

DISCUSSION

In detemining the proper remedy in an enforcement case, the Board must consider the factors set forth in Section 33(c) of the Environmental Protection Act (Act). (415 ILCS 5/33.) Section 33(c) of the Act provides:

In making its orders and determinations, the Board shall take into consideration all the facts and circumstances bearing upon the reasonableness of the emissions, discharges, or deposits involved including, but not limited to:

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 locate, 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; and
5. any subsequent compliance.

* * *

The Board has previously considered the Section 33(c) factors in this case. (See 10/29/93 at 13-15.) The Board finds that the additional filings submitted pursuant to the October 29, 1993 Board order provide no new evidence regarding the Section 33(c) factors in this record, except for Section 33(c)(iv). Therefore, the Board will not reiterate its previous holdings on Sections 33(c)(i)(ii)(iii) and (v). The discussion following summarizes the parties' positions regarding the economic reasonableness and technical practicability (Section 33(c)(iv)) of the control options.

Respondents' study.

Respondents retained the services of Dr. Paul Schomer of Schomer & Associates to study the noise problem at the plant. According to respondents the study concentrates on determining the predominant noise sources and developing noise mitigation

evaluation of the remedies recommended by Mr. Greg Zak of the Agency.

Dr. Schomer's study utilizes noise emission measurements from the various components of the plant to determine the contribution of each component to the overall noise emissions. The noise measurements were obtained by monitoring the emissions during full plant operation and when gradually decreasing the plant operation sequentially by turning off the various plant components³. (R.rep. Exh. B at 4.) Based on the results of the noise monitoring, the study concludes that the predominant sources of noise from the plant are the bag house blower (high frequencies) and burner operation (low frequencies). (R.rep. Exh. B at 7-8.) In addition, the study notes that the mechanical equipment noise is important in the 1000 - 2000 Hz range, and the fire blower may contribute significantly at certain frequencies. (R.rep Exh. B at 7-8.)

The study also includes a comparison of the noise emission levels at full plant operation with the applicable standards under the Board regulations. The comparison indicates that noise levels must be reduced by 6, 3, 7, and 4 dB at 125, 1000, 2000, and 4000 Hz bands, respectively, to comply with the Board Standards. (R.rep Exh. B, Fig. 11.)

The respondents' study includes an evaluation of the following options for reducing the noise emission levels from the plant:

1. The construction of barrier walls around the burner and generator as well as adding a stack silencer;
2. Re-engineering of the plant (as suggested by Gregory Zak);
3. Encapsulating the plant (as suggested by Gregory Zak); and
4. Moving the plant.

(R.rep. at 2.)

With regard to the suggestions offered by Mr. Zak (points 2 and 3), Dr. Schomer's study notes that both options would be very expensive. According to the study, the cost of re-engineering (and rebuilding) the plant or enclosing the plant in a reinforced concrete structure could easily cost \$100,000 or more. (R.rep.

³ The plant components include generator, mechanical equipment and material feeds, bag house blower, and fire blower.

Exh. B at 10-11.) In addition, the study notes that enclosing the plant in a reinforced concrete structure without noise control would result in very high noise levels within the structure. Such high noise levels would violate Occupational Safety and Health Administration (OSHA) noise limits. (R.rep. Exh. B at 10-11.) Further, with regards to the suggestion that the plant be moved, respondents state the costs to move the plant as well as obtaining an alternative site are "not economically reasonable". (R.rep. at 2.)

Dr. Schomer's study recommends that the following steps be taken to alleviate the noise levels:

1. Retain the wooden barrier wall installed around the generator or replace the same with a more permanent structure to minimize the generator noise. The cost of a new permanent wall is estimated to be less than \$10,000;
2. Install a stack silencer to reduce the bag house blower sound emitting from the stack. The cost of the silencer is estimated to be in the order of \$5,000;
3. Install a barrier wall close to the inlet of the fire-burner fan to reduce the burner noise. The cost of the barrier wall will be in the order of \$10,000.

(R.rep. Exh. B at 12.)

