ILLINOIS POLLUTION CONTROL BOARD
September 11, 1986

IN THE MATTER OF:	)	
	)	
VOLATILE ORGANIC MATERIAL	)	R82-14
EMISSIONS FROM STATIONARY	)	
SOURCES: RACT III	)	

PROPOSED RULE FIRST NOTICE

OPINION AND ORDER OF THE BOARD (by B. Forcade):

This matter comes before the Board on an August 26, 1985, Illinois Environmental Protection Agency ("Agency") motion to reopen the record in this regulatory proceeding concerning the internal offset rule (Section 215.207), coke manufacture and by-product recovery (Part 215, Subpart U) and petroleum solvent dry cleaners (Part 215, Subpart Z). That motion was granted and hearings were authorized on September 20, 1985. This opinion and order addresses the Agency's regulatory proposal regarding petroleum dry cleaners.

This is one of a series of Board actions directed at promulgating rules implementing reasonably available control technology ("RACT") for the control of ozone precursors from existing major stationary sources (emissions greater than 100 tons/year). The implementation of RACT in non-attainment areas for ozone is required as a part of a federally approvable state implementation plan ("SIP") under the federal Clean Air Act ("CAA") (42 U.S.C. 7401 et seq.). Section 172 of the CAA requires that RACT be implemented at existing stationary sources in the non-attainment areas of those states needing an extension from the 1982 deadline until 1987 to achieve the air quality standard for ozone. Illinois is such a state, having requested the extension in its 1979 and 1982 SIP.

The definition of RACT is contained in 40 CFR 51, along with the requirements for a federally acceptable SIP. However, the specific parameters of what constitutes reasonably available controls, and, therefore, the parameters which the states must adopt to insure that RACT is implemented, are not. Instead, the United States Environmental Protection Agency ("USEPA") publishes a series of documents entitled "Control Technique Guidelines" ("CTGs"). Each of the CTGs, which are summaries of industry specific case studies, contains the means and the degree of control which the USEPA requires the state to adopt categorically as part of its SIPs in order to have an acceptable SIP. Failure to adopt rules identical to those presented in the CTGs, or other ones demonstrated by the individual state as comparable, can mean that the state will have an inadequate SIP, which in turn can

trigger the sanction provisions of the CAA found at Sections 110, 113 and 176 (42 U.S.C.A. 7410, 7413, 7506). While the mandate for sanctions is contained in the Clean Air Act, the mandate to adopt the CTGs or otherwise demonstrate a state rule to be comparable is not. It is not even contained in the federal regulations, but instead is articulated in the "General Preamble for Proposed Rulemaking and Approval of State Implementation Plan Revisions for Non-attainment Areas" (44 FR 20372).

This federal policy statement includes yet another requirement which is relevant to this rulemaking. The USEPA allows the states until the January after one year from the finalization of a CTG to adopt either the "rules" contained therein, or comparable rules, if sources covered by that particular CTG are within a state's non-attainment areas. A final CTG for petroleum dry cleaners was issued in September of 1982 (Ex. 29(c))

The Agency amended its regulatory proposal on November 25, 1985. Hearings were held December 2 and 3, 1985, in Chicago and March 20 and 21, 1986, in Bollingbrook. The Agency made final amendments to its proposal on May 8, 1986, in response to testimony and comments made at hearing by the Illinois Fabricare Association ("IFA"). The Department of Energy and Natural Resources ("DENR") issued a letter of negative declaration of economic impact, obviating the need for further economic analysis of the proposed rules, on March 24, 1986. The concurrence of the Economic and Technical Advisory Committee to the DENR was filed on May 22, 1986. The record in this matter closed on June 12, 1986 (Hearing Officer Order, May 29, 1986).

