

ILLINOIS POLLUTION CONTROL BOARD  
February 27, 1992

JOHN ZARLENGA and )  
JEAN ZARLENGA, )  
 )  
Complainants, )  
 )  
v. ) PCB 89-169  
 ) (Enforcement)  
PARTNERSHIP CONCEPTS, )  
HOWARD EDISON, BRUCE MCCLAREN, )  
COVE DEVELOPMENT COMPANY, )  
THOMAS O'BRIEN, BLOOMINGDALE )  
PARTNERS, an Illinois Limited )  
Partnership, and GARY LAKEN, )  
 )  
Respondents. )

JAMES M. LOCKWOOD APPEARED ON BEHALF OF COMPLAINANT, AND  
NORMAN B. BERGER APPEARED ON BEHALF OF RESPONDENT.

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

This matter is before the Board on a noise complaint filed on October 23, 1989 by John and Jean Zarlenga ("Zarlenga"). The complaint named Partnership Concepts, Howard Edison, Bruce McClaren, Cove Development Company, and Thomas O'Brien as respondents ("respondents"). In the Board's May 9, 1991 Interim Opinion and Order, the Board found that respondents had violated Section 24 of the Illinois Environmental Protection Act ("Act") and 35 Ill. Adm. Code 900.102. The Board ordered respondents to submit a report on the methods of reducing or eliminating the noise pollution. That report has been submitted, and this matter is now ripe for the Board's decision regarding a remedy for respondents' violation of the Act and Board regulations. A summary of the background of this case follows.

BACKGROUND

As previously stated, the Zarlengas filed their complaint on October 23, 1989. In their complaint, the Zarlengas alleged that the air conditioners, generators, fans, and swimming pool dehumidifier located at the respondents' apartment complex (One Bloomingdale Place) emit excessive noise beyond the boundaries of the complex in violation of Section 24 of the Environmental Protection Act (Ill. Rev. Stat. 1991, ch. 111½, par. 1024) ("Act").

On May 9, 1991, the Board issued an Interim Opinion and Order finding that the noise emitted from One Bloomingdale Place unreasonably interfered with the Zarlengas' enjoyment of life and constituted a violation of Section 24 of the Act and 35 Ill.

Adm. Code 900.102.

While several remedial options were mentioned at hearing, there were certain informational deficiencies in the record with regard to a program to reduce the noise being emitted from the complex. Therefore, in order to assist the Board in determining the most appropriate remedial action for the abatement of the noise, the Board ordered respondents to have a competent individual or firm prepare a report describing, evaluating, and analyzing, to the maximum extent possible, all methods of control. The Board also noted that each control option should include the anticipated noise reduction resulting from the implementation of each option, cost of implementation, and an estimate of a reasonable time for implementation.

The Board retained jurisdiction in this matter pending receipt of the report and final disposition of the case. The report was to be filed with the Board and the Zarlengas on or before July 31, 1991. The Board also provided the Zarlenga's with the opportunity to file a motion requesting a hearing on the contents of the report. That motion was to be filed on or before August 21, 1991.

On June 28, 1991, respondents filed a motion for a 60-day extension of time in which to comply with the Board's May 9, 1991 Interim Opinion and Order. On July 11, 1991, the Board granted the motion and directed the respondents to file the noise report no later than September 30, 1991. On September 27, 1991, respondents filed a second motion asking for an additional 30 days in which to file the noise report. On October 24, 1991, the Board granted the motion and directed the respondents to file the report no later than October 31, 1991.

On October 31, 1991, respondents filed their report of noise control options with the Board. On January 6, 1992, the Zarlengas filed a response to respondents' noise report. In their response, the Zarlengas state that, after talking with Mr. Gregory Zak of the Illinois Environmental Protection Agency ("Agency"), they have decided to "stand on the report" and to forego any further pleadings with the Board.

#### NOISE REPORT

As previously stated, on October 31, 1991, respondents submitted a "Report of Noise Control Options for the Reduction of sound Emissions from Mechanical Units at One Bloomingdale Place, Bloomingdale, IL" by Dennis Fleisher and Clete Davis of Kirkegaard & Associates ("Kirkegaard"). The report evaluates that nature of the noise at One Bloomingdale Place, sets forth several noise abatement options, and recommends a phased approach to control the noise emitted from One Bloomingdale Place.

