

ILLINOIS POLLUTION CONTROL BOARD  
February 19, 1987

ALLIED-HASTINGS BARREL )  
AND DRUM SERVICE, INC., )  
 )  
Petitioner, )  
 )  
v. ) PCB 86-21  
 )  
ENVIRONMENTAL PROTECTION )  
AGENCY, )  
 )  
Respondent. )

RICHARD W. COSBY APPEARED ON BEHALF OF PETITIONER;

WILLIAM D. INGERSOLL APPEARED ON BEHALF OF RESPONDENT.

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

On February 5, 1986, Allied-Hastings Barrel and Drum Service Inc. (Allied-Hastings) filed a petition seeking extension until December 31, 1987 of the variance granted in PCB 83-119, May 18, 1984. Allied-Hastings seeks variance from 35 Ill. Adm. 215.211, 215.212, and 215.204(j), which regulate Volatile Organic Compound (VOC) emissions. On October 7, 1986, the Agency filed a Recommendation that variance be denied because of Allied-Hastings' asserted failure to a) comply with the conditions of the prior variance, b) provide sufficient information concerning environmental impact, and c) propose a specific program by which compliance could reasonably be achieved by December 31, 1987. Hearing was held on October 8, 1986; no members of the public were present. At hearing, Allied-Hastings proposed an amendment to its compliance plan which was reduced to writing in an Amendment to Petition filed October 22, 1986. Allied-Hastings filed post-hearing briefs on December 3, 1986 and January 7, 1987. The Agency's brief, filed December 29, 1986, noted that the "Agency contends that Petitioner still has not proven adequate basis for the requested relief. However, the Agency does not maintain the same strenuous opposition (sic) that it held prior to the compliance plan amendment."

The Facility

The Allied-Hastings facility is located in the Chicago Metropolitan Area, within Air Quality Control Region 67, at 915 West 37th Street, Chicago. The facility is located in an industrial, commercial and residential area. Allied-Hastings reconditions steel drums to which exterior, and in some cases interior, coatings are applied as an integral part of the

process. At hearing, the bulk of the testimony was presented by John A. Krause. Mr. Krause, his mother and his brother own all shares in the company. Mr. Krause, together with his brother, "runs and works in the plant", as he has done for approximately 30 years. In addition to the family, Allied-Hastings employs about 40 other persons. After tax profit in the company's last accounting year was \$100,000.

Allied-Hastings reconditions fifty-five (55) gallon steel drums, both tight head and open head styles. Its customers include chemical, oil and ink companies. While some companies simply buy Allied-Hastings product, others store drums on-site and call Allied-Hastings to pick up the drums, recondition and clean them, and return them for reuse. Drums may be recycled in this matter some 5-6 times.

Tight head drums are used for materials which are easy to pour such as oil or solvents. The top of a tight head drum is not removable. R. 40-41. Open head drums have removable tops. The top is fastened to the body of the drum with a lockable ring or burr. Open head drums can be used for paint, varnish, resin - any material that is heavy and not easily poured. R.41.

A tight head drum is first inspected and then washed when it comes to Allied-Hastings. To wash the tight head drums, the two bungs are removed and the drum is submerged in a heated caustic solution. The caustic solution is heated to approximately 180 degrees Fahrenheit to increase the strength of the solution. The caustic bath removes the paint, the oil, and any solvent that may remain in the drum. The drum is submerged in the bath for approximately five minutes. R.46-47.

After the caustic bath, the tight head drums are siphoned, rinsed, siphoned, and then dried with forced air. Then the inside of the tight head drum is checked for cleanliness. Finally, the drums are tested for leaks. After testing, all of the drums are painted on the exterior in accordance with customer specification; less than 5% are coated on the interior as well. After painting, the tight head drums are cured in a drying oven. R.47-51.

Open head drums are processed by first removing the tops of the drums. Then the tops and drum shells are cleaned. Cleaning is accomplished by placing the empty open head drums upside down on a conveyor belt which travels through an incinerator forty feet long, eight feet high and five feet wide. The temperature in the incinerator reaches 1000 degrees Fahrenheit. When the drums exit the incinerator, they are cherry red in color. R.49, 51, 73.

The open head drums are then shot blasted to remove any ash left by the incinerator and to polish the surface of the drums.

