

ILLINOIS POLLUTION CONTROL BOARD
February 27, 1975

ENVIRONMENTAL PROTECTION AGENCY,)
 Complainant)
)
 v.)
)
)
THE EDWARD HOSPITAL DISTRICT,)
 Respondent)

PCB 74-251

Mr. Frederick J. Entin and Mr. James M. Bumgarner, appeared on behalf of the Complainant;
Mr. Donald J. Hennessey and Mr. Edward J. Walsh, appeared on behalf of the Respondent.

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

This case involves an alleged noise nuisance caused by the Edward Hospital District. On July 2, 1974 the Illinois Environmental Protection Agency (Agency) filed with the Board a complaint charging the Edward Hospital District (Hospital) with emitting excessive sound from its central heating and air-conditioning building so as to cause a violation of Rule 102: Prohibition of Noise Pollution of Chapter 8: Noise Regulations of the Pollution Control Board Rules and Regulations; for every day from August 10, 1973 to the date of filing of the complaint.

The hospital is located in the City of Naperville in DuPage County. It contains 151 beds and averages 6,000 patient days per month (R. 485-486). As shown in Agency exhibit 2, land west of the hospital is largely vacant and park areas while to the south is a residential area; the closest residential street being Springwood Drive. The hospital's central heating and air-conditioning building (boiler house) is located southwest of the hospital itself, and is only 15 to 40 feet away from the property lines of residents living on the north side of Springwood Drive, as can be seen on Agency exhibit 2.

Between 1970 and 1972 the hospital was engaged in a program that expanded the hospital and also built the boiler house. The boiler house itself was put into operation in August, 1972 (R. 458).

The first contact between the hospital and its neighbors regarding the boiler house was a letter sent to the hospital from Mr. Desch on November 9, 1970 (Agency exhibit 3) expressing concern about possible nuisances from the construction or future operation of the boiler house. Mr. Morris, the hospital's administrator, responded that the noise should be less than that of the present units which were located under hospital offices, but had not consulted with acoustical engineers in making the statement (R. 590-591).

The first noise complaints following the start up of the boiler house were received by the hospital on August 9 and August 10, 1972 from Messrs. Desch (Agency exhibit 4) Warwick, and Dickerson (R. 485), all residents living on the north side of Springwood Drive and directly south of the boiler house. Mr. Morris responded to these complaints, stating that the matter was being referred to the Building and Grounds Committee of the hospital.

The next noise complaint in the record was sent February 1, 1973 from Desch to Morris (Agency exhibit 5). The letter stated that even though usage of the air-conditioning equipment was reduced because of the fall and winter weather, the noise and vibration from the boiler house was not abated.

Mr. Desch again complained to the hospital on April 18, 1973 (Agency exhibit 6), stating that the noise was intolerable and that little if any difference was noticed even though remedial steps had been taken by the hospital. As will be discussed later, these remedial steps were not completed until June, 1973 (R. 588). Agency exhibit 6 also mentioned a meeting held between neighbors Desch and Arado, members of the hospital board, and the hospital's architects. Finally, Desch complained on March 19, 1974 to the hospital that the noise was worse than ever before and had kept him (Desch) awake the previous night (Agency exhibit 7).

The attorney for the hospital objected to the introduction of evidence and testimony concerning dates earlier than August 10, 1973 on the basis that there was nothing to comply with prior to the effective date of the Board's Noise Regulations (R. 57, 60-61). The Agency introduced the evidence not to show specific violations but rather to show the lack of response of the hospital to their neighbors (R. 60); which the Agency says is relevant to the imposition of a penalty (R. 57). The hearing officer allowed the evidence to be entered (R. 61).

Testimony at the hearings concerning the alleged noise nuisance was provided by eight citizens living south of the hospital and boiler house. All noticed noise emissions from the boiler house and described the impact of the noise on their lives, the severity depending on the distance of their house from the boiler house.

Mr. Desch described three types of noise from the boiler house: a loud rushing noise from the cooling tower, a rumbling noise from the boiler, and noise from the emergency generator (R. 47-48). The generator sounded like an unmuffled diesel engine (R. 54). It is the rumbling noise that on many occasions has prevented him from sleeping (R. 48-49). Other effects are that he is not able to use his screened-in porch or backyard since the noise started; the noise being worse in late summer or fall of 1973 (R. 50-51). Although the noise has not changed his living pattern, it does keep him from sleeping (R. 52). The rumbling noise can be heard throughout the house except for the basement, while the rushing noise can only be heard outside (R. 50, 53). Although he heard a low level rumbling noise last night, (R. 77) the boiler house had not operated since November 25, (Respondent exhibit 6). His efforts to deal with the hospital were ineffectual until the Agency became involved and he thinks that, although the proposed settlement is a good solution, there should be a finding of delay against the hospital (R. 84, 90).

