ILLINOIS POLLUTION CONTROL BOARD
July 19, 1990

WILL COUNTY ENVIRONMENTAL NETWORK,	)	
Complainant,	)	
v.	)	PCB 89-64 (Enforcement)
GALLAGHER ASPHALT,	)	
Respondent.	)	

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

This matter comes before the Board on a complaint filed on April 13, 1989 by Will County Environmental Network ("WCEN") alleging noise pollution caused by Gallagher Blacktop ("Gallagher") at its asphalt plant in Joliet, Illinois. In the Board's Interim Opinion and Order dated January 11, 1990, the Board found that Gallagher had violated Section 24 of the Illinois Environmental Protection Act ("Act") and the Board's regulation found at 35 Ill. Adm. Code 900.102. The Board ordered Gallagher to submit to the Board a report on methods of reducing or eliminating noise pollution. That report has been submitted, and this matter is now ripe for the Board's decision regarding a remedy for Gallagher's violation of the Act and of Board regulations.

Procedural History

Gallagher's noise report was due by March 31, 1990, but at Gallagher's request, the Board granted an extension until April 30, 1990. Gallagher filed its report on April 30, 1990 and also filed a motion for a hearing on the report. On May 10, 1990, the Board granted the motion for a hearing over the objection of WCEN. Gallagher later requested that the hearing be cancelled. Gallagher filed a motion for leave to file brief in lieu of hearing on May 25, 1990. The motion was granted by the hearing officer. On June 19, 1990, Gallagher filed its brief addressing the noise report. WCEN filed a response to Gallagher's noise report on June 27, 1990. On July 6, 1990, Gallagher filed a motion for leave to file a reply brief. On July 9,1990, WCEN filed its opposition to Gallagher's motion, requesting that the Board reach a decision on the record before it. A Hearing Officer's Order of July 10, 1990 denying Gallagher's motion for leave to file a reply brief was filed with the Board on July 12, 1990.

Motion to File Reply Brief

Gallagher has filed a motion with the Board requesting that the Board reconsider the Hearing Officer's denial of Gallagher's motion to file reply brief. For the following reasons, the Board will deny this motion.

First, the Board observes that the filing of the reply brief would be extraordinary procedurally, since Gallagher has already filed a brief on this matter on June 19, 1990 and also had an opportunity for a second hearing. Gallagher cancelled the second scheduled hearing which the Board had granted over Will County Environmental Network's ("WCEN") objection. Clearly, Gallagher has had a full and fair opportunity to present its case.

Second, Gallagher's motion was deficient on its face, making vague and unsubstantiated reference to alleged misrepresentations by WCEN.

Third, the Board did not consider new assertions by WCEN in reviewing WCEN's filing of June 27, 1990. Gallagher's responsive arguments in this motion before the Board are therefore irrelevant.

Finally, the Board has granted Gallagher various extensions of time, including additional time to file its report, a second hearing, and time to file a brief in lieu of hearing. The Board will not encourage dilatory tactics by delaying its decision further and allowing the noise pollution violation to continue.

The Noise Analysis Report

1. Introduction

Gallagher submitted the report of Robert E. Schreter, P.E., of Schreter Associates, Roswell, Georgia, evaluating the nature of the noise and describing a noise abatement program in terms of Phase I and Phase II implementation. The report notes that Gallagher replaced most of the major operating equipment in the winter of 1989-1990. These capital improvements reportedly cost in excess of $1 million and are expected by Gallagher to increase productivity and efficiency and significantly reduce noise and air pollution. None of the $1 million has been directly attributed to noise reduction, and Gallagher has made no showing that any funds have yet been spent specifically for noise abatement in conjunction with the plant modernization. The equipment purchased is described as being state-of-the-art and from a reputable manufacturer. Due to the recent installation, however, the new equipment was not ready for sound testing at the time of the Board-ordered report. The sound expert's report, therefore, was based on computer generated simulations, using the expert's computer model of an asphalt plant's operation. Report

at p. 2. Mr. Schreter's report indicates that actual sound levels would probably be equal to, or lower than, the calculated noise levels in light of the new equipment purchased.

