ILLINOIS POLLUTION CONTROL BOARD
July 10, 1975

ENVIRONMENTAL PROTECTION AGENCY,	)	
	)	
Complainant,	)	
	)	
vs.	)	PCB 74-291
	)	
FERNDALE HEIGHTS UTILITIES CO.	)	
	)	
Respondent.	)	

STEPHEN WEISS, Assistant Attorney General for the EPA
DANIEL KUCERA and JOHN VANDER VRIES, Attorneys for Respondent

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

The Environmental Protection Agency filed its Complaint alleging that Ferndale Heights Utilities Company has allowed the emission of sound beyond its property boundaries so as to cause noise pollution in violation of Rule 102 of the Illinois Noise Regulations and Section 24 of the Environmental Protection Act. The violations allegedly occurred on each day of Company operation between August 10, 1973 and August 6, 1974.

In lieu of protracted litigation the parties have submitted Stipulations of Fact and their separate written arguments. As detailed in the Stipulations, Ferndale Heights Utilities Company was organized as a corporation in 1957 for the purpose of providing public utility water and sanitary sewer service. The Illinois Commerce Commission issued Respondent a Certificate of Public Convenience and Necessity on January 6, 1959 which authorized Respondent to provide water and sanitary sewer services in various areas, including what is now known as Pinehurst Manor Subdivision. This subdivision surrounds on three sides, Respondent's Long Grove Road pumping station.

On Respondent's initial wells, which were situated on another plot in Palatine, Illinois, the pumps were driven by electric motor. From 1959 through 1969 frequent and long lasting outages of electricity deprived Respondent of any source of power for the pumping of water. During such outages Respondent's elevated tank would empty and water service would be interrupted.

To eliminate the problems caused by such outages Respondent designed and constructed the Long Grove pumping station in 1969. The pump at this station was equipped with a natural gas driven engine to ensure that the operation would not be affected by any electricity outage. The Long Grove pumping station was constructed in accordance with a permit from the Illinois Department of Public Health.

Since construction of the Long Grove pumping station, Respondent has been able to provide a constant reliable supply of water for its 2500 customers, including the approximately 400 customers in Pinehurst Manor Subdivision. The continued operation of the Long Grove Road pumping station is absolutely necessary for the purpose for which Respondent was organized and in the public interest.

On October 10, 1973 the Agency informed Respondent that complaints had been received with respect to noise emanating from the Long Grove Road pumping station. Five days later Respondent retained Fletcher Engineering Company to investigate the noise problem. The Agency advised Respondent on November 2, 1973 that tests indicated the noise problem appeared only in the high frequency ranges above 500 Hz.

On June 1, 1974 Respondent retained the Edward D. Newell Company to design, fabricate and install materials at the pumping station in order to reduce the amount of noise. Respondent believed that the Newell Company would immediately take steps to install the materials which Newell represented would satisfactorily perform the task. Complaint was filed about two months later.

At no time prior to the filing of the Complaint was Respondent advised as to what emission control levels the Agency was requiring. Respondent assumed that the applicable standards were those contained in Part 2 of the Noise Regulations.

Two days after the Agency's Complaint was filed Respondent learned that the Edward D. Newell Company had halted all operations in its noise control division. Respondent then retained J. N. Fauver Company Inc. to immediately design, fabricate and install the noise control facilities that will be described later in this Opinion.

The Agency advised Respondent on September 6, 1974 that the Agency sought a reduction in noise down to a level which would be twice the ambient noise level in the area when the pump engine is not operating. The exact requirements within each sound band to meet such noise levels were also specified on that date. Respondent was advised by its engineering consultant on

September 11, 1974 that there might be a problem in meeting such levels in the low frequency band of 31.5 Hz.

Respondent is charged with a violation of Rule 102 of the Noise Regulations. Rule 102 states: "No person shall cause or allow the emission of sound beyond the boundaries of his property so as to cause noise pollution in Illinois, or so as to violate any provision of this Chapter or the Illinois Environmental Protection Act." Noise pollution, as defined in Rule 101(j) is "the emission of sound that unreasonably interferes with the enjoyment of life or with any lawful business or activity".

A violation of Section 24 of the Environmental Protection Act is also alleged. Section 24 of the Act states that: "No person shall emit, beyond the boundaries of his property, noise that unreasonably interferes with the enjoyment of life or with any lawful business or activity, so as to violate any Regulations or standard adopted by the Board under this Act."