The Board, in a prior opinion, declined to adopt rules regulating petroleum dry cleaners as neither of the two facilities known to exist in the state would have been subject to the rules as proposed. One facility fell below the regulatory quantity of emissions threshold and the other facility was located in an attainment county and utilized a different process than envisioned by the proposed rules (Board Opinion, August 22, 1984, pp. 39-40). At hearings held December 2 and 3, 1985, the Agency identified two major stationary sources located in non-attainment areas that would be regulated.

Petroleum solvent dry cleaning is a batch process in which articles are washed and dried in separate operations. Articles are sorted and placed in appropriate washers where they are then agitated in the petroleum solvent. Heavily soiled articles may go through two or more wash cycles; the first is with recycled, soiled solvent and the second is with clean solvent. After completion of the wash cycle, the articles are spun at high speeds to remove excess solvent, usually in the same equipment used for washing, but sometimes in a separate, high speed centrifugal extractor. The soiled solvent extracted during the

spin cycle may be passed through a filter to remove insoluble soils and/or passed to a vacuum still where the solvent is purified. The distilled solvent is pumped to a holding tank or is returned to the washer/extractor. When the spin cycle has terminated, articles are transferred from the washer/extractor to a dryer (tumbler) (R. 3194-95).

The CTG lists the major emission sources as the dryers, solvent filtration systems and miscellaneous fugitive sources. The nominal emission rate from a standard petroleum solvent dryer is 14 kg to 18 kg volatile organic material ("VOM") per 100 kg of dry weight of articles cleaned. Proposed Section 215.607(a)(1) would require this rate to be reduced to 3.5 kg VOM per 100 kg of dry weight which amounts to a RACT control efficiency of 75 to 81 percent. The normal control method for achieving this reduction would be to install recovery dryers in place of standard dryers. A solvent recovery dryer has a condenser to remove solvent vapor from the dryer exhaust by condensation (R. 3195).

The emissions from the solvent filtration system are those released from the diatomite filter systems, which the CTG estimates as 8 kg VOM per 100 kg of clothing throughput. Proposed Section 216.607(b)(1) would require reduction to 1.0 kg per 100 kg throughput for an average control efficiency of 88 percent. The CTG-recommended control method to achieve this reduction would be to install cartridge filters in place of diatomite filters. The emissions from cartridge filters are derived from fugitive emissions due to leaks and cartridge filter replacement, as well as from the solvent contained in the disposed cartridge. The emissions were estimated by the CTG to range from 0.35 to 0.75 kg VOM per 100 kg clothing throughput (R. 3195-3196).

The other sources, i.e., the vacuum still waste and the miscellaneous fugitive sources are grouped in one general category of fugitive emissions. The CTG states that improved operation of equipment, good housekeeping practices and inspection and repair of leaks should reduce emissions to 4.0 kg solvent per 100 kg dry weight. Considering these control measures as a whole, the reductions required by the proposed rules would give emissions of 8.5 kg volatile organic material per 100 kg of clothing processed (R. 3196).

The Agency conducted a field survey of petroleum dry cleaning facilities in non-attainment areas. Six plants were identified in Cook County. Four plants have emissions less than 100 tons/year and would be exempted by proposed Section 215.611. One of the two plants affected by the proposal, A.W. Zengler, has already installed four recovery dryers and cartridge filters. RACT compliance for this plant would require installation of four more recovery dryers. The other affected plant, Careful Cleaners, has seven standard dryers and would have

to install five or six recovery dryers (depending upon size chosen) and to replace four diatomite filters with 11 cartridge filters. The anticipated reductions from A.W. Zengler would be approximately 51 tons/year and from Careful 82 tons/year. These reductions are based upon the assumption that installation of RACT controls would reduce emissions to the level of 8.5 kg VOM per 100 kg dry clothing from the 14.8 kg VOM for A.W. Zengler and from 30.4 kg VOM from Careful (R. 3197-3199, Ex. 90).

