

ILLINOIS POLLUTION CONTROL BOARD
September 6, 1984

IN THE MATTER OF:)
)
THE PETITION OF WAGNER CASTING)
COMPANY FOR A SITE-SPECIFIC) R83-35
OPERATIONAL LEVEL PURSUANT TO)
35 ILL. ADM. CODE 901.105)

ADOPTED RULE. FINAL OPINION.

FINAL OPINION OF THE BOARD (by J. Marlin):

On November 29, 1983 Wagner Casting Company (Wagner) petitioned for a site-specific operational level for its forging shop as an alternative to compliance with the noise limits contained in 35 Ill. Adm. Code 901.105 (old Rule 206 of Chapter 8). A public hearing was held in Peoria, Illinois on February 15, 1984. The Honorable Gary K. Anderson, Mayor of Decatur was the only member of the public who attended and he testified in support of the petition. Two public comments in support of the petition were also received. This hearing was originally scheduled with those of four other similar forging noise cases involving central Illinois shops in order to conserve the time and funds of all involved parties. Due to a scheduling error the other four had to be rescheduled. Wagner requested that its hearing proceed in Peoria since considerable delay would occur if the hearing was moved to Decatur.

Rule 206(d) allows an existing forging shop to petition the Board for a site-specific operational plan which will limit noise emissions from the shop. Petitioner must demonstrate that it is technically and economically infeasible for its shop to meet the numerical limits. Petitioner must also propose measures to reduce impulsive noise where possible and assess the consequential health and welfare impacts on the surrounding community.

Wagner is located at the southeast corner of Jasper and Sangamon Streets in Decatur, Illinois. Railroad switching yards are located to the west, south and southeast of the forge shop. Wagner's foundry operations are to the east. Corporate offices and parking facilities are to the north and northeast. The Torrence Park urban renewal area is north of the parking lot. The Decatur Boys Club is northwest of the forge, located at the northwest corner of Jasper and Sangamon Streets. A recreational area is west and northwest of the Boys Club. The nearest residences to the northeast and northwest of the forge are over 300 yards distant. Those to the south are screened by the railyards and numerous commercial buildings.

The forge shop operated at the location since 1926 under a former owner. Wagner bought the forge shop in August, 1979 and operated it until September, 1981 when operations were suspended for economic reasons. The equipment was mothballed in anticipation of reactivation. Wagner is continuing its foundry operations. It intends to sell the forge shop. The forging facilities are in one building which includes 9 furnaces, 5 coining presses, and 9 Erie drop hammers in the following sizes: 1,500 lb.(3); 2,000 lb. (4); and 4,000 lb.(2).

The forge building itself was built in 1926 and is constructed of corrugated steel siding and brick. The shop requires extensive ventilation for cooling where the furnaces reach 2600°F. There are approximately 5 large door openings and 2 smaller doors to the outside. There are 3 large roof ventilators which draw hot air out of the building. Ten ventilators at wall level draw fresh air into the building. Noise escapes through these openings.

Wagner requests that it be allowed to operate 3 shifts at the site and add a hammer in the future.

Hours of operation from 1979 through 1981 were 5:00 a.m. to 1:30 p.m. and 1:30 p.m. to 9:00 p.m. Although the potential buyer of the forge testified that initially there would be 1 to 2 shifts, the petition is for allowing 3 shifts. Page 12 of the petition requests 3 shifts with starting times of 6:00 a.m., 2:00 p.m. and 10:00 p.m. The potential buyer testified he would prefer to start at 5:00 a.m. In a post-hearing letter filed March 13, Wagner reiterates that if the Board does not grant the 3 shift relief, that it allow the first shift to begin at 5:00 a.m.

Production decreased from 1979 through 1981, as will be shown in the table below. This resulted in less blows of the hammers which resulted in less noise (Pet. at 5, 6, 7).

	<u>Total no. of forgings on hammers</u>	<u>No. of blows/yr.</u>	<u>Tonnage of all forgings</u>
1979	3,986,934	29,098,578	4,390
1980	2,894,374	20,717,350	3,620
1981	1,089,596	7,939,768	2,180

The regulations of the Board define 2 methods of measuring sound. The definition of dB(A), or A-weighted sound level in decibels, is found in 35 Ill. Adm. Code 900.101, as is the definition of Leq, or equivalent continuous sound pressure level in decibels. Essentially, dB(A) measures the noise level at the peaks while Leq measures the average noise level over time, including peaks and background noise.

Permissible impulsive sound levels for existing forge shops are found in 35 Ill. Adm. Code 901.105. The impulsive sound level emitted to residences (Class A land) cannot exceed 58.5 Leq during the day or 53.5 Leq at night. As to commercial establishments (Class B), the level cannot exceed 64.5 Leq. Actual measurements were taken in 1980 by ETA Engineering Inc. for the former owner of the forge shop (Exh E to the petition). These dB(A) readings were placed on a contour map of the area (Exh C to the petition). An expert for Wagner transformed the dB(A) readings to Leq readings and compiled another contour map (Exh D to the petition.)¹ Referring to Exhibit D, the southeast corner of the Boys Club (Class B) will be subjected to 80 Leq. The building will face levels between 70 and 75 Leq. This is approximately 6-10 Leq over the 64.5 Leq limitation for Class B land. The many residences listed on Exhibit C have been eliminated through the city's Torrence Park urban renewal project (R at 10). Wagner asserts that no residences are exposed to sound levels in excess of Rule 206(c). The 3 residences at the intersection of Orchard and Lowber Streets are expected to be subject to the nighttime level of 53.5 and no more. During night time the background noise, which includes the railyards and busy highways, should be lower, reducing the Leq sound level (Pet. at 10).

