

A

ORIGINAL

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

RECEIVED  
CLERK'S OFFICE  
OCT - 1 1996  
STATE OF ILLINOIS  
POLLUTION CONTROL BOARD

THE D.B. HESS COMPANY, INC.,  
Petitioner,

v.

ILLINOIS ENVIRONMENTAL  
PROTECTION AGENCY,  
Respondent.

)  
)  
) PCB 96-194  
) (Variance)  
)  
)  
)

NOTICE

TO: Dorothy Gunn, Clerk  
Illinois Pollution Control Board  
James R. Thompson Center  
100 W. Randolph, Suite 11-500  
Chicago, Illinois 60601

William J. Anaya  
JOHNSON & BELL, LTD.  
222 North LaSalle Street  
Suite 2200  
Chicago, Illinois 60601

Deborah L. Frank  
Board Hearing Officer  
Illinois Pollution Control Board  
608 S. Prospect Avenue  
Champaign, Illinois 61820

PLEASE TAKE NOTICE that I have today filed with the Office of the Clerk of the Pollution Control Board the AGENCY RECOMMENDATION of the Illinois Environmental Protection Agency, a copy of which is herewith served upon you.

ENVIRONMENTAL PROTECTION  
OF THE STATE OF ILLINOIS

By: Sheila G. Kolbe  
Sheila G. Kolbe  
Assistant Counsel  
Division of Legal Counsel

DATED: September 27, 1996

P.O. Box 19276  
Springfield, Illinois 62794-9276  
217/524-3333

THIS FILING IS SUBMITTED  
ON RECYCLED PAPER

RECEIVED  
CLERK'S OFFICE  
OCT - 1 1995  
STATE OF ILLINOIS  
POLLUTION CONTROL BOARD

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF: )  
THE D.B. HESS COMPANY, INC., )  
 )  
Petitioner, )  
 )  
v. ) PCB 96-194  
 ) (Variance)  
ILLINOIS ENVIRONMENTAL )  
PROTECTION AGENCY, )  
 )  
Respondent. )

AGENCY RECOMMENDATION

The Respondent, ILLINOIS ENVIRONMENTAL PROTECTION AGENCY ("Illinois EPA"), by its attorney, Sheila G. Kolbe, hereby submits its recommendation in the above-referenced matter pursuant to Section 37(a) of the Environmental Protection Act ("Act") (415 ILCS 5/37(a)) and 35 Ill. Adm. Code 104.180. For the reasons discussed below, the Illinois EPA recommends that Pollution Control Board ("Board") grant Petitioner's, the D.B. Hess Company, Inc., ("D.B. Hess" or "Petitioner") request for relief from the Part 218 lithographic printing regulations and subject to the conditions of this recommendation.

I. INTRODUCTION

1. On October 28, 1994, the Illinois EPA submitted a proposal for rulemaking entitled In the Matter of: 15% ROP Plan Control Measures of VOM Emissions - Part V: Control of VOM Emissions from

Lithographic Printing: Amendments to 35 Ill. Adm. Code Parts 211, 218 and 219, and docketed as R94-31.

2. R94-31 was published as a final rule in the Illinois Register, and has an effective date of May 9, 1995, and a compliance date of March 15, 1996. ( 19 Ill. Reg. 6823, 6848, and 6958 (May 19, 1995). )

3. The Illinois EPA submitted R94-31 to the United States Environmental Protection Agency ("USEPA") as a State Implementation Plan ("SIP") revision. USEPA published a direct final rule in the *Federal Register* to be effective January 8, 1996 (60 *Fed Reg* 56238 (November 8, 1995)).

4. The regulations under R94-31 tightened the requirements for heatset web offset lithographic printing and promulgated new requirements for other types of lithographic printing.

5. On March 15, 1996, the compliance date for the new lithographic printing regulations, D.B. Hess filed a petition for a variance ("Petition") from the Part 218 requirements for heatset web offset lithographic printing operations, 35 Ill. Adm. Code 201.141, and Sections 9(a) and 9(b) of the Act.

6. Pursuant to Section 37(a) of the Act, the Illinois EPA sent notice of the Petition to Senator Dick Klemm; State Representatives Ann Hughes and Cal Skinner; the Chairman of the McHenry County Board, Dianne Klemm; the State's Attorney for McHenry County, Gary W. Pack;

and to the Illinois Press Association for publication in a newspaper of general circulation in McHenry County.

7. As of the date of filing of this Recommendation, no comments on this Petition have been received by the Illinois EPA.

8. On April 3, 1996, the Illinois EPA filed a Motion to Dismiss this Petition.

9. On June 17, 1996, in response to the Illinois EPA's Motion to Dismiss, D.B. Hess filed a Motion for Leave to File an Amended Variance Petition, which was granted by the Board on July 11, 1996, and the Board ruled that the Illinois EPA's Motion to Dismiss was moot.

10. On August 1, 1996, Petitioner filed an Amended Variance Petition.

#### II. RELIEF SOUGHT BY PETITIONER

11. Petitioner requests a three year variance, until March 30, 1999, from 35 Ill. Adm. Code 201.141, 218.407(a)(1)(C), (D) and (E), and 218.411(b)(1), (2) and (3) and also from Sections 9(a) and 9(b) of the Act for its operation of one ATF and two Harris heatset web offset lithographic presses ("Presses 3, 4, & 5").

