

ILLINOIS POLLUTION CONTROL BOARD
July 8, 1976

SALEM GRAVURE, DIVISION OF WORLD)
COLOR PRESS, INC.,)
)
Petitioner,)
)
v.) PCB 76-51
)
ENVIRONMENTAL PROTECTION AGENCY,)
)
Respondent.)

OPINION AND ORDER OF THE BOARD (by Dr. Satchell):

This matter comes before the Pollution Control Board (Board) as a petition for variance from Rule 205(f) of the Chapter 2: Air Pollution Control Regulations. The original petition was filed February 26, 1976. Additional information was filed by Salem Gravure (Salem) on March 26, 1976. The Environmental Protection Agency (Agency) filed its Recommendation on June 8, 1976. No hearing was held in this matter.

Salem is requesting a variance from Rule 205(f) of the Air Pollution Regulations to allow the running of three rotogravure printing presses until October 1, 1976. At this time, Petitioner will have installed and operating the solvent recovery systems necessary to be in compliance with all the Regulations. The controlling regulation is deemed to be Rule 205(f)(1)(B) and in the Agency's opinion Petitioner should not encounter any problem in meeting the 85% required control efficiency with the installation of the control system.

Salem's failure to complete the solvent recovery system with the rest of its new plant was caused by cancellation of its contract with the original supplier who because of poor financial condition might not have been able to complete the system.

Failure to obtain this variance is alleged by Petitioner to impose an unreasonable hardship because of long term, multi-million dollar contracts to print weekly and monthly publications when missed deadlines could result in defaulted contracts and possible litigation.

The economic impact of the placing of the new plant in Marion County is extremely favorable to the area. Petitioner states that the area had an unemployment figure of 16.6% in February of 1976. Salem would employ about 2% of the total

work force (about 425) in the county. By January 1, 1982, Salem estimates it will be employing over 1,000 people with an average wage rate of \$8.50 per hour.

The Agency granted a construction permit (No. C 512020) on March 4, 1976 which included five printing presses, copper and chrome plating tanks, three boilers, four cyclones, five binders, and an activated carbon solvent recovery system which includes five carbon beds each containing 25,000 pounds of activated carbon. The Agency estimates the cost of the activated carbon units at about \$1.3 million. The initial start-up of the solvent recovery system is scheduled for August 15, 1976.

Petitioner states that the three presses being built at this time (No. 301, a proof press, Nos. 302, 303, production presses) will use about 1,216 pounds of solvents per hour:

Roto Solvent (composition not given)	961.44
Naphtha (largely pentanes and hexanes)*	188.70
Toluene (methyl benzene)*	55.08
Xylene (dimethyl benzene)*	10.72
Total	<u>1215.94</u>

*Merck Index 8th Ed. Naphtha listed as "petroleum benzin".

It is estimated five per cent of the solvent would be consumed.

In conference with Agency personnel, Mr. Littlejohn, chief corporate engineer, World Color Press, stated #302 commenced operation in April, 1976; #303 will be operative about July 1, 1976 and #301 may be operative before October 1, 1976. The solvent usage values supra are for full production rates.

The Salem facility immediately borders the Salem Texaco Oil production area which the Agency would expect to be a major source of organic material emissions. Since Petitioner's facility is new, the Agency cannot reliably estimate the degree of unreasonable interference this plant may cause to members of the public. The known chemical emissions (toluene, xylene and naphtha) all have a relatively low level of toxicity but are explosive in sufficient concentration. As with other organic chemical emissions, photochemical smog and ozone production could be enhanced.

The consideration of the effect of Petitioner's emissions on ambient air quality with regard to applicable standards is not easily solved. The report submitted by P & W Engineers, Inc., titled "Addenda to the Variance Petition (PCB 76-51) for

World Color Press, Inc., Salem Gravure Division" (hereinafter Report) states that at the present time, 1,752 tons/year (hydrocarbons) are being emitted by various industrial processes in Marion County, of which 194.5 tons/year are emitted in the city of Salem. To determine the effects of Salem's emissions, an atmospheric dispersion model was selected and the Pasquill equation used to calculate ground level concentrations. The results are given in Table 1 of the Report:

Table 1. Maximum Hydrocarbon Ground Level Concentrations

Distance Downwind	Hydrocarbons from 301	Hydrocarbons from 302	Hydrocarbons from 303	Total Hydrocarbons
0.1 KM	0.00089 mg/l	0.0187 mg/l	0.0187 mg/l	0.0383 mg/l
0.5 KM	0.000088 mg/l	0.00184 mg/l	0.00184 mg/l	0.00377 mg/l
1.0 KM	0.000023 mg/l	0.00048 mg/l	0.00048 mg/l	0.00098 mg/l

Presumably based on this table, the Agency states the Report predicts a worst condition hydrocarbon concentration of about 3,770 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) of air at a distance of one kilometer from the point of emission. This value would indicate the plant would "cause a serious air quality problem" (Agency Rec. at 6). Examination of the Table does not validate the quoted figure. The actual figure is believed to be 0.00098 mg/l minus the contribution of #301 (0.000023 mg/l) (since it would not be on stream) or 0.000957 mg/l which on conversion becomes 957 $\mu\text{g}/\text{m}^3$ when presses Nos. 302 and 303 are operated 75% of the time. In a document submitted July 2, 1976 by P & W Engineers, Inc. entitled, "Supplementary Information for Variance Petition," the actual operation of the one press at this time is given as 50% of the time so that the emissions would be less than one-half of 957 $\mu\text{g}/\text{m}^3$.

