ILLINOIS POLLUTION CONTROL BOARD
July 7, 1977

ARMOUR-DIAL, INC., Petitioner,	)	
v.	)	PCB 77-54
ENVIRONMENTAL PROTECTION AGENCY, and *PEOPLE OF THE STATE OF* ILLINOIS, Respondents.	)	

MR. JOSEPH S. WRIGHT, JR., OF ROOKS, PITTS, FULLAGAR & POUST, APPEARED ON BEHALF OF PETITIONER;
MS. DEBORAH SENN APPEARED ON BEHALF OF THE ENVIRONMENTAL PROTECTION AGENCY;
MR. GEORGE W. WOLFF, ASSISTANT ATTORNEY GENERAL, APPEARED ON BEHALF OF THE PEOPLE OF THE STATE OF ILLINOIS.

OPINION AND ORDER OF THE BOARD (by Mr. Goodman):

On February 17, 1977, Petitioner Armour-Dial, Inc., filed a Variance Petition before the Board requesting variance from Rules 205(f) and 103(b)(2) of the Board's Air Pollution Regulations (Chapter 2) and Section 9(a) of the Environmental Protection Act (Act). Petitioner has subsequently substituted a request for variance from Rule 103(b)(6)(A) for its request for variance from 103(b)(2). On March 11, 1977, the Attorney General on behalf of the *People of the State of Illinois (People) filed a Petition for* Leave to Intervene. The Board granted the Petition for Intervention on March 28, 1977. The Agency filed its Recommendation on April 28, 1977. Hearings were held in this matter on May 25 and 26 in Montgomery, Illinois. Armour-Dial has filed a waiver of the statutory 90-day decision period until July 7, 1977.

As a preliminary matter, the Hearing Officer denied Armour-Dial's motion for a one-week delay in filing its Reply Brief. The Board

finds that no prejudice will result to the parties if it accepts the late filing of Petitioner's brief and hereby overrules the Hearing Officer's Order.

Armour-Dial operates a soap manufacturing facility near the Village of Montgomery, Kane County, Illinois. The basic raw materials used at the plant, which has been in operation since 1964 and employs 700 persons, are tallow, coconut oil and caustic soda. Armour-Dial's operation has been described in prior proceedings before the Board, Armour-Dial, Inc., v. Pollution Control Board, PCB 73-105 and PCB 73-388.

On June 21, 1973, the Board granted Armour-Dial a variance in PCB 73-105 from Rules 205(f), 103(b)(6)(E), and 104(c)(1) of Chapter 2 in order to allow the company to replace its barometric type condensers with surface condensers to prevent direct contact between the vapor stream given off by the boiling of fatty acids and the cooling water and, therefore, reduce its odor emissions. On December 6, 1973, Armour-Dial's variance was extended in PCB 73-388 such that variance from Rules 103(b)(6)(E) and 104(c)(1) was granted until December 31, 1973, and variance from Rule 205(f) was granted until December 6, 1974. Compliance was to be achieved by August 31, 1975. On January 31, 1974, the Board modified its Order to substitute a proposed biodegradation process to control odor for the original proposal. The substituted proposal entailed modification of Armour-Dial's waste treatment facilities and plant so as to allow the diversion of waters bearing organic material to the waste treatment plant and the subsequent return of treated water to the cooling water system. The biodegradation program, which was experimental and undertaken at Petitioners "own risk" (R.129), was intended to achieve compliance one year earlier than the original proposal and offered the company substantial cost savings (R.128). Should the program fail, the original program was to be implemented with a one-year delay in the original schedule (R.129).