12. Petitioner seeks the above requested relief in lieu of purchasing, installing and maintaining an afterburner for the three older presses that it will shutdown on or before March 30, 1999.

### III. FACTS

13. The Petitioner owns and operates a printing facility located at 1530 McConnell Road, Woodstock, McHenry County, Illinois 60098. At this plant, two heatset web offset lithographic printing presses (Presses 1 and 2) are controlled by a thermal oxidizer. Three heatset web offset presses (Presses 3, 4, and 5) are uncontrolled and the subject of this variance. Two coldset sheetfed presses (RZ5 and 10) are operated in compliance with applicable requirements of 35 Ill. Adm. Code 218.407 through 218.411.

14. The Illinois EPA generally agrees with the facts as presented in the Petition, except Paragraphs 4, 33, 38 and 40.

15. The Petitioner incorrectly implies that the source has not contributed to the problem of ozone based upon the lack of exceedances at ozone monitor closest to the Woodstock facility. (See: Paragraphs #4 and 33(b) of Petition); The Illinois EPA further addresses this comment infra in Section VI -Environmental Impact.

16. The Petitioner incorrectly alleges that "There will be "no" adverse environmental impact from Petitioner's Compliance Plan." {Emphasis Added} (See: Paragraph #33 of Petition) The Illinois EPA addresses this comment infra in Section VI -Environmental Impact.

17. The Petitioner incorrectly alleges that "DB Hess will voluntarily lower the Woodstock Plant's *Potential to Emit (PTE)* to a point below that which the new regulations require." {Emphasis Added} (See: Paragraph #33(d) of Petition) Petitioner confuses the terms

"actual emissions" and "potential to emit". The Illinois EPA will further address this comment infra in Section VI -Environmental Impact.

18. The Petitioner incorrectly implies that the area in which the plant is located "has attained and maintained [the ambient ozone] national standard." (See: Paragraph #40(b) of Petition) However, as Petitioner correctly states in Paragraph #33(a), McHenry County Illinois [where Petitioner's facility is located] is part of the Metropolitan Chicago Interstate Air Quality Control Region ("AQCR") , as defined pursuant to §107 of the CAA (40 C.F.R. 81.14 (1995); 42 U.S.C. §7407. Therefore, Petitioner's facility is still located in an area designated non-attainment for ozone.

19. Petitioner incorrectly alleges that "There is *no federal requirement* that D.B. Hess or other stationary sources in the Chicago AQCR comply with the Lithography Rule's generally applicable requirement to control heatset presses with an afterburner of 90% overall VOM control efficiency." (emphasis added)( See: Paragraph 40(a) of Petitioner's Petition) Rather, as previously stated, this rule is approved by the USEPA (60 Fed. Reg. 56238 (November 8, 1995).) and therefore is federally enforceable.

20. Petitioner has not alleged any facts supporting a variance from the general (e.g., odor nuisance) provisions of 35 Ill. Adm. Code 201.141 and Section 9(a) of the Act. Because Petitioner has failed to allege necessary facts in support thereof, a variance from these

sections should be denied. Furthermore, the Illinois EPA does not believe that any need exists or has been alleged for variance from odor nuisance requirements.

21. Petitioner has not alleged any facts supporting a variance from the general (e.g., air pollution permitting) provision of Section 9(b) of the Act. Because Petitioner has failed to allege necessary facts in support thereof, a variance from these sections should be denied. Furthermore, the Illinois EPA does not support a petition for relief from the general permitting requirement, which this section address. A permit is still needed from this facility in order to adequately monitor compliance.

#### IV. PAST COMPLIANCE/PERMIT STATUS

22 After obtaining a federally enforceable permit that restricts uncontrolled VOM emissions to below 100 tons per year ("TPY") and prior to March 15, 1996, Petitioner was in compliance with applicable state regulations. (See: Petition, Exhibit F: Operating Permit)

23. Except for Presses 3, 4, and 5, which are the subject of this variance, under the new regulations, D.B. Hess is in compliance with all other aspects of 35 Ill. Adm. Code 218.407 (fountain solution and cleaning requirements).

#### V. INVESTIGATION

24. The Illinois EPA Bureau of Air ("BOA") has reviewed all relevant information in its files pertaining to D.B. Hess' compliance status.

25. The Illinois EPA has discussed the matter with Petitioner and its representatives on several occasions prior to and since filing its Petition.

26. Pursuant to 35 Ill. Adm. Code 104.140 (b), the Illinois EPA has made an effort to ascertain the views of persons who might be affected by the grant of the requested variance by publishing in a local newspaper of general circulation in petitioner's county, and by sending notices of the variance petition to the State legislature and county officials. The Illinois EPA has received no written comments to said solicitation and notices as of the date of filing this recommendation.

#### VI. ENVIRONMENTAL IMPACT

27. D.B. Hess is located in McHenry County, an area that is not in attainment with the National Ambient Air Quality Standard for ozone.

28. The Illinois EPA has evaluated the 1995 and 1996 Illinois Annual Air Quality Reports for ozone, specifically regarding the Cary monitor located in McHenry County, and has concluded that the area has not had any exceedences in 1995 or 1996. (See: Exhibit 1, 1994



Illinois Annual Air Quality Report, Excerpts from Appendix B, Air Quality Data Summary Tables-Ozone (McHenry County); and Exhibit 2, 1995 Illinois Annual Air Quality Report, Excerpts from Appendix B, Air Quality Data Summary Tables-Ozone (McHenry County)) However, the fact that the closest monitor to Petitioner has not had any exceedances does not mean that Petitioner is not contributing to the problem of ozone as alleged in its petition in Paragraph 33(b). On high ozone days, in the Metropolitan Chicago Ozone Non-Attainment Area ("NAA"), the winds are generally from a Southeasterly, Southerly, or Southwesterly direction, such that Petitioner's emissions may not affect the Cary monitor. Ozone is a transport pollutant and VOM from a given source may not directly affect a given monitor, but this does not imply that source is not contributing to the problem.

