ILLINOIS POLLUTION CONTROL BOARD
September 1, 1977

ENVIRONMENTAL PROTECTION AGENCY,

Complainant,

v.

CITY OF HIGHLAND,

Respondent.

PCB 75-492

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

MESSRS. ROBERT N. REILAND AND GEORGE W. TINKHAM, ASSISTANT ATTORNEY GENERALS appeared on behalf of Complainant.

MR. JOHN P. GEISSMAN appeared on behalf of Respondent.

This action arose following the filing of a complaint by the Environmental Protection Agency (Agency) alleging that the City of Highland (Highland) owned an electric generating facility which had emitted noise beyond its boundaries which violated the limits imposed by Rule 202 of Chapter 8: Noise Regulations. Ownership of the facility and its classification as a Class C land use within the meaning of Rule 201 are not in dispute.

Nine hearings were held from July 22 to October 28, 1976. The Agency's witnesses consisted of three citizens who voiced their complaints, Agency employees who explained noise measurements in the vicinity of the Highland power plant and the technical and economic feasibility of compliance, and the power plant operator who described which generating units were operating on the days the noise surveys were taken. Highland's witnesses consisted of the City Manager, the Mayor, a consulting engineer and the City Attorney who discussed the history and the economics of electric power generation for the city.

Highland argued at the hearings that the Agency's noise survey reports should not be admitted as evidence of any violations because they were hearsay and because of what it claimed were errors in the Agency's measurement techniques. Highland argued that the

Agency had not followed its own procedures or the American National Standard Methods for the Measurement of Sound Pressure Levels (ANSI) as required by Rule 103 of Chapter 8: Noise Regulations. Before these arguments are considered individually, some general comments are in order.

First of all the Noise Survey Reports were properly admitted as business records under Procedural Rule 326 as it was in effect at the time of the hearing. Highland's objections, therefore, can only go to the weight of this evidence.

In Environmental Protection Agency v. Ferndale Heights Utility Company, PCB 74-291, 18 PCB 12, (1975) the Board had occasion to characterize the noise standards. In its Opinion at page 22 the Board stated:

"A different result is reached here because of the different nature of the noise standard. The noise standard is an attempt to establish reasonable levels at the receiving property. Noise levels are measured where received."

This general concept behind the noise standards explains the language of Rule 103 in Chapter 8 which states that test procedures employed by the Agency must be in "substantial conformity" with ANSI standards. The ANSI standards are not entirely controlling here. The Board's rules are more concerned with the noise which is being received on the neighboring residents' property.

Highland argued that since some of the measurements were taken at night they were not material to this complaint which alleged violations of Rule 202 daytime standards. This reasoning misses the point of the exception stated in Rule 208(e) of Chapter 8. That exception was explained by the Board in Environmental Protection Agency v. Modern Plating Corporation, PCB 75-412, 12 PCB 25 (1976) at page 27 of the Opinion as follows:

"Rule 208(e) specifically exempts existing property-line-noise-sources, such as Modern's plant, from those *significantly lower* limits during nighttime hours, and instead allows 24-hour compliance with the Rule 202 limitations." (emphasis added)

Highland also argued that the Agency had to show that all of its measurements were taken at least 25 feet from the city property line surrounding the power plant. This argument belies the explanation of the 25 foot requirement which the Board included in its Opinion adopting the Noise Regulations:

"3) The sound pressure levels must be measured within the receiving property but not closer than 25 feet to the property-line-noise-source. This represents a significant departure from the original proposal which measured sound pressure levels at the emitters' property line. Since the regulation is intended to protect people from noise pollution, it is appropriate to measure the levels on the receiving property. This also is to industries benefit in that it allows some atmospheric attenuation of noise. Originally, the measurements were to be made on or beyond the emitter's property line which, as brought out in the initial hearings, created problems of abutting compared with non-abutting property. The 25 foot provision is intended to set a lower limit on the available atmospheric attenuation. A good example is a utility pole transformer located on an easement, classified as a Class C noise emitter, adjoining residential property. In applying Rules 202 through 207, sound pressure level measurements cannot be taken closer than 25 feet to the transformer." (In The Matter Of Noise Pollution Control Regulations, R 72-2, 8PCB 703, 727 (1976).

Throughout these proceedings Highland has claimed that it is being blamed for noise contributed by extraneous noise sources in the vicinity of its power plant. The Agency's testimony shows that its measurements excluded this possibility. Dorothy Jones, the Agency employee who conducted most of the noise surveys, explained her procedure before and during her measurements. Ms. Jones drove around the vicinity of the survey sites before each test and checked to see whether any businesses were operating which may have caused any interference. (R.617) She also testified that if any traffic passed close by, no measurements were taken until that traffic had passed. (R. 608, 614) While she conducted the tests, she listened for any significant contributions. Agency witnesses explained that ambient noises would have to be within 10 decibels of the noise from the power plant, and therefore audible, before there could be any significant contribution. (R. 309, 1170) The Agency complied with the requirements of Section 611 of its own Measurement Techniques for Enforcement of Noise Pollution Control Regulations, and it showed that it had effectively ruled out the effects of these contributors. It should also be pointed out that no admissible evidence was introduced by Highland to show what the effect of these contributing sources may have been.