Armour-Dial installed the biodegradation system in 1974. However, in November, 1974, the company found that the diversion rate of 500 gpm caused increased surges of suspended solids which resulted in upset conditions in the Aurora Sanitary District treatment plant. Evidence produced at the hearing herein indicates that the contract between the Aurora Sanitary District and Armour-Dial contained discharge limits of 200 mg/l suspended solids (SS) and BOD_5, and that should Armour-Dial exceed the limits, a surcharge would be assessed (R.106). The evidence indicates that during 1974 the suspended solids and BOD limits were exceeded 58% of the time (R.107). At the request of the Aurora Sanitary District, Armour-Dial reduced its diverted volume to 50 gpm, leased sludge dewatering equipment and began to haul biosolids from its plant.

In January, 1976, Armour-Dial again commenced a program to install surface condensers. In addition, the company has undertaken substantial modifications to other portions of the plant that are intended to significantly reduce the amount of organic emissions from the plant. The modifications include replacing barometric condensers with surface condensers not only on the fatty acid trains but also on the evaporators and glycerin distillation units as well as replacing existing dust collectors with multi-cycle dust collectors on the soap dryers (R.136). The new program, which was submitted to Armour-Dial management in May, 1976, is estimated to cost between $11 million-$]3 million and is scheduled for completion before the end of 1979.

Rule 205(f) limits the emission of organic material to 8 pounds per hour. Calculations performed by the Agency indicate that Petitioner's emission rate from its oily cooling tower is 35 lbs./hr. (Agency Recommendation, Attachment A). Armour-Dial's own witnesses indicated emission rates ranging from 17 pounds per hour (R.214-217) to 294 lbs./hr. (R.42), the latter considered to be an overestimate on the witness' part (R.42). The Board notes that these emission rates account only for emissions from the oily cooling water tower. A "Forecast Project Schedule" submitted by Armour-Dial indicates that at the completion of the current project, a 73% reduction in emissions is to be achieved (Petitioner's Exhibit 10). Interim reductions to be achieved are 3.3% by January, 1978, 40% by November, 1978, and 65% by July, 1979.

In considering whether to grant a variance, the Board must consider the harm which the public will suffer if continued noncompliance with the Act and Regulations is allowed. In the present case, harm to the public arises potentially in two ways: continuation of a serious odor nuisance and possible contribution to a violation of the health-related air quality standards for hydrocarbons. Both issues have been addressed in the record and deserve attention herein.

At the hearings held in this matter, five witnesses who reside in the vicinity of the Armour-Dial plant testified on the impact of the company's odor emissions on their lives. The witnesses described the odor, which has apparently been a problem since 1965 (R.224, 316), as similar to a very cheap, strong perfume (R.331), rotting vegetable oil or animal fat (R.317), rotten soap (R.258) or a chemical process (R.225, 326). The witnesses lived or had lived in various directions from the plant and one witness offended by the odor lived 3-4 miles away (R.309). The witnesses testified that the odor prevented them from staying outdoors (R.167, 226, 310, 316, 329), nauseated them (R.258, 310, 327), embarrassed them in front of company (R.168),

caused a hunting and fishing club to curtail its activities (R.261), and in one instance jeopardized the sale of a home on the day of closing (R.230). A witness for the Agency testified that even hydrocarbon emission levels of 2 pounds per hour could cause an odor nuisance (R.358).

As to the question of Armour-Dial's effect on ambient air quality, the company commissioned a study by Air Resources, Incorporated to determine the plant's contribution to hydrocarbon and odor concentrations in its vicinity (Respondent's Exhibit 1). At the May 25, hearing, the Vice-President of Air Resources, Incorporated testified as to the conclusions reached by his company as a result of their dispersion modeling and on-site monitoring study. He testified that Armour-Dial does not cause or contribute to hydrocarbon ground-level concentrations in the vicinity of the plant (R.30). However, as noted by the Agency, both the modeling and monitoring sections of the study indicate that Armour-Dial may indeed be causing or contributing to a violation of air quality standards. Figure 9 of the Air Resources study indicates a potential downwind one-hour maximum concentration of 1.3 ppm (at a location 2,500 feet from the plant), and Figure 10 based on a west wind indicates potential downwind one-hour maximum hydrocarbon levels of 2.99 ppm (at a location 500 feet east). Rule 309 of Chapter 2 establishes a 0.24 ppm maximum three-hour concentration ambient air quality standard for hydrocarbons. Dividing the 1.3 ppm and 2.99 ppm standard by three yields a result in excess of the .24 ppm level and presupposes that no further hydrocarbons are present for the next two hours.