29. During cold weather, especially during the winter months, emissions of VOM have a minimal impact on ozone air quality. It is only during the ozone season (April-October), that the environmental impact of emissions from VOM have a significant impact on ozone air quality.

30. As part of its Compliance Plan, D.B. Hess expects to limit its VOM emissions from the facility to 18 TPY. (See: Petitioner's Petition, page 23) However, Petitioner's statement that "DB Hess will voluntarily lower the Woodstock Plant's Potential to Emit (PTE) to a point below that which the new regulations require." (Emphasis Added), confuses the terms "actual emissions" and "potential to emit". (See:

Paragraph #33 of Petition) PTE is defined by 35 Ill. Adm. Code 211.4970 as the "maximum capacity of a stationary source to emit any air pollutant under its physical and operational design", i.e., the maximum amount of emissions that a source could potentially emit. Actual emissions, on the other hand, is defined as the quantity of pollutants a facility actually emits. Reducing "potential" emissions does not equate to a real environmental benefit, especially when the facility does not actually emit near its PTE, as is the case with D.B. Hess.

31. By accepting a limit of 18 TPY, D.B. Hess emits no more than other printing facilities that are exempt from 35 Ill. Adm. Code 218.407 due to the 100 lb./day exemption in Section 218.405(d)(2) (i.e.,  $100 \text{ lb/day} \times 365 \text{ days/yr} = 18.25$ ).

32. The Illinois EPA disagrees with Petitioner's allegation that "There will be "no" adverse environmental impact from Petitioner's Compliance Plan." {Emphasis Added} (See: Paragraph #33 of Petitioner's Petition) The Illinois EPA is always concerned about air quality and does not consider emissions of VOM, especially during the ozone season, as insignificant or as having "no" effect on air quality or the environment. While the Illinois EPA supports granting D.B. Hess the requested relief, the Illinois EPA considers the impact to general air quality and the effects to the health or environment, based upon the emission limitation of VOM to 18 TPY for D.B. Hess, will not be

substantially or significantly more adverse than the impact and effects considered in adoption of the RACT regulations of R94-31.

#### VII. COST OF COMPLIANCE/HARDSHIP

33. Pursuant to Section 35(a) of the Act, D.B. Hess has submitted information in its Petition illustrating the arbitrary and unreasonable hardship it would suffer if it were required to comply with the control requirements mentioned above.

34. As stated in the petition, Presses 3, 4, and 5 only account for 33% of the facility's entire production and 35% of the facility's total uncontrolled VOM emissions. (See: Paragraph 35 of Petition) Petitioner's amortized value of the costs of installation and maintenance for an afterburner over a five year period is approximately \$112,000.00 per year. (See: Paragraph 39 of Petition) However, this is an incorrect method of amortization. Since the presses could be operational for a period in excess of 5 years, perhaps an additional 13 to 15 years, it would be more appropriate to amortize the afterburner cost over the projected life of the presses, assuming the life of the afterburner is greater than the life time of the presses. Petitioner also states that the purchase and installation of such control equipment would only result in six tons of VOM per year for a cost of \$28,000 per ton of VOM per year. (Id.)

35. The hardship to D.B. Hess would be making a substantial, short-lived capital investment for installing an afterburner on

presses that are expected to be shut down within three years such that the it would be in excess of the value of each press and the expected value produced by those presses during their expected remaining useful life. (See: Paragraph 36 of Petitioner's Petition)

36. D.B. Hess has evaluated three add-on control technologies that are commercially available for use in the lithographic industry to control VOM emissions: 1) carbon adsorption technology; 2) chilled condenser technology; and 3) catalytic or thermal oxidation technology. (See: Petition, Section F: Alternate Methods and Past Efforts, page 10-12) Petitioner maintains that none of these methods were feasible or economically reasonable for these presses 3, 4, or 5. (Id.)

37. The Illinois EPA agrees that denial of the recommended variance would be an arbitrary and unreasonable hardship to petitioner.

#### VIII. ASSESSMENT OF FEDERAL LAW

38. As required by 35 Ill. Adm. Code 104.122(a), Petitioner has alleged compliance with the requirements of the Clean Air Act.

39. The Illinois EPA believes the Board may grant the recommended relief from the compliance date of March 15, 1996, from 35 Ill. Adm. Code 218.407(a) (1) (C), (D) and (E), and 218.411(b) (1), (2) and (3), as it would not violate the Clean Air Act, as amended in 1990 (42

U.S.C. § 7511a(b) (3) (B) (ii) (1990)) and regulations promulgated pursuant thereto.

40. All federal procedural requirements for a SIP revision have been or will have been met. The Illinois EPA provided notice of the Petition for Variance and the Board will schedule a hearing in this matter. Therefore, the requirements for notice and opportunity for public participation will be met.

41. The Illinois EPA is required to submit to USEPA a SIP revision regarding the variance because it is located in a NAA for ozone. Should the Board grant the variance, the Illinois EPA will submit it to the USEPA for approval as a SIP revision.