The report summarized the theoretical approach taken due to the unavailability of certain data, along with the inability to test the actual levels of sound emitted, as follows:

> A sound analysis of the Gallagher Asphalt Plant was made to project the sound pressure levels which could be expected at the Whitler homes. Sound power information was not available from the plant manufacturer. Therefore, it was necessary to estimate sound power based on similar types of equipment, for which sound data was available.
>
> A computer model was developed which took into account the job site, the location and types of sound sources, their intensities, and the types of sound attenuating equipment which could be used. The computer model then projected the sound pressure levels that could be expected at the Whitler homes as well as at other critical locations.
>
> The model was used to make projections based on a Phase I and a Phase II attenuation program. Analysis of the results shows that the Sound Pressure Level at the Whitler home, SP15, can be reduced from 73.85 dBA, for an unattenuated plant, to 49.76 dBA with the Phase I attenuation. This accounts for a reduction of 24 dB which is equivalent to lowering the actual sound pressure by a factor of 15.8. An additional 4 dB attenuation could be achieved by adding Phase II attenuation, at significant increase in cost.
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> Report at p. 3 (emphasis added).

2. The Noise Sources

The noise report identified six major noise sources, and ascribed various noise emission levels for each in terms of dBA*, as follows:

1. Burner Blower:
   120 dBA unattenuated
   106 dBA with manufacturer's normal sound device.

2. Burner:
   128.85 dBA
   113 dBA with manufacturer's normal sound devices
   109 dBA possible with added reflector device.

3. Exhaust Stack:
   115.7 dBA
   101.1 dBA if stack silencer installed
   89.9 dBA if reflective baffle added to top of stack.

4. Scalping Screens I:
   101.5 dBA
   70 dBA if barrier type of a attenuator used.

5. Scalping Screens II:
   101.5 dBA
   70 dBA if barrier type of attenuator used.

6. Exhaust Fan:
   98 dBA
   76 dBA if fan casing is coated with dense sound deadening material.

Mr. Schreter calculated the sound power or accoustical energy for these noise sources based on tests of similar equipment at other facilities. As mentioned above, Gallagher's equipment was at various stages of installation and could not be tested. Mr. Schreter noted that numbers were intentionally overestimated to allow a margin of safety. Report at pp. 5, 6.

3. Implementation of Noise Abatement Program

Appendix C of the report summarizes the Implementation Plan evaluated by Mr. Schreter. The noise abatement program is

* dBA is the common abbreviation for "A" weighted decibels. NOTE: This does not represent a regulatory standard, but only information provided in the report. See also Interim Opinion and Order, PCB 89-64 (Jan. 11, 1990) pp. 8, 9.

separated into Phase I and Phase II with varying completion dates from May 1, 1990 to October 1, 1990. Since the sound levels were evaluated in terms of dBA's, and not for particular frequency ranges as current Board regulations provide, Mr. Schreter compared projected sound levels to an earlier numeric standard for daytime and nighttime limitations supplied by the Illinois Environmental Protection Agency ("Agency"). Report at pp. 12, 13. Mr. Schreter concluded that Phase II would satisfy both daytime and nighttime standards. Phase I would achieve compliance with daytime limitations, but may not achieve the quieter nighttime standard. While the violations found by the Board were for noise causing unreasonable interference with life, and not for violations of numeric standards, the report's reference to numeric limitations is of assistance in evaluating Phase I and Phase II compliance plans.

Mr. Schreter summarized his conclusions of prospective compliance, as follows:

> Mr. Donald Gallagher supplied copies of a letter from Major Hearn, Jr., of the Illinois Environmental Protection Agency, which suggested that an earlier form of the regulations permitted sound measurements to be evaluated on a dBA basis. Specifically, the regulations allowed the following:
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> | | | |
> |---|---|---|
> | daytime | 7 a.m. to 10 p.m. | 61 dBA |
> | nighttime | 10 p.m. to 7 a.m. | 51 dBA |
>
> The sound levels that are projected by the computer model would show compliance for the daytime and nighttime reading under the Phase II model. The Phase I model complies with daytime readings. Bearing in mind that sound levels have been intentionally overestimated, it is anticipated that the Phase I model will meet the code even for nighttime operation.
>
> Report at pp. 12, 13.

Conclusions regarding the results of the Phase I and Phase II plans are based on calculations that show, for example, that the sound pressure level would be 49.76 dBA at location SP15, one of the Whitler homes. Report at p. 13 and Figure 3. This sound level would be well within the daytime limitations above and would also satisfy nighttime limitations, but with less room for error. However, other locations for which sound level projections were made would have dBA levels of 52.52 dBA (at SP14, the Whitler residence nearest the plant) and 55.98 dBA (at SP8, the boundary between the Whitler and Gallagher properties). See Report, Figures 3 and 4. These sound levels,

obviously, would not be in conformity with the above limitations. The report suggests that Phase II could be implemented to further reduce noise to achieve compliance. Report at p. 14.