An ambient air quality standard of 160 $\mu\text{g}/\text{m}^3$ maximum 3-hour concentration has been established for non-methane hydrocarbons which is not to be exceeded more than once a year. (Chapter 2, Part III, Rule 309). The Agency states that the Report would indicate short term violations of ambient air quality for hydrocarbons, but that "the Agency believes that the report was too poorly constructed to give the projection any credence. Indeed, no reliable hydrocarbon dispersion model exists at this time."

The Agency recommends that either the variance be denied or be granted subject to a number of conditions. The Board is disposed to grant the variance subject to the conditions stated in the Order for the following reasons:

1. The environmental damages or hazards are believed to be insignificant if the ozone level is monitored and the plant shut down when levels of 0.17 ppm (1-hour averaging time) are reached for three consecutive days.
2. The information gathered during the variance period would be very valuable in considering hydrocarbon dispersal in the future.

This Opinion constitutes the Board's findings of fact and conclusions of law in this matter.

ORDER

It is the Order of the Pollution Control Board that Salem Gravure, Division of World Color Press, Inc., be granted variance from Rule 205(f)(1)(B) of the Board's Chapter 2: Air Pollution Control Regulations until October 1, 1976 or until such time as the activated carbon recovery system is operational, whichever date comes first; and subject to the following conditions:

1. Petitioner shall submit monthly progress reports to the Agency on the first business day of each month until the project is completed. Reports shall be sent to the following address:

Program Control Coordinator
Illinois Environmental Protection Agency
Division of Air Pollution Control
2200 Churchill Road
Springfield, Illinois 62706

2. No later than twenty-one (21) days after the date on which Petitioner completes construction and installation of its activated carbon recovery system, Petitioner shall submit to the Agency an application for an operating permit for said system and the printing presses which it controls; within ninety (90) days after the date said application for an operating permit is submitted to the Agency, Petitioner shall obtain an operating permit for both the presses and the activated carbon recovery system.

3. Proximate to its printing facility, Petitioner shall maintain and operate for a period not less than one year from the date of this Order both in-stack and ambient air monitoring equipment to measure concentrations of both ozone and hydrocarbons. Petitioner shall seek and obtain approval from the Agency regarding the type and location of said equipment no later than twenty-eight (28) days from this Order. The Agency shall have the right to inspect Petitioner's ambient air monitoring equipment and require operation of said equipment in accordance with methods approved by the Agency. During the variance period, Petitioner shall cease all operations which cause hydrocarbon emissions on the third consecutive day that ambient air monitors indicate an ozone level of 0.17 ppm or higher using a 1-hour averaging time and will not resume these operations until the day after the aforementioned monitors indicate an ozone level of 0.07 ppm or less using a 2-hour averaging time through one full day.
4. Petitioner shall keep record charts to document emissions measurements from its stack monitoring equipment and ambient air monitoring equipment described in condition (3) above. Such records shall be kept on the premises of Petitioner's facility available for Agency inspection for a period not less than one year from the date the record charts are made. Such records shall include emission measurements for each monitoring unit expressed in micrograms per cubic meter of air, time of measurement, and wind direction.
5. To insure compliance pursuant to Section 36 of the Illinois Environmental Protection Act, Petitioner shall file with the Agency's Control Program Coordinator at the address above a performance bond in the amount of \$50,000 and in a form acceptable to the Agency no later than twenty-eight (28) days from this Order.
6. Within thirty-five (35) days of this Order herein, Petitioner shall execute and forward to the Control Program Coordinator, a Certification of Acceptance and Agreement to be bound to all terms and conditions of the Board Order. The form of said Certification shall be as follows:

CERTIFICATION

I (We), _____, having read and fully understanding the Order of the Illinois Pollution Control Board in PCB 76-51 hereby accept said Order and agree to be bound by all the terms and conditions thereof.

Signed by _____

Title _____

Date _____

Mr. Jacob D. Dumelle dissents.

I, Christan L. Moffett, Clerk of the Illinois Pollution Control Board hereby certify the above Opinion and Order were adopted on the 8th day of July, 1976 by a vote of 4-1.



Christan L. Moffett, Clerk
Illinois Pollution Control Board