#### IX. CONCLUSIONS

42. The Illinois EPA believes that the hardship resulting from denial of the variance for one ATF and two Harris heatset web offset lithographic presses, identified as Presses 3, 4, and 5, at its facility located at 1530 McConnell Road, Woodstock, McHenry County, Illinois from 35 Ill. Adm. Code 218.407(a) (1) (C), (D) and (E), and 216.411(b) (1), (2) and (3) would outweigh any environmental impact from the grant of the variance for the reasons discussed above, in Section VII. Cost of Compliance/Hardship.

43. Petitioner has failed to allege necessary facts in support of a variance from 35 Ill. Adm. Code 201.141 and Sections 9(a) and 9(b) of the Act. In addition, such a variance would be both

inappropriate and unnecessary for the reasons discussed above.  
Therefore, a variance from those sections should be denied.

X. COMPLIANCE PLAN AND COMPLIANCE SCHEDULE

44. The Illinois EPA recommends that D.B. Hess be granted relief from the lithographic requirements of 35 Ill. Adm. Code 218.407(a)(1)(C), (D) and (E), and 218.411(b)(1), (2) and (3) for one ATF and two Harris heatset web offset lithographic presses, identified as Presses 3, 4, and 5, at its facility located at 1530 McConnell Road, Woodstock, McHenry County, Illinois. The variance shall be for a little over 3 years, from March 15, 1996 to March 30, 1999.

A. COMPLIANCE PLAN

- (1) Petitioner shall prepare and maintain records pursuant to 35 Ill. Adm. Code 218.411 (b), (c) and (d) for presses 3, 4, and 5 to show compliance with the requirements of 35 Ill. Adm. Code 218.407(a)(1)(C), (D) and (E), and 218.411(b)(1), (2) and (3) and this Variance;
- (2) Within 45 days of the date of the Board Order in this matter, Petitioner shall submit quarterly reports to the Illinois EPA's Compliance and Systems Management Section, demonstrating compliance with the terms of the Board Order;

- (3) Petitioner shall monitor presses 3, 4, and 5 pursuant to 35 Ill. Adm. Code 218.410(b), (c) and (e);
- (4) Petitioner shall use fountain solutions on presses 3, 4, and 5 that are less than 5% VOM by volume, as applied, and which contain no alcohol;
- (5) Petitioner shall use cleaning solutions on presses 3, 4, and 5 that have a VOM composite partial vapor pressure of less than 10 mm Hg at 200 C, and phase in, according to the Compliance Schedule hereinafter described, the use of new cleaning solutions that allow Petitioner to rely on VOM content to demonstrate compliance with 35 Ill. Adm. Code 218.407(a) (4); and
- (6) Petitioner shall store and dispose of all cleaning towels in closed containers.

B. COMPLIANCE SCHEDULE

- (1) From the date the Petition was filed with the Board, the combined VOM emissions from all of Petitioner's presses at the Woodstock Plant in operation on the date the Variance is approved shall not exceed 18 TPY or 1.5 tons per month;

- (2) Not later than March 30, 1997, Petitioner shall use only cleaning solution that does not exceed 30% VOM by weight at the Woodstock Plant;
- (3) Not later than March 30, 1998, Petitioner shall cease operation of Press 3;
- (4) By March 30, 1999, Petitioner shall either:
  - (a) cease operation of Presses 4 and 5 and notify the Illinois EPA of such cessation; or
  - (b) operate presses 4 and 5 or replacement for presses 4 and 5 in compliance with 35 Ill. Adm. Code 218.407(a)(1)(C), (D) and (E), and 218.411(b)(1), (2) and (3); and
- (5) If D.B. Hesse decides to replace presses 4 or 5, D.B. Hess must apply for and obtain a construction permit by March 30, 1998, or one year before replacing presses 4 and 5, whichever is earlier.

45. If Petitioner chooses to replace or retro-fit Presses 4 or 5, Petitioner shall send monthly status reports to the Illinois EPA on the progress of the installation of the presses and control equipment and testing of the control equipment, with the following information:

- a. Dates construction will commence and be completed;
- b. Test results;
- c. Any relevant correspondence from the control equipment manufacturer or the construction company regarding the



status of installation/construction (i.e., unexpected delay, installation/construction on schedule, completion ahead of schedule);

46. No later than March 30, 1999, Petitioner will cease operation on Presses 3, 4, and 5 unless it has applied for and obtained permits, installed presses and controls, tested, and shown compliance all by March 30, 1999.

47. The Illinois EPA recommends that the variance terminate when Presses 3, 4, and 5 have ceased operation, or have been replaced, or retro-fitted with control equipment, which has been tested and compliance with all 35 Ill. Adm. Code regulations has been demonstrated to Illinois EPA or on March 30, 1999, whichever is earlier.