Under terms of the Stipulation testimony of twelve citizen witnesses was introduced, seven for the Agency and five for Respondent. Ronald and Sharon Stander have resided at 844 Holly Way (Lot 256) in Palatine for about 8 years. About 3 1/2 years ago the Standers began hearing a noise from the pumping station which was built 9 feet from their property line. This noise starts out in a low pitch then picks up to a high pitch loud, whining noise. It can be heard inside and outside their house all hours of the day and night. During a 24 hour period the noise may be experienced 8 times with a duration of 1 to 2 hours.

The Standers described the noise as "a source of great irritation" which has forced them to shut windows and forego the use of their backyard for relaxation and entertainment. The noise has many times awakened us from sleep at night".

June Burger and Joyce Brundage moved into a house at 838 Holly Way (Lot 257) on April 15, 1974 unaware of any noise from the pumping station. On that date they became aware of "that great source of irritation". They experience the noise about six times in a 24 hour period. The sound appears to last longer during the summer months. Noise coming from the pumping station 50 feet from their house sounds to them like "ten air conditioners running at the same time". They have been awakened by the noise when windows were open and once or twice in the last year when the windows were closed and an air conditioner running. They are unable to have patio parties because of the noise.

Thomas J. Pastrnak first noticed the noise after he moved into his house at 832 Holly Way (Lot 258) about 1 year ago. This noise disturbs him when he is engaged in conversation outside his house. The "whining and pumping sound" has caused him to go inside and close his windows five times during the past summer.

Thomas Pierson, of 1937 Long Grove Road (Lot 255) heard a "raspy, unclear noise" coming from the pumping station when he moved into his house on April 14, 1974 and has continued to hear this noise ever since. The noise was almost constant last summer. It goes on and off during the other seasons. The "pump-pulsating, throbbing" noise can be heard inside his house even when windows are closed. He cannot lounge or entertain guests in his yard because of the noise.

Mary A. Consoer has lived at 807 Gardenia (Lot 254) for about 5 years. About 3 years ago she first noticed a noise from the pumping station that she described as "a lawnmower running all day directly under my window". She hears this noise every day of the week, 24 hours a day except for a period of one to two hours when "it's off". She is awakened from sleep "at least once a week". The noise "has been a source of irritation" for her inside her home. She has had difficulty talking on her telephone or watching television and the noise prevents her from enjoying her backyard patio.

Raymond Joos occupied a residence on Lot 255 from prior to 1970 until April 15, 1974. The pumping station is about 10 feet from the property line of Lot 255 and about 40 feet from the former Joos residence. Although Joos was aware of the pumping operations during his residency, at no time during his occupancy of residence and property was he bothered or annoyed by sounds, noise or vibrations from the well house.

Another former resident of the area, Robert Winstead, occupied a residence on Lot 258 from prior to 1970 until August 28, 1973. The pumping station is about 125' from the property line of Lot 258 and about 175' from the former Winstead residence. Aware of the pumping operations, Winstead was never bothered or annoyed by sounds, noise or vibrations from the well house during his occupancy of residence and property.

Frank Keraly has occupied a residence on Lot 252 since 1970. The well house is located about 200' from his property line and about 250' from his house. Keraly is aware of the pumping operations but has never been bothered or annoyed by sounds, noises or vibrations during his occupancy of residence and property.

Robert Brown occupied a residence on Lot 257 from prior to 1970 until November 1, 1972 at which time Robert Pryun became the occupant. Pryun occupied the residence from November 1972 until April 16, 1974. Pryun is the brother of Sharon Stander whose present property is adjacent to the former Pryun property with residences about the same distance from the well house. Both Brown and Pryun were aware of the pumping operation but neither was bothered or annoyed by sounds, noise or vibrations during occupancy of the residence.

The Agency contends that the stipulated testimony is conclusive proof that Respondent is guilty of causing noise pollution. The Agency believes that testimony of Respondent's witnesses is not inconsistent with testimony of Agency witnesses and, in fact, may "fairly be described as supporting violations".

Two of Respondent's witnesses said only that they were not bothered in their "occupancy of such residence". The Agency asserts the testimony of Brown and Pryun do not account for the possibility that the noise did bother or annoy them when outside their residences. Respondent states that the Agency's attempt to inject this "semantical difference" into the testimony should be viewed as a false distinction. Respondent argues that it was the intent of each witness and the intent of counsel for Ferndale in preparing that portion of the testimony to show that the "reference is to anywhere on the witnesses property, whether it be within the home or outside". Responding to these arguments the Agency asserts that Respondent is attempting to change the statements of its witnesses by representing as fact what it hoped its witnesses intended.