Based upon the cost information provided by the CTG, controls costs were developed for the two plants affected by the proposed regulation. The resultant costs are $350 per ton for A.W. Zengler and $650 per ton for Careful (R. 3199-3202). These estimates are well within the ranges of control costs for other RACT categories. Industry has not refuted these cost estimates.

At the December 2, 1985, and March 20, 1986, hearings, the IFA presented oral and written comments on the Agency proposal (R. 3208-3214, 3668-3670, P.C. 74). While expressing agreement with the Board's earlier decision not to regulate this segment of the industry, they indicated that they had no real opposition to the rule and, after review by their association technical staff, suggested certain refinements and improvements to the Agency proposal. These have been incorporated in the Agency's most recent amended proposal (Motion to Supplement the Record and to Propose Adoption of Regulations Applying to Petroleum Solvent Dry Cleaners, May 8, 1986).

The geographical applicability of the proposed rules is more limited than the earlier 1982 proposal. The current proposal is applicable in counties that are either non-attainment counties for ozone or are part of the major urbanized areas associated with the non-attainment counties. The Agency moved to amend their proposal by adding Macoupin County on May 8, 1986 (Id.) While no major petroleum dry cleaning facilities are located in Macoupin County, 1985 air monitoring data indicates that Macoupin County is non-attainment for ozone. The Agency's proposal in this subcategory is consistent with the recent scope of applicability proposed for first notice by the Board in another RACT proceeding, R85-21.

The Board will propose rules regulating petroleum dry cleaners for first notice as a final CTG for this category has been issued, sources in non-attainment areas have been identified and the rules constitute RACT. Cost effectiveness of RACT reductions are within a reasonable range. A total of 133 tons/year of VOM emissions will be eliminated in the Chicago area, a non-attainment area for ozone. This action will also help fulfill the state's legal obligations to demonstrate that existing major stationary emission sources in non-attainment areas are subject to regulations representing RACT.

As a final note, the Board has concerns regarding the legality and JCAR approvability of Section 215.612(b) which provides that should an attainment county be redesignated as non-attainment at some point in the future, that the regulations shall be applicable to that county and contiguous counties. Participants, and specifically the Agency, are requested to comment on this issue and submit alternative language for consideration by the Board.

ORDER

The following amendments to 35 Ill. Adm. Code 215 are directed to first notice for publication in the Illinois Register:

TITLE 35: ENVIRONMENTAL PROTECTION
SUBTITLE B: AIR POLLUTION
CHAPTER I: POLLUTION CONTROL BOARD

PART 215
ORGANIC MATERIAL EMISSION STANDARDS AND LIMITATIONS

SUBPART A: GENERAL PROVISIONS

Section	
215.100	Introduction
215.101	Clean-up and Disposal Operations
215.102	Testing Methods
215.103	Abbreviations and Conversion Factors
215.104	Definitions
215.105	Incorporations by Reference
215.106	Afterburners

SUBPART B: ORGANIC EMISSIONS FROM STORAGE AND LOADING OPERATIONS

Section	
215.121	Storage Containers
215.122	Loading Operations
215.123	Petroleum Liquid Storage Tanks
215.124	External Floating Roofs
215.125	Compliance Dates and Geographical Areas
215.126	Compliance Plan

SUBPART C: ORGANIC EMISSIONS FROM MISCELLANEOUS EQUIPMENT

Section	
215.141	Separation Operations
215.142	Pumps and Compressors
215.143	Vapor Blowdown