The clean open head drums are then tested by submerging in water after being covered with a rubber gasket and checked for leaks using seven pounds of air pressure. If the clean drums do not contain leaks, they are sent to the interior coating line. After the top is reattached the drums are sent through the exterior coating line. R.49-51.

Allied-Hastings reconditions an equal number of tight head and open head drums. However, although all of the drums are painted on their exterior, less than five percent of the tight head drums are lined. In contrast, approximately 75% of the open head drums are lined. In all, approximately 30 to 40 percent of all the drums reconditioned by Allied-Hastings are lined. R.63-64.

Allied-Hastings has three separate coating lines - two exterior lines and one interior line. One exterior line serves only tight head drums and one serves only open head drums. The interior coating line is primarily for open head drums. Each of the three lines has a cure oven. Because of the size of the building housing the facility, Allied-Hastings cannot extend its curing ovens. R.60-71.

In December of 1985, Allied-Hastings ordered a shot blaster for its tight head drum line. The shot blaster cost approximately \$80,000 and was purchased to improve the exterior surfaces on the tight head drums. The shot blaster went on line two weeks before the October, 1986 hearing. R.71-72. Allied-Hastings asserts that with both styles of drums receiving the better surface preparation that shot blasting allows, the possibility of finding a high solid, low VOC exterior coating formulation that will work in production increases.

In addition to the shot blaster, the company purchased an automatic spray system to apply its coatings. The automatic spray system was installed in the summer of 1985 at a cost of approximately \$25,000,00. The automatic spray system uses less paint than the system it replaced. R.72-73.

Allied-Hastings presently uses a hot airless spray application system on all three coating lines. The company asserts that because it has been unsuccessful in its search for compliance exterior coatings, it is still using conventional exterior enamels to cover the outside of its drums. The company further asserts that because no compliance interior linings are on the market, Allied-Hastings is using Mobiliner 114 for its interior lining, an epoxy phenolic lining long accepted by the company's customers as satisfactory in performance for about 15 years. R.69-70.

### Past Compliance Efforts

In its pursuit of variance in PCB 83-119, Allied-Hastings identified two possible compliance options: 1) installation of afterburners to reduce emissions from its coating lines in order to meet the VOC reduction requirements of 35 Ill. Adm. Code 215.205(a) or 2) use of coating materials with a lower VOC content than those in use at that time. The afterburner option was rejected on the grounds that the cost of operation and installation of such a system was beyond its financial means: the capital cost of installation in 1983 was estimated to be \$865,000, and the total cost of control was estimated to be \$3436/ton of emission reduction. Consequently, the company reports that, during the term of the prior variance, its compliance efforts centered primarily on a testing program for high solids, low VOC exterior coatings. The company hoped to find exterior coatings sufficiently low in VOC content to allow for internal offset of its interior linings, pursuant to 35 Ill. Adm. Code 215.207. The company further notes that while the Order in PCB 83-119 required testing of replacement interior coatings, that none were tested because no high solids, low VOC coatings were available.

Two replacement exterior coatings had been tested prior to grant of variance, and seven more were tested during the variance term. Without going into detail concerning deficiencies of any particular product, none proved satisfactory. Reconditioned, hence weathered, drums do not accept coatings as easily as newly manufactured drums; they may also require thicker coatings to cover flaws. The summary of Allied-Hastings' experience was that the high solids exterior coatings tested on the company's coating lines did not provide a finish that met the industry's standards for acceptable appearance. Allied-Hastings could not cure the high solids paint, and its ovens could not dry it. Not only would the high solids low VOC paints not cure, but they would not easily cover flaws on the reconditioned drum and therefore, more paint had to be applied. The application of the coating was too heavy and would not stick to the drum.

Increasing the temperature of the cure ovens, different nozzles, various pressure settings, and increasing barrel rotation did not help. While various manufacturers had suggested that the company extend its cure ovens to increase residence time, this is not possible due to the plant's physical configuration. R.66, 82-83.

### Proposed Compliance Plan

In its initial petition, the Company had proposed only to continue its testing program for replacement coatings. However, in response to the Agency's initial negative view of the company's ability to achieve timely compliance via this route, at

hearing Allied-Hastings proposed an alternative plan. The new plan would involve installation of ducting to vent emissions from the spray booths and cure ovens on the coating lines to the drum incinerator on the open head line. Allied-Hastings asserts that those VOC emissions which are not destroyed by the 1000-1200 Fahrenheit heat in the drum incinerator will be destroyed in the 1400-1600 Fahrenheit heat of the afterburner to which emissions from the drum incinerator are ducted.