Also stipulated by the parties was the testimony of Robert Golding, a sales engineer with the J. N. Fauver Company, Inc. Golding was ordered to design, fabricate and install devices and materials described in a compliance program agreed to by the two parties in this proceeding. In his opinion, the fabrication and installation of such devices will reduce high frequency sounds from the pumping station to no more than 3 db over ambient sound levels at agreed distances from the pumping station. In addition, low frequency sound in the 31.5 Hz. band will be reduced to 69 db or less as required by the stipulated compliance program.

The last witness for Respondent was Ray Di Vito, an officer of Ferndale Heights Utilities Company and supervisor and manager of Long Grove pumping station. Di Vito attends the pumping station daily. The gas-driven engine is very efficient in terms of cost of operation and has reduced the operating expenses of Respondent which are ultimately borne by Respondent's customers.

The Company was not advised until the conference of September 6, 1974 that the Agency was recommending a reduction of noise with the pump engine in operation down to just 3 db in excess of the existing ambient noise levels in the area without the engine in operation. Such "standards" had never been published or made available to the Company by Pollution Control Board decision, court decision, or otherwise. The Company does not believe it should be charged with compliance with "standards" of which it had no knowledge.

Di Vito said Ferndale Heights Utility Company has sufficient available assets with which to make prompt payment of all sound reducing facilities which have been recommended by the J. N. Fauver Company, Inc.

From 1965 until 1971 Di Vito lived in a residence about 850 feet from the Long Grove pumping station. At no time was he able to hear the gas engine in operation from outside his residence. He is unable to hear the engine pump operating from immediately outside of the station when he is inside a vehicle with the windows closed. In his opinion, no unreasonable noises or vibrations come from the Long Grove pumping station.

Exhibit B of the Stipulation is a letter dated October 10, 1973 from Major Hearn, Jr. of the Agency to Ray Di Vito of Ferndale Heights wherein the Agency advises Ferndale that noise measurements taken on September 24, 1971, October 4, 1971, May 4, 1973 and August 22, 1973 indicated possible violations of Rule 102 of the Noise Regulations. Subsequent correspondence between the Agency and Ferndale show that Ferndale was supplied with all noise testing results and a petition containing over 150 signatures of area residents (Exhibits D & E).

Exhibit H of the Stipulation is the only data submitted to the Board by either party as to noise levels prior to this legal proceeding. This Exhibit is a noise survey report of measurements taken by the Agency on April 30, 1974 at two sites near the Long Grove pump house. Site one was located 25' northeast of the pump station and 112' northwest of the Stander residence. Site two was located 12' northwest of the Stander residence at a point 118' east of the pump house. Readings taken on this date as compared to Rule 202 are as follows:

Octave Band, Hz	Rule 202, db	Site I db	Sound in Excess of Rule 202, db	Site II db	Sound in Excess of Rule 202, db
31.5	75	80	5	55	---
63	74	73	--	60	---
125	69	66	--	53	---
250	64	62	--	43	---
500	58	62	4	40	---
1000	52	63.5	11.5	43	---
2000	47	62.5	15.5	38	---
4000	43	58	15	29	---
8000	40	53.5	13.5	20	---

After discussions with the Attorney General's office and representatives of the Agency on September 6, 1974, Respondent stipulated and agreed to make a number of changes at its Long Grove pumping station. These items include:

A. By November 30, 1974 Respondent will have completed construction and have in operation:

1) Hoods over all windows, doors and louvers. The hoods will have a deflector plate and will have 1 inch of embossed foam on all inside surfaces. See Exhibit No. J for typical sketch of hood design;

2) Insulation of wood penthouse with 1 inch of embossed foam; and

3) Lagging material around the muffler.

B. By December 30, 1974, Complainant will have taken sound measurements while the Respondent's water pump was operating at both high and low modes. One group of measurements will have been made at a point near the closest residence. A second group of measurements will have been made at a point 25 feet from the property line of the Respondent upon which the alleged noise was located. Also, by December 30, 1974 Complainant will have interviewed all of those citizens who testified on behalf of the Agency [see paragraphs 13(a) through 13(e) inclusive], or their transferees where such citizens may have moved, to see if there were noise emissions from Respondent's property that unreasonably interfere with the enjoyment of life or with any lawful business or activity.