The study concludes that the recommended solutions are technically feasible, and the implementation of the same would result in significant reduction of the noise levels at the complainants' structure. Further, the study notes that implementing all the recommendations may not result in overall compliance with the Board standards in the 1000 and 2000 Hz bands due to mechanical equipment sound. (R.rep. Exh. B at 13.) Finally, Dr. Schomer's study notes that any further significant reductions in the noise levels over the reduction that will be realized by the recommended methods would require the re-engineering of the plant. (R.rep. Exh. B at 13.)

Complainants' response.

Complainants ask that the Board "direct that the plant be moved as a technically practical and economically reasonable means of bringing compliance" with the Board's regulations. (C.res. at 4.) In support of the position that moving the plant is economically reasonable and technically feasible, the complainants provided an affidavit from Michael J. McGillicuddy, vice president and Macomb Branch Manager of Illinois Valley

Paving Company. Mr. McGillicuddy states that the cost of moving a "Batch type plant" is approximately \$75,000. (C.res. Exh. B.)

Complainants specifically responded to the remaining control options as well. With regard to encapsulating the plant, complainants state: "the Schomer report agrees with Mr. Zak that encapsulating the plant in concrete is the most expensive and least-feasible alternative." (C.res. at 2.) Regarding re-engineering the plant, the complainants state: "Mr. Schomer dismisses, in a cursory way, the possibility of re-engineering because it would cost over \$100,000.00." (C.res. at 2.)

The complainants maintain the Dr. Schomer recommends the least expensive procedure (that of constructed barrier walls and adding a stack silencer), however; least expensive is not "synonymous with economic reasonableness" according to complainants. (C.res. at 2.) Further, the complainants state: "Despite Mr. Schomer's very considerable training, experience and writings qualifying him as an acoustical expert, this very considerable technical background does not establish him as an economic expert qualified to evaluate the 'economic reasonableness' of any option from the prospective [sic] of the cost of that option compared to the economic benefit to the plant to the respondents and the present operator." (C.res. at 3.)

Complainants also argue that respondents study does not address, "in other than a conclusory manner", the economic reasonableness of any control measures except in Exhibits C and D. (C.res. at 3.) The complainants then assert that Exhibit D, an affidavit by Mike Hillyer, "is substantially different from the testimony of witness Michael Hillyer". (C.res. at 3.)

Respondents' reply.

Respondents reply that the testimony of Mr. Hillyer did not address "site availability for the asphalt plant nor did he address costs of site amenities similar to the Deere Road plant site". (R.rply at 2.) The respondents assert that those costs are addressed for the first time in Exhibit D of its report. The respondents also point out that the Illinois Valley Paving Company operates a drum-mix plant while the Coggeshall plant is a batch plant. (R.rply at 2.) The respondent argues that it would require 6 weeks to move the Coggeshall plant and cost \$100,000. (R.rply at 2.)

Section 33(c)(iv).

The Board notes that all the alternatives considered in the respondent's noise study appear to be technically feasible. However, the Board notes that there is a significant difference between the implementation cost of the options recommended by the respondent and the complainants. The option recommended by the

respondents' study, which includes the construction of barrier walls and installation of a silencer would cost approximately \$25,000. Whereas, the option supported by the complainants, which essentially requires the plant to be moved to another location would cost over \$100,000. The options suggested by Mr. Greg Zak, which includes encapsulation and re-engineering would also cost more than \$100,000. Therefore, the Board must evaluate the economic reasonableness of implementing the various options in crafting a remedy.

The Board notes that both parties seem to agree that encapsulating the plant, which has been estimated to cost \$100,000 is expensive. Regarding re-engineering the plant, Mr. Zak stated that this option is not practicable because of the cost which would exceed \$100,000. (Tr. 1/8/92 at 106-110; 10/29/92 at 14.) Dr. Schomer agrees that re-engineering would cost over \$100,000. The complainants offer no evidence to refute either Mr. Zak or Dr. Schomer.