While this approach was generally disfavored by the Agency in 1983, Allied-Hastings asserts that as of August, 1986 the Agency entered into discussions with it concerning this plan. Allied-Hastings noted that this system had been employed by Columbus Steel Drum, a drum reconditioning company located in Michigan. Allied-Hastings, in cooperation with another Chicago company, had retained Columbus' engineer to prepare a feasibility report. In its October 22, 1986 amendment to its petition, Allied-Hastings asserted its belief that the study would be concluded by December 31, 1986. Allied-Hastings also stated that installation of necessary ducts and fans could be commenced during the first quarter of 1987, assuming the report did not conclude that the project was in some way infeasible.

#### Alleged Hardship

Allied-Hastings favors the above described approach because the only capital expense involved relates to installation of ducting and fans, and operating expenses would be nominal because no additional use of natural gas would be required. This is in considerable contrast to the \$865,000 capital cost of installation of an afterburner. While Allied-Hastings has already made some capital investment of \$105,000 for its shot blaster and automatic spray booth to facilitate use of any satisfactory high-solid, low-VOC coatings, it notes that use of such coatings increases the per drum production costs about 20%, a cost which it cannot pass on due to the condition of the recycled drum industry.

The price structure for reconditioned drums is depressed. The current price for a one time recycled drum is about \$10.50. Three years ago the price was \$11.00 or \$11.50. The current price for recycling a drum, where the customer supplies the drum, Allied-Hastings picks it, reconditions and cleans it, and then returns the reconditioned drum is about \$6.00 to \$7.00. By contrast, drum manufacturers are charging \$12.80 for a new drum. R.55-56.

The result is that Allied-Hastings is in competition with new drum manufacturers, as well as drum reconditioners. Mr. Krause testified that he has lost accounts to new drum manufacturers because of a \$2.30 price difference between the cost of their new and his recycled drums, and that he has also

lost accounts to two drum reconditioners who undercut his price by \$0.50 per drum.

At the same time prices for the product are dropping, costs of doing business are rising. Between 1985 and 1986, the company's costs for liability insurance rose from \$30,000 to \$125,000 for half the coverage with a high deductible. Costs of disposal of the residues from the drums have increased five-fold since last year. They are expected to continue to increase in 1987, particularly in light of the requirements of Section 39(h) of the Act requiring treatment of hazardous waste streams to render them non-hazardous.

Asserted Environmental Effect of Emissions

Allied-Hastings reports that, according to the most recent data supplied by the Agency, its annual VOC emissions are 52.8 tons, 19.48 tons per year in excess of those allowed by 35 Ill. Adm. Code 215.204(j). At hearing, the company elicited testimony from Harish Narayan, an Agency field investigation officer familiar with the facility, in support of its contention that the emissions from its facility have minimal environmental impact and are not interfering with attainment of the ambient air quality standard for ozone. Allied-Hastings notes that the Agency's Air Quality Bulletins for the 1983, 1984, 1985 (Pet. Exh. 4,5,6) show a clear downward trend in the number of days of exceedance at the three air quality monitoring stations closet to the facility, as shown below.

	<u>1983</u>	<u>1984</u>	<u>1985</u>
57th & Museum	3	0	0
84th & Kedvale	4	1	0
103rd & Luella	2	0	0

The company asserts that it has received no complaints from neighbors concerning odors from the paint lines (although in 1985 complaints were received concerning caustic smells from the wash lines). R.78. Finally, the company essentially argues that its excess daily emissions are de minimus, as they equal 0.031 percent of the hydrocarbons generated on a summer week day in Chicago by mobile sources including vehicular traffic.

Agency Recommendation

It is the Agency's position that variance should be denied. In its original Recommendation, the Agency had asserted that Allied-Hastings had failed to demonstrate hardship or a feasible compliance plan. In its post-hearing brief, the Agency

appears to have retreated from this position, and indeed characterizes the emissions ducting approach "as a promising proposal to use the existing system (which is already using large quantities of natural gas to heat it) to destroy the emissions from a separate part of the process". The Agency maintains, however, its original position concerning evidence presented addressing past compliance efforts, environmental impact, and consistency of a variance grant with federal law, as summarized below.