48. All notifications to the Illinois EPA required hereunder shall be sent to:

David J. Kolaz, P.E.  
Manager, Compliance & Systems Management Section  
Division of Air Pollution Control  
P.O. Box 19276  
Springfield, Illinois 62794-9276

49. Within 45 days of the date of the final Board Order in this matter, Petitioner shall certify that it accepts the terms of the variance by executing and forwarding to Sheila G. Kolbe, Division of Legal Counsel, Illinois Environmental Protection Illinois EPA, P.O. Box 19276, 2200 Churchill Road, Springfield, Illinois 62794-9276, a Certificate of Acceptance and agreement to be bound to all terms and

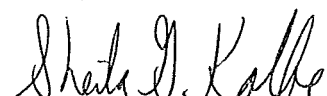
conditions of the granted variance. Such acceptance shall be signed by an officer of The D.B. Hess Company, Inc., duly authorized to bind The D.B. Hess Company, Inc., to all of the terms and conditions of the final Board Order in this matter. The 45-day period shall be held in abeyance during any period that this matter is appealed. Failure to execute and forward the Certificate within 45 days renders this variance void and of no force and effect as a shield against enforcement of rules from which the Board has granted relief.

RECOMMENDATION

WHEREFORE, the Illinois EPA agrees that an unreasonable hardship would be imposed upon D.B. Hess in the absence of the requested relief from 35 Ill. Adm. Code 218.407(a) (1) (C), (D) and (E), and 218.411(b) (1), (2), and (3), and therefore, recommends that the Board grant D.B. Hess a variance from those Sections until Presses 3, 4, and 5 have ceased operation, or have been replaced, or retro-fitted with control equipment, which has been tested and compliance with all 35 Ill. Adm. Code regulations has been demonstrated to Illinois EPA or on March 30, 1999, whichever is earlier, subject to the conditions contained in this recommendation.

The Illinois EPA reserves the right to amend its recommendation pending the close of the record in this case.

Respectfully submitted,  
ILLINOIS ENVIRONMENTAL  
PROTECTION AGENCY

BY:   
Sheila G. Kolbe  
Assistant Counsel  
Division of Legal Counsel

DATED: September 27, 1996

P.O. Box 19276  
Springfield, Illinois 62794  
217/524-3333

CERTIFICATION

The D.B. Hess Company, Inc., hereby accepts and agrees to be bound by all of the terms and conditions of the Order of the Illinois Pollution Control Board in PCB 96-194 (Air Variance).

The D.B. Hess Company, Inc.

By: \_\_\_\_\_

Its: \_\_\_\_\_

Date: \_\_\_\_\_

EXHIBIT 1



Illinois  
Environmental  
Protection Agency

Bureau of Air  
2200 Churchill Road  
P.O. Box 19276  
Springfield, IL 62794-9276

June 1995

IEPA/APC/95-018

1994  
Illinois  
Annual  
Air Quality  
Report

Printed on Recycled Paper

**APPENDIX B**  
**AIR QUALITY DATA SUMMARY TABLES**

**B.1 AIR QUALITY DATA INTERPRETATION**

In order to provide a uniform procedure for determining whether a sufficient amount of air quality data has been collected by a sensor in a given time period (year, quarter, month, day, etc.) to accurately represent air quality during that time period, a minimum statistical selection criteria was developed.

In order to calculate an annual average for noncontinuous parameters, a minimum of 75% of the data that was scheduled to be collected must be available, i.e., 45 samples per year for an every-six-day schedule (total possible of 60 samples). Additionally, in order to have proper quarterly balance, each site on an every sixth day schedule should have at least 10 samples per calendar quarter. This provides for a 20% balance in each quarter if the minimum required annual sampling is achieved.

For lead results which must be compared to a quarterly standard, 75% of the possible samples in each quarter must be obtained. Thus for a valid lead quarterly average, a total of 12 values must be available.

PM<sub>10</sub> sampling requirements are somewhat different than the requirements for other noncontinuous parameters. PM<sub>10</sub> sampling requires the use of a stratified sampling plan. This procedure eliminates the bias that may be introduced when sampling is performed on days in addition to the required sampling days. The time period from one sampling day until the day preceding the next scheduled sampling day is defined as a stratum. If more than one sample occurs within a stratum, then the values are averaged and the mean is used to represent the concentration of the stratum.

PM<sub>10</sub> samplers operate on one of three sampling frequencies:

- Every-day sampling (68 samples required each quarter for 75% data capture)
- Every-other-day sampling (34 samples required each quarter for 75% data capture)
- Every-six-day sampling (12 samples required each quarter for 75% data capture).

To calculate an annual PM<sub>10</sub> mean, arithmetic means are calculated for each quarter in which valid data is recorded in at least 75% of the possible strata. The annual mean is then the arithmetic average of the four quarterly means.

To determine an annual average for continuous data 75% of the total possible yearly observations are necessary, i.e., a minimum of 6570 hours (75% of the hours available) were needed in 1994. In order to provide a balance between the respective quarters, each quarter should have at least 1300 hours which is 20% of the 75% minimum annual requirement. To calculate quarterly averages at sites which do not meet the annual criteria, 75% of the total possible observations in a quarter are needed, i.e., a minimum of 1647 hours of 2200 hours available. Monthly averages also require 75% of the total possible observations in a month, i.e., 540 hours as a minimum. Additionally, for short-term running averages (24 hour, 8 hour, 3 hour) 75% of the data during the particular time period is needed, i.e, 18 hours for a 24-hour average, 6 hours for an 8-hour average and 3 hours for a 3-hour average.

For ozone, a valid day must have 75% of the hours between 9 a.m. and 9 p.m. otherwise it is considered missing. A missing day can be considered valid if the peak ozone concentration on the preceding and succeeding day is less than 0.090 ppm. The expected exceedances are actual exceedances adjusted for the percent of missing days (see Appendix D).