The respondents' study includes two different estimates of the moving costs. The first estimate, which includes the cost of moving a "batch" plant to a new site ranges from \$60,000 to \$100,000. (R.rep. Exh. C) The Second estimate, which includes only the cost of acquiring land, establishing gas service, rock base, fencing, maintenance buildings and building hook-ups ranges from \$256,416 to \$411,416. (R.rep. Exh. D.) The evidence submitted by the complainants indicate that moving the plant would cost \$75,000. (C.res. Exh. B.) The moving cost reflects dismantling, moving, and erecting a batch type plant at a new location. The complainants estimate that the total cost of making the plant operable at the new site would be in the range of \$90,000 to \$125,000. (C.res. Exh. B.) The total cost includes, in addition to moving cost, the cost of site preparation, land acquisition, and initial operation. The Board notes that there is a significant difference between the estimates of the moving costs provided by the complainants and the respondents. However, the Board notes that even if it considers the lower cost estimate, the cost of moving the plant would be in excess of \$100,000, which amounts to the same as that of encapsulation or re-engineering.

Therefore, the Board finds moving the plant to be also in the same category of the expensive options. In view of this, the Board finds that encapsulation, re-engineering the plant, or moving the plant are not economically reasonable remedies. The Board believes that requiring the implementation of these options would place a significant financial burden on the respondents.

Finally, the option recommended by the respondents, which includes the construction of barrier walls and installation of a stack silencer would cost in the order of \$25,000.

The Board finds that the noise control methods recommended by the respondents to be an economically reasonable and technically feasible approach to reduce the noise problems at the plant. The Board notes that this option costs relatively less than the other expensive alternatives discussed above, but achieves a significant reduction in the noise levels. The Board recognizes that implementing the recommended option may still result in a violation of Section 901.102 standards by 1 to 2 dB in the 1000 and 2000 Hz bands. However, considering the cost implications, the Board believes that the respondents' recommended option is the most appropriate solution.

CONCLUSION

Although complainants request that the Board direct that the plant be moved, the Board is reluctant to direct such a step in this case. As stated in the October 29, 1992, Opinion, the plant is in a suitable location in an area zoned for industry. The Board finds that moving the source at a cost of over \$100,000 to be economically unreasonable.

Therefore, after studying all the options the Board finds that construction of barrier walls and the addition of a stack silencer are economically reasonable and technically practicable solutions which will bring respondent into compliance. However, the Board notes that if the respondent is still in violation of Section 901.102 standards after implementation of the measures, the respondent could be liable for civil penalties under the Act, absent site-specific relief.

ORDER

Respondents shall take, at a minimum, the following steps to alleviate the noise emissions from the asphalt plant located in Macomb, Illinois:

1. Replace the existing wooden barrier wall around the generator with a more permanent structure;
2. Install a 24" by 72" stack silencer such as the Industrial Acoustic Company's IAC Model SL3 silencer; and
3. Construct a barrier wall as close to the inlet of the fire-burner fan as feasible. The barrier wall shall be at least 2.5 feet taller than the top of the opening for the burner in the end of the drum. The length of the wall shall be three times its height and it shall be centered at the burner. The barrier wall shall be

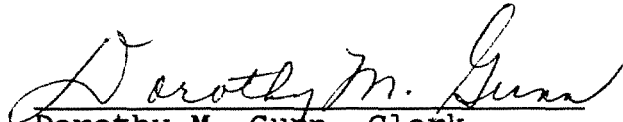
made of sound absorbing material such as SoundBlox® or IAC Moduline®

IT IS SO ORDERED

Board Member R. C. Flemal dissents.

Section 41 of the Environmental Protection Act (415 ILCS 5/41 (1992)) provides for the appeal of final orders of the Board within 35 days. The Rules of the Supreme Court of Illinois establish filing requirements. (See also 35 Ill. Adm. Code 101.246, Motion for Reconsideration.)

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above opinion and order was adopted on the 17th day of June, 1993, by a vote of 6-1.


Dorothy M. Gunn, Clerk
Illinois Pollution Control Board