Mr. Braun lives across Springwood Drive, approximately 300 feet from the boiler house (R. 103). He notices a whishing and rumbling noise which, on occasions since August 10, 1973, has been an irritant when conversing with neighbors in his front yard, and at one time one could only converse outside with a raised voice level (R. 111). The noise was not so prominent in 1974 as in 1973 (R. 112). Mr. Braun describes the noise as an irritant rather than excessive or a nuisance, and is aware that other neighbors are far more bothered (R. 124-125). While standing in the Dickerson's backyard, he observed the noise to be very loud (R. 130).

Mr. Zimmerschied's house is about 400 feet from the boiler plant to the south and west. He has lived there since February, 1972 but the noise did not become too obnoxious until the summer of 1974 (R. 132-134). The noise does not interfere with conversation or sleep but is just annoying (R. 138). He finds the intensity, pitch and undulation of the noise to be the annoyance (R. 142). A neighbor's lawnmower is more annoying but one only hears it an hour a week (R. 141). He does not hear the rushing noise like neighbors closer to the boiler house do (R. 136).

Mr. Dickerson lives on the north side of Springwood Drive and his property is 40 feet from the boiler house (R. 147). He has resided there for 16 years. The noise is definitely annoying and prevents him from using his patio (R. 150). At least 50 times since August 10, 1973 the noise has caused him to leave his bedroom in the middle of the night and go down to the basement to escape the sound (R. 148-149). The last time this occurred was several weeks ago (R. 152). His soft spoken wife has to repeat herself when the noise occurs (R. 151). He says the noise has improved but has never been acceptable; this, however, contradicts his letter of November, 1973 (Respondent exhibit 1) which states in part that the boiler noise has been reduced to an acceptable level.

Mr. Niman lives next door to Mr. Dickerson and his property is 15 feet to 25 feet due south of the boiler house (R. 169). The noise that bothers him considerably is a low frequency rumbling noise that prevents him from using his yard due to the annoyance and requirement to raise ones voice when conversing (R. 170). Inside his house, the noise results in raised noise level conversation, he has to turn on the hi-fi to drown out the noise, and the noise interferes with their sleep (R. ibid). He is not affected by the waterfall noise from the cooling tower as much as by the rumbling from the boiler (R. 172). He cites construction noise as being louder, but it doesn't occur 24-hours a day as does the boiler house noise (R. 177). Regarding the effects of improvements made by the hospital, he says the generator noise is now less than before, but the boiler house is "as loud and penetrating as ever" while at a slight change in pitch (R. 178). The noise still interferes with his sleep.

Other citizens generally confirmed, to varying degrees, the nuisance caused by the boiler house. Mrs. Kelleher lives more than 200 feet away from the boiler house, on the south side of Springwood Drive. She notices a rumbling sound (R. 192) which sounds like a low flying plane or muffled bomber planes in the movies (R. 185). She is not bothered by the noise except at night, when she says that the noise has awakened her 2 or 3 times a week since August 10, 1973, including as recently as 2 or 3 weeks ago (R. 186). She would consider the noise to be noise pollution at night (R. 190). Mrs. Niman generally supports her husband's testimony and says that the rumbling noise prevents her from sleeping and rattles windows (R. 194-195). Mr. Millar's property is 150 feet from the boiler house. He describes an objectionable noise as being rumbling and hissing together (R. 202). In comparison with other noises, he says it is

not as noisy as a power mower but is comparable to a diesel truck at equal distances (R. 207). The noise lessened in the fall of 1972 but there has been little reduction since (R. *ibid*).

It seems clear to us that a noise nuisance has and is occurring in the neighborhood south of the hospital. The noise has interfered with sleep, made conversation more difficult, and prevented the enjoyment of porches and backyards. No one consulted a doctor as a result of the noise so there is no medical evidence of harm. Our Rule 102, however, is intended to prevent "the emission of sound that unreasonably interferes with the enjoyment of life", and we find in this case that there has been interference with the enjoyment of life because of the noise emitted by the boiler house.

In making this determination in accordance with Section 33c of the Act, we find that, irrespective of the high social and economic value of the hospital, the noise emissions interfere with the health, general welfare, and physical property with the residents by interfering with sleep, hindering conversation and preventing the enjoyment of backyards and patios as described previously. We also find that although the boiler house is located on hospital property, it is closer to the residential area than to the hospital (See Agency exhibit 2) and that the residential area was in existence prior to the construction of the hospital. In addition the agreed to compliance program demonstrates the technical practicability and economic reasonableness of abating the noise pollution.

The Agency presented several noise surveys consisting of sound level measurements taken in the vicinity of the boiler house. These surveys, Agency exhibits 10, 11, 13, 14, 15, and 16 were entered into evidence, over the objection of the Respondent, not to show any violation of numerical limits, but rather as background for the Agency's estimation of the impact of the noise being emitted. We will not discuss the Agency's survey activities here since the important question is the impact of the noise as felt by the residents.

As stated previously, we have concluded that the noise emissions have violated Rule 102. We must next determine whether the hospital has acted expeditiously in attempting to alleviate the noise problem.