Data listed as not meeting the minimum statistical selection criteria in this report were so noted after evaluation using the criteria above. Although short term averages (3, 8, 24 hours) have been computed for certain sites not meeting the annual criteria, these averages may not be representative of an entire year's air quality. In certain circumstances where even the 75% criteria is met, the number and/or magnitude of short term averages may not be directly comparable from one year to the next because of seasonal distributional differences.

For summary purposes, the data is expressed in the number of figures to which the raw data is validated. Extra figures may be carried in the averaging technique, but the result is rounded to the appropriate number of figures. For example, the values 9, 9, 10 are averaged to give 9; whereas the values 9.0, 9.0, 10.0 are averaged to 9.3. The raw data itself should not be expressed to more significant figures than the sensitivity of the monitoring methodology allows.

In comparing data to the various air quality standards, the data are implicitly rounded to the number of significant figures specified by that standard. For example, to exceed the 0.12 ppm hourly ozone standard, an hourly

value must be 0.125 ppm or higher, to exceed the 9 ppm CO 8-hour standard, an 8-hour average must be 9.5 ppm or higher. Peak averages, though, will be expressed to the number of significant figures appropriate to that monitoring methodology.

National Ambient Air Quality Standards (NAAQS) for particulate matter (PM<sub>10</sub>), sulfur dioxide (SO<sub>2</sub>) and carbon monoxide (CO) have short-term standards for ambient air concentrations (24 hours or less) not to be exceeded more than once per year. In the case of ozone, the expected number of exceedances (one hour per day greater than 0.12 ppm) may not average more than one per year in any period of three consecutive years. The standards are promulgated in this manner in order to protect the public from excessive levels in pollution both in terms of acute and chronic health effects.

The following data tables detail and summarize air quality in Illinois in 1994. The tables of rankings list the sites with valid annual averages from highest to lowest. The tables of short term exceedances list those sites which exceeded any of the short term primary standards (24 hours or less). The detailed data tables list averages and peak concentrations for all monitoring sites in Illinois.

The ozone table lists the actual number of days the ozone standard was exceeded in 1994, the number of expected exceedances (see discussion above) in 1994 and the three year average (1992 - 1994) of expected exceedances. If the latter value is greater than 1.0, then the site violates the ozone standard

1994

## OZONE

STATION	ADDRESS	NO. OF SAMPLES APR-OCT	NUMBER OF DAYS GREATER THAN 0.12 PPM			HIGHEST SAMPLES (parts per million)			
			ACTUAL 94	EXPECTED 94	EXPECTED 92-94	1ST	2ND	3RD	4TH
<b>65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)</b>									
<b>PEORIA COUNTY</b>									
Peoria	Hurlburt & MacArthur	5109	0	0.0	0.0	0.097	0.086	0.086	0.082
Peoria Heights	508 E. Glen	4962	0	0.0	0.0	0.107	0.092	0.092	0.090
<b>66 EAST CENTRAL ILLINOIS INTRASTATE</b>									
<b>CHAMPAIGN COUNTY</b>									
Champaign	606 E. Grove	5103	0	0.0	0.0	0.096	0.094	0.093	0.090
<b>67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)</b>									
<b>COOK COUNTY</b>									
Alsip	4500 W. 123rd St.	5078	0	0.0	0.0	0.087	0.087	0.085	0.082
Calumet City	1703 State St.	5083	0	0.0	0.3	0.086	0.085	0.083	0.083
Chicago - CTA	320 S. Franklin	5080	0	0.0	0.0	0.083	0.078	0.069	0.069
Chicago - Edgewater	5358 N. Ashland	4949	0	0.0	0.0	0.102	0.089	0.088	0.084
Chicago - NWU	Huron & Fairbanks	3598	0	0.0	0.0	0.081	0.073	0.070	0.065
Chicago - SWFP	3300 E. Cheltenham	5097	0	0.0	0.0	0.115	0.107	0.102	0.087
Chicago - SE Police	109rd & Luella	5099	0	0.0	0.0	0.096	0.083	0.082	0.081
Chicago - Taft	6545 W. Hurlbut	4954	0	0.0	0.0	0.097	0.096	0.094	0.088
Chicago - University	5720 S. Ellis	5093	0	0.0	0.3	0.110	0.108	0.107	0.097
Cicero	1830 S. 51st Ave.	5104	0	0.0	0.0	0.085	0.085	0.084	0.083
Des Plaines	1375 5th St.	4994	0	0.0	0.3	0.110	0.100	0.098	0.097
Evanston	531 Lincoln	4960	0	0.0	0.7	0.119	0.097	0.096	0.093
Lemont	729 Houston	4996	1	1.0	0.7	0.169	0.100	0.096	0.093
<b>DuPAGE COUNTY</b>									
Lisle	Morton Arboretum	5075	0	0.0	0.0	0.107	0.086	0.083	0.081
<b>KANE COUNTY</b>									
Elgin	665 Dundee	5114	1	1.0	0.7	0.127	0.116	0.110	0.093
<b>LAKE COUNTY</b>									
Deerfield	1321 Wilnot Rd.	5031	1	1.0	0.7	0.126	0.112	0.107	0.104
Libertyville	1441 Lake St.	5066	1	1.0	0.3	0.128	0.102	0.097	0.090
Waukegan	Golf & Jackson	4877	1	1.0	0.7	0.126	0.099	0.094	0.093
Zion	Camp Logan	4704	1	1.0	NA	0.132	0.112	0.106	0.093
<b>McHENRY COUNTY</b>									
Cary	1st St. & Three Oaks	4925	0	0.0	0.0	0.110	0.105	0.095	0.093
<b>WILL COUNTY</b>									
Braidwood	Rte 113 & School St.	4912	0	0.0	0.0	0.082	0.081	0.079	0.078
South Lockport	2021 Lawrence	4875	1	1.0	0.3	0.130	0.105	0.096	0.094