### Nature of Noise

Kirkegaard analyzed the noise sources at One Bloomingdale Place. Kirkegaard first analyzed the individual air conditioners serving the 64 apartment units on the side of the complex facing the Zarlenga's townhome. For purposes of the report, Kirkegaard treated the 64 units as a single collective noise source. (Report par. 2.1.2). Kirkegaard's measurements show the units to produce a collective noise level of approximately 60 dB(A), as measured at the Zarlenga's property line. (Id.). The second source of noise is a condensing unit for the dehumidifier (the "Zephyr" unit) which serves the swimming pool. (Id. par. 2.1.3). Kirkegaard's measurements show the Zephyr unit to produce a sound level of approximately 50 dB(A) at the Zarlenga's property. (Id.). The final noise source is the clubhouse air conditioner. (Id. par. 2.1.4). Kirkegaard's report makes no recommendations for noise control of this unit because sound measurements showed that the unit produced no measurable sound above the daytime ambient level. (Id.).

Kirkegaard also determined the ambient background sound level (i.e. the sound level which exists in the neighborhood around One Bloomingdale Place resulting from normal human presence and activity, but with all mechanical units at the apartment complex turned off) to be 40 to 50 dB(A). (Id. par. 2.1.1). Kirkegaard used the average ambient background noise level (i.e., 45 dB(a)) as a measure by which to evaluate the effectiveness of the various noise abatement options. (Id.).

Kirkegaard estimates that the maximum attainable noise reduction from noise control measures applied to the Zephyr unit alone with the 64 individual air conditioners operating in their present state is 0 dB. (Id. par. 3.0.1). It then estimates that the maximum attainable noise reduction from noise control measures applied to only the 64 air conditioners with the Zephyr unit operating in its present state is 10 dB. (Id. par. 3.0.2). Kirkegaard estimates that the maximum attainable noise reduction at the Zarlenga's property line will be 15 dB if noise control measures are applied to both the 64 air conditioners and the Zephyr unit. (Id. par. 3.0.3). In order to achieve a noise level at the Zarlenga's property line that is no higher than background, Kirkegaard estimates that the sound emissions from the noise sources must be reduced to a level at the Zarlenga's property line that is approximately 5 to 10 dB below the ambient sound level (i.e., 45-50 db), which, in turn, calls for a reduction in emitted sound at the source of at least 20 dB. (Id.).

### Noise Control Options

The Kirkegaard report states that noise control is based on treating the noise at one or more of three locations: at the

sound source, along the path of propagation, or at the receiver. (Id. par. 4.1). Other than a "no treatment" option, the Kirkegaard report discusses three other noise control options. One option applies the noise control at the Zarlenga's townhome (i.e., the receiver) and two additional options involve methods to reduce noise emissions at the individual air conditioners and/or at the Zephyr unit (i.e., the sources).

Sound control at the source is generally the most effective and efficient means of control. (Id.). Sound control at the receiver can be equally effective especially if the receivers are physically separated by great distances. (Id.). Control along the path is often problematic because sound does not travel in a straight line thus making it difficult to determine the actual path of the sound. (Id.). Sound control along the path is also difficult if there are several receivers. (Id.). The various control options are as follows:

1. Installation of High-STC Windows in the Zarlenga's Townhome

The first option mentioned in the Kirkegaard report is the installation of acoustical windows with a higher Sound Transmission Class (STC) rating on the bedroom windows of the Zarlenga's townhome. (Id. par. 4.3 #2). Kirkegaard estimates that it will cost \$16,000 to install the windows and that the windows can be installed in about 10 days (not including the delivery time for the windows). (Id.). Although this option should reduce the noise within the Zarlengas bedrooms (assuming that no sound can enter via other paths), this option will provide no noise reduction in other areas of the Zarlenga's townhome or within the neighborhood. (Id.).

2. Installation of Silencers on the 64 Air Conditioners

The next option discussed in the Kirkegaard report is the installation of intake and exhaust silencers on the air conditioners serving the 64 apartments that face the Zarlenga's townhome. (Id. par. 4.3 #3). Kirkegaard estimates that it will cost \$103,100 to implement this option (materials, labor, and architectural and engineering design fees) and that it will take 60 to 90 days to complete the installation (not including delivery time for the silencers and scheduling complications with tenants). (Id.).

Although this option will reduce the noise from the air conditioners by over 20 dB, the silencers will provide a net reduction of only 10 dB if the noise from Zephyr condensing unit is not controlled. (Id.). This option will also change the appearance of One Bloomingdale Place because there will be a total of 128 2'x 2'x 5' galvanized metal silencers mounted to the side of the building. (Id.).

2a. Installation of Silencers on the 64 Air Conditioners and Zephyr Silencers

A variation on the above option involves the installation of silencers on the Zephyr unit to reduce fan noise in addition to the installation of silencers on the 64 air conditioners. (Id. par. 4.3 #3a). Kirkegaard estimates that it will cost \$106,600 (the \$103,100 mentioned in option 2 plus \$3500 for the Zephyr unit silencers and the installation of those silencers) to implement this option. (Id.). Assuming the work on the Zephyr unit is done concurrently with the installation of silencers on the 64 air conditioners, Kirkegaard estimates that it will take 60 to 90 days to complete this project. (Id.).