C. If there are no noise emissions from Respondent's property that unreasonably interfere with the enjoyment of life or with any lawful business or activity or if the sound measurements are below the octave band sound pressure levels (db) as set forth below then no additional work is to be done by Respondent except that Respondent must not exceed these levels in the future:

ALLOWABLE* OCTAVE BAND SOUND PRESSURE LEVEL
(db re 20 u N/m^2)

Frequency (Hertz)	31.5	63	125	250	500	1000	2000	4000	8000
Measured at Residence	--	63	56	46	43	46	41	32	23
Measured at 25 Feet from Respondent's Property Line	69	--	--	--	--	--	--	--	--

*Allowable means those measurements of sound which, based upon medical and technical reports and opinions should not create an unreasonable interference with enjoyment of life or with any lawful business or activity.

D. If there were noise emissions from Respondent's property that unreasonably interfere with the enjoyment of life or with any lawful business or activity or the allowable sound pressure levels were exceeded in Paragraph B above, then by March 1, 1975 Respondent will have completed the installation of acoustically absorptive material on the inside of the pump house building.

E. By April 1, 1975 Complainant will have again completed the procedure as set forth in Paragraph B above. Respondent again may rely upon Paragraph C above.

F. If there were noise emissions from Respondent's property that unreasonably interfere with the enjoyment of life or with any lawful business or activity or the allowable sound pressure levels were exceeded in Paragraph E above, then by April 15, 1975 Respondent will cease the operation of the gas engine.

A recent Stipulation of the parties states that Respondent has completed the work on its pumping station; that EPA representatives then measured sound at the nearest residence; that the sound was for each frequency measured within the limits which had been agreed upon (See Table above); and that Respondent is now in compliance with the requirements of the prior Stipulation.

The recent sound measurements continue to show that sound levels at the residence are lower than the standard which has been established by Rule 202 of the Noise Regulations.

Before proceeding with our determination of the substantive issue of this proceeding, we must dispose of several disputes regarding interpretation of Noise Regulations and the Environmental Protection Act.

Ferndale first contends that:

A. The Board should find no violation of the Act because Rule 102 as interpreted and applied by the Agency is contrary to law,

B. The Board cannot find a violation of Rule 102 because a violation of Section 24 of the Act requires a violation of Rule 202, and

C. If any Rule is applicable to Ferndale, it is Rule 202.

In particular, Ferndale contends that the Agency has incorrectly interpreted the Act and Noise Regulations by taking the position that Ferndale is subject to enforcement actions under Rule 102 regardless of compliance with Rule 202. Ferndale claims that if the Rule 202 numerical limitations are an effort to identify noise which is unreasonable interference then such numerical limitations are also applicable to Rule 102 which is a general prohibition against noise which unreasonably interferes.

Ferndale reads Sections 24 and 25 of the Act together. Section 25 of the Act, in part, states: "The Board shall, by Regulations under this Section, categorize the types and sources of noise emissions that unreasonably interfere with the enjoyment of life, or with any lawful business, or activity, and shall prescribe for each such category the maximum permissible limits on such noise emissions."

Based upon Sections 24 and 25 of the Act, Ferndale argues that the numerical standards of Rule 202 constitute the "maximum permissible limits" of interference referred to in Section 24 and thus a violation of Section 24 requires a violation of Rule 202. Continuing, Ferndale claims that the Act is clear on its face that, unlike the areas of water and air pollution, there is no generic, nuisance type pollution standard for noise independent of numerical standards promulgated by the Board.

In rebuttal, the Agency states that the Illinois Supreme Court resolved this very issue in Illinois Coal Operators Association v. Pollution Control Board, ___Ill. 2d___, ___N.E. 2d___(Supreme Ct. No. 46413, May, 1974) by allowing a general Section 24 or Rule 102 noise pollution violation, whether or not such emission violates any other specific rule, i.e., Rule 202. Specifically, the Agency cites the following language from the Supreme Court decision: "...We read [Rule 102] as prohibiting emissions that unreasonably interfere with life or activities, whether such emissions may be said to violate Section 24 generally or whether they are emissions which more specifically may be said to violate a particular Board regulation (as referred to in Section 24) by exceeding, for example, the maximum permissible decibels which may be by a regulation emitted to a certain classification of land..."

The Board cannot agree with the Agency's interpretation of the language used by the Supreme Court in that decision. The Supreme Court Opinion provides that a violation of Rule 102 may be proved in two ways, i.e., by the general evidence of excessive noise emissions or by particular evidence of noise emissions in excess of numerical limitations prescribed in a Board Regulation.

The Supreme Court did not determine the applicability of Rule 102 where sound measurement data shows compliance with the numerical standard of Rule 202. The Court did not use the phrase "whether or not" as claimed by the EPA.