The ETA report (Exh. E to the petition) developed 4 proposals for reducing noise emissions by 5, 10, 15 and 20dB(A) (Exh E at 15). The recommendation for a 5dB(A) reduction includes closing all exterior doors and installing additional roof and sidewall fans. Wagner states that this would interfere with proper ventilation for the shop and affect the worker's health (R at 64). The shop doors are open all of the time in the summer (R at 48). Other ETA suggestions for successive 5dB(A) noise level reductions were to install silencers (2800 lb. a piece), use 3/8 inch thick asbestos board and 1/8 inch thick steel panels, and install baffles (Exh E to Pet. at 15). If the ventilators were installed it is highly likely that the building would require reinforcement at additional cost in order to bear their weight (R at 80, 81).

To date, no abatement measures have been implemented by Wagner. The corporate office was constructed between the forge and residences to the north and northeast, which may or may not give incidental relief to those residences. Testimony has shown that barriers inside the plant would impede the flow of air, traffic, and movement of materials (R at 83). The ETA report addressed the cost to reduce noise emissions

¹The conversion formula used was $SL_B = Leq + 5dB(A)$, found on page 8 of Wagner petition, which refers to Exh. E, p 5.

by 5dB(A) [Exh. E at 11-14]. To reduce the noise level by 5dB(A), \$234,000 would be spent (Pet. at 14) while the forge facility is worth only 1/2 to 3/4 million dollars (R at 52).

The Department of Energy and Natural Resources issued a negative declaration on March 7, 1984 obviating the need for an economic impact statement.

The Illinois Environmental Protection Agency (Agency) has concerns, some of which are the following:

- (1) whether Wagner is an "existing" or a "new" forging facility;
- (2) whether nighttime operation noise levels will truly be within the applicable limits;
- (3) whether economic reasons are enough to reject the abatement measures.

This forging facility is a property-line-noise-source according to 35 Ill. Adm. Code 900.101. The forge also is an existing property-line-noise source as defined in 35 Ill. Adm. Code 900.101 for 2 reasons. First, the facility was built prior to August 10, 1973. Second, its C land use classification did not change since it was only temporarily shut down. Therefore, Wagner is subject to noise limitations of 35 Ill. Adm. Code 901.105(c) unless site-specific operational relief is obtained. The record contains evidence that nighttime operations will meet the sound limitations. The economic cost of a noise abatement program is clearly prohibitive.

The only apparent noise violation will occur at the Boys Club. The Club is built on land donated by Wagner at a time when the hammers were operating (R at 12). The Club wanted the land so as to be next to the outdoor recreational area. The Club opened in late 1983 (R at 21). The Club's building is constructed of brick and the 2 walls facing the forge shop are without windows.

The City of Decatur has actively planned an urban renewal project in the area to act as a buffer between industry and residences. The City supports Wagner as does the Macon County Board (R at 9; Exh. 6). The operation of the forge shop is, therefore, consistent with the planned use of the area. Wagner's expert testified that operation would not pose a threat to the public health (R at 133). There have never been any citizen complaints (R at 42); Agency Rec. at 1). The additional jobs (40-50 for 2 shifts) will help the economy of the City of Decatur. The sound abatement measures appear to be economically unfeasible.


The Board proposes granting Wagner's site specific operational level for three shifts and the operation of 9 hammers at one time. Section 23 and 25 of the Environmental Protection Act evince an intent to lower noise emissions rather than add to them. Ill. Rev. Stat. 1983, ch. 111½, pars. 1023, 1025. Rule 206(d) provides that petitioner propose measures to reduce impulsive noise. The Board is constrained to limit the number of hammers operating at one time to nine. Under this provision Wagner could operate up to 9 hammers of any size at one time. During the first notice period Wagner and the Agency are asked to provide written comment on the following:

whether the replacement of 1 or more existing hammers with 1 or more hammers of varying size would cause the petitioner to exceed the estimated noise levels stated in prior testimony.

No specific numerical noise level limitations are being imposed, although it is assumed that noise levels will approximate those testified to by Wagner and its witnesses. Wagner should make efforts to lessen noise levels in the future as equipment is replaced and new technology for noise suppression becomes available. In the event that noise levels from the forge shop become excessive, citizens have the right to initiate proceedings to change the rule which accompanies this opinion.

The following operational plan as set out in the attached Order will be incorporated into 35 Ill. Adm. Code 901.113. Wagner and future owners of the forging facility will be required to comply with the plan upon filing with the Secretary of State of Illinois.

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above Opinion was adopted on the 6th day of September, 1984, by a vote of 6-0.



Dorothy M. Gunn, Clerk,
Illinois Pollution Control Board