EXHIBIT 2



Illinois  
Environmental  
Protection Agency

Bureau of Air  
2200 Churchill Road  
P.O. Box 19276  
Springfield, IL 62794-9276

June 1996

IEPA\APC\96-057

**1995**

**ILLINOIS**

**ANNUAL**

**AIR QUALITY**

**REPORT**

**25th Anniversary 1970 - 1995**

Printed on Recycled Paper

## APPENDIX B

### AIR QUALITY DATA SUMMARY TABLES

#### B.1 AIR QUALITY DATA INTERPRETATION

In order to provide a uniform procedure for determining whether a sufficient amount of air quality data has been collected by a sensor in a given time period (year, quarter, month, day, etc.) to accurately represent air quality during that time period, a minimum statistical selection criteria was developed.

In order to calculate an annual average for noncontinuous parameters, a minimum of 75% of the data that was scheduled to be collected must be available, i.e., 45 samples per year for an every-six-day schedule (total possible of 60 samples). Additionally, in order to have proper quarterly balance, each site on an every sixth day schedule should have at least 10 samples per calendar quarter. This provides for a 20% balance in each quarter if the minimum required annual sampling is achieved.

For lead results which must be compared to a quarterly standard, 75% of the possible samples in each quarter must be obtained. Thus for a valid lead quarterly average, a total of 12 values must be available.

PM<sub>10</sub> sampling requirements are somewhat different than the requirements for other noncontinuous parameters. PM<sub>10</sub> sampling requires the use of a stratified sampling plan. This procedure eliminates the bias that may be introduced when sampling is performed on days in addition to the required sampling days. The time period from one sampling day until the day preceding the next scheduled sampling day is defined as a stratum. If more than one sample occurs within a stratum, then the values are averaged and the mean is used to represent the concentration of the stratum.

PM<sub>10</sub> samplers operate on one of three sampling frequencies:

- Every-day sampling (68 samples required each quarter for 75% data capture)
- Every-other-day sampling (34 samples required each quarter for 75% data capture)
- Every-six-day sampling (12 samples required each quarter for 75% data capture).

To calculate an annual PM<sub>10</sub> mean, arithmetic means are calculated for each quarter in which valid data is recorded in at least 75% of the possible strata. The annual mean is then the arithmetic average of the four quarterly means.

To determine an annual average for continuous data 75% of the total possible yearly observations are necessary, i.e., a minimum of 6570 hours (75% of the hours available) were needed in 1995. In order to provide a balance between the respective quarters, each quarter should have at least 1300 hours which is 20% of the 75% minimum annual requirement. To calculate quarterly averages at sites which do not meet the annual criteria, 75% of the total possible observations in a quarter are needed, i.e., a minimum of 1647 hours of 2200 hours available. Monthly averages also require 75% of the total possible observations in a month, i.e., 540 hours as a minimum. Additionally, for short-term running averages (24 hour, 8 hour, 3 hour) 75% of the data during the particular time period is needed, i.e, 18 hours for a 24-hour average, 6 hours for an 8-hour average and 3 hours for a 3-hour average.

For ozone, a valid day must have 75% of the hours between 9 a.m. and 9 p.m. otherwise it is considered missing. A missing day can be considered valid if the peak ozone concentration on the preceding and succeeding days is less than 0.090 ppm. The expected exceedences are actual exceedences adjusted for the percent of missing days (see Appendix D).

Data listed as not meeting the minimum statistical selection criteria in this report were so noted after evaluation using the criteria above. Although short term averages (3, 1, 1 hours) have been computed for certain sites not meeting the annual criteria, these averages may not be representative of an entire year's air quality. In certain circumstances where even the 75% criteria is met, the number and/or magnitude of short term averages may not be directly comparable from one year to the next because of seasonal distributional differences.

For summary purposes, the data is expressed in the number of figures to which the raw data is validated. Extra figures may be carried in the averaging technique, but the result is rounded to the appropriate number of figures. For example, the values 9, 9, 10 are averaged to give 9, whereas the values 9.0, 9.0, 10.0 are averaged to 9.3. The raw data itself should not be expressed to more significant figures than the sensitivity of the monitoring methodology allows.

In comparing data to the various air quality standards, the data are implicitly rounded to the number of significant figures specified by that standard. For example, to exceed the

0.12 ppm hourly ozone standard, an hourly value must be 0.125 ppm or higher, to exceed the 9 ppm CO 8-hour standard, an 8-hour average must be 9.5 ppm or higher. Peak averages, though, will be expressed to the number of significant figures appropriate to that monitoring methodology.

National Ambient Air Quality Standards (NAAQS) for particulate matter (PM<sub>10</sub>), sulfur dioxide (SO<sub>2</sub>) and carbon monoxide (CO) have short-term standards for ambient air concentrations (24 hours or less) not to be exceeded more than once per year. In the case of ozone, the expected number of exceedences (one hour per day greater than 0.12 ppm) may not average more than one per year in any period of three consecutive years. The standards are promulgated in this manner in order to protect the public from excessive levels in pollution both in terms of acute and chronic health effects.