Decibel readings are not always available in the prosecution of noise cases. Other types of evidence will sometimes be sufficient under Rule 102 to prove that noise has been excessive and has "unreasonably interfered" with the enjoyment of life or some lawful business or activity. Rules 102 and 202 are similar in that each is an attempt to protect people from the unreasonable interference of noise. The two Rules are dissimilar in that different types of evidence are contemplated.

It is the Board's Opinion that a Rule 102 violation may be found in the absence of any noise survey data but, where such data is presented and compliance with Rule 202 is proven, neither a Rule 202 nor a Rule 102 violation may be found. The precise and objective evidence will control over the imprecise and subjective evidence.

Some observers might feel that this holding conflicts with precedent which has been well established in air pollution and water pollution cases. In air or water pollution cases it is well settled that compliance with emission standards is not an absolute defense to a "nuisance" type prosecution. This is so because the physical circumstances, i.e., wind direction, terrain,

proximity to emission source, might increase the pollutional impact upon certain individuals beyond the impact which is ordinary from such emissions.

A different result is reached here because of the different nature of the noise standard. The noise standard is an attempt to establish reasonable noise levels at the receiving property. Noise levels are measured where received. It is an impact standard. When it is proved that an emission source is in compliance with the numerical standards of Rule 202, this is proof that the noise impact upon the receiving property is within the noise range which has already been determined reasonable.

Our authority to adopt the noise standard is found in Sections 24 and 25 of the Environmental Protection Act. The prohibition is against noise that "unreasonably interferes" with the enjoyment of life so as to violate any regulation or standard adopted by the Board. The Board is ordered to categorize the types of noise emissions that "unreasonably interfere" with the enjoyment of life and to prescribe the maximum permissible limits on such noise emissions. This the Board has done. The standard is an attempt to specify with particularity the noise levels which "unreasonably interfere". If we were to require still more noise reduction in individual cases, then the standard could be regarded as no standard at all. The standard might be regarded as vague, indefinite, capricious--perhaps invalid.

It has been argued that compliance with the numerical limitations of Rule 202 is merely a "prima facie" defense and that, in some manner, liability can still be established for violation of the general noise prohibition of the Act. This argument is based upon Section 49(e) of the Act which provides: "Compliance with Rules and Regulations promulgated by the Board under this Act shall constitute a prima facie defense to any action, legal, equitable, or criminal, or an administrative proceeding for a violation of this Act, brought by any person". We find, however, that Section 49(e) is not applicable to this situation. The statutory prohibition against noise pollution was not intended to be self executing and stands for naught in the absence of the regulation. The Legislature has prohibited noise which "unreasonably interferes" with the enjoyment of life "so as to violate any regulations or standard adopted by the Board under this Act". (Environmental Protection Act § 24). The Legislature wanted the regulatory procedure to be followed in order to establish what noise levels do constitute "unreasonable interference".

Unlike prosecutions for air pollution [Section 9(a) of the Act] and water pollution [Section 12(a) of the Act] an action for noise pollution under the Statute (Section 24) cannot stand

alone. The Statute is not effective without the Regulation and is not violated unless the Regulation is also violated. Compliance with the noise regulation is compliance with the noise statute.

It has been suggested that in rare cases a neighbor might have a special health condition which requires unusual protection from noise and that in such a case a noise emission source could cause noise pollution even while complying with the numerical standard. We do not decide at this time whether such special health conditions could be considered, under the current noise regulation, in determining whether noise pollution exists. Suffice to say that there is no evidence of special health conditions in this record.

Turning to the record, the Board notes that the only sound measurement data presented was that already described at pages 6 and 7 of this Opinion. These data clearly show that sound measured at the Stander residence (Class A land) was within numerical limitations established by Rule 202.

Sound measured at a point 25 feet beyond the pumping station and apparently on the property of Ronald and Sharon Stander on April 30, 1974 was, for 6 of the 9 octave bands, in excess of the numerical limitations established for Class A land under Rule 202. We conclude from the record that the Standers used their backyard for recreational purposes as an adjunct to their household and that it was in fact Class A land. The sound measurements support the subjective testimony of Respondent's neighbors indicating that there was "unreasonable interference" in the backyards.

Ferndale contends that the Agency has imposed ad hoc numerical limitations under Rule 102 that are substantially more stringent than the numerical limitations of Rule 202, that are not the result of Board or Court decision and that are the result of an Agency determination made without notice, hearing or explanation.

These numerical limitations, argues Ferndale, are arbitrary and absurdly stringent when compared to OSHA's permitted noise exposure levels and the U. S. EPA noise standards for trucks. Ferndale contends that neither the Act nor the Regulations gives the Agency authority to impose such limitations and that such action by the Agency violates Section 24 of the Act.