Although it is impossible at this time to determine the amount of sound that is coming from the Zephyr's fans versus the housing, Kirkegaard suspects that the more significant factor is the fan noise. (Id.). Kirkegaard estimates that this option will reduce the total noise output from One Bloomingdale Place by 13 to 20 dB depending on what percentage of the total Zephyr noise is abated by the new silencers. (Id.).

2b. Installation of Silencer on the 64 Air Conditioners, Zephyr Silencers, and a Sound-Barrier Wall for the Zephyr

If the Zephyr silencers do not adequately reduce noise, Kirkegaard suggests the construction of a sound barrier wall around the Zephyr. (Id. par. 4.3 #3b). The wall would be constructed of 8-inch CMU to a height of approximately 6 to 8 feet and would surround the entire unit. (Id.). Kirkegaard estimates that the wall will cost \$18,000 to erect (in addition to the \$106,600 quoted in option 2A above) and that it could reduce the total noise output from One Bloomingdale Place by approximately 20 dB. (Id.). As a result, the noise emitted from One Bloomingdale Place would be equal to, or less than the ambient noise level and no further significant reduction would be possible. (Id.). It is estimated that the time for construction of the wall will take no more than 20 days. (Id.).

2c. Installation of Silencers on the 64 Air Conditioners and Relocation of the Zephyr

Another variation of the option presented in Option 2 above, is the installation of silencers on the 64 air conditioners and relocation of the Zephyr unit. (Id. par. 4.3 #3c). Kirkegaard estimates that it will cost \$13,500 to relocate the Zephyr unit (in addition to the \$103,100 quoted in option 2 above) and that the option could reduce the total noise output from One Bloomingdale Place by approximately 20 dB. (Id.). As a result, the noise emitted from One Bloomingdale Place would be equal to, or less than the ambient noise level and no further significant

reduction would be possible. (Id.). Assuming that the relocation of the Zephyr unit is done concurrently with the implementation of Option 2, it would take 60 to 90 days to implement this option. (Id.).

### 3. Installation of a Centralized Air Conditioning System

This option involves the change from individual air conditioners to a centralized system for the entire apartment complex (168 apartments). (Id., par. 4.3 #4). This would include a central chiller plant and individual inside units having gas heating with a power vent system, a chilled water cooling coil, and fresh air intake. (Id.). Kirkegaard estimates that it will cost \$854,200 (representing materials, labor, and engineering and architectural design fees) and take 90 to 120 days (not including delivery time for major equipment and possible scheduling complications with apartment owners) to implement this option. (Id.).

Kirkegaard estimates that this option will reduce the noise from the individual air conditioners by over 20 dB, but that it will provide a net reduction of only 10 dB because of the remaining noise from the Zephyr unit. (Id.). The net reduction will be 20 dB, however, if the noise from the zephyr unit is also reduced by at least 10 dB. (Id.).

#### 3a. Installation of Central Air Conditioning System and Zephyr Silencers

In addition to centralizing the air conditioning system, Kirkegaard suggests the installation of silencers to reduce the noise from the Zephyr unit. (Id. par. 4.3 #4a). Kirkegaard estimates that it will cost \$857,700 (the \$854,200 mentioned in option 3 plus \$3500 for the Zephyr unit silencers and the installation of those silencers) to implement this option. Assuming the work on the Zephyr unit is done concurrently with the installation of silencers on the 64 air conditioners, Kirkegaard estimates that it will take 60 to 90 days to complete this project. (Id.).

Kirkegaard estimates that this option will reduce the total noise output from One Bloomingdale Place by 13 to 20 dB depending on what percentage of the total Zephyr noise is abated by the new silencers. (Id.).

#### 3b. Installation of Central Air Conditioning System, Zephyr Silencers, and Sound-Barrier Wall for Zephyr

If the Zephyr silencers do not adequately reduce noise, Kirkegaard suggests the construction of a sound barrier wall around the Zephyr. (Id. par. 4.3 #4b). The wall would be constructed of 8-inch CMU to a height of approximately 6 to 8

feet and would surround the entire unit. (Id.). Kirkegaard estimates that the wall will cost \$18,000 to erect (in addition to the \$857,700 quoted in option 3A above) and that it could reduce the total noise output from One Bloomingdale Place by approximately 20 dB. (Id.). As a result, the noise emitted from One Bloomingdale Place would be equal to or less than the ambient noise level and no further significant reduction would be possible. (Id.). It is estimated that the time for construction of the wall will take no more than 20 days. (Id.).