4. Phase I and Phase II Plans

The methods for reducing the asphalt plant's sound emissions fall into two categories: (1) devices used on or near the noise source and (2) an earthen berm which would interrupt the transmission. Phase I requires both of these kinds of sound reduction approaches. Phase II involves further noise reduction via additional devices, which would be used on the burner and exhaust stack only. Appendix C of the report, referred to above, summarizes the elements and costs of the Phase I and Phase II programs, as follows:

Noise Report Implementation Plan

Item No. and Description	Phase I Date	Cost	Phase II Date	Cost
1 Silent Burner Package	5-1-90	$15,000		
2 Blower Silencer	5-1-90	3,500		
3 Exhaust Stack Silencer	7-15-90	12,000		
4 Barrier at Screens (2)	6-14-90	4,000		
5 Exhaust Fan Treatment	6-1-90	1,000		
6 Berm 300' x 22' High	7-27-90	65,700		
7 Burner Intake Baffle & Intake Reflector Hood			10-1-90	$3,500
8 Exhaust Stack Reflective Silencer			10-1-90	4,500

Report, Appendix C.

It is not clear from the report whether or not all Phase I devices were ordered and installed already by Gallagher. The various dates for Phase I implementation are very near in time to the April 30, 1990 report date. Even if not completed yet, it is clear that installation could be expected quickly, probably before the close of 1990 operating season. Even the berm, the last in time of the Phase I program, could be completed near-term. Phase II is shown as being completed slightly later, yet still in 1990.

The total projected cost of Phase I is $101,200. Phase II would involve total costs projected at $8,000.

The report illustrates, in Figure 3, the substantial Phase I reductions in noise levels for the various sources of noise, largely as a result of constructing the berm. The typical reductions in sound levels due to the berm are in the range of 8-

20 dBA for each noise source. Figure 3 also shows the impact on noise levels from Phase I implementation of noise attenuating devices and the berm for three locations: SP8 (the boundary between the Gallagher and Whitler properties); SP14 (a Whitler home closest to Gallagher's property); and SP15 (a Whitler home). This information is summarized below.

NOISE SOURCE DATA

Phase I Source:	dBA w/o Berm	dBA w Berm
Blower w Silencer	106.54	86.08
Burner w Silencer	113	105
Exhaust Stack w Silencer	100.1	79.9
Screen Scalp I w Barrier	101.5	91.2
Screen Scalp II w Barrier	101.5	91.2
Exhaust Fan w Lead Vinyl	76.36	66.7

Phase I Receiver Data

Receiver Location	dBA
SP8	55.98
SP14	52.52
SP15	49.76

Figure 3.

Phase II projected noise reductions are summarized in Figure 4 of the report. With the additional sound attenuation devices, the noise levels for the various location (SP8, SP14, and SP15) are projected to range between 45.74 dBA and 51.99 dBA, which is expected to be a reasonable level of noise for daytime and night-time hours. Figure 4 may be summarized as follows:

Phase II Source:	dBA w/o Berm	dBA w Berm
Blower w Silencer	106.54	86.08
Burner w Silencer	109.5	101.21
Exhaust Stack w Silencer	89.93	69.73
Screen Scalp I w Barrier	80.44	70.03
Screen Scalp II w Barrier	80.44	70.03
Exhaust Fan w Lead Vinyl	76.36	66.7

Phase II Receiver Data

Receiver Location	dBA
SP8	51.99
SP14	48.50
SP15	45.74

Figure 4.

Discussion

WCEN has requested relief which is described in the six points below. Gallagher's noise report and the record in this case raise several issues, which the Board will address. These issues are:

1. The installation of noise control devices on or near the plant's operating equipment as described in both Phase I and Phase II plan;

2. Construction of an earthen berm larger than that described in the noise report and relocation of the entrance and driveway;

3. The limiting of hours of operation until compliance is achieved so that no start-ups occur before 7:00 a.m.;

4. The rerouting of truck traffic; and

5. Elimination of back-up alarm on caterpillar.

6. Imposition of a penalty.

1. Installation of Noise Control Devices

The report and record are not clear on what noise attenuation devices have already been installed by Gallagher. The report does make clear that: (1) all Phase I devices would be necessary to reach an acceptable level of noise for daytime hours; and (2) Phase II devices may be necessary to achieve an acceptable level of noise for nighttime hours. Report at p. 13.

The Board finds that all elements of Phase I, specified in Appendix C of the report, must be completed.