The Agency contends that the numerical standards listed in Part 15C of the Stipulation represent part of a mutually agreeable

compliance program designed for this particular action. These limitations represent guideposts to aid Ferndale and its engineer in formulating criteria for the deflector plates, insulation of wood penthouse and lagging material. Such limitations are not standards but guideposts reflecting the Agency's cooperation with and assistance to Ferndale after such aid and assistance was requested in August 1974, nearly one year after Ferndale was informed of its noise problems.

By signing the Stipulation the Agency contends that it can be assumed Respondent consulted as many experts as necessary to insure that the agreement it was about to enter into was not unnecessarily and unrealistically stringent. In addition, Respondent saved itself the expense of additional legal fees attributable to many hours of court work required by a full hearing. The fact that Ferndale no longer agrees "with itself" regarding compliance, argues the Agency, does not make the Agency's position arbitrary.

One fact in this argument stands out like a beacon in the night--Ferndale did sign a Stipulation agreeing to numerical limitations. Nothing in the record indicates that Ferndale signed this Stipulation under duress. OSHA standards and U. S. EPA standards for trucks have no direct bearing upon this action. The Stipulation was formulated and signed as a result of negotiations between the two parties.

There is nothing inherently unlawful in two parties agreeing to comply with a set of numerical emission limitations if the limitations do not violate standards established by Statute or Board Regulation. Testimony by Ferndale witness Golding clearly shows that the agreed to numerical limitations are not unreasonable.

The Board must assume that Ferndale entered into this Stipulation of its own accord and, on the date of signing, was in full agreement with all parts of that Stipulation. Neither party has requested that the Stipulation be withdrawn. If we are to decide this case on the basis of the record presented to us then the Stipulation must be honored. We regard the new limitations, not as a general standard, but as a compliance plan voluntarily submitted by the parties and applicable only to one situation.

Ferndale finally argues that it is improper to apply Rule 102 to Ferndale and therefore, Rule 202 must be the applicable Rule. It is then claimed that Ferndale cannot be found in violation of Rule 202 because Rule 209(b) allows a 12 months compliance period and all Agency evidence appears to relate to dates prior to expiration of this 12 month period.

We find that the EPA has not alleged a violation of Rule 202. The provisions of Rule 102 were applicable to Ferndale 10 days after filing with the Index Division of the Office of the Secretary of State. The effective date for Part I of the Noise Regulations is August 10, 1973. No delayed compliance date is provided for Part 1 of the Noise Regulations.

Exhibit B clearly shows that Ferndale was warned of a possible violation of Rule 102 on October 10, 1973. Ferndale thus had almost 10 months to act upon such warning before the Agency filed its Complaint. It is the Board's opinion that Ferndale was given adequate notice and that, based upon the relatively short time required to achieve compliance as shown in Part 15 of the Stipulation, adequate time to achieve compliance was allowed by the Agency before Complaint was filed.

We now turn to the basic issue of whether the record shows that Ferndale did cause or allow noise pollution as charged.

The following list identifies those lots, witnesses and the distances involved, witnesses, their residence properties and distances to the noise source:

Lot	Prior Resident	Present Resident	Distance from Pump House to House
113	Ray Di Vito (1965 to June 1971)	---	850 ft.
252	---	Frank Keraly (1970 to Present)	250 ft.
254	---	Mary Consoer (5 Years)	110 ft.
255	Raymond Joos (1970 to Apr. 1974)	Thomas Pierson (Apr. 1974 to Present)	40 ft.
256	---	Ronald and Sharon Stander (8 years)	130 ft.
257	Robert Brown (1970 to Nov. 1972 Robert Pryun (Nov. 1952 to Apr. 1974)	June Burger and Joyce Brundage (Apr. 1974 to Present)	120 ft.
258	Robert Winstead (1970 to Aug. 1972)	Thomas Pastrnak (1 year)	175 ft.

Ferndale contends that its witnesses presented testimony which contradicts the testimony of every Agency witness and that the evidence is so conflicting that the Agency clearly has failed to sustain its burden of proof. Ferndale believes that testimony of each Agency witness was contradicted, lot by lot, by Ferndale witnesses. The record does not support this contention. None of the Ferndale evidence contradicts the Agency testimony of Mary Consoer (Lot 254) or Ronald and Sharon Stander (Lot 256).

