

ILLINOIS POLLUTION CONTROL BOARD  
December 6, 1984

IN THE MATTER OF: )  
 )  
VAUGHAN & BUSHNELL MANUFACTURING ) R83-32  
PETITION FOR A SITE-SPECIFIC )  
OPERATIONAL LEVEL PURSUANT TO )  
35 ILL. ADM. CODE 901.105(d) )

PROPOSED RULE. FIRST NOTICE.

PROPOSED OPINION AND ORDER OF THE BOARD (by J. Marlin):

On November 21, 1983 Vaughan & Bushnell Manufacturing Company (VBM) 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). The Illinois Environmental Protection Agency (Agency) filed its response on January 24, 1984. A public hearing was held in Peoria, Illinois on March 12, 1984. No members of the public or press attended. This hearing was scheduled with three other similar forging noise cases involving central Illinois shops in order to conserve the time and funds of all the parties involved. Additional economic information requested by the Illinois Department of Energy and Natural Resources (DENR) was submitted on July 29, 1984. A further comment was filed by VBM on August 6, 1984. A negative declaration was filed by the DENR on September 28, 1984. The Economic and Technical Advisory Committee concurred on November 1, 1984.

Section 901.105(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.

VBM is located at the intersection of Davis and Main Streets, Bushnell, Illinois. To the north is commercial property, to the east is a railroad line and some commercial (dog food processing) and residential property. To the south is light manufacturing, to the west is another forge facility. There are residences located to the northwest.

The main building was built in 1923. The forge shop is marked #B-B on Exhibit B to the petition. It is 120 feet long, The Board acknowledges the work of Kevin F. Duerinck, hearing officer and administrative assistant for this rulemaking.

80 feet wide and 20 feet high. The forge shop contains ten forging hammers weighing 1,000 to 2,800 pounds apiece and ten furnaces. The heat from the furnaces, 2400° F, raises the temperature of the shop appreciably. Side grade-level openings on the east and south sides draw fresh air into the building and roof openings draw warm air out.

The forging hammers historically have operated and currently operate from 6:30 a.m. to 1:30 a.m. five to six days per week. The current work force of 200 employees is down from 250 employees during normal economic conditions. VBM requests that it be allowed to operate its ten hammers six days per week at the above hours (Petition at 9).

VBM's forged hand tool products are used by the construction, industrial and hardware industries. Production at VBM has decreased recently as is shown by the table below. This decline resulted in less hammer blows and less impulsive noise. The production decline is expected to stabilize in 1983 (Petition at 5).

	<u>Total forgings on hammers</u>	<u>No. of blows/yr.</u>	<u>Tonnage of all forgings</u>
1980	2,700,000	21,600,000	2,050
1981	2,750,000	22,000,000	2,150
1982	1,880,000	15,040,000	1,800

Permissible impulsive sound levels for existing forge shops are found at 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. Based upon actual noise level measurements, Exhibit A to the petition shows that the maximum noise level is 65 Leq. Approximately 50 houses potentially could be exposed to sound levels in excess of 53.5 Leq. The noise level and the number of residences exposed to a certain noise level will vary depending on wind velocity and direction. Any noise violations at night would end as VBM suspended operations at 1:30 a.m. VBM has not received any noise complaints.

Various measures have been proposed to reduce the sound levels at VBM. The installation of barriers is infeasible. Enclosing the main entrance to the shop in an acoustic tunnel would be infeasible because of easements or public rights-of-way. This project would further involve removal of one or two hammers.

The addition of more fans and silencers to the present roof is infeasible because the roof will not accept the added weight (Exh. D to Petition). Total enclosure of the forge shop would impede material flow through the shop and production.

The Board proposes granting VBM's site-specific operational level for ten hammers, two shifts Monday through Saturday. It's consultant does not foresee any adverse health effects from 65 Leq (R. 17). The Agency states that there would be no danger of hearing loss to area residents (Agency Response at 4).

Although no specific numerical noise level limitations are being imposed, it is assumed that noise levels will approximate those testified to by VBM and its witnesses. VBM 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 below will be incorporated into 35 Ill. Adm. Code 901.121. VBM will be required to comply upon filing of the plan with the Secretary of State.

#### ORDER

35 Ill. Adm. Code 901.121 shall read as follows:

Section 901.121 Vaughan & Bushnell Operational Level

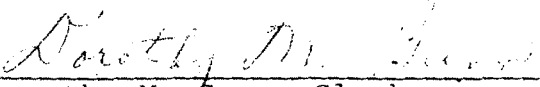
Vaughan & Bushnell Manufacturing Company and the future owners of the forging facility located at the intersection of Davis and Main Streets, Bushnell, Illinois, shall comply with the following site-specific operational level:

- a) Operate no more than ten hammers at any one time; and
- b) Operate its forging hammers only between the hours of 6:00 a.m. and 1:30 a.m. Monday through Saturday.

35 Ill. Adm. Code 901.121 is directed to First Notice.

IT IS SO ORDERED.

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above Proposed Opinion and Order was adopted on the 6<sup>th</sup> day of December, 1984 by a vote of 6-5.

  
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Dorothy M. Gunn, Clerk  
Illinois Pollution Control Board