Highland claimed that the Agency did not take adequate precaution to provide for the effects of any reflective surfaces or standing waves in the vicinity of its measurements. The record shows some confusion as to the proper computation of distance from the target source (the power plant) and distance from reflecting sources but this confusion was finally resolved. (R. 1131) The Agency was faced with the dilemma of taking measurements which

minimized the effect of reflective surfaces and yet still recorded the sound as it was received. The Agency's measurements show that these conflicting factors were properly resolved in its use of the field method of sound measurement. (R. 400) Once again Highland introduced no evidence to show that reflective surfaces distorted the Agency measurements. In fact there were some instances in which the net effect of reflective surfaces may have been to reduce the levels of sound measured at some of the sites. (R. 1135)

Highland asserted that the Agency violated ANSI and its own rules by not measuring or taking account of all atmospheric conditions. First of all, the noise survey report forms used by the Agency provide that wind speed and direction, temperature, relative humidity and barometric pressure should be recorded. All of the survey forms admitted into evidence show that these measurements were taken. In addition, no evidence was introduced by Highland to show that these measurements were inaccurate or that the recorded conditions should have any effect on the recorded measurements. The Agency testified that wind speed less than 10 miles per hour has a negligible effect on noise measurement. (R. 1139) Highland complained that the Agency did not measure atmospheric conditions, including wind gradients, at a height of 10 meters above the ground. The Agency properly responded that this data is not relevant to measurements taken in the near field (less than 600 feet) as these were. (R. 647)

The height and location of the microphone which the Agency used, as well as the type of microphone used constituted more of Highland's challenges. Once again, there is no evidence that the Agency's techniques resulted in any distortions. Any variations from the ANSI standards were characterized by the Agency as either insignificant or necessary to record the noise as it was received on the residents' property. (R. 1124)

A great deal of attention was paid to the location of the microphone at some of the sites and its relation to the sidewalk. There was evidence that one of the microphone locations on the street side of the sidewalk was city property but the difference in sound levels from the city side of the sidewalk to the residential side has been demonstrated as negligible. (R. 1196)

While many noise survey reports were admitted as evidence, not all of these reports are relevant to the Board's findings of violation in this case. The Agency's complaint alleged that Highland had violated Rule 202 beginning on February 10, 1975 and continuing to December 19, 1975, the date the complaint was filed. At the hearings, the Agency indicated that it would amend its pleadings to conform to the proof of violations after December 19, 1975, but no amendment appears in the record. Consequently only Complainant's Exhibits 8, 20, 21, and 22 are relevant to a finding of violation of Rule 202.

This conclusion follows the position taken by the Board in Environmental Protection Agency v. E & E Hauling, PCB 74-476 16 PCB 215 (1975). In that case the Board stated that it cannot amend a complaint to conform it with the intentions of the parties, particularly when the Agency could have availed itself of the relief available in Procedural Rule 328, as it was promulgated at the time of these hearings.

The data in Complainant's Exhibits 8, 20, 21 and 22 that list sound levels emitted by the Highland Power Plant and the relation of those sound levels to the requirements of Rule 202 can be summarized as follows:

Date of Survey	Survey Site Number	Octave Band Sound Pressure Levels 31.5	63	125	250	500	1000	2000	4000	8000
(Allowable Sound Pressure Level)		(75)	(74)	(69)	(64)	(58)	(52)	(47)	(43)	(40)
8-25-75	2-4	95	84	79	75	69	70	68	67	62
10-24-75	2-2	87	80	75	70	65	64	61	54	44
	2-5	88	80	75	70	66	64	62	54	45
	4-1	91	84	74	75	67	65	63	57	47
	5-1	83	81	66	54	62	56	54	46	38
	6-1	93	85	72	62	59	58	54	49	40
	6-2	93	85	75	65	61	61	57	51	45
11-19-75	7-1	88	80	67	64	59	58	53	45	35
	7-1	88	80	67	65	59	56	52	45	35
	7-2	88	83	74	70	62	59	56	50	41
12-4-75	8-1	85	89	79	73	69	68	66	59	51
	8-1	82	89	75	71	67	66	65	60	51

These measurements do not represent ideal or optimum conditions. Some of the measurements, e.g. Site 2-4, may have even been on city property. These qualifications however do not detract from the conclusion that the measurements which show sound levels in excess of the limitations imposed by Rule 202 represent violations of that rule. Wherever the measurement location may have been on the city owned side of the sidewalk, the Agency has shown that the resultant difference in sound level was negligible. Wherever the distance from reflective surfaces may have been less than ideal, the Agency has shown that its location was justified as an attempt to quantify the effect of the power plant noise on the complaining neighborhood residents.