Ferndale claims that the testimony of these two witnesses was contradicted by the testimony of Frank Keraly (Lot 252) and Ray Di Vito (Lot 113). Keraly resides two lot lengths beyond the Consoer residence (or about 140 feet) and at least 120 feet further from the pumping station than the Standers. The former Di Vito residence was 850 feet from the pump house.

Distance between a sound emitter and a sound receiver is important in determining the impact of such sound. In adopting the Noise Pollution Regulations the Board said:

> "Sound is emitted and received as pressure flucuations in the atmosphere. The fluctuations travel from the emitter to the receiver and the physical relation between the emitter and receiver determines the alteration of emitted sound and thus, the characteristics of the received sound. Two major spatial factors determine this alteration: distance and direction. Distance between emitter and receiver determines the amount of atmospheric diffusion or attenuation of sound energy and thus, the decrease in SPL between emitter and receiver. In theory, doubling the distance between the emitter and receiver decreases the SPL received by 6 dB while halving the distance increases the SPL received by 6 dB. For example, if a motor emits 60 dB at 100 feet, at 200 feet, the reading would typically be 54 dB. Since the noise regulations are based on sound levels measured on the receiver's property, opportunity is available for the atmospheric attenuation of the sound emitted. The directional aspect refers to the orientation between the sound radiating surfaces and the receiver. The pressure fluctuations are often generated by vibrating surfaces so that "seeing" the surface results in more sound received than if the vibrating surface is shielded. Intervening objects such as buildings or barriers block and disperse the sound so that the amount received is lessened." (Board Opinion in the matter of Noise Pollution Regulations, July 31, 1973, page 11 and 12)

Using such theoretical considerations in comparison to the distances involved would show that Keraly would experience about

6 dB less than the Standers and over 6 dB less than Mary Consoer. For Ray Di Vito, the difference would have been about 18 dB less than the levels experienced by the Standers or Mary Consoer. Thus, there is no reason to believe that Ray Di Vito would have been bothered by the sound from the pump house even if the presence of other houses (which there are) and trees are not to be considered. The subjective sound level reaching the Keraly residence is considerably lower than that reaching either the Stander or Consoer residence.

Ferndale also attempts to show certain deficiencies in the testimony of Agency witnesses. Specifically, Ferndale argues that the Pierson testimony failed to provide dates and times of noise, failed to show any disturbance in his house, failed to show physical damage to himself or any person or property, failed to show that he never lounged or entertained guests in his yard and failed to show when and how often he did not lounge or entertain guests in his yard. Other alleged testimony deficiencies involve failure to cite dates and times when witnesses were awakened or when the sound prevented outside activities such as patio parties.

Agency witnesses used such terms as "almost constant this summer", "five times this past summer" and "awakened once or twice this year" to describe generally how often they were disturbed by sound from the pumping station. Terms such as "a great source of irritation to both of us", "that great source of irritation", "disturbing" and "source of irritation" were used to describe the effect of this sound upon the individuals.

We find that the character and degree of interference is adequately described in the testimony of the Agency witnesses. The record shows that some people are not bothered by sounds from the pumping station, but also shows that others are.

Data taken from near the Stander home do not show that sound from the pumping station exceeds the numerical limitations of Rule 202. The numerical values of Rule 202 were designed by the Board to prevent unreasonable interference. Although the record shows that the Standers suffer from noise even within the confines of their house, the Regulation does not offer additional protection beyond compliance with the numerical limitations. Thus, based on the record there can be no Rule 102 violation found at the Stander residence.

However, data taken at a point 25 feet from the pumping station does support the testimony of neighbors to the effect that noise pollution exists in the backyards. These sound levels have forced nearby residents to retreat to the confines of their house and forego the use of their backyards.

The sound measurements in conjunction with citizen testimony in this record convince us that Rule 102 has been violated in the yards of persons who live near the pumping station. Noise survey data confirms the emission and the impact of sound above limits which would exist for Class A land. Citizen testimony confirms that there has been unreasonable interference with enjoyment of life and lawful activity from excessive noise.

The social and economic value of Respondent's operations are not disputed by the Agency. The record shows that the Long Grove pumping station operated by Respondent is important and necessary to the welfare and safety of its customers.

Ferndale built its Long Grove pumping station after houses in the residential area had already been built. The Agency contends that Ferndale, in constructing its pumping station about 10 feet from a resident's property line and 115 feet from a resident's home, should have been aware of the potential noise problem. Ferndale argues that Agency witnesses Burger and Brundage, Pastrnak, Pierson moved into their residences after the pumping station was already in operation. According to Ferndale, these residents knew of the existence of the pumping station and had an opportunity to investigate or question the operation prior to purchase and moving into the houses.