SUBPART E: SOLVENT CLEANING

SUBPART F: COATING OPERATIONS

SUBPART K: USE OF ORGANIC MATERIAL

SUBPART N: VEGETABLE OIL PROCESSING

SUBPART P: PRINTING AND PUBLISHING

SUBPART Q: SYNTHETIC ORGANIC CHEMICAL AND POLYMER MANUFACTURING

SUBPART R: PETROLEUM REFINING AND RELATED INDUSTRIES; ASPHALT MATERIALS

SUBPART S: RUBBER AND MISCELLANEOUS PLASTIC PRODUCTS

SUBPART U: COKE MANUFACTURE AND BY-PRODUCT RECOVERY

SUBPART W: AGRICULTURE

SUBPART X: CONSTRUCTION

SUBPART Y: GASOLINE DISTRIBUTION

SUBPART Z: DRY CLEANERS

PART 215
ORGANIC MATERIAL EMISSION STANDARDS AND LIMITATIONS

SUBPART A: GENERAL PROVISIONS

Section 215.104 Definitions

"Volatile Organic Material": Any organic material which has a vapor pressure of 17.24 kPa (2.5 psia) or greater at 294.3 K (70°F). For purposes of this definition, the following are not volatile organic materials:

Methane	Dichlorodifluoromethane
Ethane	Chlorodifluoromethane
1,1,1-trichloroethane	Trifluoromethane
Methylene chloride	Trichlorotrifluoroethane
Trichlorofluoromethane	Chloropentafluoroethane

For purposes of the following Sections, volatile organic materials are any organic materials having the corresponding vapor pressures at 294.3 K (70°F):

Sections	Vapor Pressure
215.181 - 215.184	0.013 kPa (.0019 psia)
215.104 - 215.209	0.013 kPa (.0019 psia)
215.340 - 215.345	0.013 kPa (.0019 psia)
215.401 - 215.408	0.013 kPa (.0019 psia)
215.420 - 215.428	0.013 kPa (.0019 psia)
215.441 - 215.444	10.34 kPa (1.5 psia)
215.445 - 215.451	0.013 kPa (.0019 psia)
215.461 - 215.464	0.013 kPa (.0019 psia)
215.510 - 215.513	0.013 kPa (.0019 psia)
215.601 - 215.60~~3~~13	0.013 kPa(.0019 psia)

(Source: Amended at ____ Ill. Reg. _____, effective _____)

SUBPART Z: DRY CLEANERS

Section 215.607 Standards for Petroleum Solvent Dry Cleaners

a) The owner or operator of a petroleum solvent dry cleaning dryer shall either:

1) Limit emissions of volatile organic material to the atmosphere to an average of 3.5 kilograms of volatile organic material per 100 kilograms dry weight of articles dry cleaned, or

2) Install and operate a solvent recovery dryer in a manner such that the dryer remains closed and the recovery phase continues until a final solvent flow rate of 500 milliliters per minute is attained.

b) The owner or operator of a petroleum solvent filtration system shall either:

1) Reduce the volatile organic material content in all filtration wastes to 1.0 kilogram or less per 100 kilograms dry weight of articles dry cleaned, before disposal, and exposure to the atmosphere, or

2) Install and operate a cartridge filtration system, and drain the filter cartridges in their sealed housings for 8 hours or more before their removal

(Source: Added at ____ Ill. Reg. _____, effective _____)

Section 215.608 Operating Practices for Petroleum Solvent Dry Cleaners

The owner or operator of a petroleum solvent dry cleaning facility shall employ good housekeeping practices to minimize fugitive solvent emissions including, but not limited to, the following:

a) General Housekeeping Requirements

1) Equipment containing solvent (washers, dryers, extractors and filters) shall remain closed at all times except during load transfer and maintenance. Lint filter and button trap covers shall remain closed except when solvent-laden material is being removed.

2) Cans, buckets, barrels and other containers of solvent or of solvent-laden material shall be covered except when in use.

3) Solvent-laden material shall be exposed to the atmosphere only for the minimum time necessary for load transfer.

b) Installation and operation of equipment

1) All cartridge filters shall be installed and operated in accordance with the procedures and specifications recommended by the manufacturer for the cartridge filter.

A) After installation, the cartridges shall be inspected, monitored and maintained in accordance with the manufacturer's recommendations, and

B) Operators shall be thoroughly familiar with the filtration system's performance, safety and maintenance requirements.