The Board is reluctant, however, to require Gallagher to implement Phase II, as requested by WCEN, without an opportunity to submit a report of actual noise levels resulting from implementation of Phase I. If Gallagher submits a report indicating that, after completion of Phase I, the actual sound levels for daytime and nighttime hours are well within the Board's present regulatory standards for all adjacent Class A land, specified in 35 Ill Adm. Code 901.102, the Board will not require Phase II implementation as relief for the complainants now before the Board. Such proof of compliance must be submitted by October 1, 1990, otherwise, Phase II must be completed by Gallagher by October 30, 1990 so that complainants need not endure further noise pollution.

2. Construction of Earthen Berm

The noise reduction achieved by constructing a berm is reflected in the various calculations of noise levels. "Programs mml38-0-512-2 and -4 show the sound power levels for station points guarded by the berm." Report at p. 7 (emphasis added). The berm was referred to earlier in the report as being "an earthen berm... along the northern property line of lots -003 and -004, midway between Stations Points 9 and 13. This berm will provide significant sound reduction at the Whitler properties." Report at p. 6 (emphasis added). The berm is clearly an integral part of the expert's calculations of sound levels and of the expert's noise management assumptions and conclusions. The noise level projections thus assume construction of an earthen berm, and it is described in the report as part of the Phase I noise reduction program. The report does not suggest that adequate noise reduction could be accomplished without the berm.

The report notes that the earthen berm will provide a sound barrier, reducing noise to the Whitler homes, and also provide a visual screen. Report at p. 6. As the record shows, and the Board's Interim Opinion and Order notes, the Whitler family holds a priority of location. The subsequent extreme levels of noise experienced by the Whitlers, particularly at night, would be eliminated only with the berm. Besides noise from the operating equipment, vehicle noise might also be reduced by the berm. This kind of noise is extremely difficult to control, as the report notes. Any reduction in truck noises due to the berm could be very important to the affected families.

The Board also notes that the report quotes statistics showing that over a 10-year period, the plant has operated an average of 83 days per year (127 days in 1989), although other Gallagher plants operate an average of 179 days per year. Report at pp. 1,2. Complainant has presented conflicting data on the number of days of operation with attendant noise pollution. See WCEN Response (June 27, 1990) p. 4. The Board simply notes that

if the $1 million plant modernization might entail more hours of operation, the berm will play an even more critical role in abating noise pollution. Nonetheless, the report gives adequate support for immediate construction of the berm at current production levels to justify the Board's ordering its construction.

It is the conclusion of the Board that the berm is necessary to Gallagher's achieving compliance with the Act and regulations. The noise report gives strong support for the need for the berm to achieve a satisfactory reduction in the noise emitted by Gallagher's plant. The reluctance to construct the berm, expressed in Gallagher's brief of June 19, 1990, fails to persuade the Board that compliance would be achieved without constructing the berm. Such an assertion is without support in the record. The noise report states that the earthen berm construction will be completed by July 27, 1990. The Board will require construction to be completed by that date.

In their response to the noise report, WCEN requests that the entrance and driveway be moved further north and that the berm be extended to the east corner of the property for the benefit of the Wilhelmi, Viano and Newberry residences across the street. The Board finds that the interests of these homeowners were not raised in the original complaint and that these homeowners did not join in the complaint later. The interests of these homeowners will not be prejudiced by the Board's decision. The noise report did not address the noise impact of the plant on these residences, which the Board attributes to lack of notice on the part of Gallagher. Gallagher cannot be shielded from subsequent enforcement of any claims which were not before the Board in this proceeding, including, but not limited to, the above three parties.

The Board declines, therefore, to require Gallagher to extend the berm as requested by WCEN.

3. Hours of Operation

WCEN requests that no start-ups of the plant be permitted to occur before 7:00 a.m. until compliance is demonstrated. In its Order of February 22, 1990, the Board ordered that the plant should not operate before 6:00 a.m. to minimize the impact of the noise on neighbors. It is appropriate now, too, that Gallagher should continue to refrain from operating before 6:00 a.m. until the noise pollution is eliminated. Gallagher indicated at hearing that this start-up time was acceptable and manageable. Tr. at pp. 78-81, 88.

It is not the intention of the Board to permanently regulate Gallagher's hours of operation. The Board will limit start-up times to prevent operating before 6:00 a.m. only until Gallagher

has achieved compliance, either by completing Phase II of the noise abatement program or by demonstrating compliance with the Board's numerical limitations for noise levels. For this purpose, the Board's Order of February 22, 1990 shall remain in full force and effect to prevent start-up of the facility before 6:00 a.m.