Construction of the new addition to the hospital and the new boiler plant building (boiler house) began in November, 1970 and was completed in August, 1972 (R. 42, 531). Immediately thereafter complaints about the boiler house noise were received by the hospital, in particular on August 9 and 10 from neighbors Desch, Dickerson and Warwick (R. 485). The

hospital then contacted the local noise consulting firm of Bolt, Beranek, and Newman, Inc. (BBN) who made a noise survey of the boiler house to identify the major sources of the noise (R. 585), the report to the hospital being made October 4, 1972 at a cost of \$1,600 (R. 488). Included in the report was an offer to provide further assistance in "defining the noise control treatment needed" (R. 585).

The hospital then proceeded to implement noise control measures that were recommended by its architect (R. 586). These measures consisted of operating the cooling tower fan at a low speed, operating the boiler in the "low fire" combustion mode, and installing baffles on the boiler air intake. The intent was to deal firstly with changes that could be implemented with a minimum "amount of design and analysis and time-consuming considerations" (R. 605). In fact, the hospital was not charged for the change in cooling tower fan speed and the change in boiler combustion mode (R. 581); and the intake baffle was installed at a cost to the hospital of \$2,290 (R. 588).

During these boiler house modifications, BBN was not consulted (R. 588) and the next contact between BBN and the hospital was for a second BBN noise survey report in June, 1973 following the completion of the modifications (R. 491). The conclusion of this report was that the "greatest noise impact has been controlled, but significant noise impact still exists" (R. 589). It should be noted that while the October, 1972 BBN report had identified as a significant noise leak "louver opening located at the south end of the boiler" (R. 587), baffling was put on only one of the openings, the boiler air intake, and nothing was done to the louvered opening for the generator until it was bricked up (R. 588). The louvers for the generator on the south wall of the boiler house were finally bricked up in 1974, some time before the Agency noise survey of October 2, 1974 occurred (R. 354, Agency exhibit 16). Thus a major source of noise was not controlled for a period of approximately two years since its existence had first been reported.

Following the second BBN survey, in which BBN again offered to help solve the remaining noise problem, the hospital did ask BBN to continue their studies (R. 590). However, between the second survey of June, 1973 and October, 1973 little activity on the part of the hospital seems to have occurred. In October, 1973 the hospital architect and BBN met to discuss methods of noise control for the hospital, subsequent to which the hospital contracted with BBN for a

report due January, 1974 but actually received on March 25, 1974 (R. 566-567).

Although the record is not entirely clear, it seems that this latest BBN report contained noise abatement design criteria to deal with four problems, two of which were the roof mounted cooling tower and the boiler stack, also mounted on the roof (R. 611). The roof installation would have consisted of a sound barrier for the cooling tower plus an attenuator for the boiler stack (R. 624). The hospital did not implement these suggestions directly but instead hopes to relocate the cooling tower to the ground in the future (R. 625) and is proceeding with a boiler attenuator which at the time of the hearings was under construction (R. 614). The boiler attenuator being constructed was designed around August 1, 1974 (R. 572).

BBN had submitted previously in 1973 (R. 612) a proposal for a roof mounted attenuator that would cost between \$75,000 and \$100,000 (R. 571). The hospital architect did not recommend it both because of cost and because there wasn't any guarantee that it would do the job according to Mr. Morris' recollection (R. 573).

The hospital's efforts to reduce the boiler house noise are summarized in Joint exhibit 1. During 1974 the louvers on the south wall were bricked up and the emergency generator exhaust was moved from the south wall to the north wall; both changes documented in Agency exhibit 16.

The hospital cites the Agency's refusal to provide technical support as mitigation. We note, however, that the hospital had hired noise consultants before the Agency became involved with the case (R. 331). Also, the Agency did offer to make its sound level measurement data available to the hospital (R. 296). We have no control over Agency policy in providing or not providing technical consulting services to the public, and we do not think that Agency policy was a factor in creating the delays that we have concluded have occurred.

The compliance plan, submitted jointly as Joint exhibit 1, will apparently cure the noise problem, and we will order its implementation in addition to a cease and desist order regarding the violation of Rule 102.

The delays that have occurred are the fault of the hospital. We cannot condone this behavior in the face of the continuing noise pollution that resulted. We will not, however, impose a monetary penalty for these delays since it

would ultimately penalize the taxpayers of the hospital district (R. 100) and because the residents impacted by the noise were not insistent on a penalty but rather were interested in compliance by the hospital (R. 90, 126, 164).

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

ORDER

The Edward Hospital District is ordered to cease and desist its violations of Rule 102 of Chapter 8: Noise Regulations by June 15, 1975 by implementing the compliance program contained in Joint Exhibit 1.

I, Christan L. Moffett, Clerk of the Illinois Pollution Control Board, hereby certify the above Opinion and Order were adopted on the 27th day of February, 1975 by a vote of 4-0.



Christan L. Moffett, Clerk
Illinois Pollution Control Board