As to the actual monitoring results, two sites, one 3,500 feet north northeast of the plant and one 1,200 feet east southeast, show consecutive one-hour ground level average concentrations of hydrocarbons consistently in excess of 1.0 ppm and in some instances well in excess of 2.0. Again, these figures would suggest that both sites had three-hour averages in excess of the .24 ppm standard (Respondent's Exhibit 1, "Ambient Air Quality Monitoring Results"). Additionally, Table 12 in the statistical analysis section of the Air Resources report shows the maximum three-hour concentration to be 2.910 at the first site described above and 3.247 at the second, both greater than the Rule 309 limit. Finally, Figures 13 and 14, which represent the monitoring data sorted by wind direction, show concentrations of 1.8 ppm and 1.5 ppm downwind from Armour-Dial.

Air Resources concluded that most of the hydrocarbons measured in the area were a result of automobile traffic and natural sources (R.31). However, the Board finds that the study by no means conclusively demonstrates that Armour-Dial does not cause or contribute to a violation of the ambient air quality standard for hydrocarbons.

The Board concludes that harm to the public caused by Armour-Dial's continued failure to comply with the Act and the Air Regulations is substantial. However, the Board must weigh the hardship to Petitioner caused by denial of this variance against the public harm. The Board has held that denial of a variance is not tantamount to a shut-down order, Flintkote Company v. EPA, 3 PCB 31 (1971), but merely denies Petitioner a shield from prosecution. Armour-Dial's original proposal and variance contemplated compliance by 1975. It is now 1977; the odor reduction has not been achieved, and the current proposal contemplates compliance by 1979, four years later than the original target date. When Armour-Dial proposed to substitute the biodegradation program for its original surface condenser program, it indicated that should the experimental biodegradation program fail, it would lose at the most one year in achieving compliance through its original plan. Armour-Dial learned by November, 1974, if not sooner, that the biodegradation system was not feasible because of the upset conditions it caused in the Aurora Sanitary District's treatment plant. The company's most recent variance expired in December, 1974. Armour-Dial has made no showing as to why it waited over two years to apply for another variance, why it took well over a year to reinstitute the surface condenser program and why it will take until the end of 1979 to complete its modifications.

The Board recognizes that Armour-Dial's current program is significantly more extensive than the original proposal and is likely to achieve compliance with the Act and Regulations. However, we must conclude that, considering the long delay in achieving compliance, the hardship to Armour-Dial is at this point self-imposed. The residents in the vicinity of the plant have been subjected to a serious odor nuisance for 12 years. In addition, the evidence indicates that Armour-Dial, which by its own admission emits at least twice the amount of hydrocarbons allowed under Rule 205(f), may be contributing to a violation of ambient air quality standards. The Board finds that the hardship to Armour-Dial, which we have concluded is self-imposed, is outweighed by the harm to the public such that a shield from prosecution is not warranted. Our reasoning applies equally to the request for variance from Section 9(a) of the Act as well as Rules 205(f) and 103(b)(6)(A) of Chapter 2. The variance petition is, therefore, denied.

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

ORDER

It is the Order of the Pollution Control Board that the Petition for Variance filed by Armour-Dial on February 17, 1977, be and is hereby denied.

Mr. Werner abstains.

I, Christan L. Moffett, Clerk of the Illinois Pollution Control Board, hereby certify the above Opinion and Order were adopted on the 7th day of July, 1977 by a vote of 4-0.

Christan L. Moffett pk
Christan L. Moffett, Clerk
Illinois Pollution Control Board