4. Re-Routing of Truck Traffic

WCEN requests that the Board order the rerouting of truck traffic to require the use of Patterson Road for at least all return trips to the quarry. This poses some difficulty for the Board since the interests of other parties, not before the Board, may be affected. In Gallagher's brief filed on June 19, 1990, Gallagher expressed a willingness to use the suggested route before 7:00 a.m. only citing safety reasons for avoiding this route later in the day. Gallagher also points to the noise report for further explanation of the truck routing problems. The Board accepts the reasoning presented by Gallagher and the noise report and declines to order any particular routing of truck traffic. The Board notes, however, that Gallagher has agreed that "Respondent will use the Patterson Road route for any deliveries prior to 7:00 a.m. in order to reduce truck noise by complainant's homes as much as possible." Gallagher Brief (June 19, 1990) p. 3 Therefore, the noise experienced by complainants should decrease from previous levels.

5. Back-Up Alarm on Caterpillar

As noted at the hearing held on July 7, 1989, Gallagher negotiated with OSHA to eliminate the loud back-up alarm ordinarily required with use of the caterpillar. The report indicates that the use of the back-up alarm has been discontinued completely, and that Gallagher does not intend to use it in the future. The report, therefore, does not address the level of noise generated by the alarm or any remedial measures. In deciding an appropriate remedy for Gallagher's violation, the Board will assume that this noise source has been eliminated and will remain inoperative.

6. Imposition of a Penalty

In considering whether or not to impose a civil penalty, the Board is charged with reviewing certain factors bearing on the reasonableness of the emissions, pursuant to Section 33(c) of the Act. These are:

1. the character and degree of injury to, or interference with the protection of the health, general welfare and physical property of the people;

2. the social and economic value of the pollution source;

3. the suitability or unsuitability of the pollution source to the area in which it is located, including the question of priority of location in the area involved;

4. the technical practicability and economic reasonableness of reducing or eliminating the emissions, discharges or deposits resulting from such pollution source;

5. any economic benefits accrued by a noncomplying pollution source because of its delay in compliance with pollution control requirements; and

6. any subsequent compliance.

In its Interim Opinion and Order, the Board found that the noise substantially and frequently interferes with the enjoyment of life and property, and that this interference is beyond minor annoyance or discomfort. The Board considered the Section 33(c) factors in reaching its finding that Gallagher had violated the Act and regulations regarding noise pollution. However, the issue of a penalty was not addressed in a meaningful manner by complainants at any phase of the proceeding, other than by the simple claim that a penalty is warranted. The Board reserved the right to impose a penalty in its Interim Opinion and Order since the Board has authority to impose a penalty for violations of the Act and regulations. Section 42 of the Act.

Although a civil penalty might very well be appropriate for the noise pollution violations caused by Gallagher, WCEN failed to carry their burden with respect to this issue. In WCEN's response of June 27, 1990, WCEN made the bare allegation that "[a) civil penalty is warranted. Continued pleas by area residents have gone largely unheeded for nearly two decades." WCEN Response (June 27, 1990) p. 4. Although WCEN is not required to establish each of the Section 33(c) factors with respect to the penalty issue, WCEN has inadequately asserted the need to impose a penalty, and the Board, therefore, finds insufficient proof in the record to justify imposing a penalty in this case. See IEPA v. Allen Barry, PCB 88-71, Opinion and Order of May 10, 1990.

This Opinions represents the Board's findings of facts and conclusion of law in this matter.

ORDER

For the foregoing reasons, the Board hereby Orders Gallagher Asphalt to undertake and perform the following actions:

1. To implement immediately all Phase I noise abatement strategies, including construction of an earthen berm, as described more particularly in the noise analysis report submitted by Gallagher on April 30, 1990;

2. To implement all Phase II noise abatement strategies, described in the above referenced noise analysis report, by not later than October 30, 1990, unless by October 1, 1990 Gallagher submits its report showing actual compliance with the Board's numerical limitations found in 35 Ill. Adm. Code 901.102 (See also R83-7, In the Matter of: General Motors Corp. Proposed Amendments to 35 Ill. Adm. Code 900.103 and 901.104, January 22, 1987); and

3. By November 15, 1990, Gallagher shall send a report to the Board and Will County Environmental Network showing that the above referenced remedial actions have been completed by the dates indicated above.

Section 41 of the Environmental Protection Act, Ill. Rev. Stat. 1987, ch. 111½, par. 1041, provides for appeal of final Orders of the Board within 35 days. The Rules of the Supreme Court of Illinois establish filing requirements.

IT IS SO ORDERED.

Board Member J. Theodore Meyer dissented.

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above Opinion and Order was adopted on the 19th day of July, 1990, by a vote of 4-1.

Dorothy M. Gunn

Dorothy M. Gunn, Clerk
Illinois Pollution Control Board