The following data tables detail and summarize air quality in Illinois in 1995. The tables of rankings list the sites with valid annual averages from highest to lowest. The tables of short term exceedences list those sites which exceeded any of the short term primary standards (24 hours or less). The detailed data tables list averages and peak concentrations for all monitoring sites in Illinois.

The ozone table lists the actual number of days the ozone standard was exceeded in 1995, the number of expected exceedences (see discussion above) in 1995 and the three year average (1993 - 1995) of expected exceedences.

1995

OZONE

STATION	ADDRESS	NO. OF VALID DAYS APR-OCT	NUMBER OF DAYS GREATER THAN 0.12 PPM			HIGHEST SAMPLES (parts per million)			4th
			95	95	93-95	1st	2nd	3rd	
<b>65 BURLINGTON - KEOKUK INTERSTATE (IA - IL)</b>									
<b>COUNTY</b>									
Peori	Hurlbut & MacArthur	212	0	0.0	0.0	0.073	0.089	0.088	0.09
Peoria Heights	508 E. Glen	213	0	0.0	0.0	0.102	0.099	0.095	0.09
<b>66 EAST CENTRAL ILLINOIS INTRASTATE</b>									
<b>CHAMPAIGN COUNTY</b>									
Champaign	606 E. Grove	214	0	0.0	0.0	0.104	0.095	0.094	0.09
<b>67 METROPOLITAN CHICAGO INTERSTATE (IL - IN)</b>									
<b>COOK COUNTY</b>									
Alsip	4500 W. 123rd St.	214	1	1.0	0.7	0.129	0.109	0.108	0.09
Calumet City	1703 State St.	206	1	1.0	0.3	0.160	0.097	0.095	0.09
Chicago - CTA	320 S. Franklin	214	0	0.0	0.0	0.104	0.098	0.091	0.09
Chicago - Edgewater	6358 N. Ashland	214	0	0.0	0.0	0.121	0.110	0.104	0.10
Chicago - Jardine	1000 E. Ohio	200	2	2.1	NA	0.143	0.133	0.119	0.11
Chicago - SWFP	3300 E. Cheltenham	214	2	2.0	0.7	0.132	0.128	0.111	0.10
Chicago - SE Police	103rd & Luella	214	2	2.0	0.7	0.166	0.126	0.110	0.10
Chicago - Taft	6545 W. Hurlbut	214	0	0.0	0.0	0.124	0.115	0.109	0.10
Chicago - University	5720 S. Ellis	214	2	2.0	0.7	0.134	0.130	0.108	0.10
Cicero	1830 S. 51st Ave.	214	0	0.0	0.0	0.110	0.099	0.097	0.09
Des Plaines	1375 5th St.	211	0	0.0	0.0	0.124	0.121	0.111	0.10
Evanston	531 Lincoln	214	2	2.0	0.7	0.149	0.140	0.119	0.11
Lemont	729 Houston	213	0	0.0	0.3	0.117	0.117	0.108	0.10
<b>DUPAGE COUNTY</b>									
Lisle	Morton Arboretum	213	0	0.0	0.0	0.110	0.104	0.104	0.10
<b>KANE COUNTY</b>									
Elgin	665 Dundee	214	0	0.0	0.3	0.119	0.117	0.117	0.10
<b>LAKE COUNTY</b>									
Deerfield	1321 Wilmot Rd.	212	0	0.0	0.3	0.106	0.102	0.098	0.09
Libertyville	1441 Lake St.	214	0	0.0	0.3	0.114	0.107	0.105	0.10
Waukegan	Golf & Jackson	214	0	0.0	0.3	0.117	0.116	0.108	0.10
Zion	Camp Logan	209	0	0.0	0.5	0.114	0.113	0.110	0.10
<b>MCHENRY COUNTY</b>									
Cary	1st St. & Three Oaks	210	0	0.0	0.0	0.118	0.113	0.108	0.10
<b>WILL COUNTY</b>									
Braidwood	36400 S. Essex Rd.	208	0	0.0	0.0	0.116	0.104	0.092	0.09
South Lockport	2021 Lawrence	214	0	0.0	0.3	0.119	0.119	0.112	0.10

STATE OF ILLINOIS            )  
  ) SS.  
COUNTY OF SANGAMON        )

PROOF OF SERVICE

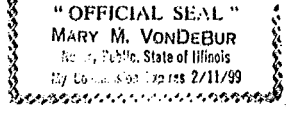
I, the undersigned, on oath state that I have served the attached AGENCY  
RECOMMENDATION upon the person to whom it is directed, by placing a copy in an envelope  
addressed to:

Dorothy Gunn, Clerk  
Illinois Pollution Control Board  
James R. Thompson Center  
100 W. Randolph, Suite 11-500  
Chicago, Illinois 60601

William J. Anaya  
JOHNSON & BELL, LTD.  
222 North LaSalle Street  
Suite 2200  
Chicago, Illinois 60601

Deborah L. Frank  
Board Hearing Officer  
Illinois Pollution Control Board  
608 S. Prospect Avenue  
Champaign, Illinois 61820

and mailing it by first class mail from Springfield, Illinois on September 27th, 1996 with  
sufficient postage affixed.



Jandy Toley

SUBSCRIBED AND SWORN TO BEFORE ME

this 27th day of September, 1996

Mary M. VonDeBur

Notary Public