2) Vents on containers for new solvent and for solvent-containing waste shall be constructed and maintained so as to minimize solvent vapor emissions.

(Source: Added at ____ Ill. Reg. _____, effective _____)

Section 215.609 Program for Inspection and Repair of Leaks

a) The owner or operator of a petroleum solvent dry cleaning facility shall conduct the following visual inspections on a weekly basis:

1) Washers, dryers, solvent filters, settling tanks, vacuum stills and containers and conveyors of petroleum solvent shall be inspected for visible leaks of solvent liquid.

2) Pipes, hoses and fittings shall be inspected for active dripping or dampness.

3) Pumps and filters shall be inspected for leaks around seals and access covers.

4) Gaskets and seals shall be inspected for wear and defects.

5) All other potential sources of fugitive emissions shall be inspected for evidence of leaks.

b) Leaks of petroleum solvent liquid and vapors shall be repaired within three working days of detection, unless necessary replacement parts are not on site.

1) If necessary, repair parts shall be ordered within three working days of detection of the leak.

2) The leak shall be repaired within three days of delivery of necessary parts.

(Source: Added at ____ Ill. Reg. _____, effective _____)

Section 215.610 Testing and Monitoring

a) Compliance with Sections 215.607(b)(2), 215.608 and 215.609 shall be determined by visual inspection; and

b) Compliance with subsections 215.607(a)(2) and (b)(1) shall be determined by methods described in EPA-450/3-82-009 or by procedures approved by the USEPA.

c) If a control device is used to comply with subsection 215.607(a)(1), then compliance shall be determined using 40 CFR 60 Appendix A, Method 25 (1984).

(Source: Added at ____ Ill. Reg. _____, effective _____)

Section 215.611 Exemption for Petroleum Solvent Dry Cleaners

The provisions of Sections 215.607 through 215.610 shall not apply to petroleum solvent dry cleaning facilities whose emissions of volatile organic material do not exceed 91 megagrams (100 tons) per year in the absence of pollution control equipment or whose emissions of volatile organic material, as limited by the operating permit, will not exceed 91 megagrams (100 tons) per year in the absence of pollution control equipment.

(Source: Added at ____ Ill. Reg. _____, effective _____)

Section 215.612 Compliance Dates and Geographical Areas

a) Owners and operators of emission sources located in the counties listed below shall comply with the requirements of Sections 215.607 through 215.609 as expeditiously as practicable but no later than December 31, 1987:

Cook	Madison
DuPage	McHenry

Kane	Monroe
Lake	St. Clair
Macoupin	Will

b) Notwithstanding subsection (a), if any county is designated as non-attainment by the USEPA at any time subsequent to the effective date of this Section, the owner or operator of an emission source located in that county or any county contiguous to that county, who would not otherwise be subject to the compliance date in subsection (a), shall comply with the requirements of Sections 215.607 through 215.610 within one year from the date of redesignation but in no case later than December 31, 1987.

(Source: Added at ____ Ill. Reg. _____, effective _____)

Section 215.613 Compliance Plan

a) The owner or operator of an emission source subject to Section 215.610(a) shall submit to the Agency a compliance plan, including a project completion schedule where applicable, no later than December 31, 1986.

b) The owner or operator of an emission source subject to Section 215.610(b) shall submit a compliance plan, including a project completion schedule, within 90 days after the date of redesignation.

c) The owner or operator of an emission source subject to Section 215.610(b) shall not be required to submit a compliance plan if redesignation occurs after December 31, 1986.

d) The plan and schedule shall meet the requirements of 35 Ill. Adm. code 201.

(Source: Added at ____ Ill. Reg. _____, effective _____)

IT IS SO ORDERED.

Chairman J.D. Dumelle and Board Member J. Theodore Meyer dissented.

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above Opinion and Order was adopted on the 11th day of September, 1986, by a vote of 4-2.

Dorothy M. Gunn

Dorothy M. Gunn, Clerk
Illinois Pollution Control Board