Testimony from three citizens showed that the violations which are occurring at the Highland Power Plant are clearly interfering with the enjoyment of their property. (R. 49, 64, 76) There was no evidence that anyone's health was in jeopardy, but there were statements to the effect that it was very difficult to relax or entertain out of doors. The relationship between the residents' discomfort and the noise emissions from the power plant was shown with testimony to the effect that the problem abated when the power plant was shut down. (R. 50, 65, 78)

The power plant is undoubtedly a very valuable resource. In a recent referendum the voters in Highland stated that they did not want the power plant to be sold to Illinois Power Company or to anyone else. (R. 885) The city officials have been unable to negotiate a commitment from Illinois Power that would enable them to stop using the power plant. (R 966, 976) This electric generating facility provides an essential service in that it guarantees that the citizens of Highland always have enough power. It became apparent at the hearings that the "peak shaving" role which the power plant played was going to continue indefinitely. (R. 882, 1038)

There was a great deal of testimony and argument over just what sort of area surrounded the power plant. On cross examination the city often characterized the area as heavily industrialized with railroad tracks and a highway combining to make the area very noisy. The Agency measurements, however, were taken on the residential side of the plant. In fact it was shown that the power plant property is bounded by homes about as much as it is by industry. Whether the power plant or the neighborhood came first was not shown by any evidence, but photographs of the area and citizen testimony indicated that both had been there for quite some time.

Complainant's Exhibit 47 and the testimony of Mr. John Paulauskis analyzed the technical and economic feasibility of compliance. A long list of improvements totalling over $111,000

was outlined with the qualification that these improvements probably represented an overkill that would not be necessary. The Agency recommended that its ideas be taken as suggestions and that a step by step approach be used so that compliance could be studied along the way and improvements halted when compliance was achieved. (R. 1207)

Highland's approach to compliance was totally different. The city felt that since the amount of power the plant would generate in the future was somewhat in doubt, no action should be taken to abate any noise from the plant. (R. 993) Ongoing negotiations with Illinois Power company for a commitment for more power were cited as the city's compliance plan. (R. 1008) Highland's feeling was that the noise would be greatly reduced if the plant simply wasn't needed and consequently not used. Since the city has had peak loads in excess of 16 megawatts and the highest commitment which had been requested from Illinois Power Company was 14 megawatts, it was obvious that some power generation at the plant would be needed, at least in emergencies. (R. 978) Since the city did not know which units at the plant would have to stay in operation, it felt it should not take any action to reduce noise. Extensive testimony and documentation were introduced to show that the city did not have the money to do any extensive noise abatement. The city's electric fund was portrayed as carrying a deficit (R. 870) and additional bonding was characterized as inappropriate. (R. 919, 942)

Although the type of injury which the citizen witnesses showed was not severe, it does represent the sort of damage which Rule 202 was designed to correct. The uncertain future of the power plant coupled with the voters' wish to maintain ownership show that some corrective action is necessary. There is no indication that the neighbors are fleeing from the area. Consequently, the trend of violations cannot be allowed to continue. The city's present approach to noise abatement represents either a misunderstanding or a disregard of the purposes of the Board's Noise Regulations. Highland cannot continue to plan for its future energy needs without including the costs of noise abatement. Negotiations with Illinois Power Company have involved many years of litigation and the record shows that the end of the bargaining is still not in sight. Since the subject of this action is enforcement of Rule 202 and the Board is not satisfied with the City's present posture on compliance, a penalty of $1,000 is appropriate to aid in the enforcement of the Act.

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

ORDER

It is the Order of the Pollution Control Board that:

1. The City of Highland shall take immediate action to engage the services of a qualified noise abatement consultant within 60 days of the date of this Order.

2. Within 6 months of the date a qualified consultant is engaged the City of Highland shall develop a step by step compliance plan which shall be submitted to the State of Illinois, Environmental Protection Agency, Division of Noise Pollution Control for approval.

3. Within 6 months of the date the Agency approves the City of Highland's compliance plan, the City shall cease and desist any violations of Rule 202 of the Board's Noise Regulations.

4. Within 45 days of the date of this Order the City of Highland shall pay a fine of $1,000 by certified check or money order payable to:

State of Illinois
Environmental Protection Agency
Fiscal Services Section
2200 Churchill Road
Springfield, Illinois 62706

I, Christan L. Moffett, Clerk of the Illinois Pollution Control Board, hereby certify that the above Opinion and Order were adopted on the 1st day of September 1977 by a vote of 5-0

Christan L. Moffett, Clerk
Illinois Pollution Control Board