As to compliance efforts, the Agency notes that the company has not complied with various terms of the PCB 83-119 variance Order. In addition to its failure to test any interior coatings, Allied-Hastings failed to comply with limitations on the VOC content of the coating to be used. The Order set average annual limitations of 5.0 lb./gal. for interior coatings and 3.7 lb./gal. for exterior coatings; figures reported by the company were 5.08 lb./gal. and 4.20 lb./gal., respectively. Thus, the Agency asserts, Allied-Hastings has made no progress in emissions reductions since 1984. The Agency additionally notes that since the denial of an operating permit on February 24, 1986, the company has been operating without a permit.

Allied-Hastings, however, asserts that its emissions in 1985 were 2.04 tons below those emitted in 1983. (However, it is to be noted that due to lack of demand for its product, Allied-Hastings is currently operating at a full production level only four days a week. R.60. This record is unclear as to whether this was the case in 1985).

The Agency's primary concern is that Allied-Hastings' description of the relationship between its excess emissions and overall hydrocarbon emissions is insufficient to prove that its excess emissions will not interfere with attainment of the ozone standard in Cook County. While agreeing that the monitored exceedances for ozone have decreased, the Agency asserts that the company has made no real reductions in its own emissions to correspond to the decrease.

The company's alleged failure to make this demonstration leads to the Agency's concern about consistency of grant of variance with federal law. The Agency notes that 35 Ill. Adm. Code 215.204(j) is a part of the RACT II rules which are awaiting USEPA approval as a part of the State Implementation Plan (SIP). Any variance in effect at the time the SIP is approved would be required to be submitted to USEPA for approval as part of the SIP. The Agency doubts that Allied-Hastings has made a strong enough demonstration to allow for approval by USEPA consistent with the Clean Air Act.

In this context, as an alternative in the event the Board grants variance, the Agency suggests that the Board should

accelerate the compliance schedule to require Allied-Hastings to apply for a construction permit no later than 60 days from grant of variance, and to complete construction no later than 90 days after permit issuance. The purpose of this acceleration would be to avoid the necessity for any decision by USEPA.

In reply, Allied-Hastings asserts that the demonstration it has made is all that can currently be reasonably expected. The company notes that in another recent variance Recommendation, the Agency has acknowledged that "[i]t is difficult to determine [the petitioner's] contribution to these excesses [ozone exceedances] in light of the effect that other sources of hydrocarbons, including motor vehicles, have on ozone concentration in that area." Agency Recommendation, Trilla Steel Drum Corp. v. IEPA, PCB 86-9, p. 10. In making this statement concerning the Trilla facility, which is located at 2959 W. 47th Street, Chicago, the Agency was discussing ozone exceedances at two of the monitoring stations which have been discussed in relation to Allied-Hastings facility at 915 W. 37th Street in Chicago. Allied asserts that even if it had been able to afford the commissioning of elaborate modeling studies of its relatively small emissions, that the studies would have little practical utility given the limitations of ozone modeling and prediction techniques acknowledged by the Agency and the Board in the RACT I and RACT II rulemakings. Allied-Hastings therefore believes that the Board may grant variance consistent with federal law.

#### Board Conclusion

The case presented here poses a very close judgment call for the Board. The Board finds that Allied-Hastings has made a persuasive argument as to the adequacy of the showing it has made concerning the effect of its 19.48 excess-of-standard VOC emissions on ozone attainment in Chicago; to require submittal of extensive modeling studies would contribute little to this record. Allied-Hastings has also explained its failure to test interior coatings and has informed the Board as to the depressed condition of the drum reconditioning industry as well as other conditions which affect the company's economic situation. Allied-Hastings has not, as the Agency correctly notes, made the progress towards emission reductions which it anticipated in 1984; the VOC content of its coatings remains the same. The unpermitted operation of this facility since the permit was denied on February 24, 1986 also concerns the Board. The Board notes that given the company's VOC emission levels, the Agency could not issue a permit absent extension of variance beyond December 31, 1985. While this petition was filed in February, 1986 prior to the denial of the operating permit on February 24, the Board also notes that this problem would have been avoided if the company had timely sought modification and extension of the 1983 variance once it became clear that it was having little success in discovering suitable replacement coatings.

