is required by this provision, the seasonal allotment period used in its original baseline determination shall be used to determine its adjusted baseline. Formel must submit a CAAPP application for a revised baseline, as required by this provision, within 60 days of final withdrawal of, or revision to this adjusted standard.

IT IS SO ORDERED.

Section 41 of the Environmental Protection Act (415 ILCS 5/41 (1998)) provides for the appeal of final Board orders to the Illinois Appellate Court within 35 days of the date of service of this order. Illinois Supreme Court Rule 335 establishes such filing requirements. See 172 Ill. 2d R. 335; see also 35 Ill. Adm. Code 101.520, Motions for Reconsideration.

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above opinion and order was adopted on the 18th day of January 2001 by a vote of 7-0.



Dorothy M. Gunn, Clerk
Illinois Pollution Control Board