The Board finds, however, that this noise problem can be solved without unreasonable expenditure and without changing the use of any of the properties involved. Therefore, the case will not be decided on the basis of which use came first.

The technical practicability of reducing the sound emissions is not in doubt in this proceeding. Ferndale witness Golding testified that devices and materials could be installed to meet the stipulated sound emission levels.

Although the record does not provide any cost figures relating to installation of sound reducing devices and materials, that issue is not in doubt in this proceeding. Ray Di Vito, an officer of Respondent, testified that Ferndale has sufficient available assets with which to make payment on devices and materials recommended by its consultant.

Two issues remain to be resolved--the degree of diligence shown by Ferndale and civil penalty. It is the Agency's position that Ferndale has not moved expeditiously to reduce sound emissions and that compliance was sought only after the filing of Complaint which followed the allowance of reasonable time for compliance.

The record shows that Ferndale retained the Fletcher Engineering Company on October 15, 1973 to investigate the noise problem. However, according to the EPA, there is no evidence showing that Fletcher Engineering was competent in the field of noise abatement and there is no indication that Fletcher was requested to expeditiously seek a solution to the noise problem.

On June 1, 1974 Ferndale retained the Edward Newell Company to design, fabricate and install noise abatement materials and devices. Again the Agency argues that there is no evidence in the record showing that Newell Company was competent in the field of noise abatement.

We find Respondent's motivation and diligence acceptable. Ferndale hired one consultant and retained its service for an unspecified period of time. The fact that a second consultant was hired some eight months later shows only that the first consultant failed to solve the problem and nothing else. If the parties had evidence regarding competency of the first consultant they did not make such evidence a part of this record. In the Stipulation the parties stated that the third consultant Fauver was retained "as soon as Respondent was" advised of the change in operations of the second consultant. Such language does not show a lack of diligence on behalf of Ferndale.

On October 22, 1973 Ferndale replied to the Agency's October 10, 1973 warning letter (Exhibit C). In this letter Ferndale expressed a willingness to study the noise problem but not until the Agency supplied Ferndale with noise survey data taken by Agency investigators. This information was supplied Ferndale on November 2, 1973 along with a petition containing 150 signatures and an offer from the Agency to "assist you in any way" (Exhibit D).

About one month later the Agency again wrote Ferndale stating that the matter had been bound over to the Agency's Enforcement Services Section. Another request was made for some response from Ferndale as to its intentions regarding the alleged noise problem (Exhibit E).

Ferndale responded to this letter on December 19, 1973 by telling the Agency that it was certain that 150 persons could not hear the pumping station noise at any time and that the persons signing the petition did so to spite the company because of past disagreements over rates. Ferndale told the Agency that the pumping station was an asset to the community instead of a nuisance. Nevertheless, in its desire to obviate any future complaints, Ferndale was working on a plan to muffle the engine and that the Agency would be supplied a copy of the plan upon

its completion. In closing this letter, Ferndale told the Agency that any discussion of enforcement was premature since the Noise Regulations provided Ferndale with a one year compliance period (Exhibit F).

The Agency contends that Ferndale's letter of December 19, 1973 was merely an opinion drawn without any meeting to discuss applicability of the Regulations. According to the Agency, the letter showed Ferndale's attitude of lack of cooperation and a desire to withhold compliance for at least a year beyond the date of required compliance.

We do not believe the delay indicates a lack of good faith on the part of Respondent. Respondent has now fully performed its agreed compliance plan. The Agency's position is based in part upon an assumption that certain violations existed which were not borne out by the record. For instance, the record does not reveal a violation at any residence.

It is the determination of the Board that a civil penalty in the amount of $500 is warranted based on the record presented.

This Opinion constitutes the findings of fact and conclusions of law of the Illinois Pollution Control Board.

ORDER

It is the Order of the Pollution Control Board that Ferndale Heights Utility Company shall pay to the State of Illinois by August 25, 1975 the sum of $500 as a penalty for the violations of Rule 102, Noise Regulations and Section 24, Environmental Protection Act, found in this proceeding. Penalty payment by certified check or money order payable to the State of Illinois shall be made to: Fiscal Services Division, Illinois EPA, 2200 Churchill Road, Springfield, Illinois 62706.

Mr. Goodman and Mr. Zeitlin dissent.

I, Christan L. Moffett, Clerk of the Illinois Pollution Control Board, hereby certify the above Opinion and Order was adopted the 10th day of July, 1975 by a vote of 3-2.

Christan L. Moffett, Clerk
Illinois Pollution Control Board