However, considering the facts that Allied-Hastings has developed and committed to what appears to be an effective and economically reasonable compliance plan, and considering its small size and economic situation, and its relatively low level of total VOC emissions, the Board concludes that denial of variance would impose an arbitrary or unreasonable hardship. Variance is granted through December 31, 1987 from 35 Ill. Adm. Code 215.211, 215.212 and 215.204(j). As Allied-Hastings has not objected to the compliance timetable suggested by the Agency, this will be incorporated as a condition. The company will also be required to reapply for an operating permit for the existing facility, as well as to timely apply for all needed permits to construct and operate the proposed emissions ducting system.

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

ORDER

- 1) Allied-Hastings Barrel and Drum Service, Inc. is hereby granted variance from 35 Ill. Adm. Code 215.211, 215.212 and 215.204(j), subject to the following conditions:
  - A. This variance will expire on December 31, 1987 or at such earlier time as compliance is achieved with VOC limitations;
  - B. As expeditiously as is practicable, but no later than 60 days from the date of this Order, Allied-Hastings shall apply to the Agency for a construction permit to effectuate the compliance plan described in the foregoing Opinion and in Petitioner's October 22, 1986 Amendment to Petition For Variance: A) ducting of VOC emissions from the existing coating lines and paint spray booths to the existing drum incinerator. B) Installation of necessary equipment to accomplish such ducting shall be completed as expeditiously as is practicable, but in no event later than 90 days after the date of issuance of the construction permit.
  - C. As expeditiously as is practicable, but no later than 60 days of the date of this Order, Allied-Hastings shall apply for a permit to operate its existing facility. Upon completion of installation of the equipment described in subparagraph b) above, Allied-Hastings shall timely apply for any necessary modifications to its operating permit.
  - D. During the term of this variance, the annual average VOC content of coatings shall not exceed 4.20 lbs./gal. for exterior coatings, and 5.08 lbs./gal. for interior coatings.

- E. Beginning June 1, 1987, and every third month thereafter, Allied-Hastings shall submit written reports to the Agency detailing all progress made in achieving compliance with Section 215.204(j). To the extent these activities involve testing for replacement coatings, said reports shall include information on the names of replacement coating and the manufacturers specifications including per cent solids by volume and weight, per cent VOC by volume and weight, per cent water by volume and weight, density of coating, and recommended operating parameters; detailed description of each test conducted including test protocol, number of runs, and complete original test results; the quantities and VOC content of all coatings utilized during the reporting period; the quantity of VOC reduction during the reporting period; and any other information which may be requested by the Agency. The reports shall be sent to the following addresses:

Environmental Protection Agency  
Division of Air Pollution Control  
Control Programs Coordinator  
2200 Churchill Road  
Springfield, IL 62706

Environmental Protection Agency  
Division of Air Pollution Control  
Region 1, Field Operations Section  
1701 South First Avenue  
Suite 600  
Maywood, IL 60153

- 2) Within 45 days of the date of this Order, Allied-Hastings shall execute a Certification of Acceptance and Agreement to be bound to all terms and conditions of the variance. Said Certification shall be submitted to both the Agency at the addresses specified in paragraph 4. The 45 day period shall be held in abeyance during any period that this matter is being appealed.

I, (We), \_\_\_\_\_, having read the Order of the Illinois Pollution Control Board in PCB 86-21, dated February 19, 1987, understand and accept the said Order, realizing that such acceptance renders all terms and conditions thereto binding and enforceable.

\_\_\_\_\_  
Petitioner

\_\_\_\_\_  
By: Authorized Agent

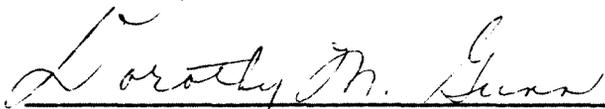
\_\_\_\_\_  
Title

\_\_\_\_\_  
Date

IT IS SO ORDERED.

B. Forcade dissented.

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above Opinion and Order was adopted on the 19<sup>th</sup> day of February, 1987 by a vote of 5-1.



\_\_\_\_\_  
Dorothy M. Gunn, Clerk  
Illinois Pollution Control Board