3c. Installation of Central Air Conditioning System and Relocation of Zephyr

Another variation of the option presented in Option 3 above, is the installation of a central air conditioning system and relocation of the Zephyr unit. (Id. par. 4.3 #4c). Kirkegaard estimates that it will cost \$13,500 to relocate the Zephyr unit (in addition to the \$854,200 quoted in option 3 above) and that the option could reduce the total noise output from One Bloomingdale Place by approximately 20 dB. (Id.). As a result, the noise emitted from One Bloomingdale Place would be equal to, or less than the ambient noise level and no further significant reduction would be possible. (Id.). Assuming that the relocation of the Zephyr unit is done concurrently with the implementation of Option 3, it would take 60 to 90 days to implement this option. (Id.).

Recommendation

Kirkegaard recommends a phased approach to reduce the noise being emitted from One Bloomingdale Place. The phases are a follows:

1. Install intake and exhaust silencers on the 64 individual air conditioners.
2. If the resulting noise reduction is found to be acceptable to the Board and/or the Zarlengas, proceed no further.
3. If the resulting noise reduction is deemed unacceptable to the Board and/or the Zarlengas, install silencers on the Zephyr unit.
4. If, upon implementation of treatments 1 and 3, the noise reduction is found to be unacceptable to the Board and/or the Zarlengas, construct a sound barrier wall around the Zephyr unit.

(Id. par. 5.0).

BOARD DISCUSSION

The Board recognizes that the respondents' report does not address either the structural or engineering feasibility of the recommended course of action, nor the cost-effectiveness of the options in light of respondents' current financial status as debtor-in-possession of One Bloomingdale Place under Chapter 11 of the United States Bankruptcy Code. The Board will craft its order to mirror the phased approach recommended by Kirkegaard, except that the Board will not in the first instance determine whether the noise reduction in a particular phase is feasible or acceptable.

In order to avoid a situation where the remedy is not initiated in a timely manner, the Board will also order respondents to cease and desist from violations of Section 24 of the Environmental Protection Act and 35 Ill. Adm. Code 900.102 no later than one year of the date of this Order. Of course, the Board realizes that such concerns as the time needed for structural and engineering feasibility studies, weather (as it relates to the time needed to implement and test the effectiveness each phase), and the Bankruptcy proceeding may affect respondents' ability to implement the Order in a timely manner. Accordingly, we wish to emphasize that respondents have the opportunity to file a motion for reconsideration of this Order pursuant to 35 Ill. Adm. Code 103.241(b) and (c) if the above concerns have an impact upon the implementation of the recommended course of action. However, if the respondents file such a motion, the Board expects respondent to include sufficient justification for the extension within the motion.

Finally, we also wish to emphasize that the Zarlengas have the opportunity to petition this Board for relief if any dispute arises during any phase of the work. For example, if there is a dispute as to whether the silencers on the 64 air conditions are sufficient to abate the noise to an acceptable level, the Zarlengas may file a motion for reconsideration with this Board pursuant to 35 Ill. Adm. Code 103.241(b) and (c).

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

ORDER

For the foregoing reasons, the Board hereby Orders Bloomingdale Partners, Mr. Howard Edison, Mr. Bruce McClaren, and Mr. Gary Laken to undertake and perform the following actions:

1. Install intake and exhaust silencers (IAC #5LFS 24' x 24") on the individual air conditioners servicing the 64 apartment units at One Bloomingdale Place that face the petitioners' townhome.



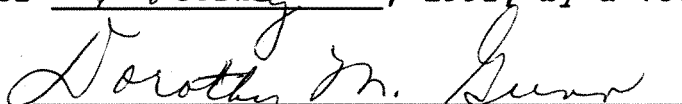
2. If the resulting noise reduction is found to be acceptable to the Zarlengas, proceed no further.
3. If the resulting noise reduction is deemed unacceptable to the Zarlengas, install discharge silencers on the Zephyr unit's condenser fans.
4. If, upon implementation of treatments 1 and 3, the noise reduction is found to be unacceptable to the Zarlengas, construct a 8-inch CMU sound barrier wall to a height of 6 to 8 feet around the Zephyr unit.
5. The noise abatement program shall be in operation not later than February 27, 1993.
6. Respondents shall cease and desist from violations of Section 24 of the Environmental Protection Act, Ill. Rev. Stat. 1991, ch. 111 $\frac{1}{2}$ , par. 1024, and 35 Ill. Adm. Code 900.102 effective upon attainment of compliance, but in no case later than February 27, 1993. Failure to comply with the provisions of this Order may subject respondents to civil penalties.

IT IS SO ORDERED.

Board Member J. Theodore Meyer dissented.

Section 41 of the Environmental Protection Act, Ill. Rev. Stat. 1991, ch. 111 $\frac{1}{2}$  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.

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above Final Opinion and Order was adopted on the 27<sup>th</sup> day of February, 1992, by a vote of 6-1.

  
 Dorothy M. Gunn, Clerk  
 Illinois Pollution Control Board